

## INTRODUCTION

### Genesis:

In 1899, Her Excellency Maharani Kempa Nanjammanni Vani Vilasa Sannidhiyavaru, the Regent of Mysore donated 30 acres of land for Experimental Agricultural Station at Hebbal and appointed Dr. Lehmann, German scientist to initiate research on soil crop response with laboratory in the Directorate of Agriculture.

The Experimental farm was upgraded to an Agricultural College in 1946. Later on, The University of Agricultural Sciences, Bangalore was one of the earliest farm universities to be established in 1963 along the lines of Land–Grant universities of the United States of America. The University was established through an Act of legislature of the then Mysore State with an operational jurisdiction of the entire State. It was inaugurated by Dr. Zakir Hussain, Hon'ble Vice President of India on 21.08.1964 in the presence of Mr. Chester Bowles, US Ambassador to India and Sri S. Nijalingappa, Hon'ble Chief Minister of erstwhile Mysore State. The Gandhi Krishi Vignana Kendra (GKVK) Campus was inaugurated by Smt. Indira Gandhi, Hon'ble Prime Minister of India on July 12, 1969. Thirty–five research stations located all over Karnataka which were with the State Department of Agriculture, Horticulture, Animal Husbandry and Fisheries were transferred to the newly established University of Agricultural Sciences, Bangalore (Annexure–1).

UAS, Bangalore was bifurcated into two Agricultural Universities viz., UAS, Bangalore and UAS, Dharwad through an amendment Act in 1986. As a result, 26 research stations in these two revenue divisions along with ICAR schemes operated therein were transferred to the University of Agricultural Sciences Dharwad (Annexure–2) while the rest 22 stations (Annexure–3) remained under UAS, Bangalore. Further, from April, 2005 a new Karnataka Veterinary Animal and Fisheries Science University (KVA&FSU) was established at Bidar and two Research Stations viz. ARS, Nagamangala, ARS, Tiptur, MRS, Hebbal and FRS, Hesaraghatta have been transferred along with Veterinary College, Hebbal, Fisheries College,

Mangalore and Research Projects pertaining to Veterinary, Dairy and Fisheries to the new University. Further, University of Horticultural Sciences, Bagalkot was established during November, 2008.

Presently, UAS, Bangalore has two Zonal Agricultural Research Stations and 9 Agricultural Research Stations spread over in 4 agro-climatic zones (Table-1) in 10 southern districts of Karnataka after the formation of University of Agricultural & Horticultural Sciences (UAHS) at Shimoga during April, 2013. List of research stations transferred to UHS, Bagalkot, KVA & FSU, Bidar and UAHS, Shimoga are presented in Annexure-4.

The University of Agricultural Sciences, Bangalore plays a vital role in doubling farmers' income by focusing on research, education, and extension services. UASB has developed crop varieties, management practices, and technologies to enhance productivity and reduce risks. Additionally, it trains farmers in modern agricultural techniques, market dynamics and value addition, empowering them to make informed decisions and improve their livelihoods. Report on “Doubling Farmers Income– State wise Synthesis” published in 2022 by ICAR explains the contributions of UASB varieties.

- ✓ Introduction of improved varieties of paddy viz., RNR15048, MAS26, Gangavathi Sona, KHP13, KKP5, direct seeding of rice, mechanical sowing and integrated crop management practices
- ✓ Introduction of new varieties of finger millet (ML365, KMR340, KMR630, MR6)
- ✓ Integrated pest management of fall armyworm in maize
- ✓ Introduction of new pigeonpea varieties viz., BRG 3, 4, 5 and its intercropping in maize
- ✓ Introduction of sugarcane variety VCF0517, adoption of nutrient management practices and biological control of root grub
- ✓ Promotion of new groundnut varieties GPBD4 and KCG6 and cultivation of groundnut in rice fallows
- ✓ Introduction of new varieties of black gram (LBG791), horse gram (PHG9) and sunflower (KBSH-41, 44, 53)
- ✓ Promotion of fodder varieties CoFS29, 30, 31 and fodder seed production units

**Table-1: Agricultural Research stations presently under the jurisdiction of UAS, Bangalore**

| <b>No.</b> | <b>Zone</b> | <b>Research station</b>                        |
|------------|-------------|------------------------------------------------|
| 1          | 4           | Agricultural Research Station, Arasikere       |
| 2          | 4           | Agricultural Research Station, Pavagada        |
| 3          | 5           | Zonal Agricultural Research Station, GKVK      |
| 4          | 5           | Agricultural Research Station, Chintamani      |
| 5          | 5           | Agricultural Research Station, Balajigapade    |
| 6          | 5           | Agricultural Research Station, Nelamakanahalli |
| 7          | 6           | Zonal Agricultural Research Station, Mandya    |
| 8          | 6           | Organic Farming Research Station, Naganahalli  |
| 9          | 6           | Agricultural Research Station, Madenur         |
| 10         | 6           | Agricultural Research Station, Kunigal         |
| 11         | 7           | Agricultural Research Station, Gunjevu         |

## **Organization**

The Director of Research is in charge of the proper functioning of the research stations, as well as the planning, coordination and monitoring of research within the University. He is assisted by two Associate Directors of Research (ADRs) functioning on Zonal basis at ZARS, GKVK, Bengaluru for Zone-5 and ZARS, VC Farm, Mandya for Zone-6. The Associate Directors of Research monitor the Agriculture Research Stations and research projects (AICRPs and Externally funded) functioning in their operational jurisdiction. The zonal stations, extension specialists, teaching departments, other research institutions in the zone, line departments, and farmers' representatives are all part of a multi-tiered organization that offers an operational framework for creating pertinent research agendas.

The research setup is organized on the basis of agro-climatic conditions distributed across the 10 Southern Districts (Fig-1) viz., Bengaluru Rural, Bengaluru Urban, Ramanagara, Kolar, Chamarajanagara, Chikkaballapur, Hassan, Mandya, Mysuru and Tumakuru of the State. There are two Zonal Agricultural Research Stations, one at GKVK and another at VC Farm, Mandya and 8 Agricultural Research Stations and exclusively one Organic Farming Research Station at Naganahalli representing four agro-climatic zones.

The University has the mandate of addressing the challenges faced by the farming community. This is being met by conducting problem oriented, location specific research by multi-disciplinary scientific team in its research stations with infrastructure facilities and financial support from various sources mainly from State Government, ICAR, GOI and others including overseas agencies.

### **Development and release of new Crop Varieties/ Hybrids & Animal Breeds (1965–2025)**

Since inception (1965–2025), the University has released 330 crop varieties / hybrids and 7 animal breeds [Sheep (1) & Poultry (6)] that has substantially enhanced farm productivity in the state / country in general and different agro- climatic regions of the state in particular (Table–2 & Fig.2). Among the released varieties / hybrids in different crops, 295 are high yielding crop varieties [Cereals (93), Millets (38), Potential Crops (5), Pulses (54), Oilseeds (28), Commercial crops (32), Horticultural Crops (34) and Fodder crops (11)] and 35 are hybrids [Paddy (3), Maize (5), Sorghum (3), Chickpea (1), Sunflower (11), Castor (4), Cotton (2), Potato (1), Chilly (1) and Fodder (4)]. In total, 330 [Cereals (104), Millets (38), Potential Crops (5), Pulses (55), Oilseeds (43), Commercial crops (34), Horticultural Crops (36) & Fodder crops (15)] crop varieties / have been released. The IC Numbers (Annexure-5) of the varieties released and varieties registered in Protection of Plant Varieties and Farmers' Rights Authority (Annexure-6) are enlisted.

The major flag bearers of these are unique varieties in finger millet (Indaf, MR and GPU series), pigeon pea (BRG series), field bean (HA series) and hybrids in Rice (KRH series), sunflower (KBSH series) and maize (MAH & NAH series).

The UASB has pioneered in the development of hybrids, the first inter-specific cotton hybrid to be released anywhere in the world was developed by UASB, hybrids in rice viz., KRH–1, KRH–2 and KRH–4, aerobic rice varieties viz., MAS–26, ARB–6 and MAS–946–1 & Bio-fortified varieties (Paustic–1, 7 & 9). A unique combination of Indian and African gene pools led to the development of Indaf and GPU series of finger millet (Ragi) varieties which changed the economic landscape of millet growing farmers in the rainfed cropping system of India. UASB initiated

heterosis breeding involving CMS lines in sunflower, as a result UASB pioneered in developing BSH-1, the first CMS based sunflower hybrid in the country.

Breeder seed of all notified varieties/ hybrids is being produced as per the indent of Department of Agriculture, Cooperation and Farmers Welfare (DAC&FW), GoI in all 11 Agricultural Research Stations and supplied to public / private seed organizations for further multiplication in seed chain as foundation and certified seeds with required standards of seed certification.

Varieties/ hybrids developed by UASB has enhanced the productivity of cereals by 132%, oilseeds by 80% while it has doubled the productivity of pulses over last 5 decades (Data Source: DES, GoK website: <https://des.karnataka.gov.in/storage/pdf-files/AGS/FRE/2022-23Final.pdf>). The productivity of cereals has been enhanced by 30%, oilseeds by 84% and pulses by 38% in the last ten years. Details of area (Annexure-7), production (Annexure-8) and productivity (Annexure-9) of Major crops of Karnataka and change over 5 years and 10 years.

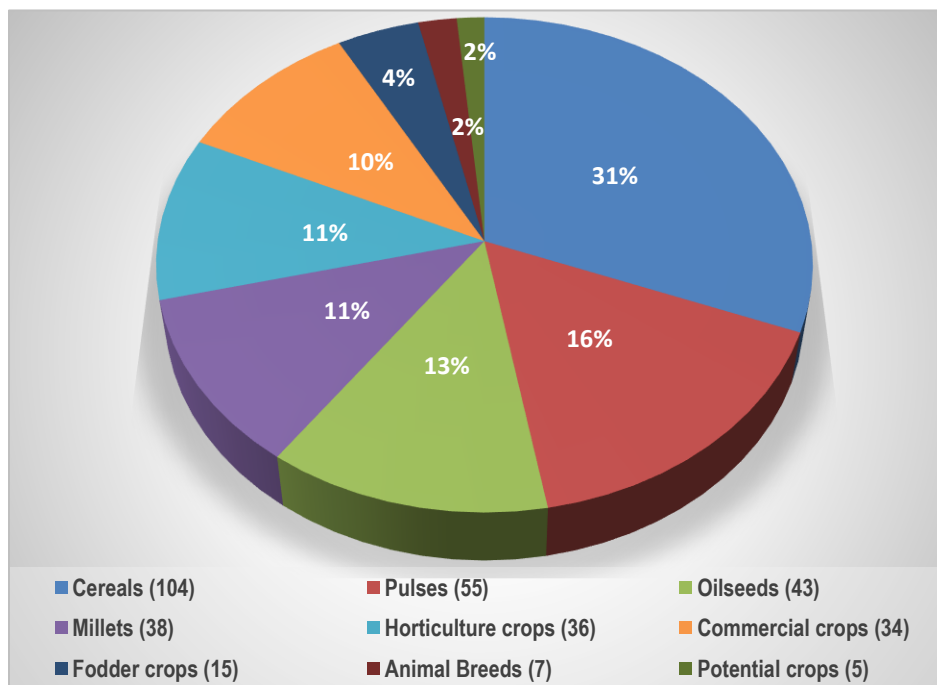


**Fig-2: High Yield Crop Varieties/ Hybrids and Animal breeds released by UASB (1965–2025)**

**Table–2: Abstract of Crop Varieties/ Hybrids and Animal breeds released by UASB (1965–2025)**

| <b>Crop</b>                 | <b>No.</b> | <b>Crop</b>                      | <b>No.</b> |
|-----------------------------|------------|----------------------------------|------------|
| <b>I. Cereals</b>           |            | <b>VI. Commercial crops</b>      |            |
| Paddy                       | 67         | Sugarcane                        | 16         |
| Maize                       | 15         | Cotton                           | 13         |
| Jowar                       | 12         | Tobacco                          | 5          |
| Wheat                       | 10         | <b>Total</b>                     | <b>34</b>  |
| <b>Total</b>                | <b>104</b> | <b>VII. Horticulture crops</b>   |            |
| <b>II. Millets</b>          |            | Cashew                           | 7          |
| Finger millet (Ragi)        | 29         | Tomato                           | 4          |
| Foxtail millet              | 3          | Jack fruit                       | 4          |
| Little millet               | 2          | Chilli                           | 3          |
| Proso millet                | 3          | Cardamom                         | 3          |
| Brown top millet            | 1          | Pomegranate                      | 1          |
| <b>Total</b>                | <b>38</b>  | Turmeric                         | 3          |
| <b>III. Potential crops</b> |            | Mango                            | 1          |
| Grain Amaranth              | 4          | Banana                           | 1          |
| Ricebean                    | 1          | Brinjal                          | 1          |
| <b>Total</b>                | <b>5</b>   | Tamarind                         | 1          |
| <b>IV. Pulse crops</b>      |            | Jamun                            | 1          |
| Cowpea                      | 17         | Pomello                          | 1          |
| Redgram                     | 10         | Potato                           | 1          |
| Soybean                     | 9          | Sweet potato                     | 1          |
| Chickpea                    | 7          | Medicinal coleus                 | 1          |
| Field Bean                  | 4          | Chrysanthemum                    | 1          |
| Blackgram                   | 3          | Stevia                           | 1          |
| Greengram                   | 3          | <b>Total</b>                     | <b>36</b>  |
| Horsegram                   | 2          | <b>VIII. Fodder</b>              | <b>15</b>  |
| <b>Total</b>                | <b>55</b>  | <b>Varieties / Hybrids Total</b> | <b>330</b> |
| <b>V. Oilseed crops</b>     |            | <b>Animal Breeds</b>             |            |
| Groundnut                   | 14         | Sheep                            | 1          |
| Sunflower                   | 13         | Poultry                          | 6          |
| Sesamum                     | 5          | <b>Animal Breeds Total</b>       | <b>7</b>   |
| Castor                      | 5          | <b>Grand Total</b>               | <b>337</b> |
| Niger                       | 3          |                                  |            |
| Safflower                   | 2          |                                  |            |
| Linseed                     | 1          |                                  |            |
| <b>Total</b>                | <b>43</b>  |                                  |            |

## I. CEREALS

Karnataka is the major producer of cereals in India. North Karnataka's agricultural landscape is characterized by rainfed agriculture and a focus on certain staple crops. Jowar (sorghum), groundnut, and bajra (pearl millet) are prominent, with jowar being a major rabi crop and a staple food in the region. In cereals (Fig.3), a total of 104 high yielding varieties/ hybrids (Varieties: Paddy-64, Sorghum (Jowar)-9, Wheat-10 and Maize-10; Hybrids: Paddy-3, Sorghum (Jowar)-3 and Maize-5) have been released. The UASB has pioneered in the development of hybrids in rice viz., KRH-1, KRH-2 and KRH-4 and aerobic rice varieties viz., MAS-26, ARB-6 and MAS-946-1. Composites and Hybrids of maize (MAH series) have changed the cropping systems in southern Karnataka.

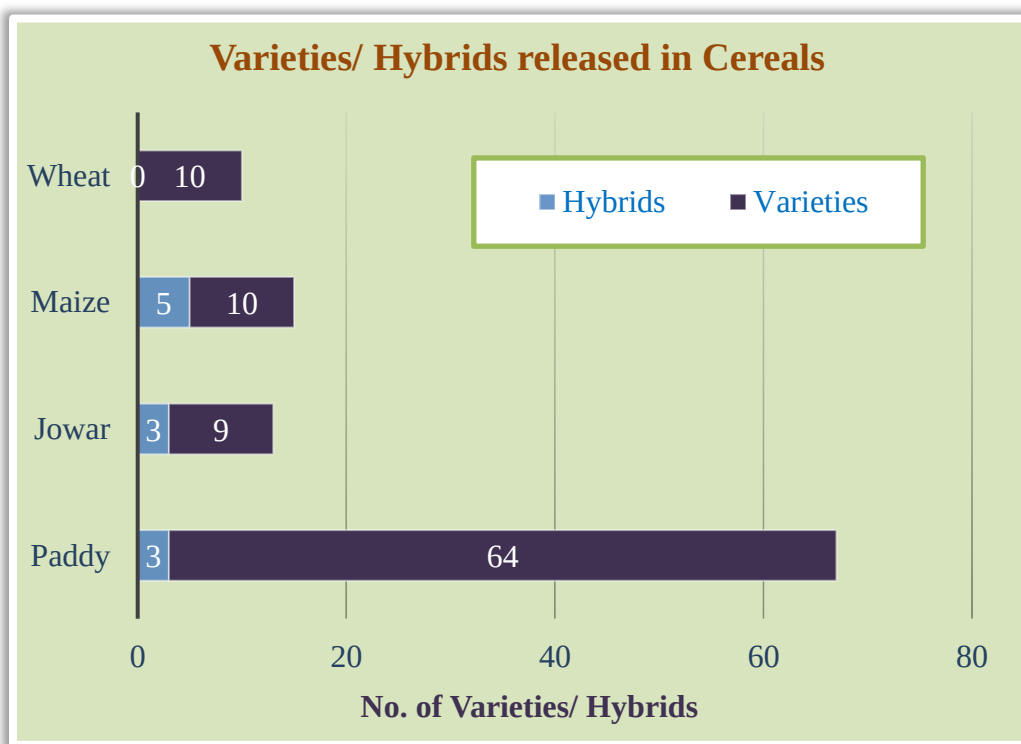


**Fig-3: Varieties/ hybrids released in Cereal crops**

## A1. Paddy

Rice being the staple food crop of the nation, extensive research has been conducted and high yielding varieties adaptable to varied situations were developed and released (Table-3). UASB has released 58 high yielding varieties (HYVs) and 3 Hybrids (KRH-1, 2 & 4) suitable for different agro-climatic zones of the state in particular and country in general. Besides releasing HYVs, UASB has also released 3 nutrient rich biofortified varieties (Paustic-1, 7 & 9) and 3 aerobic rice varieties (MAS-26, MAS-946-1 & ARB-6) which save water. Details of varieties / hybrids released (year wise) is furnished below:

**Table-3: List of high yielding paddy varieties / hybrids released from UASB (1965-2025)**

| Sl. No. | Variety                         | Year of release |
|---------|---------------------------------|-----------------|
| 1       | KMP-225                         | 2022            |
| 2       | RNR-15048*                      | 2022            |
| 3       | KMP-220                         | 2021            |
| 4       | MSN-99                          | 2021            |
| 5       | Gangavathi Sona (IET-20594) *   | 2019            |
| 6       | KMP-175 (Daksha)                | 2016            |
| 7       | Paustic - 7 (Bio-fortified)     | 2016            |
| 8       | Paustic - 1 (Bio-fortified)     | 2016            |
| 9       | Paustic - 9 (Bio-fortified)     | 2016            |
| 10      | KRH-4 (Hybrid)                  | 2012            |
| 11      | KHP-12 (BKBM-23) (Mutant)       | 2011            |
| 12      | KHP-11                          | 2011            |
| 13      | JGL-1798*                       | 2011            |
| 14      | KMP-105                         | 2010            |
| 15      | ARB-6 (BI-33/ Anagha) (Aerobic) | 2009            |
| 16      | MAS-26 (Aerobic)                | 2008            |

| <b>Sl. No.</b> | <b>Variety</b>        | <b>Year of release</b> |
|----------------|-----------------------|------------------------|
| 17             | PUBM-8 (Mutant)       | 2007                   |
| 18             | KHP-10                | 2007                   |
| 19             | MAS-946-1 (Aerobic)   | 2007                   |
| 20             | MTU-1010*             | 2005                   |
| 21             | MTU-1001*             | 2005                   |
| 22             | IET-14845             | 2005                   |
| 23             | Thanu (KMP-101)       | 2004                   |
| 24             | KHRS-21               | 2004                   |
| 25             | Kadamba (FARO-37)     | 2003                   |
| 26             | Champaka (IET-14758)  | 2003                   |
| 27             | IET-13901 (Tunga)     | 2002                   |
| 28             | BR-2655               | 2001                   |
| 29             | IET-20114 (KCP-1)     | 2001                   |
| 30             | Sharavathi (IR-57773) | 2000                   |
| 31             | KHP-5 (KHRS-26)       | 2000                   |
| 32             | KRH-2 (Hybrid)        | 1997                   |
| 33             | IET-8116              | 1997                   |
| 34             | CTH-3*                | 1996                   |
| 35             | Bhadra (MO-4)         | 1996                   |
| 36             | KRH-1 (Hybrid)        | 1995                   |
| 37             | Latha (IET-7956)      | 1994                   |
| 38             | Hemavathi (DWR-4107)  | 1994                   |
| 39             | IR-30864              | 1992                   |
| 40             | KHP-2 (IR-10781)      | 1990                   |
| 41             | CTH-1                 | 1990                   |
| 42             | Netravathi (KKP-6)    | 1990                   |
| 43             | IET-7575              | 1989                   |
| 44             | IET-7191              | 1987                   |

| Sl. No. | Variety                       | Year of release |
|---------|-------------------------------|-----------------|
| 45      | Mandya Vijaya (KMS-5914 A-6)  | 1986            |
| 46      | Mahaveer (KKP-2)              | 1985            |
| 47      | Karna (KMP-39 / IET-7209)     | 1985            |
| 48      | Abilash (KMDP-2 / IET 5882)   | 1985            |
| 49      | Avinash (KMDP-1 / Gama 318)   | 1985            |
| 50      | Mandya Vani (IET-7376 /KMP-1) | 1982            |
| 51      | Phalguna (IET-2911)           | 1979            |
| 52      | IET-4699 (Scented variety)    | 1979            |
| 53      | Shakti (IET-3232)             | 1978            |
| 54      | Pragathi (MR-292 F)           | 1978            |
| 55      | Prakash (RP 4-14/ IET-2254)   | 1978            |
| 56      | Rasi (IET-1444)               | 1978            |
| 57      | Pushpa (MR-301)               | 1977            |
| 58      | GMR-17                        | 1976            |
| 59      | Mangala (MR-272)              | 1976            |
| 60      | Vikram (GMR-2)                | 1976            |
| 61      | Intan                         | 1976            |
| 62      | Madhu (MR-136)                | 1973            |
| 63      | Suma (11356-7)                | 1970            |
| 64      | Kusuma (1908-31)              | 1970            |
| 65      | Jaya (IET-723)*               | 1968            |
| 66      | Co-29*                        | 1967            |
| 67      | IR-20*                        | 1967            |

\*: *Endorsement*

## A1.1 KMP–225

|    |                      |                                                                                                                                                                                                                                                           |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                                                                                     |
| 2  | Variety              | KMP–225                                                                                                                                                                                                                                                   |
| 3  | Pedigree             | (IR–64 x DHMAS–70Q–164–1b) x IRBL9–W [LT]–Pi9                                                                                                                                                                                                             |
| 4  | IC Number            | IC642474                                                                                                                                                                                                                                                  |
| 5  | Year of Release      | 2022                                                                                                                                                                                                                                                      |
| 6  | Gazette Notification | SO. 4388 (E) dated 08.10.2024                                                                                                                                                                                                                             |
| 7  | Duration             | 122 – 125 days                                                                                                                                                                                                                                            |
| 8  | Grain Yield          | 24 – 26 q/acre                                                                                                                                                                                                                                            |
| 9  | Straw Yield          | 2.6 – 2.8 t/acre                                                                                                                                                                                                                                          |
| 10 | Special Features     | <ul style="list-style-type: none"> <li>➤ Short duration variety</li> <li>➤ Suitable for sowing during July 3rd to 4th week</li> <li>➤ Long bold grains similar to that of IR64</li> <li>➤ Moderately resistant to leaf and neck blast diseases</li> </ul> |
| 11 | Developed Centre     | ZARS, V. C. Farm, Mandya                                                                                                                                                                                                                                  |
| 12 | Recommended Zone     | Zone – 6                                                                                                                                                                                                                                                  |



## A1.2 RNR–15048\*

|    |                      |                                                                                                                                                                                                                                                 |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                                                                           |
| 2  | Variety              | RNR–15048 (Telangana Sona)*                                                                                                                                                                                                                     |
| 3  | Pedigree             | MTU 1010 x JGL–3855                                                                                                                                                                                                                             |
| 4  | Year of Release      | 2022                                                                                                                                                                                                                                            |
| 5  | Gazette Notification | SO. 2238 (E) dated 29.06.2016                                                                                                                                                                                                                   |
| 6  | Duration             | 120 – 125 days                                                                                                                                                                                                                                  |
| 7  | Grain Yield          | 22 – 24 q/acre                                                                                                                                                                                                                                  |
| 8  | Straw yield          | 2.6 – 2.8 t/acre                                                                                                                                                                                                                                |
| 9  | Special Features     | <ul style="list-style-type: none"><li>➤ Short duration variety</li><li>➤ Suitable for sowing during July 3<sup>rd</sup> to 4<sup>th</sup> week</li><li>➤ Medium slender grains with good cooking quality</li><li>➤ Low glycemic index</li></ul> |
| 10 | Proposed Centre      | ZARS, V. C. Farm, Mandya                                                                                                                                                                                                                        |
| 11 | Recommended Zone     | Zone – 6                                                                                                                                                                                                                                        |



### A1.3 KMP-220

|    |                      |                                                                                                                                                                                                                                                                              |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                                                                                                        |
| 2  | Variety              | KMP-220                                                                                                                                                                                                                                                                      |
| 3  | Pedigree             | Jyothi x BR-2655                                                                                                                                                                                                                                                             |
| 4  | IC Number            | IC 637186                                                                                                                                                                                                                                                                    |
| 5  | Year of Release      | 2021                                                                                                                                                                                                                                                                         |
| 6  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                |
| 7  | Duration             | 125 – 130 days                                                                                                                                                                                                                                                               |
| 8  | Grain Yield          | 24 – 26 q/acre                                                                                                                                                                                                                                                               |
| 9  | Straw Yield          | 2.7 – 3.2 t/acre                                                                                                                                                                                                                                                             |
| 10 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for July (1<sup>st</sup>-2<sup>nd</sup> week sowings while it can be transplanted within August 1<sup>st</sup> week</li> <li>➤ Long bold grains with red kernel</li> <li>➤ Moderately tolerant to blast disease</li> </ul> |
| 11 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                 |
| 12 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                     |



### A1.4 MSN-99 (IET 28349)

|    |                      |                                                                                                                                                                                                                                                                                                                                                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Variety              | MSN-99 (IET 28349)                                                                                                                                                                                                                                                                                                                             |
| 2  | Pedigree             | KMR-4 x BPT-5204                                                                                                                                                                                                                                                                                                                               |
| 3  | IC Number            | IC 637626                                                                                                                                                                                                                                                                                                                                      |
| 4  | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                                           |
| 5  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                                                                                  |
| 6  | Duration             | 115 – 120 days                                                                                                                                                                                                                                                                                                                                 |
| 7  | Grain Yield          | 24 – 27 q/acre                                                                                                                                                                                                                                                                                                                                 |
| 8  | Straw yield          | 2.8 – 3.0 t/acre                                                                                                                                                                                                                                                                                                                               |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for sowing in <i>Kharif</i> (Jun–Jul), late <i>Kharif</i> (Aug – Sept) and Summer (Jan) seasons in irrigated areas</li> <li>➤ Strong culm and erect growing habit, favoring close planting with 50–60 hills/ sq.mt.</li> <li>➤ Medium slender grains with good cooking properties</li> </ul> |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                                                                   |
| 11 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                                                                                       |



### A1.5 Gangavathi Sona (IET-20594)\*

|    |                  |                                                                                                                                              |
|----|------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                        |
| 2  | Variety          | Gangavathi Sona* (IET-20594 / GGV-05-01)                                                                                                     |
| 3  | Pedigree         | Selection from MTU1076 (MTU-1076-03-01)                                                                                                      |
| 4  | Year of Release  | 2019                                                                                                                                         |
| 5  | Duration         | 130 – 135 days                                                                                                                               |
| 6  | Grain Yield      | 18 – 20 q/acre                                                                                                                               |
| 7  | Straw yield      | 3.2 – 3.4 t/acre                                                                                                                             |
| 8  | Special features | <ul style="list-style-type: none"><li>➤ Moderate plant type</li><li>➤ Higher threshing efficiency</li><li>➤ Better cooking quality</li></ul> |
| 9  | Developed centre | ZARS, Mandya                                                                                                                                 |
| 10 | Recommended zone | Zone – 6                                                                                                                                     |

\*: *Endorsement*



## A1.6 Daksha (KMP-175)

|    |                      |                                                                                                                                                                                                                                  |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                                                            |
| 2  | Variety              | Daksha (KMP-175)                                                                                                                                                                                                                 |
| 3  | Pedigree             | Thanu x IET-15963                                                                                                                                                                                                                |
| 4  | Year of Release      | 2016                                                                                                                                                                                                                             |
| 5  | Gazette Notification | SO. 1379 (E) dated 27.03.2018                                                                                                                                                                                                    |
| 6  | IC Number            | IC 620838                                                                                                                                                                                                                        |
| 7  | Duration             | 115 – 120 days                                                                                                                                                                                                                   |
| 8  | Grain Yield          | 18 – 20 q/acre                                                                                                                                                                                                                   |
| 9  | Straw yield          | 2.4 – 2.6 t/acre                                                                                                                                                                                                                 |
| 10 | Special features     | <ul style="list-style-type: none"> <li>➤ Aerobic variety for <i>Kharif</i> and summer</li> <li>➤ Semi-tall (95–110cms)</li> <li>➤ Long slender grains with good cooking quality</li> <li>➤ Resistant to Blast disease</li> </ul> |
| 11 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                     |
| 12 | Recommended zone     | Zone – 6                                                                                                                                                                                                                         |



### A1.7 Paustic – 7 (Bio–fortified)

|    |                  |                                                                                                                                                                                                  |
|----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                                                                            |
| 2  | Variety          | Paustic – 7                                                                                                                                                                                      |
| 3  | Pedigree         | BPT5204 / Local Purple Rice (HP–14)                                                                                                                                                              |
| 4  | Year of Release  | 2016                                                                                                                                                                                             |
| 5  | IC Number        | IC 621498                                                                                                                                                                                        |
| 6  | Duration         | 120 – 125 days                                                                                                                                                                                   |
| 7  | Grain Yield      | 18 – 20 q/acre                                                                                                                                                                                   |
| 8  | Straw yield      | 2.100 – 2.3 t/acre                                                                                                                                                                               |
| 9  | Special features | <ul style="list-style-type: none"><li>➤ Biofortified variety</li><li>➤ Iron rich (30–35 ppm)</li><li>➤ Suitable for both <i>Kharif</i> and summer</li><li>➤ Resistant to blast disease</li></ul> |
| 10 | Developed centre | ZARS, GKVK                                                                                                                                                                                       |
| 11 | Recommended zone | Zone – 5                                                                                                                                                                                         |



### A1.8 Paustic – 1 (Bio–fortified)

|    |                  |                                                                                                                                                   |
|----|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                             |
| 2  | Variety          | Paustic – 1                                                                                                                                       |
| 3  | Pedigree         | BPT5204 / Local Purple Rice (HP–14)                                                                                                               |
| 4  | Year of Release  | 2016                                                                                                                                              |
| 5  | IC Number        | IC 621497                                                                                                                                         |
| 6  | Duration         | 120 – 125 days                                                                                                                                    |
| 7  | Grain Yield      | 18 – 20 q/acre                                                                                                                                    |
| 8  | Straw yield      | 2.1 – 2.2 t/acre                                                                                                                                  |
| 9  | Special features | <ul style="list-style-type: none"><li>➤ Zinc rich (45–50 ppm)</li><li>➤ Fine grain</li><li>➤ Suitable for both <i>Kharif</i> and summer</li></ul> |
| 10 | Developed centre | ZARS, GKVK                                                                                                                                        |
| 11 | Recommended zone | Zone – 5                                                                                                                                          |



### A1.9 Paustic – 9 (Bio–fortified)

|    |                  |                                                                                                                                                                    |
|----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                                              |
| 2  | Variety          | Paustic – 9                                                                                                                                                        |
| 3  | Pedigree         | BPT–5204 / Local Purple Rice (HP–14)                                                                                                                               |
| 4  | Year of Release  | 2016                                                                                                                                                               |
| 5  | IC Number        | IC 621499                                                                                                                                                          |
| 6  | Duration         | 125 – 130 days                                                                                                                                                     |
| 7  | Grain Yield      | 18 – 20 q/acre                                                                                                                                                     |
| 8  | Straw yield      | 2.4 – 2.5 t/acre                                                                                                                                                   |
| 9  | Special features | <ul style="list-style-type: none"><li>➤ Suitable for both <i>Kharif</i> and summer</li><li>➤ High protein (13–13.5%)</li><li>➤ Tolerant to blast disease</li></ul> |
| 10 | Developed centre | ZARS, GKVK                                                                                                                                                         |
| 11 | Recommended zone | Zone – 5                                                                                                                                                           |



### A1.10 KRH-4 (Hybrid)

|    |                      |                                                                                                                                                                    |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                              |
| 2  | Variety              | KRH-4 (Hybrid)                                                                                                                                                     |
| 3  | Pedigree             | CRMS 32A x MSN-36                                                                                                                                                  |
| 4  | Year of Release      | 2012                                                                                                                                                               |
| 5  | Gazette Notification | SO.112 (E) dated 12.1.2015                                                                                                                                         |
| 6  | IC Number            | IC 613756                                                                                                                                                          |
| 7  | Duration             | 130 – 135 days                                                                                                                                                     |
| 8  | Grain Yield          | 30 – 35 q/acre                                                                                                                                                     |
| 9  | Straw yield          | 3.5 – 4.0 t/acre                                                                                                                                                   |
| 10 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for irrigated maidan areas</li><li>➤ Medium slender grains without scent</li><li>➤ Good cooking quality</li></ul> |
| 11 | Developed centre     | ZARS, Mandya                                                                                                                                                       |
| 12 | Recommended zone     | Zone – 6 & 7                                                                                                                                                       |



### A1.11 KHP-12 (BKBM-23) (Mutant)

|    |                  |                                                                                                                                                                                |
|----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                                                          |
| 2  | Variety          | KHP-12 (BKBM-23)                                                                                                                                                               |
| 3  | Pedigree         | Mutant of BKB-local                                                                                                                                                            |
| 4  | Year of Release  | 2011                                                                                                                                                                           |
| 5  | Duration         | 175 – 180 days                                                                                                                                                                 |
| 6  | Grain Yield      | 20 – 21 q/acre                                                                                                                                                                 |
| 7  | Straw yield      | 3.2 – 3.4 t/acre                                                                                                                                                               |
| 8  | Special features | <ul style="list-style-type: none"><li>➤ Medium slender grains</li><li>➤ Grain without awn and pigmentation</li><li>➤ Non-lodging</li><li>➤ Tolerant to blast disease</li></ul> |
| 9  | Developed centre | ZARS, Mudigere                                                                                                                                                                 |
| 10 | Recommended zone | Low lands of hill zone (Zone – 9)                                                                                                                                              |



### A1.12 KHP-11

|    |                  |                                                                                                                                            |
|----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                      |
| 2  | Variety          | KHP-11                                                                                                                                     |
| 3  | Pedigree         | Pure line selection from IET-8116                                                                                                          |
| 4  | Year of Release  | 2011                                                                                                                                       |
| 5  | IC Number        | IC 588761                                                                                                                                  |
| 6  | Duration         | 150 – 155 days                                                                                                                             |
| 7  | Grain Yield      | 19 – 20 q/acre                                                                                                                             |
| 8  | Special features | <ul style="list-style-type: none"><li>➤ Non-lodging</li><li>➤ Medium bold grains without awn</li><li>➤ Tolerant to blast disease</li></ul> |
| 9  | Developed centre | ZARS, Mudigere                                                                                                                             |
| 10 | Recommended zone | Mid lands of hill zone (Zone – 9)                                                                                                          |



### A1.13 JGL – 1798\*

|    |                      |                                                                                                                                               |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                         |
| 2  | Variety              | JGL – 1798*                                                                                                                                   |
| 3  | Pedigree             | BPT–5204 x Kavya                                                                                                                              |
| 4  | Year of Release      | 2011                                                                                                                                          |
| 5  | Gazette Notification | SO. 161 (E) dated 04.02.2004                                                                                                                  |
| 6  | Duration             | 130 – 135 days                                                                                                                                |
| 7  | Grain Yield          | 20 – 22 q/acre                                                                                                                                |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for <i>Kharif</i> &amp; summer</li><li>➤ Fine grain</li><li>➤ Good cooking quality</li></ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                  |
| 10 | Recommended zone     | Zone – 6 & 7                                                                                                                                  |



### A1.14 Raksha (KMP-105)

|    |                  |                                                                                                                                                                                                                        |
|----|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Paddy                                                                                                                                                                                                                  |
| 2  | Variety          | Raksha (KMP-105)                                                                                                                                                                                                       |
| 3  | Pedigree         | Field collection during production oriented survey                                                                                                                                                                     |
| 4  | Year of Release  | 2010                                                                                                                                                                                                                   |
| 5  | IC Number        | IC 586783                                                                                                                                                                                                              |
| 6  | Duration         | 115 – 120 days                                                                                                                                                                                                         |
| 7  | Grain Yield      | 20 –22 q/acre                                                                                                                                                                                                          |
| 8  | Special features | <ul style="list-style-type: none"> <li>➤ Non-lodging</li> <li>➤ Semi dwarf (75–80 cm)</li> <li>➤ Medium bold grains with good quality</li> <li>➤ Good milling recovery</li> <li>➤ Tolerant to blast disease</li> </ul> |
| 9  | Developed Centre | ZARS, Mandya                                                                                                                                                                                                           |
| 10 | Recommended Zone | Irrigated areas of Zone – 6 & 7                                                                                                                                                                                        |



### A1.15 ARB 6 (BI-33 / Anagha)

|    |                      |                                                                                                                                                                                                                                 |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                                                           |
| 2  | Variety              | ARB 6 (BI-33/ Anagha)                                                                                                                                                                                                           |
| 3  | Pedigree             | Budda x IR-64                                                                                                                                                                                                                   |
| 4  | Year of Release      | 2009                                                                                                                                                                                                                            |
| 5  | Gazette Notification | SO. 1146 (E) dated 24.04.2014                                                                                                                                                                                                   |
| 6  | Duration             | 110 – 120 days                                                                                                                                                                                                                  |
| 7  | Grain Yield          | 18 – 19 q/acre                                                                                                                                                                                                                  |
| 8  | Straw yield          | 2.1 – 2.2 t/acre                                                                                                                                                                                                                |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for direct seeding &amp; aerobic situation</li><li>➤ High degree of drought tolerance</li><li>➤ Good grain quality with medium slender grains and cooking characters</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                      |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                                                        |



### A1.16 MAS-26 / Ona Siri (Aerobic)

|    |                      |                                                                                                                                                                         |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                   |
| 2  | Variety              | MAS-26 (Ona Siri)                                                                                                                                                       |
| 3  | Year of Release      | 2008                                                                                                                                                                    |
| 4  | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                                                                           |
| 5  | Grain Yield          | 22 – 23 q/acre                                                                                                                                                          |
| 6  | Straw yield          | 2.5 – 2.8 t/acre                                                                                                                                                        |
| 7  | Special features     | <ul style="list-style-type: none"><li>➤ Developed through Marker Assisted Selection (MAS)</li><li>➤ Suitable for aerobic cultivation</li><li>➤ Early duration</li></ul> |
| 8  | Developed centre     | ZARS, GKVK                                                                                                                                                              |
| 10 | Recommended zone     | Zone – 5                                                                                                                                                                |



### A1.17 PUBM-8 (Mutant)

|    |                      |                                                                                                                                                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                          |
| 2  | Variety              | PUBM-8                                                                                                                                         |
| 3  | Pedigree             | Mutant of PUB local                                                                                                                            |
| 4  | Year of Release      | 2007                                                                                                                                           |
| 5  | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                                                  |
| 6  | Duration             | 175 – 180 days                                                                                                                                 |
| 7  | Grain Yield          | 18 – 21 q/acre                                                                                                                                 |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Non-lodging</li><li>➤ Medium, slender &amp; white grains</li><li>➤ Tolerant to blast disease</li></ul> |
| 9  | Developed centre     | ZARS, Mudigere                                                                                                                                 |
| 10 | Recommended zone     | Low lands of hill zone (Zone – 9)                                                                                                              |

### A1.18 KHP-10

|   |                      |                                                                                                                                          |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                    |
| 2 | Variety              | KHP-10                                                                                                                                   |
| 3 | Year of Release      | 2007                                                                                                                                     |
| 4 | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                                            |
| 5 | Duration             | 145 – 150 days                                                                                                                           |
| 6 | Grain Yield          | 18 – 21 q/acre                                                                                                                           |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Red rice variety</li><li>➤ Suitable for parboiling</li><li>➤ Tolerant to blast disease</li></ul> |
| 8 | Developed centre     | ZARS, Mudigere                                                                                                                           |
| 9 | Recommended zone     | Midlands of hill zone (Zone – 9)                                                                                                         |

### A1.19 Sharada (MAS-946-1)

|    |                      |                                                                                                                                                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                          |
| 2  | Variety              | Sharada (MAS-946-1)                                                                                                                            |
| 3  | Year of Release      | 2007                                                                                                                                           |
| 4  | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                                                  |
| 5  | Duration             | 100 – 120 days                                                                                                                                 |
| 6  | Grain Yield          | 22 – 23 q/acre                                                                                                                                 |
| 7  | Straw yield          | 1.3 – 2.4 t/acre                                                                                                                               |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Developed through Marker Assisted Selection (MAS)</li><li>➤ Suitable for Aerobic cultivation</li></ul> |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                     |
| 10 | Recommended zone     | Zone – 5                                                                                                                                       |



### A1.20 MTU–1010\*

|   |                      |                                                                                                                                                                                      |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                                                |
| 2 | Variety              | MTU–1010*                                                                                                                                                                            |
| 3 | Year of Release      | 2005                                                                                                                                                                                 |
| 4 | Gazette Notification | SO. 821 (E) dated 13.09.2000                                                                                                                                                         |
| 5 | Duration             | 120 – 125 days                                                                                                                                                                       |
| 6 | Grain Yield          | 18 – 20 q/acre                                                                                                                                                                       |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Dwarf</li> <li>➤ Suitable for <i>Kharif</i> and summer</li> <li>➤ Suitable for puffing</li> <li>➤ Tolerant to both BPH and blast</li> </ul> |
| 8 | Developed centre     | Mandya                                                                                                                                                                               |
| 9 | Recommended zone     | Zone – 6 & 7                                                                                                                                                                         |

### A1.21 MTU–1001\*

|   |                      |                                                                                                                                                                                     |
|---|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                                               |
| 2 | Variety              | MTU–1001*                                                                                                                                                                           |
| 3 | Year of Release      | 2005                                                                                                                                                                                |
| 4 | Gazette Notification | SO. 647 (E) dated 09.09.1997                                                                                                                                                        |
| 5 | Duration             | 130 – 135 days                                                                                                                                                                      |
| 6 | Grain Yield          | 18 – 20 q/acre                                                                                                                                                                      |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Semi–tall</li> <li>➤ Suitable for <i>Kharif</i> and summer</li> <li>➤ Long and bold grains</li> <li>➤ Tolerant to BPH and blast</li> </ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                                                                                        |
| 9 | Recommended zone     | Zone – 6, 7 & 8                                                                                                                                                                     |

### A1.22 Madhu (IET – 14845)

|   |                      |                                                                                                                                    |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety              | Madhu (IET – 14845)                                                                                                                |
| 2 | Year of Release      | 2005                                                                                                                               |
| 3 | Gazette Notification | SO. 449 (E) dated 11.02.2009                                                                                                       |
| 4 | Duration             | 130 – 135 days                                                                                                                     |
| 5 | Grain Yield          | 14 – 16 q/acre                                                                                                                     |
| 6 | Special features     | <ul style="list-style-type: none"> <li>➤ Medium tall</li> <li>➤ Better than Phalguna</li> <li>➤ Resistant to gall midge</li> </ul> |
| 7 | Developed centre     | ARS, Kankanady                                                                                                                     |
| 8 | Recommended zone     | Low lands of Zone – 9 &10                                                                                                          |

### A1.23 Thanu (KMP–101)

|    |                      |                                                                                                                                                                                                                           |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Variety              | Thanu (KMP–101)                                                                                                                                                                                                           |
| 2  | Pedigree             | Mandya Vijaya x CTH–3                                                                                                                                                                                                     |
| 3  | Year of Release      | 2004                                                                                                                                                                                                                      |
| 4  | Gazette Notification | SO. 2458 (E) dated 16.10.2008                                                                                                                                                                                             |
| 5  | IC Number            | IC 528121                                                                                                                                                                                                                 |
| 6  | Duration             | 130 – 135 days                                                                                                                                                                                                            |
| 7  | Grain Yield          | 26 – 28 q/acre                                                                                                                                                                                                            |
| 8  | Straw yield          | 2.7 – 3.0 t/acre                                                                                                                                                                                                          |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Medium, slender and white grains</li> <li>➤ Suitable for <i>Kharif</i> and summer</li> <li>➤ Good cooking quality</li> <li>➤ Tolerant to blast and sheath rot disease</li> </ul> |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                              |
| 12 | Recommended zone     | <i>Kharif</i> and summer seasons in Zone – 6 & 7                                                                                                                                                                          |



**Madhu (IET – 14845)**



**Thanu (KMP–101)**

### A1.24 KHRS-21 (KHP-9)

|   |                      |                                                                                                                    |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                              |
| 2 | Variety              | KHRS-21 (KHP-9)                                                                                                    |
| 3 | Year of Release      | 2004                                                                                                               |
| 4 | Gazette Notification | SO. 1572 (E) dated 20.09.2006                                                                                      |
| 5 | Duration             | 160 – 165 days                                                                                                     |
| 6 | Grain Yield          | 19 – 21 q/acre                                                                                                     |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Semi tall</li><li>➤ Bold grain</li><li>➤ Suitable for parboiling</li></ul> |
| 8 | Developed centre     | ZARS, Mudigere                                                                                                     |
| 9 | Recommended zone     | Lowlands of hill zone (Zone – 9)                                                                                   |



### A1.25 Kadamba (FARO–37)

|   |                  |                                       |
|---|------------------|---------------------------------------|
| 1 | Crop             | Paddy                                 |
| 2 | Variety          | Kadamba (FARO–37)                     |
| 3 | Year of Release  | 2003                                  |
| 4 | Duration         | 135 – 140 days                        |
| 5 | Grain Yield      | 24 – 25 q/acre                        |
| 6 | Special features | ➤ Tolerant to major pests and disease |
| 7 | Developed centre | ARS, Honnavile                        |
| 8 | Recommended zone | Irrigated areas of Zone – 6           |

### 1.26 Champaka (IET–14758)

|   |                  |                                                                                                     |
|---|------------------|-----------------------------------------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                                                               |
| 2 | Variety          | Champaka (IET–14758)                                                                                |
| 3 | Year of Release  | 2003                                                                                                |
| 4 | Duration         | 130 – 135 days                                                                                      |
| 5 | Yield            | Grain: 17 – 19 q/acre<br>Straw: 2.4 – 2.5 t/acre                                                    |
| 6 | Special features | ➤ 12% higher grain & 17% higher straw yield than MO–4<br>➤ Tolerant to gall midge and blast disease |
| 7 | Developed centre | ARS, Kankanady                                                                                      |
| 8 | Recommended zone | Zone – 10                                                                                           |

### A1.27 Tunga (IET–13901)

|   |                      |                                                                                                                                                                                                                                                                |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                                                                                                                          |
| 2 | Variety              | Tunga (IET–13901)                                                                                                                                                                                                                                              |
| 3 | Year of Release      | 2002                                                                                                                                                                                                                                                           |
| 4 | Gazette Notification | SO. 1572 (E) dated 20.09.2006                                                                                                                                                                                                                                  |
| 5 | Yield                | Grain: 22 – 23 q/acre<br>Straw: 3.0 –3.2 t/acre                                                                                                                                                                                                                |
| 6 | Special features     | <ul style="list-style-type: none"><li>➤ Long and slender grain</li><li>➤ 32% more grain yield &amp; 21% more straw yield than KHP–2</li><li>➤ Tolerant to temporary water submergence</li><li>➤ Tolerant to blast and bacterial leaf blight diseases</li></ul> |
| 7 | Developed centre     | ZARS, Mudigere                                                                                                                                                                                                                                                 |
| 8 | Recommended zone     | Midlands of Hill zone (Zone – 9)                                                                                                                                                                                                                               |



## A1.28 BR-2655

|    |                      |                                                                                                                                                                                            |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                      |
| 2  | Variety              | BR-2655                                                                                                                                                                                    |
| 3  | Year of Release      | 2001                                                                                                                                                                                       |
| 4  | Gazette Notification | SO. 599 (E) dated 25.04.2006                                                                                                                                                               |
| 5  | IC Number            | IC 528120                                                                                                                                                                                  |
| 6  | Duration             | 140–145 days                                                                                                                                                                               |
| 7  | Grain Yield          | 24 – 26 q/acre                                                                                                                                                                             |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Long duration</li><li>➤ Semi tall</li><li>➤ Highly tolerant to leaf blast disease</li><li>➤ Moderately tolerant to neck and sheath blast</li></ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                               |
| 10 | Recommended zone     | Zone – 6 & 7                                                                                                                                                                               |



### A1.29 KCP-1

|   |                  |                                                                                                                                    |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                                                                                              |
| 2 | Variety          | KCP-1 (IET-20114)                                                                                                                  |
| 3 | Pedigree         | Nethravathi x Culture-193                                                                                                          |
| 4 | Year of Release  | 2001                                                                                                                               |
| 5 | Duration         | 115 – 120 days                                                                                                                     |
| 6 | Grain Yield      | 13.5 – 15.5 q/acre                                                                                                                 |
| 7 | Special features | <ul style="list-style-type: none"> <li>➤ Suitable for parboiling</li> <li>➤ Tolerant to leaf and neck blast, gall midge</li> </ul> |
| 8 | Developed centre | ZARS, Brahmavara                                                                                                                   |
| 9 | Recommended zone | Upland situation: Kharif season Irrigated<br>maidan areas: Kharif and summer                                                       |

### A1.30 Sharavathi (IR-57773)

|    |                      |                                                                                                                                                                 |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                           |
| 2  | Variety              | Sharavathi (IR-57773)                                                                                                                                           |
| 3  | Year of Release      | 2000                                                                                                                                                            |
| 4  | Gazette Notification | SO. 122 E dated 02.02.2005                                                                                                                                      |
| 5  | IC Number            | IC 400222                                                                                                                                                       |
| 6  | Duration             | 180 – 185 days                                                                                                                                                  |
| 7  | Grain Yield          | 19.5 – 22 q/acre                                                                                                                                                |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Bold and red kernel</li> <li>➤ Tolerant to temporary water submergence</li> <li>➤ Tolerant to blast disease</li> </ul> |
| 9  | Developed centre     | ZARS, Mudigere                                                                                                                                                  |
| 10 | Recommended zone     | Temporary water submerged low lands of hill<br>zone (Zone – 9)                                                                                                  |

### A1.31 KHP-5 (KHRS-26)

|    |                      |                                                       |
|----|----------------------|-------------------------------------------------------|
| 1  | Crop                 | Paddy                                                 |
| 2  | Variety              | KHP-5 (KHRS-26)                                       |
| 3  | Pedigree             | Intan x IET 7191                                      |
| 4  | Year of Release      | 2000                                                  |
| 5  | Gazette Notification | SO. 92 (E) dated 02.02.2001                           |
| 6  | Duration             | 145 –150 days                                         |
| 7  | Grain Yield          | 15.5 – 17 q/acre                                      |
| 8  | Special features     | ➤ Suitable for Uplands<br>➤ Tolerant to blast disease |
| 9  | Developed centre     | ZARS, Mudigere                                        |
| 10 | Recommended zone     | Zone – 9                                              |



### A1.32 KRH-2 (Hybrid)

|    |                      |                                                                                                                                                                                      |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Paddy                                                                                                                                                                                |
| 2  | Variety              | KRH-2 (Hybrid)                                                                                                                                                                       |
| 3  | Year of Release      | 1997                                                                                                                                                                                 |
| 4  | Gazette Notification | SO. 401 (E) dated 15.05.1998                                                                                                                                                         |
| 5  | Duration             | 120 – 125 days                                                                                                                                                                       |
| 6  | Grain Yield          | 28 – 30 q/acre                                                                                                                                                                       |
| 7  | Straw yield          | 3.5 – 4.0 t/acre                                                                                                                                                                     |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Rice is aromaless upto 3months from harvest</li><li>➤ Suitable for puffing</li><li>➤ Salinity tolerance</li><li>➤ Long bold grains</li></ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                         |
| 10 | Recommended zone     | Irrigated command areas of Southern Karnataka                                                                                                                                        |



### A1.33 IET–8116

|   |                      |                                    |
|---|----------------------|------------------------------------|
| 1 | Crop                 | Paddy                              |
| 2 | Variety              | IET–8116                           |
| 3 | Year of Release      | 1997                               |
| 4 | Gazette Notification | SO. 401 E dated 15.05.1998         |
| 5 | Duration             | 135 – 140 days                     |
| 6 | Grain Yield          | 17.5 – 19.5 q/acre                 |
| 7 | Special features     | ➤ Resistant to BPH                 |
| 8 | Developed centre     | ZARS, Mandya                       |
| 9 | Recommended zone     | Irrigated areas of South Karnataka |

### A1.34 Bhadra (MO–4)

|   |                      |                                      |
|---|----------------------|--------------------------------------|
| 1 | Crop                 | Paddy                                |
| 2 | Variety              | MO–4 (Bhadra)                        |
| 3 | Year of Release      | 1996                                 |
| 4 | Gazette Notification | SO. No 2103 (E) dated 12.08.1980     |
| 5 | Duration             | 130–140 days                         |
| 6 | Grain Yield          | 17.5 – 19.5 q/acre                   |
| 7 | Special features     | ➤ Tolerant to gall midge             |
| 8 | Developed centre     | ZARS, Brahmavara                     |
| 9 | Recommended zone     | Midlands of Coastal zone (Zone – 10) |

### A1.35 Bili Mukthi (CTH-3)\*

|   |                      |                                                                                                                      |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                |
| 2 | Variety              | Bili Mukthi (CTH-3)*                                                                                                 |
| 3 | Year of Release      | 1996                                                                                                                 |
| 4 | Gazette Notification | SO. 2103 € dated 12.08.1980                                                                                          |
| 5 | Grain Yield          | 12 – 14 q/acre                                                                                                       |
| 6 | Duration             | 110 – 115 days                                                                                                       |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for late planting</li> <li>➤ Tolerant to cold and blast</li> </ul> |
| 8 | Developed centre     | ZARS, Mudigere                                                                                                       |
| 9 | Recommended zone     | Tankbed Area of Southern Karnataka                                                                                   |

### A1.36 KRH-1 (Hybrid)

|   |                      |                                                                                                                                                                               |
|---|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                                         |
| 2 | Variety              | KRH-1 (Hybrid)                                                                                                                                                                |
| 3 | Year of Release      | 1995                                                                                                                                                                          |
| 4 | Gazette Notification | SO. 1 (E) dated 01.01.1996                                                                                                                                                    |
| 5 | Duration             | 120 – 125 days                                                                                                                                                                |
| 6 | Grain Yield          | 29 – 31 q/acre                                                                                                                                                                |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ First hybrid of the Country</li> <li>➤ Supplement to other short duration varieties</li> <li>➤ Resistant to blast disease</li> </ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                                                                                  |
| 9 | Recommended zone     | Irrigated areas of Cauvery & Bhadra Command areas                                                                                                                             |

### A1.37 Latha (IET–7956)

|   |                      |                                                                                                                   |
|---|----------------------|-------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                             |
| 2 | Variety              | Lath (IET–7956)                                                                                                   |
| 3 | Year of Release      | 1994                                                                                                              |
| 4 | Gazette Notification | SO. 1 (E) dated 01.01.1996                                                                                        |
| 5 | Duration             | 125 – 130 days                                                                                                    |
| 6 | Grain Yield          | 16 – 18 q/acre                                                                                                    |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ More resistant to gallmidge</li><li>➤ Tolerant to blast disease</li></ul> |
| 8 | Developed centre     | ARS, Kankanady                                                                                                    |
| 9 | Recommended zone     | Mid–lands of Dakshina Kannada District for Kharif season                                                          |

### A1.38 Hemavathi (DWR–4107)

|   |                      |                                                                                                                                                          |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                    |
| 2 | Variety              | Hemavathi (DWR–4107)                                                                                                                                     |
| 3 | Year of Release      | 1994                                                                                                                                                     |
| 4 | Gazette Notification | SO. 92 (E) dated 02.02.2001                                                                                                                              |
| 5 | Duration             | 160 – 165 days                                                                                                                                           |
| 6 | Grain Yield          | 19.5 – 22 q/acre                                                                                                                                         |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ White and medium fine grain</li><li>➤ Better cooking quality</li><li>➤ Tolerant to leaf and neck blast</li></ul> |
| 8 | Developed centre     | ZARS, Mudigere                                                                                                                                           |
| 9 | Recommended zone     | Temporary water submergence & normal low lands of Zone – 9                                                                                               |

### A1.39 IR-30864

|   |                      |                                                                    |
|---|----------------------|--------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                              |
| 2 | Variety              | IR-30864                                                           |
| 3 | Year of Release      | 1992                                                               |
| 4 | Gazette Notification | SO. 408 (E) dated 04.05.1995                                       |
| 5 | Duration             | 130 – 135 days                                                     |
| 6 | Grain Yield          | 18 – 20 q/acre                                                     |
| 7 | Special features     | ➤ Suitable for saline and alkaline soils<br>➤ Suitable for puffing |
| 8 | Developed centre     | ZARS, Mandya                                                       |
| 9 | Recommended zone     | Irrigated areas of Zone – 6                                        |

### A1.40 KHP-2 (IR-10781)

|   |                  |                                                                   |
|---|------------------|-------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                             |
| 2 | Variety          | IR-10781                                                          |
| 3 | Year of Release  | 1990                                                              |
| 4 | Duration         | 145 – 150 days                                                    |
| 5 | Grain Yield      | 19 – 20 q/acre                                                    |
| 6 | Special features | ➤ Medium duration<br>➤ Non-lodging<br>➤ Tolerant to blast disease |
| 7 | Developed centre | ZARS, Mudigere                                                    |
| 8 | Recommended zone | Midlands of hill zone (Zone – 9)                                  |

### A1.41 Kempu Mukthi (CTH-1)

|   |                      |                                                                                                                                 |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                           |
| 2 | Variety              | Kempu Mukthi (CTH-1)                                                                                                            |
| 3 | Year of Release      | 1990                                                                                                                            |
| 4 | Gazette Notification | SO. 408 (E) dated 04.05.1995                                                                                                    |
| 5 | Duration             | 125 – 130 days                                                                                                                  |
| 6 | Grain Yield          | 12 – 14 q/acre                                                                                                                  |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Dwarf variety</li> <li>➤ Red kernel</li> <li>➤ Tolerant to cold temperature</li> </ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                                    |
| 9 | Recommended zone     | Tankbed areas of Zone – 5, 6 & 9 for Sept. planting                                                                             |

### A1.42 Netravathi (KKP-6)

|   |                  |                                                                                                                            |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                                                                                      |
| 2 | Variety          | Netravathi (KKP-6)                                                                                                         |
| 3 | Pedigree         | IET 2886 x Red Annapurna                                                                                                   |
| 4 | Year of Release  | 1990                                                                                                                       |
| 5 | Duration         | 135 – 140 days                                                                                                             |
| 6 | Grain Yield      | 18 – 20 q/acre                                                                                                             |
| 7 | Special features | <ul style="list-style-type: none"> <li>➤ Withstands submergence for 5–7 days</li> <li>➤ Suitable for parboiling</li> </ul> |
| 8 | Developed centre | ARS, Kankanady                                                                                                             |
| 9 | Recommended zone | Lowlands of coastal zone (Zone – 10)                                                                                       |

### A1.43 Sonasali (IET–7575)

|   |                      |                                                                                                             |
|---|----------------------|-------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                       |
| 2 | Variety              | Sonasali (IET–7575)                                                                                         |
| 3 | Year of Release      | 1989                                                                                                        |
| 4 | Gazette Notification | SO. 867 (E) dated 26.11.1986                                                                                |
| 5 | Duration             | 130 – 135 days                                                                                              |
| 6 | Grain yield          | 17.5 – 19.5 q/acre                                                                                          |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Slender grain</li> <li>➤ Tolerant to Brown Plant Hopper</li> </ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                |
| 9 | Recommended zone     | Irrigated rice growing areas of Cauvery command area                                                        |

### A1.44 IET–7191

|   |                      |                                                                                                            |
|---|----------------------|------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                      |
| 2 | Variety              | IET–7191                                                                                                   |
| 3 | Year of Release      | 1987                                                                                                       |
| 4 | Gazette Notification | SO. 10 E dated 01.01.1988                                                                                  |
| 5 | Duration             | 150 – 155 days                                                                                             |
| 6 | Grain yield          | 19.5 – 22 q/acre                                                                                           |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Medium bold grain</li> <li>➤ Tolerant to blast disease</li> </ul> |
| 8 | Developed centre     | ZARS, Mudigere                                                                                             |
| 9 | Recommended zone     | Upland, midland & blast endemic areas of Hill zone (Zone – 9)                                              |

### A1.45 Mandya Vijaya (KMS-5914 A-6)

|   |                      |                                                      |
|---|----------------------|------------------------------------------------------|
| 1 | Crop                 | Paddy                                                |
| 2 | Variety              | Mandya Vijaya (KMS-5914 A-6)                         |
| 3 | Year of Release      | 1986                                                 |
| 4 | Gazette Notification | SO. 1135 (E) dated 1.12.1988                         |
| 5 | Duration             | 140 – 145 days                                       |
| 6 | Grain yield          | 19.5 – 22 q/acre                                     |
| 7 | Special features     | ➤ Tolerant to blast disease                          |
| 8 | Developed centre     | ZARS, Mandya                                         |
| 9 | Recommended zone     | Irrigated rice growing areas of Cauvery command area |

### A1.46 Mahaveer (KKP-2)

|   |                      |                                                                                                                            |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                      |
| 2 | Variety              | Mahaveer (KKP-2)                                                                                                           |
| 3 | Year of Release      | 1985                                                                                                                       |
| 4 | Gazette Notification | SO. 867 (E) dated 26.11.1986                                                                                               |
| 5 | Grain yield          | 13.5 – 15 q/acre                                                                                                           |
| 6 | Duration             | 105 – 115 days                                                                                                             |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Seed dormancy of 15 days</li> <li>➤ Medium grain</li> <li>➤ Red kernel</li> </ul> |
| 8 | Developed centre     | ARS, Kankanady                                                                                                             |
| 9 | Recommended zone     | Gall midge endemic upland areas of South Canara and North Canara during Kharif                                             |

#### **A1.47 Karna (KMP-39 / IET-7209)**

|   |                      |                                                                    |
|---|----------------------|--------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                              |
| 2 | Variety              | Karna (KMP-39 / IET-7209)                                          |
| 3 | Year of Release      | 1985                                                               |
| 4 | Gazette Notification | SO. 867 (E) dated 26.11.1986                                       |
| 5 | Grain yield          | 15.5 – 16.5 q/acre                                                 |
| 6 | Duration             | 130 – 135 days                                                     |
| 7 | Special features     | ➤ Supplement to IR-20<br>➤ Medium slender, White translucent grain |
| 8 | Developed centre     | ZARS, Mandya                                                       |
| 9 | Recommended zone     | Cauvery command areas                                              |

#### **A1.48 Abilash (KMDP-2 / IET 5882)**

|   |                      |                                                                                                        |
|---|----------------------|--------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                  |
| 2 | Variety              | Abilash (KMDP-2 / IET 5882)                                                                            |
| 3 | Year of Release      | 1985                                                                                                   |
| 4 | Gazette Notification | SO. 165 (E) dated 06.03.1987                                                                           |
| 5 | Duration             | 155 – 160 days                                                                                         |
| 6 | Grain yield          | 15.5 – 18 q/acre                                                                                       |
| 7 | Special features     | ➤ Suitable for drill sowing<br>➤ Tall<br>➤ Bold grain<br>➤ Higher ability to emerge through hard crust |
| 8 | Developed centre     | ZARS, Mandya                                                                                           |
| 9 | Recommended zone     | Zone – 7, 8 & 9 (lowland tracts of Karnataka)                                                          |

### **A1.49 Avinash (KMDP–1 /Gama 318)**

|   |                      |                                                                                                                                                 |
|---|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                           |
| 2 | Variety              | Avinash (KMDP–1 /Gama 318)                                                                                                                      |
| 3 | Year of Release      | 1985                                                                                                                                            |
| 4 | Gazette Notification | SO. 165 (E) dated 06.03.1987                                                                                                                    |
| 5 | Duration             | 135 – 140 days                                                                                                                                  |
| 6 | Grain Yield          | 13.5 – 16 q/acre                                                                                                                                |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for drill sowing</li><li>➤ Medium–tall &amp; Non-lodging</li><li>➤ Medium bold grain</li></ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                                                    |
| 9 | Recommended zone     | Zone – 7, 8 & 9                                                                                                                                 |

### **A1.50 Mandya Vani (IET–7376 / KMP–1)**

|   |                      |                                                                                                                       |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                 |
| 2 | Variety              | Mandya Vani (IET–7376 / KMP–1)                                                                                        |
| 3 | Year of Release      | 1982                                                                                                                  |
| 4 | Gazette Notification | SO. 596 (E) dated 13.08.1984                                                                                          |
| 5 | Duration             | 130 – 135 days                                                                                                        |
| 6 | Grain Yield          | 21 – 22 q/acre                                                                                                        |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Semi dwarf</li><li>➤ High tillering ability</li><li>➤ Slender grain</li></ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                           |
| 9 | Recommended zone     | Zone – 6                                                                                                              |

### A1.51 Phalguna (IET–2911)

|   |                      |                                                                                                                                                               |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                         |
| 2 | Variety              | Phalguna (IET–2911)                                                                                                                                           |
| 3 | Year of Release      | 1979                                                                                                                                                          |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                   |
| 5 | Grain Yield          | 23 – 24 q/acre                                                                                                                                                |
| 6 | Duration             | 145 – 150 days                                                                                                                                                |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Semi-dwarf with green stem and foliage</li><li>➤ Long slender white grain</li><li>➤ Resistant to gall midge</li></ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                                                                   |
| 9 | Recommended zone     | Zone – 10                                                                                                                                                     |

### A1.52 IET–4699 (Scented)

|   |                  |                                                                                                                                                    |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                                                                                                              |
| 2 | Variety          | IET–4699 (Scented variety)                                                                                                                         |
| 3 | Year of Release  | 1979                                                                                                                                               |
| 4 | Grain Yield      | 22 – 23 q/acre                                                                                                                                     |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Scented grain</li><li>➤ Stiff straw</li><li>➤ Tolerant to Blast</li><li>➤ Resistant to leaf spot</li></ul> |
| 6 | Developed centre | RRS, Mandya                                                                                                                                        |
| 7 | Recommended zone | Zone – 6                                                                                                                                           |

### A1.53 Shakti (IET–3232)

|   |                      |                                                                                                                                                                                              |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                                                        |
| 2 | Variety              | Shakti (IET–3232)                                                                                                                                                                            |
| 3 | Year of Release      | 1978                                                                                                                                                                                         |
| 4 | Gazette Notification | SO. 596 (E) dated 13.08.1984                                                                                                                                                                 |
| 5 | Duration             | 130 – 135 days                                                                                                                                                                               |
| 6 | Grain Yield          | 22.5 – 23.5 q/acre                                                                                                                                                                           |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Dwarf &amp; Semi compact plant type</li> <li>➤ Short bold grain</li> <li>➤ Drought and blast tolerant</li> <li>➤ Resistant to gall midge</li> </ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                                                                                                  |
| 9 | Recommended zone     | Zone – 10                                                                                                                                                                                    |

### A1.54 Pragathi (MR–292 F)

|   |                      |                                                                                                                                             |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                       |
| 2 | Variety              | Pragathi (MR–292 F)                                                                                                                         |
| 3 | Year of Release      | 1978                                                                                                                                        |
| 4 | Gazette Notification | SO. 596 (E) dated 13.08.1984                                                                                                                |
| 5 | Duration             | 130 – 135 days                                                                                                                              |
| 6 | Grain Yield          | 22.5 – 23.5 q/acre                                                                                                                          |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Semi-dwarf &amp; Compact plant type</li> <li>➤ Medium tillering</li> <li>➤ White kernel</li> </ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                                                 |
| 9 | Recommended zone     | <i>Kharif</i> & summer plantings in irrigated areas                                                                                         |

### A1.55 Prakash (RP 4–14)

|   |                      |                                                                           |
|---|----------------------|---------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                     |
| 2 | Variety              | Prakash (RP 4–14: IET–2254)                                               |
| 3 | Year of Release      | 1978                                                                      |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                               |
| 5 | Duration             | 140 – 145 days                                                            |
| 6 | Grain Yield          | 22 – 23 q/acre                                                            |
| 7 | Developed centre     | RRS, Mandya                                                               |
| 8 | Recommended zone     | <i>Kharif</i> & summer cultivation under tank, well and canal irrigation. |

### A1.56 Rasi (IET–1444)

|   |                      |                                                                                                                                                                                                                                    |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                                                                                                                              |
| 2 | Variety              | Rasi (IET–1444)                                                                                                                                                                                                                    |
| 3 | Year of Release      | 1978                                                                                                                                                                                                                               |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                                                        |
| 5 | Duration             | 115 – 125 days                                                                                                                                                                                                                     |
| 6 | Grain Yield          | Rainfed areas: 11.5 – 13.5 q/acre<br>Irrigated areas: 16 – 18 q/acre                                                                                                                                                               |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for direct seeding</li> <li>➤ Suitable for problematic soils of irrigated areas of Zone – 5 &amp; 6</li> <li>➤ Suitable for arid region</li> <li>➤ Resistant to blast</li> </ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                                                                                                                                        |
| 9 | Recommended zone     | Zone – 1, 2, 4, 5, 6, 7 & 8                                                                                                                                                                                                        |

### A1.57 Pushpa (MR-301)

|   |                      |                                    |
|---|----------------------|------------------------------------|
| 1 | Crop                 | Paddy                              |
| 2 | Variety              | Pushpa (MR-301)                    |
| 3 | Year of Release      | 1977                               |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982        |
| 5 | Duration             | 130 – 135 days                     |
| 6 | Grain Yield          | 19.5 – 20 q/acre                   |
| 7 | Special features     | ➤ Long slender grain               |
| 8 | Developed centre     | RRS, Mandya                        |
| 9 | Recommended zone     | Irrigated areas of Zone – 4, 5 & 6 |

### A1.58 GMR-17

|   |                      |                                                                      |
|---|----------------------|----------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                |
| 2 | Variety              | GMR-17                                                               |
| 3 | Year of Release      | 1976                                                                 |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                          |
| 5 | Duration             | 105 – 110 days                                                       |
| 6 | Grain Yield          | 22 – 23 q/acre                                                       |
| 7 | Special features     | ➤ Early duration<br>➤ Medium bold grain<br>➤ Resistant to gall midge |
| 8 | Developed centre     | RRS, Mudigere                                                        |
| 9 | Recommended zone     | Bettu lands of Zone – 10                                             |

### A1.59 Mangala (MR-272)

|   |                      |                                                                                                                                  |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                            |
| 2 | Variety              | Mangala (MR-272)                                                                                                                 |
| 3 | Year of Release      | 1976                                                                                                                             |
| 4 | Gazette Notification | SO. 13 (E) dated 19.12.1978                                                                                                      |
| 5 | Duration             | 115 – 130 days                                                                                                                   |
| 6 | Grain Yield          | 13.5 – 15.5 q/acre                                                                                                               |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Short duration</li><li>➤ Suitable for late planting</li><li>➤ Tolerant to cold</li></ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                                      |
| 9 | Recommended zone     | Zone – 4, 5, 6 & 7                                                                                                               |

### A1.60 Vikram (GMR-2)

|   |                      |                                                                           |
|---|----------------------|---------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                     |
| 2 | Variety              | Vikram (GMR-2)                                                            |
| 3 | Year of Release      | 1976                                                                      |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                               |
| 5 | Grain Yield          | 20 – 21.5 q/acre                                                          |
| 6 | Special features     | <ul style="list-style-type: none"><li>➤ Resistant to gall midge</li></ul> |
| 7 | Developed centre     | RRS, Mandya                                                               |
| 8 | Recommended zone     | Zone – 6                                                                  |

### A1.61 Intan

|   |                      |                                                                                                                           |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                     |
| 2 | Variety              | Intan                                                                                                                     |
| 3 | Year of Release      | 1976                                                                                                                      |
| 4 | Gazette Notification | SO. 860 (E) dated 25.11.1992                                                                                              |
| 5 | Duration             | 160 – 170 days                                                                                                            |
| 6 | Grain Yield          | 17.5 – 19 q/acre                                                                                                          |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Medium tall</li><li>➤ Suitable for puffing</li><li>➤ Resistant to Blast</li></ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                               |
| 9 | Recommended zone     | Low lands of hill zone (Zone – 9)                                                                                         |

### A1.62 Madhu (MR–136)

|   |                      |                                                                                                                            |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                                                                      |
| 2 | Variety              | Madhu (MR–136)                                                                                                             |
| 3 | Year of Release      | 1973                                                                                                                       |
| 4 | Gazette Notification | SO. 440( E) dated 13.08.1975                                                                                               |
| 5 | Duration             | 115 – 120 days                                                                                                             |
| 6 | Grain Yield          | 21 – 22 q/acre                                                                                                             |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Short duration</li><li>➤ Medium slender grain</li><li>➤ Tolerant to cold</li></ul> |
| 8 | Developed centre     | RRS, Mandya                                                                                                                |
| 9 | Recommended zone     | Zone – 6                                                                                                                   |

### A1.63 Suma (11356–7)

|   |                  |                                                                   |
|---|------------------|-------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                             |
| 2 | Variety          | Suma (11356–7)                                                    |
| 3 | Year of Release  | 1970                                                              |
| 4 | Grain Yield      | 20 – 21 q/acre                                                    |
| 5 | Special features | ➤ Non-lodging<br>➤ Tolerant to blast                              |
| 6 | Developed centre | RRS, Mandya                                                       |
| 7 | Recommended zone | Suited for TBP, VC tract, tank fed and rainfed areas of Bangalore |

### A1.64 Kusuma (11908–31)

|   |                  |                                                                                                                  |
|---|------------------|------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                                                                            |
| 2 | Variety          | Kusuma (11908–31)                                                                                                |
| 3 | Year of Release  | 1970                                                                                                             |
| 4 | Grain Yield      | 20 – 21 q/acre                                                                                                   |
| 5 | Special features | ➤ Non-lodging<br>➤ Responds to higher doses of fertilizers                                                       |
| 6 | Developed centre | RRS, Mandya                                                                                                      |
| 7 | Recommended zone | Suitable for TBP area, VC tract, tankfed area round about Bangalore and rainfed drilled area round about Dharwad |

### A1.65 Jaya (IET-723)\*

|   |                      |                                        |
|---|----------------------|----------------------------------------|
| 1 | Crop                 | Paddy                                  |
| 2 | Variety              | Jaya (IET-723)*                        |
| 3 | Pedigree             | T-141 x T(N)-1                         |
| 4 | Year of Release      | 1968                                   |
| 5 | Gazette Notification | SO.4045 (E) dated 24 .09.1969          |
| 6 | Duration             | 140 – 148 days                         |
| 7 | Grain Yield          | 22 – 24 q/acre                         |
| 8 | Special features     | ➤ Medium duration<br>➤ Long bold grain |
| 9 | Recommended zone     | Zone – 7 & 9                           |

### A1.66 Co-29\*

|   |                      |                                                                            |
|---|----------------------|----------------------------------------------------------------------------|
| 1 | Crop                 | Paddy                                                                      |
| 2 | Variety              | Co-29*                                                                     |
| 3 | Year of Release      | 1967                                                                       |
| 4 | Gazette Notification | SO. 2446 (E) dated 21.06.1971                                              |
| 5 | Special features     | ➤ Resistant to blast<br>➤ Fine and white grain<br>➤ Good tillering ability |
| 6 | Recommended zone     | Zone – 5 & 6                                                               |

### A1.67 IR-20\*

|   |                  |                                                                                                                                                  |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Paddy                                                                                                                                            |
| 2 | Variety          | IR-20*                                                                                                                                           |
| 3 | Pedigree         | IR-262 x TKM-6                                                                                                                                   |
| 4 | Duration         | 130-135 days                                                                                                                                     |
| 5 | Grain Yield      | 18 – 20 q/acre                                                                                                                                   |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Medium slender grain</li><li>➤ Tolerant to Zinc and Iron deficiency</li><li>➤ Resistant to BPH</li></ul> |
| 7 | Developed centre | RRS, Mandya                                                                                                                                      |
| 8 | Recommended zone | Zone – 4, 5 & 6 (Tankbed areas)                                                                                                                  |

## A2. Sorghum (Jowar)

Sorghum is the staple food of Northern Karnataka. It is the main crop in black soils (vertisols) both during *Kharif* and rabi seasons in Northern Karnataka. Fodder sorghum is gaining the popularity in southern Karnataka. Since inception UASB has released 9 high yielding varieties and 3 hybrids. In addition to grain sorghum, fodder sorghum varieties are also released and are discussed in the fodder section. List and details of the grain sorghum varieties released are presented in Table–4 and described below:

**Table–4: List of Sorghum high yielding varieties released from UASB (1965–2025)**

| Sl. No. | Variety                         | Year of release |
|---------|---------------------------------|-----------------|
| 1       | CNGS-1                          | 2025            |
| 2       | SPV-462 *                       | 1998            |
| 3       | KDRSH-1 (SPH-218) (Hybrid)      | 1985            |
| 4       | DSH-1 (Hybrid)                  | 1984            |
| 5       | SB-905 (KDS-1)                  | 1982            |
| 6       | SB-1079                         | 1978            |
| 7       | RSH-1(Rabi-Hybrid)              | 1975            |
| 8       | Muguthi Jola (5-4-1)            | 1970            |
| 9       | Annigere Bili Jola No.1(7-47-3) | 1969            |
| 10      | Gidda-Maldandi (G.M.2-3-1)      | 1967            |
| 11      | C-7-1195                        | 1967            |
| 12      | C-5-2-3                         | 1967            |

## A2.1 CNGS-1

|    |                   |                                                                                                                                                                             |
|----|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop              | Sorghum                                                                                                                                                                     |
| 2  | Variety           | CNGS-1                                                                                                                                                                      |
| 3  | Pedigree          | (ICSR94405 x ICSR9374) x (ICSR27 x ICSR94599)                                                                                                                               |
| 4  | IC Number         | IC 653157                                                                                                                                                                   |
| 5  | Year of Release   | 2025                                                                                                                                                                        |
| 6  | Duration          | 100-105 days                                                                                                                                                                |
| 7  | Grain Yield       | 15 – 17 q/acre                                                                                                                                                              |
| 8  | Stover Yield      | 12 – 14 t/acre                                                                                                                                                              |
| 9  | Special Features  | <ul style="list-style-type: none"> <li>➤ Medium height (240-250 cms)</li> <li>➤ Stays green during harvesting</li> <li>➤ Protein – 9.09 %, Crude Fibre – 8.22(g)</li> </ul> |
| 10 | Developed Centre  | AICRP (Sorghum), Chamarajanagar                                                                                                                                             |
| 11 | Recommended Zones | Zone – 6                                                                                                                                                                    |



## A2.2 SPV–462\*

|   |                      |                                                        |
|---|----------------------|--------------------------------------------------------|
| 1 | Crop                 | Sorghum                                                |
| 2 | Variety              | SPV–462 *                                              |
| 3 | Year of Release      | 1998                                                   |
| 4 | Gazette Notification | SO.867 (E) dated 26.11.1986                            |
| 5 | Grain Yield          | 22 – 23 q/acre                                         |
| 6 | Special features     | ➤ Better cooking quality<br>➤ Tolerant to earhead smut |
| 7 | Developed centre     | Dharwad                                                |
| 8 | Recommended zone     | Zone – 4 & 7                                           |

## A2.3 Rabi Sorghum Hybrid: KDRSH–1 (SPH–218)

|   |                  |                                                                           |
|---|------------------|---------------------------------------------------------------------------|
| 1 | Crop             | Sorghum                                                                   |
| 2 | Variety          | KDRSH–1 (SPH–218)                                                         |
| 3 | Year of Release  | 1985                                                                      |
| 4 | Duration         | 115–120 days                                                              |
| 5 | Yield            | Grain: 12 – 14 q/acre<br>Fodder: 2.4 –2.6 t/acre                          |
| 6 | Special features | ➤ Suitable for early sowing<br>➤ Bold grain<br>➤ Tolerant to charcoal rot |
| 7 | Developed centre | RRS, Dharwad                                                              |
| 8 | Recommended zone | Rabi sorghum areas of the state under rainfed conditions                  |

## A2.4 DSH–1 (Hybrid)

|   |                      |                                        |
|---|----------------------|----------------------------------------|
| 1 | Crop                 | Sorghum                                |
| 2 | Variety              | DSH–1 (Hybrid)                         |
| 3 | Year of Release      | 1984                                   |
| 4 | Gazette Notification | SO.867 (E) dated 26.11.1986            |
| 5 | Duration             | 115 – 120 days                         |
| 6 | Grain Yield          | 24 – 25 q/acre                         |
| 7 | Special features     | ➤ Higher grain as well as fodder yield |
| 8 | Developed centre     | RRS, Dharwad                           |
| 9 | Recommended zone     | Zone – 7 & 8                           |

## A2.5 SB–905 (KDS–1)

|   |                      |                                                                                                                                                                                                               |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Sorghum                                                                                                                                                                                                       |
| 2 | Variety              | SB–905 (KDS–1)                                                                                                                                                                                                |
| 3 | Year of Release      | 1982                                                                                                                                                                                                          |
| 4 | Gazette Notification | SO.540 (E) dated 24.07.1985                                                                                                                                                                                   |
| 5 | Duration             | 120 – 125 days                                                                                                                                                                                                |
| 6 | Yield                | Grain: 20 – 20.5 q/acre<br>Fodder: 6.7 – 6.8 t/acre                                                                                                                                                           |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Dual purpose</li> <li>➤ Suited to assured rainfall areas</li> <li>➤ Better threshability</li> <li>➤ Resistant to rust</li> <li>➤ Tolerant to charcoal rot</li> </ul> |
| 8 | Recommended zone     | Zone – 7 & 8                                                                                                                                                                                                  |

## A2.6 SB–1079

|   |                      |                                                                                                                                                                                                                       |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Sorghum                                                                                                                                                                                                               |
| 2 | Variety              | SB–1079                                                                                                                                                                                                               |
| 3 | Year of Release      | 1978                                                                                                                                                                                                                  |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                                           |
| 5 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for May–June window</li><li>➤ Yields more dry fodder than the hybrids</li><li>➤ Resistant to downy mildew, major foliar diseases and to major grain moulds</li></ul> |
| 6 | Recommended zone     | Zone – 1, 2, 3                                                                                                                                                                                                        |

## A2.7 RSH–1

|   |                      |                                                                                                                                         |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Sorghum                                                                                                                                 |
| 2 | Variety              | RSH–1: Rabi Sorghum Hybrid–1                                                                                                            |
| 3 | Year of Release      | 1975                                                                                                                                    |
| 4 | Gazette Notification | SO. 786 (E) dated 21.02.1976                                                                                                            |
| 5 | Special features     | <ul style="list-style-type: none"><li>➤ More tolerant to shootfly</li><li>➤ Early maturing</li><li>➤ Suitable for Rabi season</li></ul> |
| 6 | Developed centre     | RRS, Raichur                                                                                                                            |
| 7 | Recommended zone     | Zone – 1, 2, 3                                                                                                                          |

## A2.8 Muguthi Jola (5-4-1)

|    |                      |                                                                                                                                                      |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sorghum                                                                                                                                              |
| 2  | Variety              | Muguthi Jola (5-4-1)                                                                                                                                 |
| 3  | Pedigree             | M-35-1 x C-10-2                                                                                                                                      |
| 4  | IC Number            | Bijapur: IC 289093; Bellary IC 289119                                                                                                                |
| 5  | Year of Release      | 1970                                                                                                                                                 |
| 6  | Gazette Notification | SO. 786 (E) dated 21.02.1976                                                                                                                         |
| 7  | Duration             | 125 – 130 days                                                                                                                                       |
| 8  | Yield                | Grain: 4 – 6 q/acre; Straw: 2 – 2.5 t/acre                                                                                                           |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for cultivation under rainfed conditions in all rabi area</li> <li>➤ Rich straw quality</li> </ul> |
| 10 | Developed centre     | ARS, Bijapur                                                                                                                                         |
| 11 | Recommended zone     | Zone – 1, 2, 3 & 8                                                                                                                                   |

## A2.9 Annigere Bili Jola No.1 (7-47-3)

|   |                  |                                   |
|---|------------------|-----------------------------------|
| 1 | Crop             | Sorghum                           |
| 2 | Variety          | Annigere Bili Jola No.1 (7-47-3 ) |
| 3 | Pedigree         | M-35-1 x Yenigar                  |
| 4 | Year of Release  | 1969                              |
| 5 | Special features | ➤ Suitable for rabi season        |
| 6 | Developed centre | ARS, Annigere                     |
| 7 | Recommended zone | Northern districts of Karnataka   |

### A2.10 Gidda–Maldandi (G.M.2–3–1)

|   |                  |                                                  |
|---|------------------|--------------------------------------------------|
| 1 | Crop             | Sorghum                                          |
| 2 | Variety          | Gidda–Maldandi (G.M.2–3–1)                       |
| 3 | IC Number        | IC 544733                                        |
| 4 | Year of Release  | 1967                                             |
| 5 | Special features | ➤ Suitable for Kharif season                     |
| 6 | Developed centre | Bailahongal                                      |
| 7 | Recommended zone | Transitional belt of Dharwad & Belgaum districts |

### A2.11 Siruguppa Neerjola (C–7–1195)

|   |                  |                                            |
|---|------------------|--------------------------------------------|
| 1 | Crop             | Sorghum                                    |
| 2 | Variety          | Siruguppa Neerjola (C–7–1195)              |
| 3 | IC Number        | IC 287615                                  |
| 4 | Pedigree         | D–340 x Co–9                               |
| 5 | Year of Release  | 1967                                       |
| 6 | Duration         | 100 – 110 days                             |
| 7 | Special features | ➤ Suitable for Kharif season               |
| 8 | Developed centre | ARS, Siruguppa                             |
| 9 | Recommended zone | TBP and Bhadra canal area under irrigation |

### A2.12 C–5–2–3

|   |                  |                            |
|---|------------------|----------------------------|
| 1 | Crop             | Sorghum                    |
| 2 | Variety          | C–5–2–3                    |
| 3 | Year of Release  | 1967                       |
| 4 | Duration         | 130 – 150 days             |
| 5 | Special features | ➤ Suitable for rabi season |
| 6 | Recommended zone | TBP area under irrigation  |

### A3. Wheat

Bifurcation of the University ended up in transferring wheat growing region of Karnataka to UAS, Dharwad. A total of 10 high yielding varieties were released since inception till the transfer to UAS, Dharwad. List and details of the high yielding wheat varieties released are presented in Table–5 as below:

**Table–5: List of Wheat varieties released from UASB (1965–2025)**

| Sl. No. | Variety          | Year of release |
|---------|------------------|-----------------|
| 1       | DWR–39           | 1984            |
| 2       | Keerthi (KDW–16) | 1982            |
| 3       | Kiran (KDW–137)  | 1982            |
| 4       | D 118–5–5–10     | 1979            |
| 5       | DWR 16           | 1979            |
| 6       | HD–2189          | 1978            |
| 7       | CC–464           | 1978            |
| 8       | NI747–19         | 1967            |
| 9       | Bijaga Yellow    | 1965            |
| 10      | Bijaga red       | 1965            |

#### A3.1 DWR–39

|   |                      |                                                                             |
|---|----------------------|-----------------------------------------------------------------------------|
| 1 | Crop                 | Wheat                                                                       |
| 2 | Variety              | DWR–39                                                                      |
| 3 | Year of Release      | 1984                                                                        |
| 4 | Gazette Notification | SO.540 (E) dated 24.07.1985                                                 |
| 5 | Duration             | 105 – 110 days                                                              |
| 6 | Grain Yield          | 10 – 15 q/acre                                                              |
| 7 | Special features     | ➤ Dwarf with high degree of resistance to both black and brown rust disease |
| 8 | Recommended zone     | Suitable for all soils/ climatic conditions of peninsular                   |

### A3.2 Keerthi (KDW–16)

|   |                      |                                                                                                                                                                                                                        |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Wheat                                                                                                                                                                                                                  |
| 2 | Variety              | Keerthi (KDW–16)                                                                                                                                                                                                       |
| 3 | Year of Release      | 1982                                                                                                                                                                                                                   |
| 4 | Gazette Notification | SO. 295 (E) dated 09.04.1985                                                                                                                                                                                           |
| 5 | Duration             | 105 – 110 days                                                                                                                                                                                                         |
| 6 | Grain Yield          | 10 – 15 q/acre                                                                                                                                                                                                         |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for late sowing conditions</li> <li>➤ Bold and hard grains</li> <li>➤ Good Bread making quality</li> <li>➤ Resistant to all races of black and brown rust</li> </ul> |
| 8 | Recommended zone     | <ul style="list-style-type: none"> <li>➤ Suitable for all irrigated areas of Karnataka</li> <li>➤ Highly suitable for transitional belt of Karnataka</li> </ul>                                                        |

### A3.3 Kiran (KDW–137/ DWR–137)

|   |                      |                                                                                                                                                                                              |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Wheat                                                                                                                                                                                        |
| 2 | Variety              | Kiran (KDW–137/ DWR–137)                                                                                                                                                                     |
| 3 | Year of Release      | 1982                                                                                                                                                                                         |
| 4 | Gazette Notification | SO. 295 (E) dated 09.04.1985                                                                                                                                                                 |
| 5 | Duration             | 195 – 110 days                                                                                                                                                                               |
| 6 | Grain Yield          | Rainfed: 4 – 5 q/acre                                                                                                                                                                        |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Non-lodging</li> <li>➤ Drought resistant</li> <li>➤ Highly resistant to race 42B2 &amp; Moderately resistant to 117A1 of black stem rust</li> </ul> |
| 8 | Recommended zone     | Rainfed areas of Karnataka                                                                                                                                                                   |

### A3.4 DWR 16

|   |                  |                                                                                                                                                                                                                                                        |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Wheat                                                                                                                                                                                                                                                  |
| 2 | Variety          | DWR 16                                                                                                                                                                                                                                                 |
| 3 | Year of Release  | 1979                                                                                                                                                                                                                                                   |
| 4 | Special features | <ul style="list-style-type: none"><li>➤ High yielding (20–25%) more than UP–301</li><li>➤ Resistant to all rust disease</li><li>➤ Non–lodging</li><li>➤ Grains are bold, lustrous and very attractive and can fetch more price in the market</li></ul> |

### A3.5 D 118–5–5–10

|   |                  |                                                                                                                                                                                 |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Wheat                                                                                                                                                                           |
| 2 | Variety          | D 118–5–5–10                                                                                                                                                                    |
| 3 | Year of Release  | 1979                                                                                                                                                                            |
| 4 | Special features | <ul style="list-style-type: none"><li>➤ High yielding (15–20%) more than UP–301</li><li>➤ Moderately resistant to all rust disease</li><li>➤ Grains per spike is more</li></ul> |

### A3.6 HD–2189

|   |                      |                                                                                                                                                        |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Wheat                                                                                                                                                  |
| 2 | Variety              | HD–2189                                                                                                                                                |
| 3 | Pedigree             | HD–1963/HD–1931                                                                                                                                        |
| 4 | Year of Release      | 1978                                                                                                                                                   |
| 5 | Gazette Notification | SO. 470 (E) dated 19.12.1980                                                                                                                           |
| 6 | Duration             | 100 – 110 days                                                                                                                                         |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Bold, lustrous &amp; attractive grains</li><li>➤ Non–lodging</li><li>➤ Resistant to all rust disease</li></ul> |

### A3.7 CC-464

|   |                      |                                                                                                                            |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Wheat                                                                                                                      |
| 2 | Variety              | CC-464                                                                                                                     |
| 3 | Year of Release      | 1978                                                                                                                       |
| 4 | Gazette Notification | SO. 470 (E) dated 19.12.1980                                                                                               |
| 5 | Special features     | <ul style="list-style-type: none"><li>➤ More grains per spike</li><li>➤ Moderately resistant to all rust disease</li></ul> |

### A3.8 NI747-19 (Deccan queen)

|   |                      |                                                                                                                                       |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Wheat                                                                                                                                 |
| 2 | Variety              | NI747-19 (Deccan queen)                                                                                                               |
| 3 | Year of Release      | 1967                                                                                                                                  |
| 4 | Gazette Notification | SO. 361 (E) dated 30.06.1973                                                                                                          |
| 5 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for irrigated conditions</li><li>➤ Resistant to the prevalent race of rust</li></ul> |
| 6 | Developed centre     | ARS, Annigere                                                                                                                         |

### A3.9 Bijaga Yellow

|   |                  |                                                                                                                                              |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Wheat                                                                                                                                        |
| 2 | Variety          | Bijaga Yellow                                                                                                                                |
| 3 | Pedigree         | LV-Mysore (Local-Red) x Gaza                                                                                                                 |
| 4 | Year of Release  | 1965                                                                                                                                         |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Suitable for rainfed conditions</li><li>➤ Resistant to prevalent race of rust (except 42B)</li></ul> |
| 6 | Developed centre | ARS, Bijapur                                                                                                                                 |
| 7 | Recommended zone | Deccan plateau                                                                                                                               |

### A3.10 Bijaga Red

|   |                  |              |
|---|------------------|--------------|
| 1 | Crop             | Wheat        |
| 2 | Variety          | Bijaga Red   |
| 3 | Year of Release  | 1965         |
| 4 | Developed centre | ARS, Bijapur |

#### A4. Maize

Maize crop has expanded at rapid pace in the last decade. Genetic enhancement of maize from lines to composites and then hybrids is clearly visible, where UASB had released 1 popcorn and 3 high yielding varieties till 1980s, then 4 composites during 1990s while 7 hybrids in the recent years. All the hybrids developed during last decade have been licensed to private institutions for commercially producing and selling its seeds. List (Table-6) and details of the developed high yielding varieties/ composites/ hybrids released are described below:

**Table-6: List of high yielding maize varieties/ composites/ hybrids released from UASB (1965–2025)**

| Sl. No. | Variety/ Composite/ Hybrid           | Year of release |
|---------|--------------------------------------|-----------------|
| 1       | MAH-15-84 (Hybrid)                   | 2024            |
| 2       | MAH-14-138 (Hybrid)                  | 2022            |
| 3       | MAH-14-5 (Hybrid)                    | 2017            |
| 4       | NAH-1137 (Hybrid)                    | 2010            |
| 5       | NAH-2049 (Hybrid)                    | 2006            |
| 6       | NAC-6002 (Composite)                 | 1999            |
| 7       | NAC-6004 (Composite)                 | 1998            |
| 8       | Ganga-11 (EH-5131)                   | 1989            |
| 9       | Deccan -103 (Hybrid)                 | 1985            |
| 10      | Renuka (G-25)                        | 1985            |
| 11      | 400175                               | 1979            |
| 12      | Shakti (Composite)                   | 1971            |
| 13      | Deccan-101 (Double top cross hybrid) | 1967            |
| 14      | Vijaya Composite                     | 1967            |
| 15      | Amber (Popcorn)                      | 1967            |

#### A4.1 MAH-15-84

|    |                      |                                                                                                                                                                                                                                                                                                                                                                                  |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Maize                                                                                                                                                                                                                                                                                                                                                                            |
| 2  | Hybrid               | MAH 15-84                                                                                                                                                                                                                                                                                                                                                                        |
| 3  | Pedigree             | MAI(GPB)-2000-115 x MAI(GPB)-2000-121                                                                                                                                                                                                                                                                                                                                            |
| 4  | IC Number            | IC 651397                                                                                                                                                                                                                                                                                                                                                                        |
| 5  | Year of Release      | 2024                                                                                                                                                                                                                                                                                                                                                                             |
| 6  | Gazette Notification | SO. 2128 (E) dated 13.05.2025                                                                                                                                                                                                                                                                                                                                                    |
| 7  | Duration             | 120-125 days                                                                                                                                                                                                                                                                                                                                                                     |
| 8  | Grain Yield          | 36-38 q/acre                                                                                                                                                                                                                                                                                                                                                                     |
| 9  | Special Features     | <ul style="list-style-type: none"> <li>➤ Single cross hybrid</li> <li>➤ Resistance to leaf blight</li> <li>➤ Moderate tolerance to downy mildew disease</li> <li>➤ Appealing and attractive orange colored seed fetches higher price in the market</li> <li>➤ Female parent possesses good seed production capacity and male parent possess good pollination capacity</li> </ul> |
| 10 | Developed Centre     | ZARS and CoA, Mandya                                                                                                                                                                                                                                                                                                                                                             |
| 11 | Recommended Zones    | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                                                                     |



## A4.2 MAH-14-138 (Single Cross Hybrid)

|    |                      |                                                                                                                                                                                                                                                                                                  |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Maize                                                                                                                                                                                                                                                                                            |
| 2  | Variety              | MAH-14-138                                                                                                                                                                                                                                                                                       |
| 3  | Pedigree             | MAI-729 x MAI-105                                                                                                                                                                                                                                                                                |
| 4  | IC Number            | IC 644682                                                                                                                                                                                                                                                                                        |
| 5  | Year of Release      | 2022                                                                                                                                                                                                                                                                                             |
| 6  | Gazette Notification | SO. 4388 (E) dated 08.10.2024                                                                                                                                                                                                                                                                    |
| 7  | Duration             | 115 – 120 days                                                                                                                                                                                                                                                                                   |
| 8  | Grain Yield          | 34 – 38 q/acre                                                                                                                                                                                                                                                                                   |
| 9  | Special Features     | <ul style="list-style-type: none"> <li>➤ Long cobs with attractive light orange grains fetches higher price in the market</li> <li>➤ Stays green even at harvest</li> <li>➤ Resistant to <i>Turcicum</i> leaf blight</li> <li>➤ Moderately resistant to Sorghum downy mildew diseases</li> </ul> |
| 10 | Developed Centre     | ZARS, V. C. Farm, Mandya                                                                                                                                                                                                                                                                         |
| 11 | Recommended Zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                     |



### A4.3 MAH-14-5 (Single Cross Hybrid)

|    |                      |                                                                                                                                                                                                                                                                                                                     |                |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Maize                                                                                                                                                                                                                                                                                                               |                |
| 2  | Variety              | MAH-14-5 (Single Cross Hybrid)                                                                                                                                                                                                                                                                                      |                |
| 3  | Pedigree             | CAL 1443 x CML 451                                                                                                                                                                                                                                                                                                  |                |
| 4  | IC Number            | IC 623731                                                                                                                                                                                                                                                                                                           |                |
| 5  | Year of Release      | 2017                                                                                                                                                                                                                                                                                                                |                |
| 6  | Gazette Notification | SO. 6318 (E) dated 26.12.2018                                                                                                                                                                                                                                                                                       |                |
| 7  | Duration             | 110–120 days                                                                                                                                                                                                                                                                                                        |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                                                                      | Straw (t/acre) |
|    | Irrigated            | 32 – 35                                                                                                                                                                                                                                                                                                             | 12             |
|    | Rainfed              | 20 – 28                                                                                                                                                                                                                                                                                                             | 8              |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Wider adaptability: Rainfed &amp; Irrigated situation</li> <li>➤ Stay green leaves even at harvest</li> <li>➤ Resistant to Turcicum leaf blight</li> <li>➤ Moderately resistant to Sorghum downy mildew</li> <li>➤ Moderately susceptible to Fusarium stalk rot</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                                        |                |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                                        |                |



#### A4.4 Hema (NAH–1137) (Single Cross Hybrid)

|    |                      |                                                                                                                                                                                                                                                                                                        |                |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Maize                                                                                                                                                                                                                                                                                                  |                |
| 2  | Variety              | Hema (NAH–1137: Single Cross Hybrid)                                                                                                                                                                                                                                                                   |                |
| 3  | Pedigree             | NAI 137 x MAI 105                                                                                                                                                                                                                                                                                      |                |
| 4  | Year of Release      | 2010                                                                                                                                                                                                                                                                                                   |                |
| 5  | Gazette Notification | SO. 2238 (E) dated 29.06.2016                                                                                                                                                                                                                                                                          |                |
| 6  | Duration             | 120–125 days (110–120)                                                                                                                                                                                                                                                                                 |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                                                         | Straw (t/acre) |
|    | Irrigated            | 30 – 32                                                                                                                                                                                                                                                                                                | 12             |
|    | Rainfed              | 20 – 25                                                                                                                                                                                                                                                                                                | 8              |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for both rainfed &amp; irrigated ecosystems</li> <li>➤ Stay green leaves, enabling farmers to harvest both matured cobs &amp; green fodder at a time</li> <li>➤ Tolerant to Turcicum leaf blight, sorghum downy mildew, and polysora rust</li> </ul> |                |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                           |                |
| 10 | Recommended zone     | Zone – 4, 5, 6 & 7                                                                                                                                                                                                                                                                                     |                |



### A4.5 Nithyashree (NAH-2049) (Single cross hybrid)

|    |                      |                                                                                               |                |         |
|----|----------------------|-----------------------------------------------------------------------------------------------|----------------|---------|
| 1  | Crop                 | Maize                                                                                         |                |         |
| 2  | Variety              | Nithyashree (NAH-2049)                                                                        |                |         |
| 3  | Pedigree             | Population (SKV-50)<br>147-F2-89-3-2-B-1-B                                                    | x              | MAI-105 |
| 4  | Year of Release      | 2006                                                                                          |                |         |
| 5  | Gazette Notification | SO. 449 (E) dated 11.02.2009                                                                  |                |         |
| 6  | Duration             | 110-120 days                                                                                  |                |         |
| 7  | Yield                | Grain (q/acre)                                                                                | Straw (t/acre) |         |
|    | Irrigated            | 30 – 32                                                                                       | 12             |         |
|    | Rainfed              | 20 – 25                                                                                       | 8              |         |
| 8  | Special features     | ➤ Resistant to lodging<br>➤ Tolerant to Turcicum leaf blight, Downy mildew and to stalk borer |                |         |
| 9  | Developed centre     | OFRS, Naganahalli                                                                             |                |         |
| 10 | Recommended zone     | Zone – 4, 5, 6 & 7                                                                            |                |         |



#### A4.6 NAC–6002 (Composite)

|    |                      |                                                                                                                                                           |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Maize                                                                                                                                                     |
| 2  | Variety              | NAC–6002– Composite                                                                                                                                       |
| 3  | Pedigree             | NAI– 103, 104, 109, 113, 116, 117, 118, 125, 132, 133, 134, 135, 137, 138, 140, 147 and NAI– 151                                                          |
| 4  | Year of Release      | 1999                                                                                                                                                      |
| 5  | Gazette Notification | SO. 937 (E) dated 04.09.2002                                                                                                                              |
| 6  | Duration             | 95 – 100 days                                                                                                                                             |
| 7  | Grain Yield          | 20 – 22 q/acre                                                                                                                                            |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Resistant to Downy mildew</li><li>➤ Resistant to Turcicum leaf blight</li><li>➤ Resistant to stem borer</li></ul> |
| 9  | Developed centre     | OFRS, Naganahalli                                                                                                                                         |
| 10 | Recommended zone     | Zone – 4, 5,6 & 7                                                                                                                                         |



#### A4.7 NAC-6004 (Composite)

|    |                      |                                                                                                                                        |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Maize                                                                                                                                  |
| 2  | Variety              | NAC-6004 – Composite                                                                                                                   |
| 3  | Pedigree             | Derived from INDIMYT-345 population                                                                                                    |
| 4  | Year of Release      | 1998                                                                                                                                   |
| 5  | Gazette Notification | SO. 92 (E) dated 02.02.2001                                                                                                            |
| 6  | Duration             | 120 – 130 days                                                                                                                         |
| 7  | Grain Yield          | 25 – 30 q/acre                                                                                                                         |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Resistant to downy mildew and Turcicum leaf blight</li><li>➤ Resistant to stem borer</li></ul> |
| 9  | Developed centre     | OFRS, Naganahalli                                                                                                                      |
| 10 | Recommended zone     | Zone – 4, 5, 6 & 7                                                                                                                     |



#### A4.8 Ganga–11 (EH–5131)

|   |                      |                                                                                                                 |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Maize                                                                                                           |
| 2 | Variety              | Ganga–11 (EH–5131)                                                                                              |
| 3 | Year of Release      | 1989                                                                                                            |
| 4 | Gazette Notification | SO. 1135 (E) dated 1.12.1988                                                                                    |
| 5 | Duration             | 110 – 125 days                                                                                                  |
| 6 | Grain Yield          | 20 – 22 q/acre                                                                                                  |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Tolerant to downy mildew</li> <li>➤ Tolerant to leaf blight</li> </ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                    |
| 9 | Recommended zone     | Zone – 6                                                                                                        |

#### A4.9 Deccan –103 (Hybrid)

|   |                      |                                                                                                                                                    |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Maize                                                                                                                                              |
| 2 | Variety              | Deccan –103 (Hybrid)                                                                                                                               |
| 3 | Year of Release      | 1985                                                                                                                                               |
| 4 | Gazette Notification | SO. 371 (E) dated 29.05.1982                                                                                                                       |
| 5 | Duration             | 110 – 115 days                                                                                                                                     |
| 6 | Grain Yield          | 24 – 30 q/acre                                                                                                                                     |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i> &amp; rabi seasons</li> <li>➤ Yellow semi-flint medium sized grains</li> </ul> |
| 8 | Recommended zone     | Zone – 1, 2, 3 & 8                                                                                                                                 |

#### A4.10 G-25 (Renuka)

|   |                  |                                                                                                                                                                                                                                             |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Maize                                                                                                                                                                                                                                       |
| 2 | Variety          | G-25 (Renuka)                                                                                                                                                                                                                               |
| 3 | Year of Release  | 1985                                                                                                                                                                                                                                        |
| 4 | Duration         | 90 days                                                                                                                                                                                                                                     |
| 5 | Grain Yield      | 16 –17 q/acre                                                                                                                                                                                                                               |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Suitable for both <i>Kharif</i> and rabi seasons</li><li>➤ Suitable for inter-cropping systems</li><li>➤ Short duration</li><li>➤ Medium grain</li><li>➤ Orange yellow semi-flint texture</li></ul> |
| 7 | Recommended zone | Malaprabha and Ghataprabha project areas                                                                                                                                                                                                    |

#### A4.11 400175

|   |                  |                                                                                           |
|---|------------------|-------------------------------------------------------------------------------------------|
| 1 | Crop             | Maize                                                                                     |
| 2 | Variety          | 400175                                                                                    |
| 3 | Year of Release  | 1979                                                                                      |
| 4 | Special features | <ul style="list-style-type: none"><li>➤ It is recommended to replace Deccan-101</li></ul> |

#### A4.12 Shakti (Composite)

|   |                  |                                                                                                                                   |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Maize                                                                                                                             |
| 2 | Variety          | Shakti (Composite)                                                                                                                |
| 3 | Year of Release  | 1971                                                                                                                              |
| 4 | Duration         | 115 – 120 days                                                                                                                    |
| 5 | Grain Yield      | 25 – 30 q/acre                                                                                                                    |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Higher Lysine content (3.4–3.5%)</li><li>➤ Suitable for poultry and cattle feed</li></ul> |
| 7 | Recommended zone | Zone – 5, 6 & 7                                                                                                                   |

#### **A4.13 Deccan–101 (Double top cross hybrid)**

|   |                      |                                                     |
|---|----------------------|-----------------------------------------------------|
| 1 | Crop                 | Maize                                               |
| 2 | Variety              | Deccan–101 (Double top cross hybrid)                |
| 3 | Year of Release      | 1967                                                |
| 4 | Gazette Notification | SO. 786 (E) dated 02.02.1976                        |
| 5 | Duration             | 110 – 115 days                                      |
| 6 | Grain Yield          | 35 – 40 q/acre                                      |
| 7 | Special features     | ➤ White grain<br>➤ Tolerant to Sorghum downy mildew |
| 8 | Recommended zone     | Zone – 5, 6 & 7                                     |

#### **A4.14 Vijaya composite**

|   |                  |                  |
|---|------------------|------------------|
| 1 | Crop             | Maize            |
| 2 | Variety          | Vijaya composite |
| 3 | Year of Release  | 1967             |
| 4 | Duration         | 115–120 days     |
| 5 | Grain Yield      | 30 – 32 q/acre   |
| 6 | Recommended zone | Zone – 5, 6 & 7  |

#### **A4.15 Amber**

|   |                  |                   |
|---|------------------|-------------------|
| 1 | Crop             | Maize             |
| 2 | Variety          | Amber             |
| 3 | Year of Release  | 1967              |
| 4 | Duration         | 115 – 120 days    |
| 5 | Grain Yield      | 30 – 32 q/acre    |
| 6 | Special features | ➤ Popcorn variety |
| 7 | Recommended zone | Zone – 5, 6 & 7   |

## II. MILLETS

Archaeological evidence from Indus valley civilization (2500BCE) shows millet cultivation in Harappa, and they are also mentioned in ancient Vedic texts. Millets were a significant part of traditional Indian diets before rice and wheat became more common. Millets being sustainable crop due to their low water and input requirements, can play a crucial role in addressing food security, particularly in arid and semi-arid regions. They are known for resilience and drought enduring capacity and are relatively less prone to major pests and diseases. Millets are indeed nutrient-rich, packed with protein, fiber, and essential micronutrients like iron, magnesium, and calcium. They also offer various vitamins and antioxidants, contributing to overall health and well-being. High yielding varieties of millets being the need of the hour, University has released eight high yielding varieties of five different millets in the last three years. Details of the millets released by UASB is presented in Fig-4.

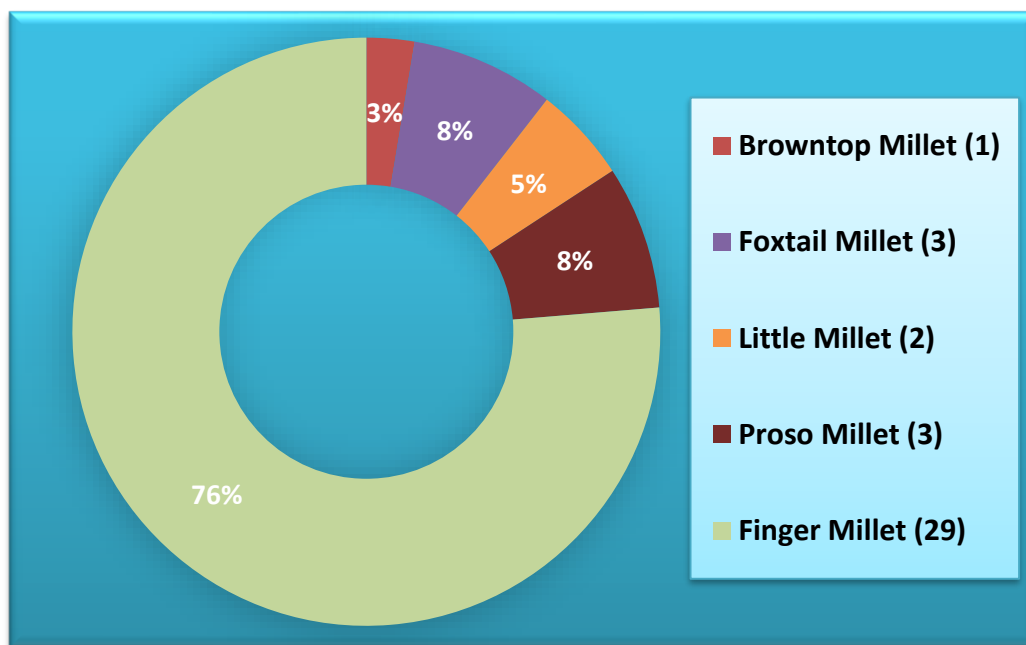


**Fig-4: Varieties released in Millets**

## B1. Finger millet (Ragi)

Ragi cultivation is the hallmark of southern Karnataka farmers in red soils. Farmers in Karnataka cultivated a wide range of ragi varieties, each with unique characteristics suited to different growing conditions and preferences. These included varieties like "iyyana ragi" from Mandya, "hinu ragi" from Tumakuru, and "gidda ragi" from Kolar, among others.

Finger millet yield enhancement work has been carried out in five phases at UASB. Seven cultivars, primarily derived from indigenous collections, with yield potentials ranging from 285 to 512 kg/ha were released during phase I (1931–1951). Varieties listed (Table-7) during this phase are enlisted below:

**Table-7: List of high yielding Ragi varieties released from UASB (1931 – 1951)**

| Sl. No. | Variety | Year of release | Sl. No. | Variety | Year of release |
|---------|---------|-----------------|---------|---------|-----------------|
| 1       | H-22    | 1918            | 5       | ES-13   | 1939            |
| 2       | K-1     | 1939            | 6       | Co-1    | 1939            |
| 3       | R-0870  | 1939            | 7       | H-1     | 1941            |
| 4       | ES-11   | 1939            |         |         |                 |

Prior to the establishment of the university, pure line selections and Indigenous crosses contact method were used to develop varieties (Table-8) with a yield potential of 900–2700 kg/ha were made in phase II (1951–1964) by renowned Canadian scientist Dr. Leslie C. Coleman, who served as the first Director of Agriculture and the first associate Director of research at the Zonal Agricultural Research Station, VCFarm, Mandaya. The varietal improvement work was conducted at four distinct Karnataka centers: Hunsur, Hagari, Hebbal and Mandya.

**Table-8: List of high yielding Ragi varieties released from UASB (1951 – 1964)**

| Sl. No. | Variety | Year of release | Sl. No. | Variety   | Year of release |
|---------|---------|-----------------|---------|-----------|-----------------|
| 1       | Aruna   | 1956            | 3       | Annapurna | 1962            |
| 2       | Udaya   | 1959            | 4       | Cauvery   | 1962            |

Dr. C.H. Lakshmanaiah, Botanist, regarded as ‘‘Ragi Brahma’’, revolutionized the ragi varietal development programme by through his pioneering work on crossing Indian varieties with African ecotypes in phase III (1964–1986) resulted in release of 16 varieties designated as ‘INDAF’ series. This evolved many strains of "Indaf" series during his period that could be cultivated throughout the year both under rainfed and irrigated conditions with yield ranging from 3000 -4500 kg/ha.

The AICRP on Small Millets and the Project Co-ordinating Unit (Small Millets) were subsequently started in 1986 with the primary goals of gathering and conserving germplasm and creating high-yielding cultivars with blast resistance that are appropriate for both rainfed and irrigated environments. The production potential increased further during phase-IV (1986–2000), ranging from 4500–5000 kg/ha, and the introduced cultivars were resistant to blast disease.

During phase-V (after 2000) upon establishment of AICSMIP, emphasis was laid on developing trait specific (white ragi, mechanization suitability, highly palatable fodder, etc...) and productive lines with elite background through hybridization to improve high grain and straw yield suitable for Kharif as well as Rabi season (where ever irrigation is available). The yield levels shot up, subsequently, ranging from 5000-5500 kg/ha. The GPU, MR, ML, and KMR series of cultivars were identified as a result of the groundbreaking crossing works in this phase. Additionally, studies are being conducted to develop medium and short-duration varieties that are resistant to disease and have excellent grain yields. These efforts aim to address issues such as drought, saline and alkaline soils, cold season and hilly regions, value addition and mechanical harvesting. High yielding ragi cultivars that have been released since the beginning are listed in Table–9 and explained in detail further.

**Table–9: List of high yielding Ragi varieties released from UASB (1965 – 2025)**

| Sl. No. | Variety | Year of release |
|---------|---------|-----------------|
| 1.      | ML–322  | 2023            |
| 2.      | KMR–316 | 2021            |
| 3.      | KMR–630 | 2018            |

|     |                    |      |
|-----|--------------------|------|
| 4.  | KMR-340            | 2016 |
| 5.  | KMR-204            | 2012 |
| 6.  | GPU-67             | 2009 |
| 7.  | GPU-66             | 2009 |
| 8.  | KMR-301            | 2009 |
| 9.  | ML-365             | 2008 |
| 10. | GPU-48 (Ratna)     | 2005 |
| 11. | MR-6 (Divya)       | 2004 |
| 12. | GPU-45             | 2001 |
| 13. | L-5                | 1999 |
| 14. | GPU-26             | 1998 |
| 15. | GPU-28             | 1997 |
| 16. | Indaf-15           | 1994 |
| 17. | HRC 50-5           | 1993 |
| 18. | MR-2               | 1992 |
| 19. | MR-1               | 1990 |
| 20. | Indaf-9 (Chitta)   | 1985 |
| 21. | HR-911 (KBR-1)     | 1985 |
| 22. | Indaf-8 (Chethana) | 1982 |
| 23. | Indaf-7 (Hastha)   | 1981 |
| 24. | Indaf-5            | 1977 |
| 25. | Indaf-1            | 1976 |
| 26. | Indaf-3            | 1976 |
| 27. | Shakti (ROH-2)     | 1973 |
| 28. | HR1 (Hamsa)        | 1969 |
| 29. | Purna              | 1966 |

### B1.1 ML-322

|    |                      |                                                                                                                                                                                                                                                                                                      |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                                                                                 |
| 2  | Variety              | ML-322                                                                                                                                                                                                                                                                                               |
| 3  | Pedigree             | IE-1012 x Indaf-5                                                                                                                                                                                                                                                                                    |
| 4  | IC Number            | IC 648947                                                                                                                                                                                                                                                                                            |
| 5  | Year of Release      | 2023                                                                                                                                                                                                                                                                                                 |
| 6  | Gazette Notification | SO. 4388 (E) dated 08.10.2024                                                                                                                                                                                                                                                                        |
| 7  | Duration             | 105 – 110 days                                                                                                                                                                                                                                                                                       |
| 8  | Grain Yield          | Rainfed: 10 – 12 q/acre; Irrigated: 15 – 20 q/acre                                                                                                                                                                                                                                                   |
| 9  | Straw Yield          | 2.0 – 2.2 t/acre                                                                                                                                                                                                                                                                                     |
| 10 | Special Features     | <ul style="list-style-type: none"><li>➤ Medium height (100 – 105 cm) variety</li><li>➤ Stiff stalk that resists lodging</li><li>➤ More number of tillers (6–7)</li><li>➤ Resistant to neck and finger blast</li><li>➤ Drought tolerant</li><li>➤ Releases less chaff dust during threshing</li></ul> |
| 11 | Developed Centre     | Dept. of Genetics and Plant Breeding                                                                                                                                                                                                                                                                 |
| 12 | Recommended Zone     | Zone – 5                                                                                                                                                                                                                                                                                             |



## B1.2 KMR-316

|    |                      |                                                                                                                                                                                                                                                                                                                                          |                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Variety              | KMR-316                                                                                                                                                                                                                                                                                                                                  |                |
| 2  | Pedigree             | IE 95001 X MR-6                                                                                                                                                                                                                                                                                                                          |                |
| 3  | IC Number            | IC 637187                                                                                                                                                                                                                                                                                                                                |                |
| 4  | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                                     |                |
| 5  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                                                                            |                |
| 6  | Duration             | 100 – 105 days                                                                                                                                                                                                                                                                                                                           |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                                                                                           | Straw (t/acre) |
| 8  | Rainfed              | 12 – 14                                                                                                                                                                                                                                                                                                                                  | 1.5 – 1.9      |
|    | Irrigated            | 18 – 20                                                                                                                                                                                                                                                                                                                                  | 1.9 – 2.2      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>kharif</i> (June – July) and late <i>kharif</i> (August–September) sowings</li> <li>➤ Suitable for cultivation in both irrigated and rainfed condition</li> <li>➤ Green ear heads with long tip incurved fingers</li> <li>➤ Resistant to blast and foot rot diseases</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                                                             |                |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                             |                |



### B1.3 KMR–630

|    |                      |                                                                                                                                               |                |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                          |                |
| 2  | Variety              | KMR–630                                                                                                                                       |                |
| 3  | Pedigree             | PR–202 x GE–1409<br>(Seed and pollen parent introduced from African germplasm)                                                                |                |
| 4  | Gazette Notification | SO. 3482 (E) dated 07.10.2020                                                                                                                 |                |
| 5  | IC Number            | IC 625725                                                                                                                                     |                |
| 6  | Year of Release      | 2018                                                                                                                                          |                |
| 7  | Duration             | 95 – 100 days                                                                                                                                 |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                | Straw (t/acre) |
|    | Rainfed              | 14 – 16                                                                                                                                       | 1.6 – 2.0      |
|    | Irrigated            | 18 – 20                                                                                                                                       | 2.0 – 2.5      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Non-lodging</li> <li>➤ Suitable for mechanical harvest</li> <li>➤ Resistant to neck blast</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                  |                |
| 11 | Recommended Zone     | Zone – 5 & 6                                                                                                                                  |                |



## B1.4 KMR–340

|    |                      |                                                                                                                                                                                                                                                                 |                |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                                            |                |
| 2  | Variety              | KMR–340                                                                                                                                                                                                                                                         |                |
| 3  | Pedigree             | WRT–14 x GE–2924                                                                                                                                                                                                                                                |                |
| 4  | Year of Release      | 2016                                                                                                                                                                                                                                                            |                |
| 5  | Gazette Notification | SO. 2805 (E) dated 25.08.2017                                                                                                                                                                                                                                   |                |
| 6  | IC Number            | IC 618419                                                                                                                                                                                                                                                       |                |
| 7  | Duration             | 95 – 100 days                                                                                                                                                                                                                                                   |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                  | Straw (t/acre) |
|    | Rainfed              | 12 – 14                                                                                                                                                                                                                                                         | 1.6 – 2.0      |
|    | Irrigated            | 18 – 20                                                                                                                                                                                                                                                         | 2.0 – 2.5      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ White ragi variety, hence preferred for value added products preparation</li> <li>➤ Suitable for late <i>Kharif</i></li> <li>➤ Rich in iron (4-5 mg) and protein (11-12g)</li> <li>➤ Tolerant to stem borer</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                    |                |
| 11 | Recommended Zone     | Zones – 5 & 6                                                                                                                                                                                                                                                   |                |



## B1.5 KMR–204

|    |                      |                                                                                                                 |                |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                            |                |
| 2  | Variety              | KMR–204 (Achala)                                                                                                |                |
| 3  | Pedigree             | GPU–26 x GE–2924                                                                                                |                |
| 4  | Year of Release      | 2012                                                                                                            |                |
| 5  | Gazette Notification | SO. 1146 (E) dated 24.04.2014                                                                                   |                |
| 6  | IC Number            | IC 594590                                                                                                       |                |
| 7  | Duration             | 100 – 105 days                                                                                                  |                |
| 8  | Yield                | Grain (q/acre)                                                                                                  | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                          | 1.5 – 2.0      |
|    | Irrigated            | 12 – 14                                                                                                         | 3.0 – 3.5      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for late <i>Kharif</i></li> <li>➤ Brick red grains</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                    |                |
| 11 | Recommended zone     | Zone – 4, 5 & 6                                                                                                 |                |



### B1.6 KMR-301 (Gowri)

|    |                      |                                                                                                                                                                                                                                                                                  |                |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                                                             |                |
| 2  | Variety              | KMR-301 (Gowri)                                                                                                                                                                                                                                                                  |                |
| 3  | Pedigree             | MR-1 x GE-1409                                                                                                                                                                                                                                                                   |                |
| 4  | Year of Release      | 2009                                                                                                                                                                                                                                                                             |                |
| 5  | Gazette Notification | SO. 2326 (E) dated 10.10.2011                                                                                                                                                                                                                                                    |                |
| 6  | IC Number            | IC 594591                                                                                                                                                                                                                                                                        |                |
| 7  | Duration             | 115 – 118 days                                                                                                                                                                                                                                                                   |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                                   | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                                                                                                                                                                                           | 1.5 – 2.5      |
|    | Irrigated            | 12 – 14                                                                                                                                                                                                                                                                          | 3.0 – 3.5      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i>, late <i>Kharif</i> and <i>Rabi</i></li> <li>➤ Bold and brick red grains</li> <li>➤ Tolerant to neck blast &amp; finger blast disease</li> <li>➤ Tolerant to grasshopper and ear head caterpillar</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                     |                |
| 11 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                         |                |



## B1.7 GPU–66

|    |                      |                                                                                                                                                                                                                                          |                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                     |                |
| 2  | Variety              | GPU–66                                                                                                                                                                                                                                   |                |
| 3  | Pedigree             | PR–202 x GPU–28                                                                                                                                                                                                                          |                |
| 4  | Year of Release      | 2009                                                                                                                                                                                                                                     |                |
| 5  | Gazette Notification | SO. 1379 (E) dated 27.03.2018                                                                                                                                                                                                            |                |
| 6  | Duration             | 110 – 115 days                                                                                                                                                                                                                           |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                                                                                                           | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                                                                                                                                                   | 1.5 – 2.5      |
|    | Irrigated            | 12 – 14                                                                                                                                                                                                                                  | 3.0 – 3.5      |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for cultivation in <i>Kharif</i>, late <i>Kharif</i> and Summer season</li> <li>➤ High yielding under rainfed condition.</li> <li>➤ Tolerant to neck blast and finger blast</li> </ul> |                |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                               |                |
| 10 | Recommended Zone     | Zone – 4, 5 and 6                                                                                                                                                                                                                        |                |



## B1.8 GPU-67

|   |                      |                                                                                                                                                                                        |                |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1 | Crop                 | Ragi                                                                                                                                                                                   |                |
| 2 | Variety              | GPU-67                                                                                                                                                                                 |                |
| 3 | Pedigree             | Selection from GE 5331                                                                                                                                                                 |                |
| 4 | Year of Release      | 2009                                                                                                                                                                                   |                |
| 5 | Gazette Notification | SO. 733 (E) dated 01.04.2010                                                                                                                                                           |                |
| 6 | Yield                | Grain (q/acre)                                                                                                                                                                         | Straw (t/acre) |
|   | Rainfed              | 10 – 12                                                                                                                                                                                | 0.9 – 1.0      |
|   | Irrigated            | 14 – 16                                                                                                                                                                                | 1.0 – 1.2      |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Decumbent plant type</li> <li>➤ Complete panicle exertion with erect flag leaf</li> <li>➤ Profuse tillering</li> <li>➤ Non-lodging</li> </ul> |                |
| 8 | Developed centre     | AICRP (small millets), PC Unit, GKVK                                                                                                                                                   |                |
| 9 | Recommended zone     | Zone – 5                                                                                                                                                                               |                |



## B1.9 ML-365

|    |                      |                                                                                                                                                                            |                |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                       |                |
| 2  | Variety              | ML-365                                                                                                                                                                     |                |
| 3  | Pedigree             | IE 1012 x Indaf 5                                                                                                                                                          |                |
| 4  | Year of Release      | 2008                                                                                                                                                                       |                |
| 5  | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                                                                              |                |
| 6  | Duration             | 105 – 110 days                                                                                                                                                             |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                                             | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                                                                                     | 1.5 – 2.5      |
|    | Irrigated            | 12 – 14                                                                                                                                                                    | 3.0 – 3.5      |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i> season</li> <li>➤ Profuse tillering</li> <li>➤ Moderately tolerant to neck and finger blast</li> </ul> |                |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                                                 |                |
| 10 | Recommended zone     | Zone – 5                                                                                                                                                                   |                |



### B1.10 Ratna (GPU–48)

|    |                      |                                                                                                                                                                                                                                                                              |                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                                                         |                |
| 2  | Variety              | Ratna (GPU–48)                                                                                                                                                                                                                                                               |                |
| 3  | Pedigree             | GPU 26 x L 5                                                                                                                                                                                                                                                                 |                |
| 4  | Year of Release      | 2005                                                                                                                                                                                                                                                                         |                |
| 5  | Gazette Notification | SO. 449 (E) dated 11.02.2009                                                                                                                                                                                                                                                 |                |
| 6  | IC Number            | IC 565523                                                                                                                                                                                                                                                                    |                |
| 7  | Duration             | 100 – 105 days                                                                                                                                                                                                                                                               |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                               | Straw (t/acre) |
|    | Rainfed              | 7 – 8                                                                                                                                                                                                                                                                        | 1.5 – 2.0      |
|    | Irrigated            | 10 – 12                                                                                                                                                                                                                                                                      | 2.5 – 3.0      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Ideal for late <i>Kharif</i> and Summer season under rainfed conditions</li> <li>➤ Suitable for catch cropping under irrigated conditions</li> <li>➤ Short duration &amp; profuse tillering</li> <li>➤ Tolerant to blast</li> </ul> |                |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                   |                |
| 11 | Recommended zone     | Zone – 4, 5, 6 & 7                                                                                                                                                                                                                                                           |                |



### B1.11 Divya (MR-6)

|    |                      |                                                                                                                                                                |                |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                           |                |
| 2  | Variety              | Divya (MR-6)                                                                                                                                                   |                |
| 3  | Pedigree             | African white x RoH 2                                                                                                                                          |                |
| 4  | Year of Release      | 2004                                                                                                                                                           |                |
| 5  | Gazette Notification | SO. 2458 (E) dated 16.10.2008                                                                                                                                  |                |
| 6  | IC Number            | IC 560482                                                                                                                                                      |                |
| 7  | Duration             | 120 – 125 days                                                                                                                                                 |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                                 | Straw (t/acre) |
|    | Rainfed              | 9 – 12                                                                                                                                                         | 2.0 – 3.0      |
|    | Irrigated            | 16 – 18                                                                                                                                                        | 3.5 – 4.0      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for both <i>Kharif</i> and late <i>Kharif</i></li> <li>➤ Highly tolerant to neck and finger blast</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                   |                |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                   |                |



## B1.12 GPU-45

|    |                      |                                                                                                                                                      |                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                 |                |
| 2  | Variety              | GPU-45                                                                                                                                               |                |
| 3  | Pedigree             | GPU 26 x L 5                                                                                                                                         |                |
| 4  | Year of Release      | 2001                                                                                                                                                 |                |
| 5  | Gazette Notification | SO. 1134 (E) dated 15.11.2001                                                                                                                        |                |
| 6  | Duration             | 95 – 100 days                                                                                                                                        |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                       | Straw (t/acre) |
|    | Rainfed              | 7 – 8                                                                                                                                                | 1.5 – 2.0      |
|    | Irrigated            | 10 – 12                                                                                                                                              | 2.5 – 3.0      |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for all seasons</li> <li>➤ Short duration variety</li> <li>➤ Resistant to blast disease</li> </ul> |                |
| 9  | Developed centre     | PC Unit, GKVK                                                                                                                                        |                |
| 10 | Recommended zone     | Zone – 5                                                                                                                                             |                |



### B1.13 L-5

|    |                      |                                                                                                                       |                |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                  |                |
| 2  | Variety              | L-5                                                                                                                   |                |
| 3  | Pedigree             | Malavi x Indaf 9                                                                                                      |                |
| 4  | Year of Release      | 1999                                                                                                                  |                |
| 5  | Gazette Notification | SO. 937 (E) dated 04.09.2002                                                                                          |                |
| 6  | Duration             | 120 – 125 days                                                                                                        |                |
| 7  | Yield                | Grain (q/acre)                                                                                                        | Straw (t/acre) |
|    | Rainfed              | 9 – 12                                                                                                                | 2.0 – 3.0      |
|    | Irrigated            | 16 – 18                                                                                                               | 3.5 – 4.0      |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Supplement to Indaf-8</li><li>➤ Tolerant to rust and blast disease.</li></ul> |                |
| 9  | Developed centre     | OFRS, Naganahalli                                                                                                     |                |
| 10 | Recommended zone     | Zone – 4, 5 & 6                                                                                                       |                |



## B1.14 GPU–26

|    |                      |                                                                                                                                                           |   |                                                       |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------------------|
| 1  | Crop                 | Ragi                                                                                                                                                      |   |                                                       |
| 2  | Variety              | GPU–26                                                                                                                                                    |   |                                                       |
| 3  | IC Number            | IC 312307                                                                                                                                                 |   |                                                       |
| 4  | Pedigree             | Indaf –5                                                                                                                                                  | x | Advanced generation derived line of Indaf–9 x IE 1012 |
| 5  | Year of Release      | 1998                                                                                                                                                      |   |                                                       |
| 6  | Gazette Notification | SO. 821 (E) dated 13.09.2000                                                                                                                              |   |                                                       |
| 7  | Duration             | 100 – 105 days                                                                                                                                            |   |                                                       |
| 8  | Yield                | Grain (q/acre)                                                                                                                                            |   | Straw (t/acre)                                        |
|    | Rainfed              | 7 – 8                                                                                                                                                     |   | 1.5 – 2.0                                             |
|    | Irrigated            | 10 – 12                                                                                                                                                   |   | 2.5 – 3.0                                             |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for late <i>Kharif</i> &amp; <i>Rabi</i> season</li> <li>➤ Tolerant to neck and finger blast</li> </ul> |   |                                                       |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                |   |                                                       |
| 11 | Recommended zone     | Zone – 4, 5 & 6                                                                                                                                           |   |                                                       |



### B1.15 GPU-28

|    |                      |                                                            |                |
|----|----------------------|------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                       |                |
| 2  | Variety              | GPU-28                                                     |                |
| 3  | Pedigree             | Indaf -5 x (Indaf-9 x IE 1012)                             |                |
| 4  | IC Number            | IC 425957                                                  |                |
| 5  | Year of Release      | 1997                                                       |                |
| 6  | Gazette Notification | SO. 401 (E) dated 15.05.1998                               |                |
| 7  | Duration             | 110 – 115 days                                             |                |
| 8  | Yield                | Grain (q/acre)                                             | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                     | 1.0 – 1.2      |
|    | Irrigated            | 13 – 15                                                    | 1.3 – 1.5      |
| 9  | Special features     | ➤ Suitable for <i>Kharif</i> season<br>➤ Tolerant to Blast |                |
| 10 | Developed centre     | ZARS, GKVK                                                 |                |
| 11 | Recommended zone     | Zone – 5 & 6                                               |                |



**B1.16 Indaf-15**

|   |                  |                                                      |
|---|------------------|------------------------------------------------------|
| 1 | Crop             | Ragi                                                 |
| 2 | Variety          | Indaf-15                                             |
| 3 | Pedigree         | IE 67 x IE 927                                       |
| 4 | Year of Release  | 1994                                                 |
| 5 | Duration         | 125 – 135 days                                       |
| 6 | Yield            | Grain: 12 – 14 q/acre; Straw: 3.2 – 4.0 t/acre       |
| 7 | Special features | ➤ Fairly tolerant to neck & finger blast than Indaf7 |
| 8 | Developed centre | ZARS, Mandya                                         |
| 9 | Recommended zone | Zone – 5 & 6                                         |

**B1.17 HRC 50-5**

|   |                  |                                             |
|---|------------------|---------------------------------------------|
| 1 | Crop             | Ragi                                        |
| 2 | Variety          | HRC 50-5                                    |
| 3 | Year of Release  | 1993                                        |
| 4 | Grain yield      | 14 – 16 q/acre                              |
| 5 | Special features | ➤ Medium duration & Blast resistant variety |

**B1.18 MR-2 (Akshaya)**

|    |                      |                                                |
|----|----------------------|------------------------------------------------|
| 1  | Crop                 | Ragi                                           |
| 2  | Variety              | MR-2                                           |
| 3  | Pedigree             | Indaf-5 x PR-202                               |
| 4  | Year of Release      | 1992                                           |
| 5  | Gazette Notification | SO. 1 (E) dated 01.01.1996                     |
| 6  | Duration             | 125 – 130 days                                 |
| 7  | Grain yield          | 14 – 16 q/acre                                 |
| 8  | Special features     | ➤ Semi-compact ears with slightly incurved tip |
| 9  | Developed centre     | RRS, Navile                                    |
| 10 | Recommended zone     | Zone – 7                                       |

### B1.19 MR-1

|    |                      |                                                                                                                                                 |                |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                            |                |
| 2  | Variety              | MR-1                                                                                                                                            |                |
| 3  | Pedigree             | Hamsa x IE 927                                                                                                                                  |                |
| 4  | Year of Release      | 1990                                                                                                                                            |                |
| 5  | Gazette Notification | SO. 401 (E) dated 15.05.1998                                                                                                                    |                |
| 6  | Duration             | 120 – 125 days                                                                                                                                  |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                  | Straw (t/acre) |
|    | Rainfed              | 9 – 12                                                                                                                                          | 2.0 – 3.0      |
|    | Irrigated            | 16 – 18                                                                                                                                         | 3.5 – 4.0      |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i> sowings</li> <li>➤ Non-shattering</li> <li>➤ Tolerant to drought</li> </ul> |                |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                      |                |
| 10 | Recommended zone     | Zone – 5 & 6                                                                                                                                    |                |



### B1.20 HR-911 (KBR-1)

|    |                      |                                                                                                                                                                                                                                                                                                                                                                                     |                |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                                                                                                                                                                |                |
| 2  | Variety              | HR-911 (KBR-1)                                                                                                                                                                                                                                                                                                                                                                      |                |
| 3  | Pedigree             | UAS 1 x IE-927                                                                                                                                                                                                                                                                                                                                                                      |                |
| 4  | Year of Release      | 1985                                                                                                                                                                                                                                                                                                                                                                                |                |
| 5  | Gazette Notification | SO. 867 (E) dated 26.11.1986                                                                                                                                                                                                                                                                                                                                                        |                |
| 6  | Duration             | 115 – 120 days                                                                                                                                                                                                                                                                                                                                                                      |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                                                                                                                                      | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                                                                                                                                                                                                                                                                                              | 1.5 – 2.5      |
|    | Irrigated            | 12 – 14                                                                                                                                                                                                                                                                                                                                                                             | 3.0 – 3.5      |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i> &amp; Summer with irrigated conditions</li> <li>➤ Erect plants</li> <li>➤ Large and semi compact ears with 8–9 tip incurved fingers of 8.4–9 cms length</li> <li>➤ Recorded more grain yield over Indaf-8 and more fodder yield over Indaf-5 and Indaf-8</li> <li>➤ Moderately resistant to diseases</li> </ul> |                |
| 9  | Developed centre     | MRS, Hebbal                                                                                                                                                                                                                                                                                                                                                                         |                |
| 10 | Recommended zone     | Zone – 5                                                                                                                                                                                                                                                                                                                                                                            |                |

### B1.21 Indaf-9 (Chitta)

|    |                      |                                                                                                                                                                                                                                                                                                                                                                                                      |                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                                                                                                                                                                                                                 |                |
| 2  | Variety              | Indaf-9 (Chitta)                                                                                                                                                                                                                                                                                                                                                                                     |                |
| 3  | Year of Release      | 1985                                                                                                                                                                                                                                                                                                                                                                                                 |                |
| 4  | Gazette Notification | SO. 10 (E) dated 01.01.1988                                                                                                                                                                                                                                                                                                                                                                          |                |
| 5  | IC Number            | IC 75487                                                                                                                                                                                                                                                                                                                                                                                             |                |
| 6  | Duration             | 95 – 105 days                                                                                                                                                                                                                                                                                                                                                                                        |                |
| 7  | Yield                | Grain (q/acre)                                                                                                                                                                                                                                                                                                                                                                                       | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                                                                                                                                                                                                                                                                                                               | 1.5 – 2.0      |
|    | Irrigated            | 12 – 14                                                                                                                                                                                                                                                                                                                                                                                              | 3.0 – 3.5      |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for pre-monsoon, late <i>Kharif</i>, <i>Rabi</i> and Summer (irrigated areas) except for June and July sowing</li> <li>➤ Brown, uniform sized seed</li> <li>➤ High initial vigor and resistant to cold temperature</li> <li>➤ Tolerant to water logging and salinity conditions</li> <li>➤ Possess dormancy for 2 months after maturity</li> </ul> |                |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                                                                                                                         |                |
| 10 | Recommended Zone     | Zone – 6                                                                                                                                                                                                                                                                                                                                                                                             |                |

### B1.22 Indaf-8 (Chethana)

|    |                      |                                                                                                                                                   |                |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                              |                |
| 2  | Variety              | Indaf-8 (Chethana)                                                                                                                                |                |
| 3  | Pedigree             | Hullubele x IE 929                                                                                                                                |                |
| 4  | Year of Release      | 1982                                                                                                                                              |                |
| 5  | Gazette Notification | SO. 867 (E) dated 26.11.1986                                                                                                                      |                |
| 6  | IC Number            | IC 75486                                                                                                                                          |                |
| 7  | Duration             | 120 – 125 days                                                                                                                                    |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                    | Straw (t/acre) |
|    | Rainfed              | 9 – 12                                                                                                                                            | 2.0 – 3.0      |
|    | Irrigated            | 16 – 18                                                                                                                                           | 3.5 – 4.0      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Stay green character</li> <li>➤ Non-lodging</li> <li>➤ Resistant to drought and blast disease</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                      |                |
| 11 | Recommended Zone     | Zone – 5 & 6                                                                                                                                      |                |



### B1.23 Indaf-7 (Hastha)

|    |                      |                                                                                                                                                                                                                |                |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                                                                                                                                                                           |                |
| 2  | Variety              | Indaf-7 (Hastha)                                                                                                                                                                                               |                |
| 3  | Pedigree             | Annapurna x IE 927                                                                                                                                                                                             |                |
| 4  | Year of Release      | 1981                                                                                                                                                                                                           |                |
| 5  | Gazette Notification | SO. 596 (E) dated 13.08.1984                                                                                                                                                                                   |                |
| 6  | IC Number            | IC 75484                                                                                                                                                                                                       |                |
| 7  | Duration             | 115 – 120 days                                                                                                                                                                                                 |                |
| 8  | Yield                | Grain (q/acre)                                                                                                                                                                                                 | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                                                                                                                                                                         | 1.5 – 2.5      |
|    | Irrigated            | 12 – 14                                                                                                                                                                                                        | 3.0 – 3.5      |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Rabi</i> season</li> <li>➤ Moderate tillering</li> <li>➤ Non-pigmented</li> <li>➤ Thumbs are conspicuous that looks like separate ear head</li> </ul> |                |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                   |                |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                   |                |



### B1.24 Indaf-5

|    |                      |                                                             |                |
|----|----------------------|-------------------------------------------------------------|----------------|
| 1  | Crop                 | Ragi                                                        |                |
| 2  | Variety              | Indaf-5                                                     |                |
| 3  | Pedigree             | Cauvery x IE-929                                            |                |
| 4  | Year of Release      | 1977                                                        |                |
| 5  | Gazette Notification | SO. 13 (E) dated 19.12.1978<br>SO. 540 (E) dated 24.07.1985 |                |
| 6  | IC Number            | IC 75483                                                    |                |
| 7  | Duration             | 105 – 110 days                                              |                |
| 8  | Yield                | Grain (q/acre)                                              | Straw (t/acre) |
|    | Rainfed              | 8 – 10                                                      | 1.5 – 2.5      |
|    | Irrigated            | 12 – 14                                                     | 3.0 – 3.5      |
| 9  | Special features     | ➤ Suited for Summer, <i>Kharif</i> and late <i>Kharif</i>   |                |
| 10 | Developed centre     | RRS, Mandya                                                 |                |
| 11 | Recommended zone     | Zone – 6 (Irrigated conditions)                             |                |

### B1.25 Indaf-3

|    |                      |                              |  |
|----|----------------------|------------------------------|--|
| 1  | Crop                 | Ragi                         |  |
| 2  | Variety              | Indaf-3                      |  |
| 3  | Pedigree             | Cauvery x IE-927             |  |
| 4  | Year of Release      | 1977                         |  |
| 5  | Gazette Notification | SO. 13 (E) dated 19.12.1978  |  |
| 6  | IC Number            | IC 75482                     |  |
| 7  | Duration             | 130 – 135 days               |  |
| 8  | Yield                | 15 – 16.5 q/acre             |  |
| 9  | Special features     | ➤ Suitable for rainfed areas |  |
| 10 | Developed centre     | RRS, Mandya                  |  |
| 11 | Recommended zone     | Zone – 5 & 6                 |  |

### B1.26 Indaf-1

|    |                      |                                                      |
|----|----------------------|------------------------------------------------------|
| 1  | Crop                 | Ragi                                                 |
| 2  | Variety              | Indaf-1                                              |
| 3  | Pedigree             | African Variety: IE-929 x Local Hullubele            |
| 4  | Year of Release      | 1976                                                 |
| 5  | Gazette Notification | SO. 13 (E) dated 19.12.1978                          |
| 6  | IC Number            | IC 75481                                             |
| 7  | Duration             | 120 – 125 days                                       |
| 8  | Yield                | Irrigated: 20 – 25 q/acre<br>Rainfed: 17 – 18 q/acre |
| 9  | Special features     | ➤ Highly drought tolerant                            |
| 10 | Developed centre     | RRS, Mandya                                          |
| 11 | Recommended zone     | Zone – 5 & 6                                         |

### B1.27 Shakti (ROH-2)

|    |                      |                                                      |
|----|----------------------|------------------------------------------------------|
| 1  | Crop                 | Ragi                                                 |
| 2  | Variety              | Shakti (ROH-2)                                       |
| 3  | Pedigree             | R 0013 x H 22                                        |
| 4  | Year of Release      | 1973                                                 |
| 5  | Gazette Notification | SO. 13 (E) dated 19.12.1978                          |
| 6  | IC Number            | IC 75479                                             |
| 7  | Duration             | 120 – 125 days                                       |
| 8  | Grain yield          | Irrigated: 19 – 20 q/acre<br>Rainfed: 15 – 16 q/acre |
| 9  | Special features     | ➤ Drought tolerance<br>➤ Suited for May–Aug. sowings |
| 10 | Developed centre     | MRS, Hebbal                                          |
| 11 | Recommended zone     | Zone – 5 & 6                                         |

**B1.28 Hamsa (HR-1)**

|   |                  |                                                                                                                                                                                                          |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Ragi                                                                                                                                                                                                     |
| 2 | Variety          | Hamsa (HR-1)                                                                                                                                                                                             |
| 3 | Pedigree         | Pure line selection                                                                                                                                                                                      |
| 4 | Year of Release  | 1969                                                                                                                                                                                                     |
| 5 | Duration         | 110 – 112 days                                                                                                                                                                                           |
| 6 | Special features | <ul style="list-style-type: none"> <li>➤ Suitable for both Summer and <i>Kharif</i> season</li> <li>➤ 4–5 Semi compact ears</li> <li>➤ Creamy white grain type</li> <li>➤ Protein rich (9.2%)</li> </ul> |
| 7 | Developed centre | MRS, Hebbal                                                                                                                                                                                              |
| 8 | Recommended zone | Zone – 5 & 6                                                                                                                                                                                             |

**B1.29 Purna**

|    |                      |                                                                                                                                                                              |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Ragi                                                                                                                                                                         |
| 2  | Variety              | Purna                                                                                                                                                                        |
| 3  | Year of Release      | 1966                                                                                                                                                                         |
| 4  | Gazette Notification | SO. 716 (E) dated 23.02.1970                                                                                                                                                 |
| 5  | IC Number            | IC 75476                                                                                                                                                                     |
| 6  | Duration             | 100 – 110 days                                                                                                                                                               |
| 7  | Grain yield          | 14 – 16 q/acre                                                                                                                                                               |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Short duration</li> <li>➤ Can be grown throughout the year</li> <li>➤ Suitable for both rainfed and irrigated conditions</li> </ul> |
| 9  | Developed centre     | RRS, Mandya                                                                                                                                                                  |
| 10 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                 |

## B2. Foxtail millet (Navane)

Foxtail millet has also been grown in India since antiquity. It is cultivated in about 23 countries in Asia, Africa and America. It is a self-pollinating, short duration, C4 cereal, good as food for human consumption, feed for poultry and cage birds, and fodder for cattle. It ranks second among the millets production in the world. UASB has released 3 high yielding varieties and the details are as below:

### B2.1 GPUF-3

|    |                      |                                                                                                                                                                                                                                                                                                                        |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Foxtail millet                                                                                                                                                                                                                                                                                                         |
| 2  | Variety              | GPUF-3                                                                                                                                                                                                                                                                                                                 |
| 3  | Pedigree             | Selections from IC479864                                                                                                                                                                                                                                                                                               |
| 4  | IC Number            | IC 635733                                                                                                                                                                                                                                                                                                              |
| 5  | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                   |
| 6  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                                                          |
| 7  | Duration             | 85 – 90 days                                                                                                                                                                                                                                                                                                           |
| 8  | Grain Yield          | 6 – 8 q/acre                                                                                                                                                                                                                                                                                                           |
| 9  | Straw Yield          | 7 – 9 q/acre                                                                                                                                                                                                                                                                                                           |
| 10 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for sowing in <i>kharif</i> (June–July) and summer (January)</li><li>➤ Semi – compact, oblong shaped inflorescence</li><li>➤ Oval shaped yellow coloured seeds</li><li>➤ Moderately resistant to rust</li><li>➤ Moderately resistant to leaf blight disease</li></ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                                                             |
| 12 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                                           |

## B2.2 RS–118

|   |                  |                                                                             |
|---|------------------|-----------------------------------------------------------------------------|
| 1 | Crop             | Navane                                                                      |
| 2 | Variety          | RS–118                                                                      |
| 3 | Year of Release  | 1976                                                                        |
| 4 | Duration         | 90 – 100 days                                                               |
| 5 | Special features | ➤ Dwarf stature<br>➤ Suitable for both <i>Kharif</i> and late <i>Kharif</i> |
| 6 | Recommended zone | Zone – 4, 5 & 6                                                             |

## B2.3 K–22–1

|   |                      |                                                          |
|---|----------------------|----------------------------------------------------------|
| 1 | Crop                 | Navane                                                   |
| 2 | Variety              | K–22–1 (Siruguppa Navane)                                |
| 3 | Year of Release      | 1970                                                     |
| 4 | Gazette Notification | SO. 786 (E) dated 02.02.1976                             |
| 5 | Duration             | 90 – 100 days                                            |
| 6 | Special features     | ➤ Suited for both <i>Kharif</i> and late <i>Kharif</i> . |
| 7 | Recommended zone     | Zone – 4, 5 & 6                                          |

### B3. Proso millet (Baragu)

Proso millet is a climate-resilient crop, particularly well-suited for arid and semi-arid regions due to its ability to withstand drought, salinity and low soil fertility. It's extremely short lifespan, with some varieties producing grain only 60 days after planting, low water and nutrient requirements, make it a promising option for sustainable agriculture and diversification, especially in the face of climate change. Details of three Proso millet varieties released are as below:

#### B3.1 GPUP–32

|    |                      |                                                                                                                                                                                                                                                                                                                                                  |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Proso millet                                                                                                                                                                                                                                                                                                                                     |
| 2  | Variety              | GPUP – 32                                                                                                                                                                                                                                                                                                                                        |
| 3  | Pedigree             | CO–5 x TNPm255–1                                                                                                                                                                                                                                                                                                                                 |
| 4  | IC Number            | IC 645427                                                                                                                                                                                                                                                                                                                                        |
| 5  | Year of Release      | 2023                                                                                                                                                                                                                                                                                                                                             |
| 6  | Gazette Notification | SO. 4388 (E) dated 8.10.2024                                                                                                                                                                                                                                                                                                                     |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                                                                                                                                                     |
| 8  | Grain Yield          | 7.2 – 8.1 q/acre                                                                                                                                                                                                                                                                                                                                 |
| 9  | Straw Yield          | 12 – 15 q/acre                                                                                                                                                                                                                                                                                                                                   |
| 10 | Special features     | <ul style="list-style-type: none"><li>➤ Intermediate compact with diffused shaped inflorescence</li><li>➤ Semi–tall variety</li><li>➤ Oval shaped golden yellow colour grain with higher test weight</li><li>➤ Suitable for sowing in <i>kharif</i> season (June–July)</li><li>➤ Highly resistant to grain smut and brown spot disease</li></ul> |
| 11 | Developed centre     | AICRP on Small millets, GKVK                                                                                                                                                                                                                                                                                                                     |
| 12 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                                     |

### B3.2 GPUP–28

|    |                      |                                                                                                                                                                                                                                                                                                                             |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Proso millet                                                                                                                                                                                                                                                                                                                |
| 2  | Variety              | GPUP–28                                                                                                                                                                                                                                                                                                                     |
| 3  | Pedigree             | GPUP–8 x K–1                                                                                                                                                                                                                                                                                                                |
| 4  | IC Number            | IC 635735                                                                                                                                                                                                                                                                                                                   |
| 5  | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                        |
| 6  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                                                               |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                                                                                                                                |
| 8  | Grain Yield          | 6.5 – 8 q/acre                                                                                                                                                                                                                                                                                                              |
| 9  | Straw Yield          | 8 – 9 q/acre                                                                                                                                                                                                                                                                                                                |
| 10 | Special features     | <ul style="list-style-type: none"><li>➤ Intermediate compact with globose–elliptic shaped inflorescence.</li><li>➤ Oval shaped golden yellow grain</li><li>➤ Moderately resistant to leaf blight and resistant to brown spot diseases</li><li>➤ Suitable for sowing in <i>Kharif</i> (June–July) and summer (Jan)</li></ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                                                                  |
| 12 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                |



### B3.3 GPUP-21

|    |                      |                                                  |
|----|----------------------|--------------------------------------------------|
| 1  | Crop                 | Proso millet (Baragu)                            |
| 2  | Variety              | GPUP-21                                          |
| 3  | Year of Release      | 2004                                             |
| 4  | Gazette Notification | SO. 161 (E) dated 04.02.2004                     |
| 5  | Duration             | 65 – 75 days                                     |
| 6  | Grain Yield          | 4.8 – 6.0 q/acre                                 |
| 7  | Straw Yield          | 1.8 – 2.0 t/acre                                 |
| 8  | Special features     | ➤ Bold grain<br>➤ Resistance to grain shattering |
| 9  | Developed centre     | ZARS, GKVK                                       |
| 10 | Recommended zone     | Zone – 5 & 6                                     |



## B4. Little millet (Same)

### B4.1 GPUL-11

|    |                      |                                                                                                                                                                                                                                                                                      |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Little millet                                                                                                                                                                                                                                                                        |
| 2  | Variety              | GPUL – 11                                                                                                                                                                                                                                                                            |
| 3  | Pedigree             | CO-4 x TNPSU-221-4                                                                                                                                                                                                                                                                   |
| 4  | IC Number            | IC 645428                                                                                                                                                                                                                                                                            |
| 5  | Year of Release      | 2023                                                                                                                                                                                                                                                                                 |
| 6  | Gazette Notification | SO. 4388 (E) dated 8.10.2024                                                                                                                                                                                                                                                         |
| 7  | Duration             | 90 – 95 days                                                                                                                                                                                                                                                                         |
| 8  | Grain Yield          | 6.1 – 8.1 q/acre                                                                                                                                                                                                                                                                     |
| 9  | Straw yield          | 12 – 15 q/acre                                                                                                                                                                                                                                                                       |
| 10 | Special Features     | <ul style="list-style-type: none"><li>➤ Arched shaped inflorescence with intermediate compact panicle &amp; oval shaped dark grey grain</li><li>➤ Suitable for sowing in <i>kharif</i> season (June–July)</li><li>➤ Highly resistant to grain smut and leaf blight disease</li></ul> |
| 11 | Developed centre     | AICRP on Small millets, GKVK                                                                                                                                                                                                                                                         |
| 12 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                         |



## B4.2 GPUL-6

|    |                      |                                                                                                                                                                                                                                                                                                                                            |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Little millet                                                                                                                                                                                                                                                                                                                              |
| 2  | Variety              | GPUL-6                                                                                                                                                                                                                                                                                                                                     |
| 3  | Pedigree             | JK-8 x Peddasame                                                                                                                                                                                                                                                                                                                           |
| 4  | IC Number            | IC 635734                                                                                                                                                                                                                                                                                                                                  |
| 5  | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                                       |
| 6  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                                                                              |
| 7  | Duration             | 85 – 90 days                                                                                                                                                                                                                                                                                                                               |
| 8  | Grain Yield          | 6 – 8 q/acre                                                                                                                                                                                                                                                                                                                               |
| 9  | Straw Yield          | 9 – 11 q/acre                                                                                                                                                                                                                                                                                                                              |
| 10 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for sowing in both Kharif (June–July) and summer (January)</li> <li>➤ Compact panicle with archid shaped inflorescence</li> <li>➤ Oval shaped with dark brown grains</li> <li>➤ Moderately resistant to leaf blight and brown spot diseases</li> <li>➤ Resistant to shoot fly</li> </ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                 |
| 12 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                               |



## B5. Browntop millet (Korale)

Browntop millet is a nutritious and gluten-free grain native to India, particularly the dry regions of Karnataka and Andhra Pradesh. Details of the variety released by UASB is as follows:

### B5.1 GPUBT–2

|    |                      |                                                                                                                                                                               |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Variety              | GPUBT 2                                                                                                                                                                       |
| 2  | Pedigree             | Selection from IC617960                                                                                                                                                       |
| 3  | IC Number            | IC 639753                                                                                                                                                                     |
| 4  | Gazette Notification | SO. 4388 (E) dated 8.10.2024                                                                                                                                                  |
| 5  | Year of Release      | 2022                                                                                                                                                                          |
| 6  | Duration             | 85 – 90 days                                                                                                                                                                  |
| 7  | Grain Yield          | 6 – 8 q/acre                                                                                                                                                                  |
| 8  | Straw Yield          | 10 – 12 q/acre                                                                                                                                                                |
| 9  | Special Features     | <ul style="list-style-type: none"><li>➤ Medium duration &amp; Semi-tall (110–120 cm)</li><li>➤ Number of tillers (15–20)</li><li>➤ Resistant to leaf blight disease</li></ul> |
| 10 | Developed Centre     | ZARS, GKVK                                                                                                                                                                    |
| 11 | Recommended Zone     | Zone – 5 & 6                                                                                                                                                                  |



### III. POTENTIAL CROPS

Living in close contact with nature, man has learnt to use plants for food, fodder, medicine and other purposes. Out of the global wealth of about 80,000 edible plants, only 3,000 plant species have been used for food and only about 150 species have been commercially cultivated of which about 30 species provide 90% of the world's food. Among these are plants that have been used for food and other uses on a larger scale historically, but whose usage has dropped in modern times. Signs of their deterioration began to show up after the country's advanced agricultural belts adopting large-scale monocultures of green revolution crops in the late 1970s. Reduction in use is due to supply or consumption constraints, poor shelf life, unrecognized nutritional value, poor consumer awareness, and perception as famine food ("poor people's food"). This negligence has resulted in genetic erosion of their gene pool. Grain Amaranth and Rice bean are few such crops with high nutritional value, resilience to climate change, and versatility in both cultivation and culinary uses whose potentiality has to be explored. Understanding its importance, University has formulated comprehensive research programmes on potential crops since 1990s and has released 1 Rice bean and 4 Grain Amaranth varieties. Details of high yielding varieties released are listed (Table-10) below:

**Table-10: List of high yielding Potential crop varieties released from UAS, Bangalore (1965–2025)**

| Sl. No.               | Variety             | Year of release |
|-----------------------|---------------------|-----------------|
| <b>Rice bean</b>      |                     |                 |
| 1                     | KBR-1               | 2018            |
| <b>Grain Amaranth</b> |                     |                 |
| 1                     | KBGA-15             | 2021            |
| 2                     | KBGA-4              | 2017            |
| 3                     | KBGA-1              | 2008            |
| 4                     | Suvarna (R-104-1-1) | 1996            |

## C1. Rice bean

### C1.1 KBR-1

|    |                      |                                                                                                                                                                                                                                                       |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Rice bean                                                                                                                                                                                                                                             |
| 2  | Variety              | KBR-1                                                                                                                                                                                                                                                 |
| 3  | Pedigree             | Pure line selection from germplasm accession LRB-351                                                                                                                                                                                                  |
| 4  | IC Number            | IC 628266                                                                                                                                                                                                                                             |
| 5  | Year of Release      | 2018                                                                                                                                                                                                                                                  |
| 6  | Gazette Notification | SO. 3482 (E) dated 07.10.2020                                                                                                                                                                                                                         |
| 7  | Duration             | 70 – 75 days                                                                                                                                                                                                                                          |
| 8  | Seed yield           | 5 – 6 q/acre                                                                                                                                                                                                                                          |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Short duration</li><li>➤ Suitable for Kharif &amp; late Kharif</li><li>➤ Drought tolerant</li><li>➤ Bold and light green seeds with good cooking quality</li><li>➤ Resistant to Yellow Mosaic Virus</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                            |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                          |



## C2. Grain Amaranth

### C2.1 KBGA-15

|    |                      |                                                                                                                                                                                                                                                                                       |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Grain Amaranth                                                                                                                                                                                                                                                                        |
| 2  | Variety              | KBGA-15                                                                                                                                                                                                                                                                               |
| 3  | Pedigree             | Selections from KBGA-1                                                                                                                                                                                                                                                                |
| 4  | Year of Release      | 2021                                                                                                                                                                                                                                                                                  |
| 5  | Gazette Notification | SO. 1056 (E) dated 06.03.2023                                                                                                                                                                                                                                                         |
| 6  | Duration             | 90 – 95 days                                                                                                                                                                                                                                                                          |
| 7  | Grain Yield          | 6 – 7 q/acre                                                                                                                                                                                                                                                                          |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Pink mixed green coloured attractive inflorescence</li><li>➤ Good plant height (170–180 cms)</li><li>➤ Tolerant to leaf rust, phyllody, leaf spot diseases and insect pests</li><li>➤ Suitable for intercropping and mixed cropping</li></ul> |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                            |
| 10 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                          |



## C2.2 KBGA-4

|    |                      |                                                                                                                                                                                                                     |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Grain Amaranth                                                                                                                                                                                                      |
| 2  | Variety              | KBGA-4                                                                                                                                                                                                              |
| 3  | Pedigree             | Selection from GA-2                                                                                                                                                                                                 |
| 4  | Year of Release      | 2017                                                                                                                                                                                                                |
| 5  | Gazette Notification | SO. 3482 (E) dated 07.10.2020                                                                                                                                                                                       |
| 6  | IC Number            | IC 623709                                                                                                                                                                                                           |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                        |
| 8  | Grain yield          | Irrigated: 9 – 10 q/acre<br>Rainfed: 6 – 7 q/acre                                                                                                                                                                   |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for both early &amp; late <i>Kharif</i> season</li><li>➤ Dense finger with red flowers &amp; medium height</li><li>➤ Resistant to leaf rust and phyllody</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                          |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                                            |



### C2.3 KBGA-1

|    |                      |                                                                                                                                                                                                     |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Grain Amaranth                                                                                                                                                                                      |
| 2  | Variety              | KBGA-1                                                                                                                                                                                              |
| 3  | Pedigree             | Selection from germplasm accession IC-41998                                                                                                                                                         |
| 4  | Year of Release      | 2008                                                                                                                                                                                                |
| 5  | IC Number            | IC 597082                                                                                                                                                                                           |
| 6  | Gazette Notification | SO. 2805 (E) dated 25.08.2017                                                                                                                                                                       |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                        |
| 8  | Grain yield          | Irrigated: 8 – 9 q/acre<br>Rainfed: 5 – 6 q/acre                                                                                                                                                    |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Dual purpose: both as vegetable greens and grain</li> <li>➤ Rich in lysine (6.5%)</li> <li>➤ Rich in Protein (18%)</li> <li>➤ Red inflorescence</li> </ul> |
| 10 | Developed centre     | MRS, Hebbal                                                                                                                                                                                         |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                            |

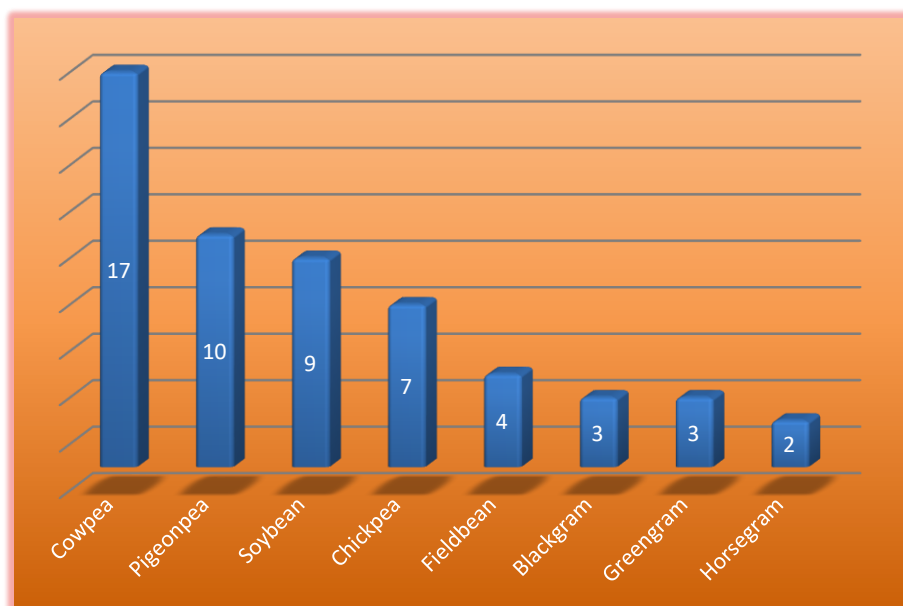


#### C2.4 Suvarna (R-104-1-1)

|   |                  |                                                                                                                                                                                                                                           |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Grain Amaranth                                                                                                                                                                                                                            |
| 2 | Variety          | Suvarna (R-104-1-1)                                                                                                                                                                                                                       |
| 3 | Year of Release  | 1996                                                                                                                                                                                                                                      |
| 4 | Duration         | 85-90 days                                                                                                                                                                                                                                |
| 5 | Grain yield      | Irrigated: 7 – 8 q/acre<br>Rainfed: 4 – 5 q/acre                                                                                                                                                                                          |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Tall</li><li>➤ Non-lodging</li><li>➤ Drought resistant</li><li>➤ Suitable for inter cropping with Ragi in 3:1 or 6:2 ratio</li><li>➤ Thick and tough stem</li><li>➤ Light green flowers</li></ul> |
| 7 | Developed centre | MRS, Hebbal                                                                                                                                                                                                                               |
| 8 | Recommended zone | Zone – 4, 5 & 6                                                                                                                                                                                                                           |

## IV. PULSES

Pulses are rich source of plant-based protein, making them a vital part of diets, particularly for vegetarians and vegans. Their nutritional value, combined with their environmental benefits like **enhancing nitrogen content of the soil**, makes them a crucial component of a healthy and sustainable food system. Pulses can be highly sensitive to environmental conditions, making it challenging to breed for stable performance across different locations. Many pulse crops have limited genetic diversity, making it harder to find desirable traits for improvement. Long breeding cycles where traditional breeding methods can be time-consuming, requiring several years to develop and release new varieties. Some desirable traits, like high protein content, may be negatively correlated with yield. These are the major challenges in Pulse breeding programme. UASB has accelerated its efforts developing high yielding varieties. Till date, it has developed and released 55 high yielding varieties of pulse crops (Fig–4).



**Fig–4: High Yielding Varieties of Pulses released by UASB (1965 – 2025)**

## D1. Cowpea

Cowpea, a versatile crop, serves as both a nutritious vegetable and valuable fodder, excels in water-limited and soil-deficient environments, and aligns with ‘Sustainable Development Goals’ (SDGs) 2, 3, and 13. It can be grown as a green manure crop, intercrop, mulch crop, catch crop, or mixed crop. By fixing atmospheric nitrogen into the soil (60–70 kg N/ha) in conjunction with symbiotic bacteria under favorable conditions, it improves soil fertility. It has multiple uses like food, feed, forage, fodder, green manuring and vegetable. Average yield of cowpea in Karnataka is relatively low (420 kg/ha), compared to national average (567 kg/ha). Yield gap can be bridged through adoption of HYVs and improved production technologies. Out of 17 varieties released from UASB, 3 are vegetable type and they are presented below in Table–11.

**Table–11: List of high yielding Cowpea varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety           | Year of release | Sl. No. | Variety     | Year of release |
|---------|-------------------|-----------------|---------|-------------|-----------------|
| 1       | KBC-12            | 2024            | 10      | KBC–2       | 1998            |
| 2       | KC–8              | 2020            | 11      | V–16        | 1991            |
| 3       | PGCP–6            | 2019            | 12      | KBC–1       | 1988            |
| 4       | AV–6 (KBC–9)      | 2017            | 13      | KEC–1       | 1987            |
| 5       | AV–5 (Vegetable)  | 2012            | 14      | TVX–944–02F | 1987            |
| 6       | PKB–4 (Vegetable) | 2010            | 15      | KHCW–2      | 1979            |
| 7       | KM–5              | 2007            | 16      | Lolitha     | 1976            |
| 8       | IT–38956–1        | 2006            | 17      | C–152       | 1976            |
| 9       | PKB–6 (Vegetable) | 2006            |         |             |                 |

## D1.1 KBC-12

|    |                      |                                                                                                                                                                                                                                                                                                    |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Cowpea                                                                                                                                                                                                                                                                                             |
| 2  | Variety              | KBC-12                                                                                                                                                                                                                                                                                             |
| 3  | Pedigree             | (C-152 x V-16) x (C-152 x V-57817)                                                                                                                                                                                                                                                                 |
| 4  | IC Number            | IC 652010                                                                                                                                                                                                                                                                                          |
| 5  | Year of Release      | 2024                                                                                                                                                                                                                                                                                               |
| 6  | Gazette Notification | SO. 2128 (E) / 13.05.2025                                                                                                                                                                                                                                                                          |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                                                                                                       |
| 8  | Seed yield           | 5.3 – 5.6 q/acre                                                                                                                                                                                                                                                                                   |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for July-August-September and January-February sowing</li> <li>➤ An upright plant type with thick and green pods and medium thick and light brown seeds</li> <li>➤ Resistant to dry root rot, bacterial leaf blight and viral disease</li> </ul> |
| 10 | Developed centre     | AICRP (Pigeonpea) & AINP (Arid Legumes)                                                                                                                                                                                                                                                            |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                                       |



### D1.2 KC-8 (KBC-11)

|    |                      |                                                                                                                                       |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Cowpea                                                                                                                                |
| 2  | Variety              | KC-8 (KBC-11)                                                                                                                         |
| 3  | Pedigree             | Pusa Komal x VS-389                                                                                                                   |
| 4  | IC Number            | IC 633629                                                                                                                             |
| 5  | Year of Release      | 2020                                                                                                                                  |
| 6  | Gazette Notification | SO. 8 (E) dated 24.12.2021                                                                                                            |
| 7  | Duration             | 80 – 85 days                                                                                                                          |
| 8  | Seed yield           | 5 – 5.5 q/acre                                                                                                                        |
| 9  | Special features     | ➤ Medium bold and light brown seeds<br>➤ Suitable for <i>Kharif</i> (July–Aug), late <i>Kharif</i> (Sep) and summer (Jan–Feb) seasons |
| 10 | Developed centre     | ZARS, GKV K                                                                                                                           |
| 11 | Recommended zone     | Zone – 5                                                                                                                              |

### D1.3 PGCP-6

|    |                      |                                                                                                                        |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------|
| 1  | Variety              | PGCP-6                                                                                                                 |
| 2  | Pedigree             | Pureline selection from Nigerian Cowpea                                                                                |
| 3  | Year of Release      | 2019                                                                                                                   |
| 4  | Gazette Notification | SO. 8 (E) dated 24.12.2021                                                                                             |
| 5  | IC Number            | IC 631710                                                                                                              |
| 6  | Duration             | 70 – 75 days                                                                                                           |
| 7  | Seed yield           | 2.8 – 3.2 q/acre                                                                                                       |
| 8  | Special features     | ➤ Short duration<br>➤ Suitable for early <i>Kharif</i> , late <i>Kharif</i> and summer<br>➤ Suitable for intercropping |
| 9  | Developed centre     | ZARS, GKV K                                                                                                            |
| 10 | Recommended zone     | Zone – 5 & 6                                                                                                           |



**KC-8 (KBC-11)**



**PGCP-6**

#### D1.4 AV-6 (KBC-9)

|    |                      |                                                                                                                                                                                                                                                                             |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Cowpea                                                                                                                                                                                                                                                                      |
| 2  | Variety              | AV-6 (KBC-9)                                                                                                                                                                                                                                                                |
| 3  | Pedigree             | Arka Garima x VS-389                                                                                                                                                                                                                                                        |
| 4  | Year of Release      | 2017                                                                                                                                                                                                                                                                        |
| 5  | Gazette Notification | SO. 6318 (E) dated 26.12.2018                                                                                                                                                                                                                                               |
| 6  | IC Number            | IC 621819                                                                                                                                                                                                                                                                   |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                                                                                |
| 8  | Seed yield           | 4 – 5 q/acre                                                                                                                                                                                                                                                                |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for July–Aug–Sept &amp; Jan–Feb sowings</li><li>➤ Bushy and semi spreading plants</li><li>➤ Bold &amp; light brown seeds</li><li>➤ Tolerant to rust disease</li><li>➤ Resistant to bacterial leaf blight disease</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                  |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                                                                |

#### D1.5 AV-5 (Vegetable type)

|   |                  |                                                                                                                                                       |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety          | AV-5 (Vegetable type)                                                                                                                                 |
| 2 | Pedigree         | Arka garima x VS-389                                                                                                                                  |
| 3 | Year of Release  | 2012                                                                                                                                                  |
| 4 | IC Number        | IC 594419                                                                                                                                             |
| 5 | Duration         | 80 – 85 days                                                                                                                                          |
| 6 | Green pod yield  | 36 – 40 q/acre                                                                                                                                        |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Suitable for August – September and January – February sowings</li><li>➤ Erect and bushy plant type</li></ul> |
| 8 | Developed centre | ZARS, GKVK                                                                                                                                            |
| 9 | Recommended zone | Zone – 4, 5 & 6                                                                                                                                       |



**AV-6 (KBC-9)**



**AV-5**

### D1.6 PKB–4 (Vegetable type)

|    |                      |                                                                                                                                                                                                                                       |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Cowpea                                                                                                                                                                                                                                |
| 2  | Variety              | PKB–4 (Vegetable type)                                                                                                                                                                                                                |
| 3  | Pedigree             | Pusa Komal x APC–729                                                                                                                                                                                                                  |
| 4  | Year of Release      | 2010                                                                                                                                                                                                                                  |
| 5  | Gazette Notification | SO. 456 (E) dated 16.03.2012                                                                                                                                                                                                          |
| 6  | IC Number            | IC 587033                                                                                                                                                                                                                             |
| 7  | Duration             | 90 – 95 days                                                                                                                                                                                                                          |
| 8  | Green pod yield      | 44 – 52 q/acre                                                                                                                                                                                                                        |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for early <i>Kharif</i></li><li>➤ Bold, thin, smooth, fleshy and light green pods</li><li>➤ Nutritious vegetable variety with high protein, carotene content and Vitamin C</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                            |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                                                              |



### D1.7 KM-5 (Mutant)

|   |                      |                                                                        |
|---|----------------------|------------------------------------------------------------------------|
| 1 | Crop                 | Cowpea                                                                 |
| 2 | Variety              | KM-5 (Mutant)                                                          |
| 3 | Year of Release      | 2007                                                                   |
| 4 | Gazette Notification | SO. 211 (E) dated 29.01.2010                                           |
| 5 | Duration             | 90 – 95 days                                                           |
| 6 | Seed yield           | Irrigated: 5 – 6 q/acre; Rainfed: 3 – 4 q/acre                         |
| 7 | Special features     | ➤ Obtained by Gamma irradiation of KBC-1<br>➤ Tolerant to rust disease |
| 8 | Developed centre     | ZARS, GKVK                                                             |
| 9 | Recommended zone     | Zone – 5                                                               |

### D1.8 IT-38956-1

|    |                      |                                                                                                                                                                                    |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Cowpea                                                                                                                                                                             |
| 2  | Variety              | IT-38956-1                                                                                                                                                                         |
| 3  | Pedigree             | Introduction from IITA, Nigeria                                                                                                                                                    |
| 4  | Gazette Notification | SO. 449 (E) dated 11.02.2009                                                                                                                                                       |
| 5  | Year of Release      | 2006                                                                                                                                                                               |
| 6  | IC Number            | IC 565522                                                                                                                                                                          |
| 7  | Duration             | 75 – 80 days                                                                                                                                                                       |
| 8  | Seed yield           | Irrigated: 5 – 6 q/acre; Rainfed: 3 – 4 q/acre                                                                                                                                     |
| 9  | Special features     | ➤ Short duration<br>➤ Suitable for double cropping<br>➤ Bold and white seed<br>➤ Tolerant to leaf spot and rust<br>➤ Pods are upright before maturity and pendulous after maturity |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                         |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                           |

### D1.9 PKB–6 (Vegetable type)

|    |                      |                                                                                                                                                                                                                                                                                                |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Cowpea                                                                                                                                                                                                                                                                                         |
| 2  | Variety              | PKB–6 (Vegetable type)                                                                                                                                                                                                                                                                         |
| 3  | Pedigree             | Pusa Komal x APC–729                                                                                                                                                                                                                                                                           |
| 4  | Year of Release      | 2006                                                                                                                                                                                                                                                                                           |
| 5  | Gazette Notification | SO. 456 (E) dated 16.03.2012                                                                                                                                                                                                                                                                   |
| 6  | IC Number            | IC 587032                                                                                                                                                                                                                                                                                      |
| 7  | Duration             | 95 – 100 days                                                                                                                                                                                                                                                                                  |
| 8  | Pod Yield            | Green pods: 45 – 48 q/acre                                                                                                                                                                                                                                                                     |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Vegetable purpose</li><li>➤ Dark green foliage with no pigmentation</li><li>➤ Bushy and semi spreading</li><li>➤ Bold, smooth, fleshy and light green pods and small green seeds</li><li>➤ Rich in <math>\beta</math>-carotene (598mg/100 g)</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                                     |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                                                                                                                       |

### D1.10 KBC–2

|   |                      |                                                                                       |
|---|----------------------|---------------------------------------------------------------------------------------|
| 1 | Crop                 | Cowpea                                                                                |
| 2 | Variety              | KBC–2                                                                                 |
| 3 | Year of Release      | 1998                                                                                  |
| 4 | Gazette Notification | SO. 92 (E) dated 02.02.2001                                                           |
| 5 | Duration             | 95 – 100 days                                                                         |
| 6 | Seed yield           | Irrigated: 5 – 6 q/acre<br>Rainfed: 3 – 4 q/acre                                      |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Resistant to rust and yellow mosaic</li></ul> |
| 8 | Developed centre     | ZARS, GKVK                                                                            |
| 9 | Recommended zone     | Zone – 5 & 6                                                                          |



**PKB-6**



**KBC-2**

### D1.11 V-16

|   |                      |                             |
|---|----------------------|-----------------------------|
| 1 | Crop                 | Cowpea                      |
| 2 | Variety              | V-16                        |
| 3 | Year of Endorsement  | 1991                        |
| 4 | Gazette Notification | SO 295 (E) dated 09.04.1985 |
| 5 | Duration             | 90 – 100 days               |
| 6 | Seed yield           | 3 – 4 q/acre                |
| 7 | Special features     | ➤ Suitable for Rice fallows |
| 8 | Developed centre     | ZARS, GKVK                  |
| 9 | Recommended zone     | Zone – 9                    |

### D1.12 KBC-1

|   |                      |                                                                          |
|---|----------------------|--------------------------------------------------------------------------|
| 1 | Crop                 | Cowpea                                                                   |
| 2 | Variety              | KBC-1                                                                    |
| 3 | Year of Release      | 1988                                                                     |
| 4 | Gazette Notification | SO. 10 (E) dated 01.01.1988                                              |
| 5 | Duration             | 90 – 95 days                                                             |
| 6 | Seed yield           | Irrigated: 5 – 6 q/acre<br>Rainfed: 3 – 4 q/acre                         |
| 7 | Special features     | ➤ Tolerant to major pests<br>➤ Resistant to rust and yellow mosaic virus |
| 8 | Developed centre     | ZARS, GKVK                                                               |
| 9 | Recommended zone     | Zone – 6                                                                 |

### D1.13 TVX-944-02F

|   |                      |                                                      |
|---|----------------------|------------------------------------------------------|
| 1 | Crop                 | Cowpea                                               |
| 2 | Variety              | TVX-944-02F                                          |
| 3 | Year of Release      | 1987                                                 |
| 4 | Gazette Notification | SO. 10 (E) dated 01.01.1988                          |
| 5 | Duration             | 100 – 110 days                                       |
| 6 | Seed yield           | Irrigated: 5 – 6 q/acre<br>Rainfed: 3 – 4 q/acre     |
| 7 | Special features     | ➤ Tolerant to leaf blight<br>➤ Tolerant Rust disease |
| 8 | Developed centre     | ZARS, GKVK                                           |
| 9 | Recommended zone     | Zone – 5 & 6                                         |

### D1.14 KEC-1

|   |                  |                                                             |
|---|------------------|-------------------------------------------------------------|
| 1 | Crop             | Cowpea                                                      |
| 2 | Variety          | KEC-1                                                       |
| 3 | Year of Release  | 1987                                                        |
| 4 | Duration         | 90–100 days                                                 |
| 5 | Yield            | 4 – 5 q/acre                                                |
| 6 | Special features | ➤ Drought tolerant<br>➤ Best suited for July– August sowing |

### D1.15 KHCW-2

|   |                  |                                                                                                                                                                                                            |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety          | KHCW-2                                                                                                                                                                                                     |
| 2 | Year of Release  | 1979                                                                                                                                                                                                       |
| 3 | Duration         | 65 – 70 days                                                                                                                                                                                               |
| 4 | Seed yield       | 3.6 – 3.7 q/acre                                                                                                                                                                                           |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Dual purpose with high consumer's preference</li><li>➤ Green matter can be fed to cattle after harvesting</li><li>➤ Tolerant to bacterial blight disease</li></ul> |
| 6 | Developed centre | RRS, GKVK                                                                                                                                                                                                  |

### D1.16 Lolitha

|   |                  |                         |
|---|------------------|-------------------------|
| 1 | Variety          | Lolitha                 |
| 2 | Year of Release  | 1976                    |
| 3 | Seed yield       | 6 – 7 q/acre            |
| 4 | Special features | Introduced from Nigeria |
| 5 | Developed centre | RRS, GKVK               |
| 6 | Recommended zone | Zone – 5                |

### D1.17 C-152

|   |                      |                                                                                                                                                                              |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety              | C-152                                                                                                                                                                        |
| 2 | Year of Release      | 1976                                                                                                                                                                         |
| 3 | Gazette Notification | SO. 1004 (E) dated 23.03.1978                                                                                                                                                |
| 4 | Duration             | 90 – 100 days                                                                                                                                                                |
| 5 | Seed yield           | Irrigated: 5 – 6 q/acre; Rainfed: 3 – 4 q/acre                                                                                                                               |
| 6 | Special features     | <ul style="list-style-type: none"><li>➤ Semi determinate type</li><li>➤ Better suited for rainfed conditions</li><li>➤ Suitable for Summer and early <i>Kharif</i></li></ul> |
| 7 | Developed centre     | RRS, GKVK                                                                                                                                                                    |
| 8 | Recommended zone     | Zone – 1, 2, 3, 5 & 8                                                                                                                                                        |

## D2. Redgram

Redgram, a *Kharif* season crop, is also commonly known as Arhar or Tur. India ranks first in the production and consumption of red gram in the world. Redgram accounts for about 20 per cent of the total production of pulses in the country. It is the second important pulse crop after the Bengal gram and a major *Kharif* crop in the state. It finds important place in farming systems adopted by small holding peasants in large number of developing countries. The crop has deep root system and cultivated in wide range of soils from black clay to sandy soil, but very sensitive to waterlogged conditions. Being a drought resistant crop, it is suitable for dry land farming. Ten redgram HYVs released by UASB is listed in Table–12. These varieties are part of ongoing efforts to improve pigeonpea productivity and disease resistance. Research continues to focus on evaluating and developing new genotypes through both traditional and modern breeding methods.

**Table–12: List of high yielding Redgram varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety           | Year of release |
|---------|-------------------|-----------------|
| 1       | BRG–3             | 2017            |
| 2       | BRG–5             | 2014            |
| 3       | BRG–4 (BRG–10–2)  | 2012            |
| 4       | BRG–2             | 2005            |
| 5       | ICP–7035          | 2005            |
| 6       | BRG–1             | 2004            |
| 7       | TTB–7             | 1987            |
| 8       | KGT–1 (Maruthi)   | 1985            |
| 9       | GS–1 (Gulbarga–1) | 1980            |
| 10      | PT–221            | 1980            |

### D2.1 BRG-3

|    |                      |                                                                                                                                                                                        |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Redgram                                                                                                                                                                                |
| 2  | Variety              | BRG-3                                                                                                                                                                                  |
| 3  | Pedigree             | ICP 8863 x BRG-1                                                                                                                                                                       |
| 4  | Year of Release      | 2017                                                                                                                                                                                   |
| 5  | Gazette Notification | SO. 6318 (E) dated 26.12.2018                                                                                                                                                          |
| 6  | IC Number            | IC 623716                                                                                                                                                                              |
| 7  | Duration             | 160 – 170 days                                                                                                                                                                         |
| 8  | Seed yield           | 5 – 6 q/acre                                                                                                                                                                           |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Red flowers</li><li>➤ Light brown mottled seeds</li><li>➤ Resistant to Fusarium wilt</li><li>➤ Resistant to Sterility mosaic disease</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                             |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                           |



## D2.2 BRG-5 (BRG-10-4)

|    |                      |                                                                                                                                                                                                  |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Redgram                                                                                                                                                                                          |
| 2  | Variety              | BRG-5 (BRG-10-4)                                                                                                                                                                                 |
| 3  | Pedigree             | BRG-3 x ICPL 99046                                                                                                                                                                               |
| 4  | Year of Release      | 2014                                                                                                                                                                                             |
| 5  | Gazette Notification | SO. 3540 (E) dated 22.11.2016                                                                                                                                                                    |
| 6  | IC Number            | IC 614822                                                                                                                                                                                        |
| 7  | Duration             | 170 – 180 days                                                                                                                                                                                   |
| 8  | Seed yield           | 5 – 6 q/acre                                                                                                                                                                                     |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Green pods with dark streaks and brown seeds</li><li>➤ Suitable for both rainfed and irrigated conditions</li><li>➤ Resistant to Fusarium wilt</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                       |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                         |



### D2.3 BRG-4 (BRG-10-2)

|    |                      |                                                                                                                                                                                                                        |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Redgram                                                                                                                                                                                                                |
| 2  | Variety              | BRG-4 (BRG-10-2)                                                                                                                                                                                                       |
| 3  | Pedigree             | BRG-2 x ICPL 99046                                                                                                                                                                                                     |
| 4  | Year of Release      | 2012                                                                                                                                                                                                                   |
| 5  | Gazette Notification | SO. 1146 (E) dated 24.04.2014                                                                                                                                                                                          |
| 6  | IC Number            | IC 593951                                                                                                                                                                                                              |
| 7  | Duration             | 140 – 150 days                                                                                                                                                                                                         |
| 8  | Seed yield           | Pure crop: 5 – 6 q/acre; Inter crop: 2 – 2.5 q/acre                                                                                                                                                                    |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Early maturing</li><li>➤ Suitable for late planting (delayed monsoon)</li><li>➤ Indeterminate growth habit</li><li>➤ Yellow flowers and green pods with dark streaks</li></ul> |
| 10 | Developed centre     | ZARS, GKV K                                                                                                                                                                                                            |
| 11 | Recommended zone     | Zone – 5                                                                                                                                                                                                               |

### D2.4 ICP-7035

|   |                  |                                                                                                        |
|---|------------------|--------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Redgram                                                                                                |
| 2 | Variety          | ICP-7035                                                                                               |
| 3 | Year of Release  | 2005                                                                                                   |
| 4 | Duration         | 170–180 days                                                                                           |
| 5 | Seed yield       | Pure crop: 5 – 6 q/acre; Inter crop: 2 – 2.5 q/acre                                                    |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Dual purpose</li><li>➤ Resistant to sterility Mosaic</li></ul> |
| 7 | Developed centre | ZARS, GKV K                                                                                            |
| 8 | Recommended zone | Zone – 5                                                                                               |



**BRG-4 (BRG-10-2)**



**ICP-7035**

## D2.5 BRG–2

|    |                      |                                                                                                                                       |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Redgram                                                                                                                               |
| 2  | Variety              | BRG–2                                                                                                                                 |
| 3  | Year of Release      | 2005                                                                                                                                  |
| 4  | Gazette Notification | SO. 449 (E) dated 11.02.2009                                                                                                          |
| 5  | IC Number            | IC 565447                                                                                                                             |
| 6  | Duration             | 150 – 170 days                                                                                                                        |
| 7  | Seed yield           | Pure crop: 5 – 6 q/acre; Inter crop: 2 – 2.5 q/acre                                                                                   |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for late sown conditions</li><li>➤ White seeds</li><li>➤ Higher seed yield</li></ul> |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                            |
| 10 | Recommended zone     | Zone – 5                                                                                                                              |

## D2.6 BRG–1

|   |                      |                                                                                                                                                                        |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Redgram                                                                                                                                                                |
| 2 | Variety              | BRG–1                                                                                                                                                                  |
| 3 | Year of Release      | 2004                                                                                                                                                                   |
| 4 | Gazette Notification | SO. 1572 (E) dated 20.09.2006                                                                                                                                          |
| 5 | Duration             | 180 – 190 days                                                                                                                                                         |
| 6 | Seed yield           | Pure crop: 5 – 6 q/acre; Inter crop: 2 – 2.5 q/acre                                                                                                                    |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Dual purpose</li><li>➤ Green pods are long and thick with bold seeds</li><li>➤ Resistant to major diseases and pests</li></ul> |
| 8 | Developed centre     | ZARS, GKVK                                                                                                                                                             |
| 9 | Recommended zone     | Zone – 5                                                                                                                                                               |



**BRG-2**



**BRG-1**

## D2.7 TTB-7

|   |                      |                                                                                                                             |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Redgram                                                                                                                     |
| 2 | Variety              | TTB-7                                                                                                                       |
| 3 | Year of Release      | 1987                                                                                                                        |
| 4 | Gazette Notification | SO. 10 (E) dated 01.01.1988                                                                                                 |
| 5 | Duration             | 180 – 210 days                                                                                                              |
| 6 | Seed yield           | Pure crop: 5 – 6 q/acre<br>Inter crop: 2 – 2.5 q/acre                                                                       |
| 7 | Special features     | ➤ Fits very well for intercropping with groundnut, ragi, cowpea and sesame<br>➤ Highly tolerant to sterility mosaic disease |
| 8 | Developed centre     | ZARS, GKVK                                                                                                                  |
| 9 | Recommended zone     | Zone – 5 & 6                                                                                                                |

## D2.8 Maruthi (KGT-1 / ICP-8863)

|   |                  |                                                         |
|---|------------------|---------------------------------------------------------|
| 1 | Crop             | Redgram                                                 |
| 2 | Variety          | Maruthi (KGT-1 / ICP-8863)                              |
| 3 | Year of Release  | 1985                                                    |
| 4 | Duration         | 170 – 175 days                                          |
| 5 | Seed yield       | Pure crop: 4 – 4.5 q/acre<br>Inter crop: 2 – 2.5 q/acre |
| 6 | Special features | ➤ Brown seeds<br>➤ Suitable for wilt endemic region     |
| 7 | Recommended zone | Zone – 1, 2, 3 & 8                                      |

## D2.9 PT-221

|   |                      |                                                                                                                                                                                                                                                               |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Redgram                                                                                                                                                                                                                                                       |
| 2 | Variety              | PT-221                                                                                                                                                                                                                                                        |
| 3 | Year of Release      | 1980                                                                                                                                                                                                                                                          |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                                                                                   |
| 5 | Seed yield           | Pure crop: 3.5 – 4 q/acre; Inter crop: 1.5 – 2 q/acre                                                                                                                                                                                                         |
| 6 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for close spacings</li><li>➤ Bold seeds</li><li>➤ Suitable for rainfed cultivation</li><li>➤ Performs better in shallow soils</li><li>➤ Good for rotation with cereals, other pulses and oil seeds</li></ul> |
| 7 | Developed centre     | ARS, Gulbarga                                                                                                                                                                                                                                                 |
| 8 | Recommended zone     | Zone – 1, 2, 3 & 8                                                                                                                                                                                                                                            |

## D2.10 GS-1 (Gulbarga-1)

|   |                      |                                                                                                                                                                                                          |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Redgram                                                                                                                                                                                                  |
| 2 | Variety              | GS-1 (Gulbarga-1)                                                                                                                                                                                        |
| 3 | Year of Release      | 1980                                                                                                                                                                                                     |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                              |
| 5 | Seed yield           | Pure crop: 4 – 4.5 q/acre; Inter crop: 1.5 – 2 q/acre                                                                                                                                                    |
| 6 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for rainfed cultivation</li><li>➤ Profuse branching</li><li>➤ High percentage of leaf mulch to the soil</li><li>➤ Adaptive for close spacings</li></ul> |
| 7 | Developed centre     | ARS, Gulbarga                                                                                                                                                                                            |
| 8 | Recommended zone     | Zone – 1, 2, 3 & 8                                                                                                                                                                                       |

### D3. Soybean

Soybean (*Glycine max* (L.) Merrill) is a major oilseed crop and is known as 'Golden bean' and 'Miracle crop'. In the last four decades, Soybean has established itself as a major rainy season crop in the rainfed agro–ecosystem of the country. Introduction of soybean has resulted in an enhancement in the cropping intensity and resultant increase in the profitability per unit land area. Extreme variation in rainfall coupled with biotic stresses (pest & diseases), high seed rate, low SRR, improper plant population maintenance acts as a major impediment in realizing higher productivity. Nine HYVs of soybean including Karune (vegetable type) released by UASB is listed in Table–13 and are described below:

**Table–13: List of high yielding Soybean varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety                                  | Year of release |
|---------|------------------------------------------|-----------------|
| 1       | KBS–23                                   | 2018            |
| 2       | MAUS–2 (Pooja)                           | 2010            |
| 3       | Karune (GC–002009–4–1–1): Vegetable type | 2009            |
| 4       | KB–79 (Sneha)                            | 1996            |
| 5       | Monetta                                  | 1989            |
| 6       | KHSb–2                                   | 1979            |
| 7       | Hardee (Introduced from USA)             | 1976            |
| 8       | Improved Pelican (Introduced from USA)   | 1976            |
| 9       | Davis (Introduced from USA)              | 1976            |

### D3.1 KBS–23

|    |                      |                                                                                                                                                                                                                                      |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Soybean                                                                                                                                                                                                                              |
| 2  | Variety              | KBS–23                                                                                                                                                                                                                               |
| 3  | Pedigree             | JS–335 x KHSb2                                                                                                                                                                                                                       |
| 4  | Gazette Notification | SO. 3482 (E) dated 07.10.2020                                                                                                                                                                                                        |
| 5  | Year of Release      | 2018                                                                                                                                                                                                                                 |
| 6  | IC Number            | IC 627080                                                                                                                                                                                                                            |
| 7  | Duration             | 90 – 92 days                                                                                                                                                                                                                         |
| 8  | Seed yield           | Irrigated: 12 – 13 q/acre<br>Rainfed: 10 – 12 q/acre                                                                                                                                                                                 |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Short duration</li><li>➤ Semi determinate type</li><li>➤ Suitable for different cropping systems</li><li>➤ Suitable for <i>Kharif</i> season under rainfed and irrigated condition</li></ul> |
| 10 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                           |
| 11 | Recommended zone     | Zone – 5 & 6                                                                                                                                                                                                                         |



### D3.2 Pooja (MAUS–2)

|    |                      |                                                                                                                    |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Soybean                                                                                                            |
| 2  | Variety              | Pooja (MAUS–2)                                                                                                     |
| 3  | Pedigree             | Pedigree selection from SH–84–14                                                                                   |
| 4  | Year of Release      | 2010                                                                                                               |
| 5  | Gazette Notification | SO.1146 (E) dated 24.04.2014                                                                                       |
| 6  | IC Number            | IC 596789                                                                                                          |
| 7  | Duration             | 105 – 110 days                                                                                                     |
| 8  | Seed yield           | Irrigated: 8 – 10 q/acre<br>Rainfed: 7 – 8 q/acre                                                                  |
| 9  | Special features     | ➤ Suitable for all seasons<br>➤ Oil content:19–20%<br>➤ Protein: 40–41 %<br>➤ Tolerant to major pests and diseases |
| 10 | Developed centre     | ZARS, GKVK                                                                                                         |
| 11 | Recommended zone     | Zone – 5                                                                                                           |



### D3.3 Karune (KBVS-1) (GC-002009-4-1-1)

|    |                       |                                                                                                                                                             |
|----|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                  | Soybean                                                                                                                                                     |
| 2  | Variety               | Karune (KBVS-1) (GC-002009-4-1-1)                                                                                                                           |
| 3  | Pedigree              | Pure line selection from AVRDC germplasms                                                                                                                   |
| 4  | Year of Release       | 2009                                                                                                                                                        |
| 5  | Gazette Notification  | SO.2986 (E) dated 20.07.2021                                                                                                                                |
| 6  | IC Number             | IC 596788                                                                                                                                                   |
| 7  | Duration              | Green pods: 65 – 70 days<br>Dry pods: 90 – 95 days                                                                                                          |
| 8  | Pod yield (Irrigated) | Green pod: 30 – 35 q/acre<br>Seed: 7 – 8 q/acre                                                                                                             |
| 9  | Special features      | <ul style="list-style-type: none"> <li>➤ Vegetable type</li> <li>➤ Glabrous stem, leaves and pods</li> <li>➤ Tolerant to major pests and disease</li> </ul> |
| 10 | Developed centre      | ZARS, GKVK                                                                                                                                                  |
| 11 | Recommended zone      | Zone – 5                                                                                                                                                    |



### D3.4 Sneha (KB–79)

|   |                      |                                                                                                                                                                                                                                                                        |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Soybean                                                                                                                                                                                                                                                                |
| 2 | Variety              | KB–79 (Sneha)                                                                                                                                                                                                                                                          |
| 3 | Year of Release      | 1996                                                                                                                                                                                                                                                                   |
| 4 | Gazette Notification | SO. 360 (E) dated 01.05.1997                                                                                                                                                                                                                                           |
| 5 | Duration             | 85 – 90 days                                                                                                                                                                                                                                                           |
| 6 | Seed yield           | Irrigated: 5 – 6 q/acre                                                                                                                                                                                                                                                |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i>, late <i>Kharif</i> and Summer</li> <li>➤ Suitable for intercropping with Sugarcane</li> <li>➤ Resistant to Alternaria, bacterial pustule</li> <li>➤ Resistant to yellow soybean mosaic</li> </ul> |
| 8 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                             |
| 9 | Recommended zone     | Zone – 5, 6 & 7                                                                                                                                                                                                                                                        |

### D3.5 Monetta

|   |                      |                                                                                             |
|---|----------------------|---------------------------------------------------------------------------------------------|
| 1 | Crop                 | Soybean                                                                                     |
| 2 | Variety              | Monetta                                                                                     |
| 3 | Year of Release      | 1989                                                                                        |
| 4 | Gazette Notification | SO. 540 (E) dated 24.07.1985                                                                |
| 5 | Duration             | 80 – 85 days                                                                                |
| 6 | Seed yield           | Pure crop: 3.5 – 45 q/acre<br>Inter crop: 2 – 3 q/acre                                      |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable as an intercrop with sugarcane</li> </ul> |
| 8 | Developed centre     | ZARS, GKVK                                                                                  |
| 9 | Recommended zone     | Zone – 5, 6 & 7                                                                             |

### D3.6 KHSb-2 (Karnataka Hebbal Soybean)

|   |                      |                               |
|---|----------------------|-------------------------------|
| 1 | Crop                 | Soybean                       |
| 2 | Variety              | KHSb-2                        |
| 3 | Year of Release      | 1979                          |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982   |
| 5 | Duration             | 110 – 120 days                |
| 6 | Seed yield           | 3.2 – 4 q/acre                |
| 7 | Special features     | ➤ Suitable for August sowings |
| 8 | Developed centre     | ZARS, GKVK                    |
| 9 | Recommended zone     | Zone – 5, 6 & 7               |

### D3.7 Hardee

|   |                      |                                                                             |
|---|----------------------|-----------------------------------------------------------------------------|
| 1 | Crop                 | Soybean                                                                     |
| 2 | Variety              | Hardee (Introduced from USA)                                                |
| 3 | Year of Release      | 1976                                                                        |
| 4 | Gazette Notification | SO. 860 (E) dated 25.11.1992                                                |
| 5 | Duration             | 100 – 110 days                                                              |
| 6 | Yield                | 6 – 8 q/acre                                                                |
| 7 | Special features     | ➤ Suitable for both irrigated or rainfed<br>➤ Fits in as mixed crop in Ragi |
| 8 | Developed centre     | RRS, GKVK                                                                   |
| 9 | Recommended zone     | Zone – 5, 6 & 7                                                             |

### D3.8 Improved Pelican

|   |                  |                                        |
|---|------------------|----------------------------------------|
| 1 | Crop             | Soybean                                |
| 2 | Variety          | Improved Pelican (Introduced from USA) |
| 3 | Year of Release  | 1976                                   |
| 4 | Developed centre | RRS, GKVK                              |
| 5 | Recommended zone | Zone – 5                               |

### D3.9 Davis

|   |                  |                             |
|---|------------------|-----------------------------|
| 1 | Crop             | Soybean                     |
| 2 | Variety          | Davis (Introduced from USA) |
| 3 | Year of Release  | 1976                        |
| 4 | Developed centre | ZARS, GKVK                  |
| 5 | Recommended zone | Zone – 5                    |

### D4. Chickpea

India ranks first and Karnataka ranks fifth in the cultivation of chickpea. However, its area and production are fluctuating year after year due to high incidence of pest and diseases, rainfed cultivation and fluctuating marketing prices. In India, chickpea occupies an area of 9.40 mha. with productivity of 1073 kg/ha, respectively. Reasons for very poor productivity is erratic rainfall (Particularly terminal drought) and growing of long duration local varieties susceptible for wilt caused by *Fusarium* has led to huge yield loss of 37- 45%. Most of the resistant varieties have been found to be susceptible after some years because of breakdown in their resistance and evolution of new races of the pathogen. Details of seven HYVs of chickpea including one hybrid released by UASB is listed in Table–14 and are described below:

**Table–14: List of high yielding Chickpea varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety        | Year of release |
|---------|----------------|-----------------|
| 1       | KAK–2          | 2006            |
| 2       | Vishal         | 2006            |
| 3       | JG–11          | 2006            |
| 4       | KGB–1(Bheema)  | 1985            |
| 5       | Dharwad hybrid | 1972            |
| 6       | Annigeri–1     | 1968            |
| 7       | Strain9–23–5–1 | 1967            |

#### D4.1 KAK-2

|   |                  |                                                        |
|---|------------------|--------------------------------------------------------|
| 1 | Crop             | Chickpea                                               |
| 2 | Variety          | KAK-2                                                  |
| 3 | Year of Release  | 2006                                                   |
| 4 | Duration         | 80 – 85 days                                           |
| 5 | Seed yield       | Irrigated: 6 – 8 q/acre<br>Rainfed: 3 – 8 q/acre       |
| 6 | Special features | ➤ Early variety<br>➤ Kabuli type<br>➤ White bold seeds |
| 7 | Developed centre | ZARS, GKVK                                             |
| 8 | Recommended zone | Zone – 4                                               |

#### D4.2 Vishal

|   |                  |                                                  |
|---|------------------|--------------------------------------------------|
| 1 | Crop             | Chickpea                                         |
| 2 | Variety          | Vishal                                           |
| 3 | Year of Release  | 2006                                             |
| 4 | Duration         | 100 – 110 days                                   |
| 5 | Seed yield       | Irrigated: 6 – 8 q/acre<br>Rainfed: 3 – 8 q/acre |
| 6 | Special features | ➤ Desi type<br>➤ Resistant to wilt               |
| 7 | Developed centre | ZARS, GKVK                                       |
| 8 | Recommended zone | Zone – 4                                         |



**KAK-2**



**Vishal**

### D4.3 JG–11

|    |                      |                                                                                                                                         |   |                                   |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------|
| 1  | Crop                 | Chickpea                                                                                                                                |   |                                   |
| 2  | Variety              | JG–11*                                                                                                                                  |   |                                   |
| 3  | Pedigree             | Phule G5 x<br>Narasinghapurabold                                                                                                        | x | ICC–37 x ICC<br>860265–BPB–29P–BP |
| 4  | Year of Release      | 2006                                                                                                                                    |   |                                   |
| 5  | Gazette Notification | SO. 425 (E) dated 08.06.1999                                                                                                            |   |                                   |
| 6  | Duration             | 95 – 100 days                                                                                                                           |   |                                   |
| 7  | Seed yield           | Irrigated: 6 – 8 q/acre; Rainfed: 3 – 5 q/acre                                                                                          |   |                                   |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Slightly erect desi type with dark brown seeds</li> <li>➤ Wilt and drought tolerant</li> </ul> |   |                                   |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                              |   |                                   |
| 10 | Recommended zone     | Zone – 4                                                                                                                                |   |                                   |



#### D4.4 Bheema (KGB–1)

|   |                  |                                                                                                                                                                                 |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety          | Bheema (KGB–1)                                                                                                                                                                  |
| 2 | Year of Release  | 1985                                                                                                                                                                            |
| 3 | Duration         | 90 – 95 days                                                                                                                                                                    |
| 4 | Seed yield       | 6 – 6.5 q/acre                                                                                                                                                                  |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Popular for green raw pods with bold seeds</li><li>➤ Processing friendly</li><li>➤ Fairly resistant to root rot and pod borer</li></ul> |
| 6 | Developed centre | RRS, Dharwad                                                                                                                                                                    |
| 7 | Recommended zone | Zone – 1 & 2                                                                                                                                                                    |

#### D4.5 Dharwad hybrid

|   |                  |                                                                              |
|---|------------------|------------------------------------------------------------------------------|
| 1 | Variety          | Dharwad hybrid                                                               |
| 2 | Year of Release  | 1972                                                                         |
| 3 | Special features | <ul style="list-style-type: none"><li>➤ Suited for irrigated areas</li></ul> |
| 4 | Developed centre | RRS, Dharwad                                                                 |

#### D4.6 Annigeri–1

|   |                      |                                                                                                    |
|---|----------------------|----------------------------------------------------------------------------------------------------|
| 1 | Variety              | Annigeri–1                                                                                         |
| 2 | Year of Release      | 1968                                                                                               |
| 3 | Gazette Notification | SO. 13 (E) dated 19.12.1978                                                                        |
| 4 | Duration             | 95 – 100 days                                                                                      |
| 5 | Seed yield           | Irrigated: 5 – 7 q/acre; Rainfed: 3 – 4 q/acre                                                     |
| 6 | Special features     | <ul style="list-style-type: none"><li>➤ Desi type</li><li>➤ Tolerant to wilt and drought</li></ul> |
| 7 | Developed centre     | ARS, Annigere                                                                                      |
| 8 | Recommended zone     | Zone – 1, 2, 3 & 8                                                                                 |

#### D4.7 Strain 9–23–5–1

|   |                  |                 |
|---|------------------|-----------------|
| 1 | Crop             | Chickpea        |
| 2 | Variety          | Strain 9–23–5–1 |
| 3 | Year of Release  | 1967            |
| 4 | Developed centre | ARS, Annigere   |

#### D5. Field bean (Avare)

Field bean is one of the most ancient crops among cultivated plants. It is remarkably adaptable to wide areas under diverse climatic conditions such as arid, semi-arid, sub-tropical and humid regions. Karnataka contributes a major share, accounting for nearly 90% in terms of both area and production in the country. Karnataka cultivates Field bean both as a pure crop and intercropped with other cereals and legumes. It is an excellent nitrogen fixer and is sometimes grown as a cover crop or for livestock fodder. Field bean being photo-sensitive, its cultivation was restricted to a certain season in the year. UASB has designed its programme to develop dual purpose, viz. both for green pod and dry seed purpose. The 4 Avare varieties (Table–15) released by University are also photo-insensitive, early-maturing with a determinate growth habit and higher green pod yield. So, farmers can now cultivate this crop all year round.

**Table–15: List of high yielding Field bean varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety        | Year of release |
|---------|----------------|-----------------|
| 1       | Hebbal Avare–5 | 2022            |
| 2       | Hebbal Avare–4 | 2007            |
| 3       | Hebbal Avare–3 | 1980            |
| 4       | Hebbal Avare   | 1976            |

### D5.1 Hebbal Avare – 5

|    |                      |                                                                                                                                                          |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Field bean                                                                                                                                               |
| 2  | Variety              | Hebbal Avare–5                                                                                                                                           |
| 3  | Pedigree             | HA–4 x GL–153                                                                                                                                            |
| 4  | IC Number            | IC 643947                                                                                                                                                |
| 5  | Year of Release      | 2022                                                                                                                                                     |
| 6  | Gazette Notification | SO. 4388 (E) dated 08.10.2024                                                                                                                            |
| 7  | Duration             | 90 – 95 days                                                                                                                                             |
| 8  | Green Pod Yield      | 13 – 14 q/acre                                                                                                                                           |
| 9  | Dry Seed Yield       | 3 – 4 q/acre                                                                                                                                             |
| 10 | Special Features     | <ul style="list-style-type: none"><li>➤ Photo – period Insensitive</li><li>➤ Semi–Determinate growth habit</li><li>➤ Good aroma even in summer</li></ul> |
| 11 | Developed Centre     | ZARS, GKVK                                                                                                                                               |
| 12 | Recommended zone     | Zone – 5                                                                                                                                                 |



## D5.2 Hebbal Avare-4

|    |                      |                                                                                                                                                                                                          |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Field bean                                                                                                                                                                                               |
| 2  | Variety              | Hebbal Avare-4                                                                                                                                                                                           |
| 3  | Year of Release      | 2007                                                                                                                                                                                                     |
| 4  | Gazette Notification | SO. 211 (E) dated 29.01.2010                                                                                                                                                                             |
| 5  | IC Number            | IC 567219                                                                                                                                                                                                |
| 6  | Duration             | 95 – 105 days                                                                                                                                                                                            |
| 7  | Yield                | Green pods: 12 – 15 q/acre<br>Seed: 3 – 4 q/acre                                                                                                                                                         |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Early maturing</li><li>➤ Photo-insensitive, so it can be grown throughout the year</li><li>➤ <i>Mani avare</i> type with good fragrance even in summer</li></ul> |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                                                                               |
| 10 | Recommended zone     | Zone – 5                                                                                                                                                                                                 |



### D5.3 Hebbal Avare–3

|   |                      |                                                                                                                                                                          |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Field bean                                                                                                                                                               |
| 2 | Variety              | Hebbal Avare–3                                                                                                                                                           |
| 3 | Year of Release      | 1980                                                                                                                                                                     |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                              |
| 5 | Duration             | 90 – 100 days                                                                                                                                                            |
| 6 | Yield                | Green pods: 11 – 13 q/acre; Seed: 2.5 – 3 q/acre                                                                                                                         |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Photo–insensitive: can be grown throughout the year</li><li>➤ Early maturing, fully determinate type: erect in stature</li></ul> |
| 8 | Developed centre     | MRS, Hebbal                                                                                                                                                              |
| 9 | Recommended zone     | Zone – 5, 6 & 7                                                                                                                                                          |

### D5.4 Hebbal Avare

|   |                  |                                                                                                                                                                                           |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Field bean                                                                                                                                                                                |
| 2 | Variety          | Hebbal Avare                                                                                                                                                                              |
| 3 | Year of Release  | 1976                                                                                                                                                                                      |
| 4 | Duration         | 90 – 100 days                                                                                                                                                                             |
| 5 | Seed yield       | 3 – 3.5 q/acre                                                                                                                                                                            |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Photo–insensitive: can be grown throughout the year</li><li>➤ Early maturing, determinate and erect type</li><li>➤ Good cooking quality</li></ul> |
| 7 | Developed centre | MRS, Hebbal                                                                                                                                                                               |
| 8 | Recommended zone | Zone – 5                                                                                                                                                                                  |

## D6. Blackgram

### D6.1 LBG –791

|    |                      |                                                          |
|----|----------------------|----------------------------------------------------------|
| 1  | Crop                 | Blackgram                                                |
| 2  | Variety              | LBG –791                                                 |
| 3  | Pedigree             | Selection from PU–31<br>(UPU 9710 x DPU 88–31)           |
| 4  | IC Number            | IC 630329                                                |
| 5  | Year of Release      | 2019                                                     |
| 6  | Gazette Notification | SO. 8 (E) dated 24.12.2021                               |
| 7  | Duration             | 75 – 80 days                                             |
| 8  | Seed yield           | Irrigated: 6 – 8 q/acre; Rainfed: 3 – 4 q/acre           |
| 9  | Special features     | ➤ Uniform maturity<br>➤ Resistant to Yellow mosaic virus |
| 10 | Developed centre     | ZARS, Mandya                                             |
| 11 | Recommended zone     | Zone – 5 & 6                                             |



### D6.2 LBG–625 (Rashmi)

|   |                      |                                                                                                                                            |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Blackgram                                                                                                                                  |
| 2 | Variety              | LBG–625 (Rashmi)                                                                                                                           |
| 3 | Year of Release      | 2002                                                                                                                                       |
| 4 | Gazette Notification | SO. 2458 (E) dated 16.10.2008                                                                                                              |
| 5 | Duration             | 70 – 75 days                                                                                                                               |
| 6 | Yield                | Irrigated: 4 – 5 q/acre; Rainfed: 2 – 3 q/acre                                                                                             |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ High yielding variety</li><li>➤ Shining bold seeds</li><li>➤ Resistant to powdery mildew</li></ul> |
| 8 | Developed centre     | ARS, Kathalgere                                                                                                                            |
| 9 | Recommended zone     | Zone – 6                                                                                                                                   |

### D6.3 Khargaon–3 (K–3)

|   |                      |                                                                                                        |
|---|----------------------|--------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Blackgram                                                                                              |
| 2 | Variety              | Khargaon–3 (K–3)                                                                                       |
| 3 | Year of Release      | 1974                                                                                                   |
| 4 | Gazette Notification | SO. 786 (E) dated 02.02.1976                                                                           |
| 5 | Duration             | 85 – 90 days                                                                                           |
| 6 | Yield                | Rainfed: 2 – 3 q/acre; Irrigated: 4 – 5 q/acre                                                         |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for Jan–May sowings</li><li>➤ Long duration</li></ul> |
| 8 | Developed centre     | RRS, Raichur                                                                                           |
| 9 | Recommended zone     | Zone – 3, 4,5, 6 & 7                                                                                   |

## D7. Greengram

Greengram is one of India's most valuable pulse crops. It is a native of India and Central Asia and has been grown in these regions since prehistoric times. It is a valuable food source, containing roughly 25% protein, which is about three times the amount found in most cereals. It is a protein rich staple food. Beyond its protein content, Green Gram offers benefits for cardiovascular health due to its high potassium levels, which help control blood pressure. Details of three greengram varieties released by UASB is presented below:

### D7.1 KKM –3

|    |                      |                                                                                                                                                                                                                                                                                 |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Greengram                                                                                                                                                                                                                                                                       |
| 2  | Variety              | KKM –3                                                                                                                                                                                                                                                                          |
| 3  | Pedigree             | Chinamung x WGG–2                                                                                                                                                                                                                                                               |
| 4  | Year of Release      | 2008                                                                                                                                                                                                                                                                            |
| 5  | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                                                                                                                                                                                   |
| 6  | Duration             | 65 – 70 days                                                                                                                                                                                                                                                                    |
| 7  | Seed yield           | Irrigated: 4 – 5 q/acre<br>Rainfed: 2 – 3 q/acre                                                                                                                                                                                                                                |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Short duration</li><li>➤ Matures uniformly</li><li>➤ Grown between two paddy crops either as early <i>Kharif</i> or prior to Summer to sustain paddy yield</li><li>➤ Moderately resistant to yellow mosaic and powdery mildew</li></ul> |
| 9  | Developed centre     | ARS, Kathalagere                                                                                                                                                                                                                                                                |
| 10 | Recommended zone     | Zone – 5, 6 & 7                                                                                                                                                                                                                                                                 |

### D7.2 PDM-84-178 (Kathalagere Greengram-1)

|   |                      |                                                                |
|---|----------------------|----------------------------------------------------------------|
| 1 | Crop                 | Greengram                                                      |
| 2 | Variety              | PDM-84-178 (Kathalagere Greengram-1)                           |
| 3 | Year of Release      | 1994                                                           |
| 4 | Gazette Notification | SO. 1 (E) dated 01.01.1996                                     |
| 5 | Duration             | 70-75 days                                                     |
| 6 | Seed yield           | Irrigated: 3.5 – 4 q/acre<br>Rainfed: 2 – 2.5 q/acre           |
| 7 | Special features     | ➤ Highly tolerant to powdery mildew and yellow mosaic diseases |
| 8 | Developed centre     | ARS, Kathalagere                                               |
| 9 | Recommended zone     | Irrigated areas of Zone – 7                                    |

### D7.3 Jawahar-45

|   |                      |                                |
|---|----------------------|--------------------------------|
| 1 | Crop                 | Greengram                      |
| 2 | Variety              | Jawahar-45                     |
| 3 | Year of Release      | 1974                           |
| 4 | Gazette Notification | SO. 786 (E) dated 02.02.1996   |
| 5 | Duration             | 75 – 80 days                   |
| 6 | Seed yield           | 2 – 3 q/acre                   |
| 7 | Special features     | ➤ Suitable for Oct-Nov sowings |
| 8 | Developed centre     | ARS, Raichur                   |
| 9 | Recommended zone     | Paddy fallows                  |

## D8. Horsegram

Horse gram is a hardy crop that requires very little preparation, with just one or two ploughings and planking. It is low input crop that thrives in the lateritic soils of South India, which are often poor in fertility, but can also be grown on a wide range of light to heavy soils. UASB has released the following two varieties.

### D8.1 PHG-9

|   |                      |                                     |
|---|----------------------|-------------------------------------|
| 1 | Crop                 | Horsegram                           |
| 2 | Variety              | PHG-9                               |
| 3 | Year of Release      | 1998                                |
| 4 | Gazette Notification | SO. 92 (E) dated 02.02.2001         |
| 5 | Duration             | 100 – 105 days                      |
| 6 | Seed yield           | 3 – 4 q/acre                        |
| 7 | Special features     | ➤ Tolerant to yellow mosaic disease |
| 8 | Developed centre     | ZARS, GKVK                          |
| 9 | Recommended zone     | Zone – 5 & 6                        |

### D8.2 KBH-1 (BGM-1)

|   |                  |                                          |
|---|------------------|------------------------------------------|
| 1 | Crop             | Horsegram                                |
| 2 | Variety          | KBH-1 (BGM-1)                            |
| 3 | Year of Release  | 1990                                     |
| 4 | Duration         | 90 – 100 days                            |
| 5 | Seed yield       | 3 – 3.5 q/acre                           |
| 6 | Special features | ➤ Long duration variety<br>➤ Brown seeds |
| 7 | Developed centre | ZARS, GKVK                               |
| 8 | Recommended zone | Zone – 2 & 3                             |

## V. OILSEEDS

India is a major player in global oilseed production, ranking as the fourth largest producer worldwide. It has 20.8% of the total area under cultivation globally, accounting for 10% of global production. The Yellow Revolution in India, launched in 1986, substantially increased oilseed production, effectively tripling it from 108 lakh tonnes in 1985-86 to 396 lakh tonnes in 2023-24. Despite being the 5<sup>th</sup> largest oilseed crop producing country in the world, there is a spurt in the vegetable oil consumption in respect of both edible as well as industrial usages. India is way behind and now it is one of the largest importers of vegetable oils. Augmenting the availability of quality seeds of oilseeds, supply of minikits of new varieties, improved production technology, integrated pest management and integrated nutrient management supported with micro-irrigation are the few components of crash programme for enhancing oilseeds production. Programmes were designed. UASB has also contributed towards meeting the target by releasing 41 varieties / hybrids (Fig-5) in different oilseeds. Understanding the importance, UASB had formulated its research programmes to supplement efforts of the state governments for increasing production and productivity of various oilseed crops in a way that, in the last decade at least one hybrid / high yielding variety has been released every year.

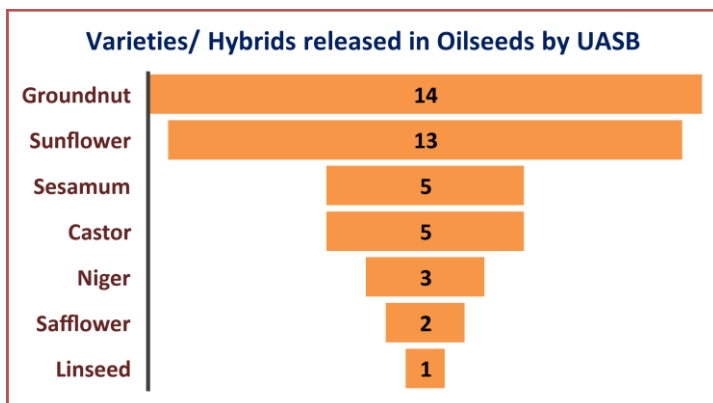


**Fig-5: High Yielding Varieties/ Hybrids of Oilseed crops released by UAS, Bangalore (1965 – 2025)**

## E1. Groundnut

India has the largest area under groundnut cultivation (5.42 mha) and second largest producer (10.2 mt) in the world. Karnataka ranks first in terms of area under cultivation. In Karnataka, the productivity levels of groundnut crop are low as the crop is largely grown under rainfed conditions, which accounts for 83 per cent of the total area. The remaining 17 per cent of the area is cultivated mostly in post rainy (rabi /summer) season with irrigation or residual soil moisture. The UASB has formulated research programmes that could enhance the productivity and has released 14 (Table–16) high yielding varieties suitable for varied conditions.

**Table–16: List of high yielding Groundnut varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety                       | Year of release |
|---------|-------------------------------|-----------------|
| 1       | GKVK–27                       | 2020            |
| 2       | GKVK–5                        | 2015            |
| 3       | KCG–6                         | 2014            |
| 4       | ICGV–91114*                   | 2013            |
| 5       | Chintamani–2 (KCG–2)          | 2010            |
| 6       | GPBD–4                        | 2005            |
| 7       | K–134                         | 1999            |
| 8       | VRI–2                         | 1999            |
| 9       | JL–4(Bharathi)                | 1985            |
| 10      | Dh–8                          | 1984            |
| 11      | KRG–1(MGS–9)                  | 1981            |
| 12      | DH–3–30                       | 1978            |
| 13      | R.S–206 (Raichur Gejje Senga) | 1969            |
| 14      | S–230 (Raichur Habbu Senga)   | 1969            |

### E1.1 GKVK-27

|    |                  |                                                                                                                                                                                                                                          |
|----|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Groundnut                                                                                                                                                                                                                                |
| 2  | Variety          | GKVK-27                                                                                                                                                                                                                                  |
| 3  | Pedigree         | GKVK8b x KCG-2                                                                                                                                                                                                                           |
| 4  | Year of Release  | 2020                                                                                                                                                                                                                                     |
| 5  | IC Number        | IC 628566                                                                                                                                                                                                                                |
| 6  | Duration         | 110 – 115 days                                                                                                                                                                                                                           |
| 7  | Pod yield        | Irrigated: 11 – 12.5 q/acre<br>Rainfed: 8 – 10 q/acre                                                                                                                                                                                    |
| 8  | Special features | <ul style="list-style-type: none"> <li>➤ Suitable for both <i>Kharif</i> (June–July) &amp; Summer (Dec–Jan) season</li> <li>➤ Higher water use efficiency</li> <li>➤ Moderately resistant to Rust and Late leaf spot diseases</li> </ul> |
| 9  | Developed centre | ZARS, GKVK                                                                                                                                                                                                                               |
| 10 | Recommended zone | Zone – 5                                                                                                                                                                                                                                 |



## E1.2 GKVK-5

|    |                      |                                                                                                                                                                                     |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Groundnut                                                                                                                                                                           |
| 2  | Variety              | GKVK-5                                                                                                                                                                              |
| 3  | Pedigree             | NRCG 11915 x NRCG 12326                                                                                                                                                             |
| 4  | Year of Release      | 2015                                                                                                                                                                                |
| 5  | Gazette Notification | SO. 3540 (E) dated 22.11.2016                                                                                                                                                       |
| 6  | IC Number            | IC 613988                                                                                                                                                                           |
| 7  | Duration             | 110 – 120 days                                                                                                                                                                      |
| 8  | Pod yield            | Irrigated: 11 – 12 q/acre; Rainfed: 8 – 10 q/acre                                                                                                                                   |
| 9  | Oil yield            | 3.8 – 4 q/acre                                                                                                                                                                      |
| 10 | Special features     | <ul style="list-style-type: none"> <li>➤ Drought tolerant</li> <li>➤ Erect and semi spreading plants</li> <li>➤ Moderately resistant to rust and late leaf spot diseases</li> </ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                                                                                                          |
| 12 | Recommended zone     | Zone – 4 & 5                                                                                                                                                                        |



### E1.3 Chintamani –6 (KCG–6)

|    |                      |                                                                                                                                                                                                                                       |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Groundnut                                                                                                                                                                                                                             |
| 2  | Variety              | Chintamani –6 (KCG–6)                                                                                                                                                                                                                 |
| 3  | Pedigree             | ICGV 95172 x ICGV 96234                                                                                                                                                                                                               |
| 4  | Year of Release      | 2014                                                                                                                                                                                                                                  |
| 5  | Gazette Notification | SO. 3540(E) dated 22.11.2016                                                                                                                                                                                                          |
| 6  | Duration             | 110 – 120 days                                                                                                                                                                                                                        |
| 7  | Yield                | Pod :10 – 12 q/acre; Oil yield: 3 – 4 q/acre                                                                                                                                                                                          |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i> and Summer season</li> <li>➤ Spanish bunch variety</li> <li>➤ High shelling (70–78%)</li> <li>➤ Tolerant to late leaf spot</li> <li>➤ Tolerant to rust</li> </ul> |
| 9  | Developed centre     | ARS, Chintamani                                                                                                                                                                                                                       |
| 10 | Recommended zone     | Zone – 4 & 5                                                                                                                                                                                                                          |



#### E1.4 ICGV–91114\*

|   |                      |                                                                                                                                                                          |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety              | ICGV–91114*                                                                                                                                                              |
| 2 | Pedigree             | ICGV 86055 x ICGV 86533                                                                                                                                                  |
| 3 | Year of Release      | 2013                                                                                                                                                                     |
| 4 | Gazette Notification | SO. 1178(E) dated 20.07.2007                                                                                                                                             |
| 5 | Duration             | 95 – 100 days                                                                                                                                                            |
| 6 | Pod yield            | 8 – 10 q/acre                                                                                                                                                            |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Short duration variety of ICRISAT</li><li>➤ Suitable for both Summer and <i>Kharif</i></li><li>➤ Spanish bunch variety</li></ul> |
| 8 | Developed centre     | ARS, Chintamani                                                                                                                                                          |
| 9 | Recommended zone     | Zone – 4 & 5                                                                                                                                                             |

#### E1.5 Chintamani–2 (KCG–2)

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                    |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety          | Chintamani–2 (KCG–2)                                                                                                                                                                                                                                                                                                                                                               |
| 2 | Pedigree         | ICGV 93222 x ICGV 922267                                                                                                                                                                                                                                                                                                                                                           |
| 3 | Year of Release  | 2010                                                                                                                                                                                                                                                                                                                                                                               |
| 4 | Duration         | 110 – 115 days                                                                                                                                                                                                                                                                                                                                                                     |
| 5 | Pod yield        | 9 – 9.3 q/acre                                                                                                                                                                                                                                                                                                                                                                     |
| 6 | Oil content      | 44–46 %                                                                                                                                                                                                                                                                                                                                                                            |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Well suited for both <i>Kharif</i> and Summer season</li><li>➤ Attractive, medium and bold grains</li><li>➤ Cattle relish the haulms as they remain green without much leaf drop even at harvest</li><li>➤ Moderately tolerant to major diseases like leaf spot, rust &amp; peanut stem necrosis &amp; for pests like leaf miner</li></ul> |
| 8 | Developed centre | ARS, Chintamani                                                                                                                                                                                                                                                                                                                                                                    |
| 9 | Recommended zone | Zone – 4 & 5                                                                                                                                                                                                                                                                                                                                                                       |

### E1.6 GPBD-4

|   |                      |                                                      |
|---|----------------------|------------------------------------------------------|
| 1 | Crop                 | Groundnut                                            |
| 2 | Variety              | GPBD-4*                                              |
| 3 | Year of Release      | 2005                                                 |
| 4 | Gazette Notification | SO. 642 (E) dated 31.05.2004                         |
| 5 | Duration             | 105 – 110 days                                       |
| 6 | Pod yield            | 6 – 8 q/acre                                         |
| 7 | Special features     | ➤ Resistant to leaf spot<br>➤ Resistant to leaf rust |
| 8 | Developed centre     | ARS, Chintamani                                      |
| 9 | Recommended zone     | Zone – 4, 5 & 8                                      |

### E1.7 VRI-2

|    |                      |                                                                        |
|----|----------------------|------------------------------------------------------------------------|
| 1  | Crop                 | Groundnut                                                              |
| 2  | Variety              | VRI-2                                                                  |
| 3  | IC Number            | IC 305031                                                              |
| 4  | Year of Release      | 1999                                                                   |
| 5  | Gazette Notification | SO. 915 (E) dated 06.11.1989                                           |
| 6  | Duration             | 100 – 110 days                                                         |
| 7  | Pod yield            | 6 – 8 q/acre                                                           |
| 8  | Oil content          | 45.3%                                                                  |
| 9  | Special features     | ➤ Suitable for both <i>Kharif</i> and Summer under irrigated condition |
| 10 | Developed centre     | ARS, Chintamani                                                        |
| 11 | Recommended zone     | Zone – 4, 5 & 6                                                        |

### E1.8 K-134 (Vemana)

|    |                      |                            |
|----|----------------------|----------------------------|
| 1  | Crop                 | Groundnut                  |
| 2  | Variety              | K-134 (Vemana)             |
| 3  | IC Number            | IC 304791                  |
| 4  | Year of Release      | 1999                       |
| 5  | Gazette Notification | SO. 1 (E) dated 01.01.1996 |
| 6  | Duration             | 95 – 105 days              |
| 7  | Pod yield            | 8 – 9 q/acre               |
| 8  | Special features     | ➤ Oil content of 40–45 %   |
| 9  | Developed centre     | ARS, Chintamani            |
| 10 | Recommended zone     | Zone – 4, 5 & 6            |

### E1.9 Bharathi (JL-24)

|   |                  |                                           |
|---|------------------|-------------------------------------------|
| 1 | Crop             | Groundnut                                 |
| 2 | Variety          | Bharathi (JL-24)                          |
| 3 | Year of Release  | 1985                                      |
| 4 | Duration         | 95 – 100 days                             |
| 5 | Pod yield        | 9 – 11 q/acre                             |
| 6 | Special features | ➤ Short duration<br>➤ Bold pods and seeds |
| 7 | Recommended zone | All zones of Karnataka                    |

### E1.10 DH-8

|   |                  |                                                                                                                                                                                                                 |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Groundnut                                                                                                                                                                                                       |
| 2 | Variety          | DH-8                                                                                                                                                                                                            |
| 3 | IC Number        | IC 308029                                                                                                                                                                                                       |
| 4 | Year of Release  | 1984                                                                                                                                                                                                            |
| 5 | Duration         | 105 – 110 days                                                                                                                                                                                                  |
| 6 | Pod yield        | 8 –10 q/acre                                                                                                                                                                                                    |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Smooth and small pods with rose kernels</li><li>➤ Kernels are round at one end and sharp tapering at another end</li><li>➤ Tolerant to late leaf spot disease</li></ul> |
| 8 | Recommended zone | Transitional tract of Belgaum and Dharwad                                                                                                                                                                       |

### E1.11 KRG-1 (MGS-9)

|    |                      |                                                                                                                                                       |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Groundnut                                                                                                                                             |
| 2  | Variety              | KRG-1 (MGS-9)                                                                                                                                         |
| 3  | IC Number            | IC 296351                                                                                                                                             |
| 4  | Year of Release      | 1981                                                                                                                                                  |
| 5  | Gazette Notification | SO. No.449 (E) dated 08.07.1983                                                                                                                       |
| 6  | Duration             | 115 – 120 days                                                                                                                                        |
| 7  | Pod yield            | 8 – 9 q/acre                                                                                                                                          |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Bunchy type with bold and light rose seeds</li><li>➤ Purple pigment on main axis near collar region</li></ul> |
| 9  | Developed centre     | Raichur                                                                                                                                               |
| 10 | Recommended zone     | Zone – 1, 2 & 3                                                                                                                                       |

### E1.12 DH-3-30

|   |                      |                                           |
|---|----------------------|-------------------------------------------|
| 1 | Crop                 | Groundnut                                 |
| 2 | Variety              | DH-3-30                                   |
| 3 | IC Number            | IC 113078                                 |
| 4 | Year of Release      | 1978                                      |
| 5 | Gazette Notification | SO. 19 (E) dated 14.01.1982               |
| 6 | Pod yield            | 8 – 9 q/acre                              |
| 7 | Special features     | ➤ Bunchy type                             |
| 8 | Recommended zone     | Transitional tracts of Northern Karnataka |

### E1.13 R.S-206

|   |                      |                                          |
|---|----------------------|------------------------------------------|
| 1 | Crop                 | Groundnut                                |
| 2 | Variety              | R.S-206 (Raichur Gejje Senga)            |
| 3 | IC Number            | IC 305001                                |
| 4 | Year of Release      | 1969                                     |
| 5 | Gazette Notification | SO. 19 (E) dated 14.01.1982              |
| 6 | Duration             | 100 – 105 days                           |
| 7 | Special features     | ➤ Bunchy type and short duration variety |
| 8 | Recommended zone     | Rainfed condition for Raichur division   |

### E1.14 S-230

|   |                  |                                         |
|---|------------------|-----------------------------------------|
| 1 | Crop             | Groundnut                               |
| 2 | Variety          | S-230 (Spreading) (Raichur Habbu Senga) |
| 3 | IC Number        | IC 305032                               |
| 4 | Year of Release  | 1969                                    |
| 5 | Duration         | 130 – 135 days                          |
| 6 | Special features | ➤ Suitable for rainfed cultivation      |
| 7 | Recommended zone | Raichur division                        |

## E2. Sunflower

Karnataka being the largest producer of Sunflower, occupies first position with 29% of the total acreage and 27% of the total production of the country. Suddenly, during 1997–98 and 1998–99 the oilseed sector received a setback in its trends. During this period UASB has initiated Heterosis breeding involving CMS lines. As a result UASB pioneered in developing BSH–1, the first CMS based sunflower hybrid in the country. Three sunflower hybrids were released at national level and five hybrids at state level. List of Varieties/Hybrids released by UASB are tabulated in Table–17 and detailed below;

**Table–17: List of high yielding Sunflower varieties/ hybrids released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety    | Year of release |
|---------|------------|-----------------|
| 1       | KBSH–88    | 2025            |
| 2       | KBSH–90    | 2024            |
| 3       | KBSH–85    | 2023            |
| 4       | KBSH–78    | 2018            |
| 5       | KBSH–53    | 2008            |
| 6       | KBSH–44    | 2002            |
| 7       | KBSH–41    | 2000            |
| 8       | KBSH–42    | 2000            |
| 9       | KBSH–1     | 1987            |
| 10      | EC–68415   | 1984            |
| 11      | BSH–1      | 1980            |
| 12      | Morden     | 1979            |
| 13      | EC – 68414 | 1972            |

## E2.1 KBSH-88

|    |                      |                                                                                                                 |           |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------|-----------|
| 1  | Crop                 | Sunflower                                                                                                       |           |
| 2  | Hybrid               | KBSH-88                                                                                                         |           |
| 3  | Pedigree             | CMS-1103A x GKVK-763                                                                                            |           |
| 4  | IC Number            | IC 649390                                                                                                       |           |
| 5  | Year of Release      | 2025                                                                                                            |           |
| 6  | Gazette Notification | SO. 2128 (E) dated 13.05.2025                                                                                   |           |
| 7  | Duration             | 84 – 86 days                                                                                                    |           |
| 8  | Yield                | Irrigated                                                                                                       | Rainfed   |
|    | Seed (q/acre)        | 9 – 9.5                                                                                                         | 6 – 7     |
|    | Oil (q/acre)         | 3.5 – 4                                                                                                         | 2.5 – 2.8 |
| 9  | Oil Content          | 38-40 %                                                                                                         |           |
| 10 | Special Features     | <ul style="list-style-type: none"> <li>➤ Short duration</li> <li>➤ Resistant to downy mildew disease</li> </ul> |           |
| 11 | Quality Parameters   | Oleic acid: 59 %; Linoleic acid: 33 %<br>Palmitic acid: 5 % ; Stearic acid: 2 %                                 |           |
| 12 | Developed Centre     | AICRP (Sunflower), GKVK                                                                                         |           |
| 13 | Recommended Zones    | Zone – 5 & 6                                                                                                    |           |



## E2.2 KBSH-90

|    |                      |                                                                                                     |
|----|----------------------|-----------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                                                           |
| 2  | Hybrid               | KBSH-90                                                                                             |
| 3  | Pedigree             | CMS-207 A X GKVK-763                                                                                |
| 4  | IC Number            | IC 651414                                                                                           |
| 5  | Year of Release      | 2024                                                                                                |
| 6  | Gazette Notification | SO. 2128 (E)/ 13.05.2025                                                                            |
| 7  | Duration             | 80 – 82 days                                                                                        |
| 8  | Seed Yield           | 9.6 – 10 q/acre                                                                                     |
| 9  | Oil Yield            | 3.6 – 3.8 q/acre                                                                                    |
| 10 | Special Features     | <ul style="list-style-type: none"> <li>➤ Medium height</li> <li>➤ Sturdy duration hybrid</li> </ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                          |
| 12 | Recommended Zone     | Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Tamilnadu and Telangana                            |



### E2.3 KBSH-85

|    |                      |                                                                                                                                                    |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                                                                                                          |
| 2  | Hybrid               | KBSH-85                                                                                                                                            |
| 3  | Pedigree             | COS-903 A X GKVK-756                                                                                                                               |
| 4  | IC Number            | IC 644835                                                                                                                                          |
| 5  | Year of Release      | 2023                                                                                                                                               |
| 6  | Gazette Notification | SO. 4065 (E) dated 31.08.2022                                                                                                                      |
| 7  | Duration             | 88 – 90 days                                                                                                                                       |
| 8  | Seed Yield           | Irrigated: 10 – 12 q/acre; Rainfed: 7 – 8 q/acre                                                                                                   |
| 9  | Oil Yield            | 4 – 4.5 q/acre                                                                                                                                     |
| 10 | Special Features     | <ul style="list-style-type: none"><li>➤ Medium height and</li><li>➤ Sturdy stem plant type category.</li><li>➤ Resistant to downy mildew</li></ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                                                                         |
| 12 | Recommended Zone     | Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Tamilnadu and Telangana                                                                           |



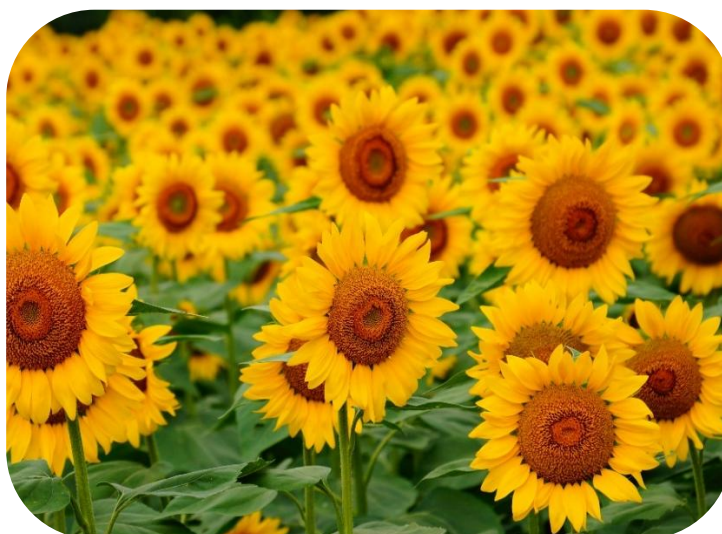
## E2.4 KBSH-78

|    |                      |                                                                                                                                                    |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                                                                                                          |
| 2  | Variety              | KBSH-78                                                                                                                                            |
| 3  | Pedigree             | CMS 1103A x RHA 92                                                                                                                                 |
| 4  | Gazette Notification | SO. 3482 (E) dated 07.10.2020                                                                                                                      |
| 5  | IC Number            | IC 627748                                                                                                                                          |
| 6  | Year of Release      | 2018                                                                                                                                               |
| 7  | Duration             | 80 – 85 days                                                                                                                                       |
| 8  | Seed Yield           | Irrigated: 8 – 9 q/acre; Rainfed: 5 – 6 q/acre                                                                                                     |
| 9  | Oil content          | 39 – 41 %                                                                                                                                          |
| 10 | Oil yield            | 3.5 – 4 q/acre                                                                                                                                     |
| 11 | Special features     | <ul style="list-style-type: none"><li>➤ Early duration by 10-15 days</li><li>➤ Medium height</li><li>➤ Sturdy stem with erect plant type</li></ul> |
| 12 | Developed centre     | ZARS, GKVK                                                                                                                                         |
| 13 | Recommended zone     | Zone – 4, 5, 6 & 7                                                                                                                                 |



## E2.5 KBSH-53

|    |                      |                                                                                                                 |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                                                                       |
| 2  | Variety              | KBSH-53                                                                                                         |
| 3  | Pedigree             | CMS 335A x RHA 95 C-1                                                                                           |
| 4  | Year of Release      | 2008                                                                                                            |
| 5  | Gazette Notification | SO. 2187 (E) dated 21.08.2009                                                                                   |
| 6  | IC Number            | IC 561254                                                                                                       |
| 7  | Duration             | 95 – 100 days                                                                                                   |
| 8  | Seed Yield           | Irrigated: 8 – 10 q/acre; Rainfed: 5 – 6 q/acre                                                                 |
| 9  | Oil content          | 42 – 44%                                                                                                        |
| 10 | Oil yield            | 4 – 4.5 q/acre                                                                                                  |
| 11 | Special features     | <ul style="list-style-type: none"><li>➤ High oil content</li><li>➤ Tolerant to powdery mildew disease</li></ul> |
| 12 | Developed centre     | ZARS, GKVK                                                                                                      |
| 13 | Recommended zone     | All Sunflower growing states                                                                                    |



## E2.6 KBSH-44

|    |                      |                                                   |
|----|----------------------|---------------------------------------------------|
| 1  | Crop                 | Sunflower                                         |
| 2  | Variety              | KBSH-44                                           |
| 3  | Pedigree             | CMS 17A x RHA 95 C-1                              |
| 4  | Year of Release      | 2002                                              |
| 5  | Gazette Notification | SO. 100 (E) dated 28.01.2003                      |
| 6  | IC Number            | IC 296304                                         |
| 7  | Duration             | 95 – 100 days                                     |
| 8  | Seed Yield           | Irrigated: 8 – 10 q/acre<br>Rainfed: 6 – 7 q/acre |
| 9  | Oil content          | 36 – 38%                                          |
| 10 | Oil yield            | 3 – 4 q/acre                                      |
| 11 | Special features     | ➤ Tolerant to downy mildew and rust diseases      |
| 12 | Developed centre     | ZARS, GKVK                                        |
| 13 | Recommended zone     | All sunflower growing states                      |



## E2.7 KBSH-42

|    |                      |                                                  |
|----|----------------------|--------------------------------------------------|
| 1  | Crop                 | Sunflower                                        |
| 2  | Variety              | KBSH-42                                          |
| 3  | Pedigree             | CMS 851A x RHA 95 C-1                            |
| 4  | Year of Release      | 2000                                             |
| 5  | Gazette Notification | SO. 122 (E) dated 02.02.2005                     |
| 6  | IC Number            | IC 400221                                        |
| 7  | Duration             | 90 – 92 days                                     |
| 8  | Seed Yield           | Irrigated: 7 – 9 q/acre<br>Rainfed: 5 – 6 q/acre |
| 9  | Oil content          | 39 – 41%                                         |
| 10 | Oil yield            | 3.6 – 4 q/acre                                   |
| 11 | Special features     | ➤ Tolerant to downy mildew                       |
| 12 | Developed centre     | ZARS, GKVK                                       |
| 13 | Recommended zone     | Zone – 4, 5, 6 & 7                               |



## E2.8 KBSH-41

|    |                      |                                                                 |
|----|----------------------|-----------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                       |
| 2  | Variety              | KBSH-41                                                         |
| 3  | Pedigree             | CMS 234A x RHA 95 C-1                                           |
| 4  | Year of Release      | 2000                                                            |
| 5  | Gazette Notification | SO. 122 (E) dated 02.02.2005                                    |
| 6  | IC Number            | IC 400220                                                       |
| 7  | Duration             | 90 – 100 days                                                   |
| 8  | Seed Yield           | Irrigated: 8 – 10 q/acre<br>Rainfed: 5 – 6 q/acre               |
| 9  | Oil content          | 38 – 42 %                                                       |
| 10 | Oil yield            | 3.5 – 4 q/acre                                                  |
| 11 | Special features     | ➤ Tolerant to downy mildew, <i>Alternaria</i> and rust diseases |
| 12 | Developed centre     | ZARS, GKVK                                                      |
| 13 | Recommended zone     | Zone – 4, 5, 6 & 7                                              |



## E2.9 KBSH-1

|    |                      |                                                                                                                                                              |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                                                                                                                    |
| 2  | Variety              | KBSH-1                                                                                                                                                       |
| 3  | Pedigree             | CMS 234A x RHA 6 D-1                                                                                                                                         |
| 4  | Year of Release      | 1987                                                                                                                                                         |
| 5  | Gazette Notification | SO.814 (E) dated 4.11.1992                                                                                                                                   |
| 6  | IC Number            | IC 586589                                                                                                                                                    |
| 7  | Duration             | 90 – 100 days                                                                                                                                                |
| 8  | Yield                | Seed: 6 – 8 q/acre; Oil: 2.6–3.3 q/acre                                                                                                                      |
| 9  | Oil content:         | 42 – 44 %                                                                                                                                                    |
| 10 | Special features     | <ul style="list-style-type: none"><li>➤ Suitable for rainfed and irrigated tracts</li><li>➤ Moderately resistant to rust and other foliar diseases</li></ul> |
| 11 | Developed centre     | ZARS, GKVK                                                                                                                                                   |
| 12 | Recommended zone     | Zone – 4, 5, 6 & 7 of Karnataka and all sunflower growing states                                                                                             |



### E2.10 EC–68415

|    |                      |                                           |
|----|----------------------|-------------------------------------------|
| 1  | Crop                 | Sunflower                                 |
| 2  | Variety              | EC–68415                                  |
| 3  | Year of Release      | 1984                                      |
| 4  | Gazette Notification | SO. No 2103 (E) dated 12.08.1980          |
| 5  | Duration             | 110–115 days                              |
| 6  | Yield                | Seed: 3 – 4 q/acre; Oil: 1.5 – 1.7 q/acre |
| 7  | Oil content          | 38 – 40 %                                 |
| 8  | Special features     | ➤ Late and tall variety                   |
| 9  | Developed centre     | ZARS, GKVK                                |
| 10 | Recommended zone     | Zone – 1, 2, 3, 4, 5, 6, 7 & 8            |

### E2.11 BSH–1

|    |                      |                                                                                                                                          |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                                                                                                |
| 2  | Variety              | BSH–1                                                                                                                                    |
| 3  | Pedigree             | CMS 234A x RHA 274                                                                                                                       |
| 4  | Year of Release      | 1980                                                                                                                                     |
| 5  | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                              |
| 6  | Duration             | 85 – 90 days                                                                                                                             |
| 7  | Yield                | Seed: 4 – 6 q/acre; Oil: 1.5 – 2.5 q/acre                                                                                                |
| 8  | Oil content          | 38–39 %                                                                                                                                  |
| 9  | Special features     | ➤ High yielding and Uniform in maturity<br>➤ More tolerant to drought and diseases<br>➤ Suited for both dryland and irrigated conditions |
| 10 | Developed centre     | RRS, GKVK                                                                                                                                |
| 11 | Recommended zone     | Zone – 4, 5, 6 & 7 of Karnataka and all sunflower growing states                                                                         |

### E2.12 Morden

|    |                      |                                                                  |
|----|----------------------|------------------------------------------------------------------|
| 1  | Crop                 | Sunflower                                                        |
| 2  | Variety              | Morden                                                           |
| 3  | Year of Release      | 1979                                                             |
| 4  | Gazette Notification | SO. 19 (E) dated 14.01.1982                                      |
| 5  | Duration             | 75–80 days                                                       |
| 6  | Yield                | Seed: 3 – 4 q/acre; Oil: 1 – 1.5 q/acre                          |
| 7  | Oil content          | 34 – 38 %                                                        |
| 8  | Special features     | ➤ Early duration and dwarf type<br>➤ Suitable for Inter cropping |
| 9  | Developed centre     | RRS, GKVK                                                        |
| 10 | Recommended zone     | Zone – 4, 5, 6 & 7 of Karnataka and all sunflower growing states |

### E2.13 EC – 68414

|    |                      |                                                    |
|----|----------------------|----------------------------------------------------|
| 1  | Crop                 | Sunflower                                          |
| 2  | Variety              | EC – 68414                                         |
| 3  | Pedigree             | Varietal population                                |
| 4  | Gazette Notification | SO. No 2103 (E) dated 12.08.1980                   |
| 5  | Year of Release      | 1972                                               |
| 6  | Duration             | 95 – 100 days                                      |
| 7  | Seed Yield           | Irrigated: 3.5 – 4 q/acre; Rainfed: 2.5 – 3 q/acre |
| 8  | Oil content          | 35–36 %                                            |
| 9  | Oil Yield            | 100 – 15 q/acre                                    |
| 10 | Special features     | ➤ Medium plant height with good head size          |
| 11 | Developed Centre     | ZARS GKVK                                          |
| 12 | Recommended zone     | All Sunflower growing areas in India               |

### E3. Sesamum

India ranks first in world with 19.47 Lakh ha area and 8.66 Lakh tonns production. The average yield of sesame (413 kg/ha) in India is low as compared with other countries in the world (535 kg / ha).

Sesamum is the secondary source of oilseeds in Karnataka. It is one of the important rainfed oilseed crop. It is mainly grown in Kharif and late Kharif. The average yield of sesame in Karnataka is low as compared with other states. The main reasons for low productivity of sesame are its rainfed cultivation in marginal and sub marginal lands under poor management and input starved conditions. However, improved varieties and agro production technologies capable of increasing the productivity levels (1200 - 1500 kg/ha under irrigated and 800 - 1000 kg/ha under rainfed conditions) of sesame are now developed for different agro ecological conditions. List (Table–18) and details of sesamum varieties released by UASB is presented below:

**Table–18: List of high yielding Sesamum varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety     | Year of release |
|---------|-------------|-----------------|
| 1       | GKVKS–1     | 2022            |
| 2       | GT–1*       | 2012            |
| 3       | T–7         | 1996            |
| 4       | Navile–1    | 1990            |
| 5       | E–8 (KDS–1) | 1983            |

### E3.1 GKVKS-1

|    |                      |                                                                                                                                                                                                                               |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sesamum                                                                                                                                                                                                                       |
| 2  | Variety              | GKVKS-1                                                                                                                                                                                                                       |
| 3  | Pedigree             | MT-10-8-1 x GT-1                                                                                                                                                                                                              |
| 4  | IC Number            | IC 643837                                                                                                                                                                                                                     |
| 5  | Year of Release      | 2022                                                                                                                                                                                                                          |
| 6  | Gazette Notification | SO. 4388(E) / 08.10.2024                                                                                                                                                                                                      |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                                  |
| 8  | Grain Yield          | 1.8 – 2 q/acre                                                                                                                                                                                                                |
| 9  | Oil Yield            | 90 – 95 kg/acre                                                                                                                                                                                                               |
| 10 | Special Features     | <ul style="list-style-type: none"><li>➤ Short duration variety</li><li>➤ More number of branches and filled pods</li><li>➤ Leaves stays green even at harvest</li><li>➤ White seeds with 47–48 per cent oil content</li></ul> |
| 11 | Developed Centre     | ZARS, GKVK                                                                                                                                                                                                                    |
| 12 | Recommended Zone     | Zone – 5                                                                                                                                                                                                                      |



### E3.2 GT-1\*

|    |                      |                                                                                                                                                                                                                |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sesamum                                                                                                                                                                                                        |
| 2  | Variety              | GT-1*                                                                                                                                                                                                          |
| 3  | Pedigree             | Pure line selection from MT-67-52                                                                                                                                                                              |
| 4  | Year of Release      | 2012                                                                                                                                                                                                           |
| 5  | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                                    |
| 6  | Duration             | 85 – 90 days                                                                                                                                                                                                   |
| 7  | Seed yield           | 2 – 2.5 q/acre                                                                                                                                                                                                 |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Branched type with smooth green stem</li> <li>➤ White seeded</li> <li>➤ Moderately resistant to powdery mildew</li> <li>➤ Moderately resistant to phyllody</li> </ul> |
| 9  | Developed centre     | ZARS, GKVK                                                                                                                                                                                                     |
| 10 | Recommended zone     | Zone – 4, 5 & 6                                                                                                                                                                                                |



### E3.3 T-7

|   |                  |                                                        |
|---|------------------|--------------------------------------------------------|
| 1 | Crop             | Sesamum                                                |
| 2 | Variety          | T-7                                                    |
| 3 | Year of Release  | 1996                                                   |
| 4 | Duration         | 90 – 95 days                                           |
| 5 | Seed yield       | 1.8 – 2 q/acre                                         |
| 6 | Special features | ➤ Tolerant to Phyllody<br>➤ Tolerant to powdery mildew |
| 7 | Developed centre | ZARS, Navile                                           |
| 8 | Recommended zone | Zone – 4, 5, 6 & 10                                    |

### E3.4 Tunga (Navile-1)

|   |                  |                                                                                         |
|---|------------------|-----------------------------------------------------------------------------------------|
| 1 | Crop             | Sesamum                                                                                 |
| 2 | Variety          | Tunga (Navile-1)                                                                        |
| 3 | Year of Release  | 1990                                                                                    |
| 4 | Duration         | 90 – 105 days                                                                           |
| 5 | Seed yield       | 1.8 – 2 q/acre                                                                          |
| 6 | Special features | ➤ Less shattering<br>➤ Tolerant to Alternaria leaf spot<br>➤ Tolerant to Powdery mildew |
| 7 | Developed centre | ZARS, Navile                                                                            |
| 8 | Recommended zone | Zone – 7, except HDkote, Hunsur & Piriypattana taluks                                   |

### E3.5 E-8 (KDS-1)

|   |                  |                                                                                                                                                                                                                 |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Sesamum                                                                                                                                                                                                         |
| 2 | Variety          | E-8 (KDS-1)                                                                                                                                                                                                     |
| 3 | Year of Release  | 1983                                                                                                                                                                                                            |
| 4 | Duration         | 95 – 100 days                                                                                                                                                                                                   |
| 5 | Seed yield       | 1.2 –1.3 q/acre                                                                                                                                                                                                 |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Intermediate growth habit</li><li>➤ Medium branching</li><li>➤ Moderately resistant to powdery mildew</li><li>➤ Moderately resistant to bacterial leaf blight</li></ul> |

## E4. Castor

India ranks first in the world with respect to area and production but has low productivity. In spite of its non-edible nature castor has assumed a prime position in the country, which itself signifies the importance of castor in domestic and global market.

Status report of Directorate of Economics and Statistics, Government of Karnataka 2017-18 states that, Karnataka has an immense potentiality of castor especially in the agro-ecosystems which are often threatened by the vagaries of monsoon. In traditional tracts, castor is the inevitable option in cropping system because of lower rainfall, poor soil fertility and less soil depth. University has developed hybrids and sustainable crop management technologies that enhances the productivity. Details of the four hybrids and one variety released by UASB are presented below in Table–19.

**Table–19: List of high yielding Castor varieties/ hybrids released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety           | Year of release |
|---------|-------------------|-----------------|
| 1       | BCH–162 Hybrid)   | 2024            |
| 2       | ICH–66* (Hybrid)  | 2022            |
| 3       | DCH–177 (Hybrid)* | 2011            |
| 4       | Jyothi (DCS–9)    | 2005            |
| 5       | DCH–32 (Hybrid)   | 2005            |

## E4.1 BCH-162

|   |                  |                                                                                                                                                                                                                                                                                                                                              |           |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1 | Crop             | Castor                                                                                                                                                                                                                                                                                                                                       |           |
| 2 | Variety          | BCH-162                                                                                                                                                                                                                                                                                                                                      |           |
| 3 | Pedigree         | DPC-22 x ICS-253                                                                                                                                                                                                                                                                                                                             |           |
| 4 | Year of Release  | 2025                                                                                                                                                                                                                                                                                                                                         |           |
| 5 | Duration         | 95 – 100 days (Primary spike maturity)                                                                                                                                                                                                                                                                                                       |           |
| 6 | Yield            | Irrigated                                                                                                                                                                                                                                                                                                                                    | Rainfed   |
|   | Seed (q/acre)    | 8 – 10                                                                                                                                                                                                                                                                                                                                       | 6 – 8     |
|   | Oil (q/acre)     | 3.5 – 4.5                                                                                                                                                                                                                                                                                                                                    | 2.5 – 3.5 |
| 7 | Special Features | <ul style="list-style-type: none"> <li>➤ Non-shattering, medium duration hybrid</li> <li>➤ Green stem with dense spines on capsules</li> <li>➤ Double bloom (waxy coating) on the stem and lower leaves</li> <li>➤ More number of effective spikes and less male flowers on all order spikes contributes to superior productivity</li> </ul> |           |
| 8 | Developed Centre | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                   |           |
| 9 | Recommended Zone | Zone – 5                                                                                                                                                                                                                                                                                                                                     |           |



## E4.2 ICH–66\*

|    |                      |                                                                                                                                                                                                                                                                                                                                                                     |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Castor                                                                                                                                                                                                                                                                                                                                                              |
| 2  | Variety              | ICH–66*                                                                                                                                                                                                                                                                                                                                                             |
| 3  | Pedigree             | SKP–84 x ICS–164                                                                                                                                                                                                                                                                                                                                                    |
| 4  | IC Number            | IC 627759                                                                                                                                                                                                                                                                                                                                                           |
| 5  | Year of Release      | 2022                                                                                                                                                                                                                                                                                                                                                                |
| 6  | Gazette Notification | SO. 3220 (E) dated 05.09.2019                                                                                                                                                                                                                                                                                                                                       |
| 7  | Duration             | 95 – 98 days (Primary Spike Maturity)                                                                                                                                                                                                                                                                                                                               |
| 8  | Seed Yield           | 6 – 7 q/acre                                                                                                                                                                                                                                                                                                                                                        |
| 9  | Special Features     | <ul style="list-style-type: none"> <li>➤ Red colored stem and semi–spiny capsules</li> <li>➤ Triple bloom group (waxy coat is present on stem, lower and upper side of the leaves)</li> <li>➤ Suitable for <i>Kharif</i> (June– July) season under both rainfed and irrigated ecosystems</li> <li>➤ Wilt resistant and green leaf hopper tolerant hybrid</li> </ul> |
| 10 | Proposed Centre      | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                                          |
| 11 | Recommended Zone     | Zone – 4, 5 & 6                                                                                                                                                                                                                                                                                                                                                     |

\* Endorsement



#### E4.3 DCH-177 (Hybrid)\*

|    |                      |                                                                                                                                                        |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Castor                                                                                                                                                 |
| 2  | Variety              | DCH-177 (Hybrid)*                                                                                                                                      |
| 3  | Pedigree             | DPC-9 x DCS-9                                                                                                                                          |
| 4  | Year of Release      | 2011                                                                                                                                                   |
| 5  | Gazette Notification | SO. 821 (E) dated 13.09.2000                                                                                                                           |
| 6  | Duration             | 90 – 100 days                                                                                                                                          |
| 7  | Seed yield           | 6 – 7 q/acre                                                                                                                                           |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Non-lodging and non-shattering</li><li>➤ Resistant to fusarium wilt</li><li>➤ Resistant to white fly</li></ul> |
| 9  | Developed centre     | ARS, Hiriya                                                                                                                                            |
| 10 | Recommended zone     | Zone – 4 & 5                                                                                                                                           |

#### E4.4 Jyothi (DCS-9)

|   |                      |                                                                     |
|---|----------------------|---------------------------------------------------------------------|
| 1 | Crop                 | Castor                                                              |
| 2 | Variety              | Jyothi (DCS-9)                                                      |
| 3 | Year of Release      | 2005                                                                |
| 4 | Gazette Notification | SO. 408 (E) dated 04.05.1995                                        |
| 5 | Duration             | 90 – 100 days (First harvest)                                       |
| 6 | Seed yield           | 4 – 5 q/acre                                                        |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Resistant to Wilt</li></ul> |
| 8 | Developed centre     | ARS, Hiriya                                                         |
| 9 | Recommended zone     | Zone – 4 & 5                                                        |



**DCH-177 (Hybrid)\***



**Jyothi (DCS-9)**

#### E4.5 DCH-32 (Hybrid)

|   |                      |                               |
|---|----------------------|-------------------------------|
| 1 | Crop                 | Castor                        |
| 2 | Variety              | DCH-32 (Hybrid)               |
| 3 | Year of Release      | 2005                          |
| 4 | Gazette Notification | SO. 401(E) dated 15.05.1998   |
| 5 | Duration             | 160 – 180 days                |
| 6 | Seed yield           | 8 – 9 q/acre                  |
| 7 | Special features     | ➤ Hybrid with 48% oil content |
| 8 | Developed centre     | ARS, Hiriyr                   |
| 9 | Recommended zone     | Zone – 4 & 5                  |

## E5. Niger

### E5.1 KBN-2

|    |                      |                                                                                                                                                                                                                            |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Niger                                                                                                                                                                                                                      |
| 2  | Variety              | KBN-2                                                                                                                                                                                                                      |
| 3  | Pedigree             | Selection from IGPN – 2004-1                                                                                                                                                                                               |
| 4  | IC Number            | IC 643838                                                                                                                                                                                                                  |
| 5  | Year of Release      | 2022                                                                                                                                                                                                                       |
| 6  | Gazette Notification | SO. 4388 (E) dated 08.10.2024                                                                                                                                                                                              |
| 7  | Duration             | 80 – 85 days                                                                                                                                                                                                               |
| 8  | Grain Yield          | 1.9 – 2 q/acre                                                                                                                                                                                                             |
| 9  | Oil Yield            | 90 – 100 kg/acre                                                                                                                                                                                                           |
| 10 | Special Features     | <ul style="list-style-type: none"><li>➤ Short duration variety</li><li>➤ More number of branches and filled pods</li><li>➤ Bold black seeds with 47–48 per cent oil content</li><li>➤ Suitable for Intercropping</li></ul> |
| 11 | Developed Centre     | ZARS, GKVK                                                                                                                                                                                                                 |
| 12 | Recommended Zone     | Zone – 5                                                                                                                                                                                                                   |



### E5.2 KBN-1

|    |                      |                                              |
|----|----------------------|----------------------------------------------|
| 1  | Crop                 | Niger                                        |
| 2  | Variety              | KBN-1                                        |
| 3  | Pedigree             | Population improvement from Kanakapura local |
| 4  | IC Number            | IC 565448                                    |
| 5  | Year of Release      | 2006                                         |
| 6  | Gazette Notification | SO. 449 (E) dated 11.02.2009                 |
| 7  | Duration             | 90 – 95 days                                 |
| 8  | Seed yield           | 1.6 – 2 q/acre                               |
| 9  | Developed centre     | ZARS, GKVK                                   |
| 10 | Recommended zone     | Zone – 5                                     |

### E5.3 No.71

|   |                  |                                                                       |
|---|------------------|-----------------------------------------------------------------------|
| 1 | Variety          | No.71                                                                 |
| 2 | Year of Release  | 1981                                                                  |
| 3 | Duration         | Southern Karnataka: 70 – 80 days<br>Northern Karnataka: 90 – 100 days |
| 4 | Seed yield       | 1.6 – 2 q/acre                                                        |
| 5 | Special features | ➤ Sturdy stem<br>➤ Suitable for less rainfall areas                   |
| 6 | Recommended zone | Zone – 1, 2, 3, 4 & 8                                                 |

## E6. Safflower

### E6.1 S-144

|   |                      |                                             |
|---|----------------------|---------------------------------------------|
| 1 | Crop                 | Safflower                                   |
| 2 | Variety              | S-144                                       |
| 3 | Year of Release      | 1977                                        |
| 4 | Gazette Notification | SO. 13(E) dated 19.12.1978                  |
| 5 | Duration             | 125 – 130 days                              |
| 6 | Seed yield           | 4 – 5 q/acre                                |
| 7 | Developed centre     | ARS, Annigere                               |
| 8 | Recommended zone     | Dry northern region of the State (Zone – 2) |

### E6.2 Annigere –1

|   |                  |                                           |
|---|------------------|-------------------------------------------|
| 1 | Crop             | Safflower                                 |
| 2 | Variety          | Annigere –1                               |
| 3 | Pedigree         | A-300 x A-482                             |
| 4 | Year of Release  | 1969                                      |
| 5 | Duration         | 115 – 120 days                            |
| 6 | Seed yield       | 3.5 – 4 q/acre                            |
| 7 | Special features | ➤ Drought tolerant<br>➤ Oil content: 30 % |
| 8 | Developed centre | ARS, Annigere                             |

## E7. Linseed

### E7.1 S-36

|   |                  |                                                         |
|---|------------------|---------------------------------------------------------|
| 1 | Crop             | Linseed                                                 |
| 2 | Variety          | S-36                                                    |
| 3 | Year of Release  | 1967                                                    |
| 4 | Special features | ➤ Introduced from Maharashtra<br>➤ Superior oil quality |
| 5 | Developed centre | RRS, Raichur                                            |
| 6 | Recommended zone | Raichur                                                 |

## VI. COMMERCIAL CROPS

Doubling farmer's real income is a goal established by the Honorable Prime Minister of India. Shift from traditional subsistence crops to high-value cash crops boosts economical status both at the macro level through exports and at farmers level by generating higher revenues. Cash crops growing farmers income rose in the range of 1.3-1.7 times, according to a report by State Bank of India. Higher prices for cash crops seem to have encouraged farmers in Karnataka to opt for commercial crops like sugarcane, cotton and tobacco. These crops are grown in food crops sequences in different agro-climatic conditions. Apart from growers, nearly, more than 10 lakh farm workers are depended on commercial crops.

UASB was the first to develop Inter-specific cotton hybrid. 80 per cent of the sugarcane area in Cauvery belt is under UASB varieties. University has contributed for the development of agrarian economy by releasing 34 High Yielding varieties/ Hybrids of Commercial crops as depicted in figure-6.

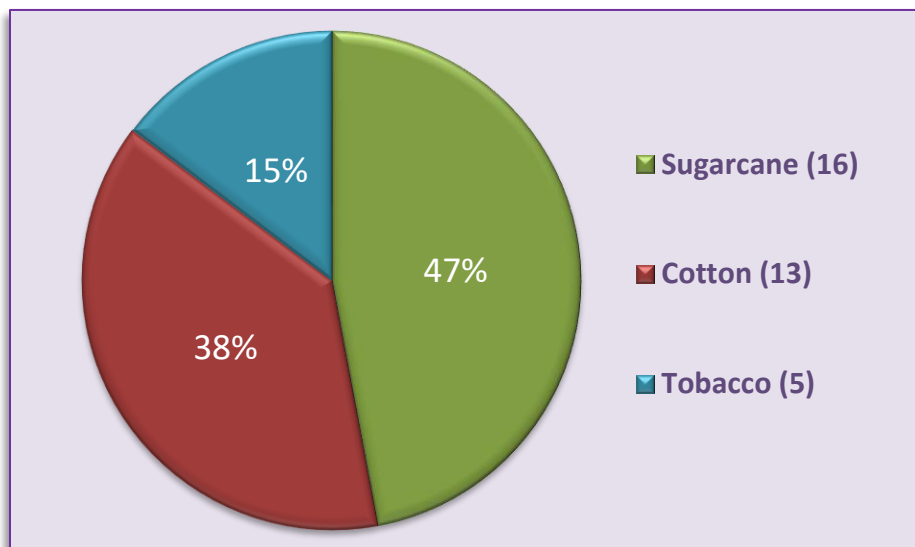


**Fig-6: High Yielding Varieties/ Hybrids of Commercial crops released by UAS, Bangalore (1965 – 2025)**

## F1. Sugarcane

In Karnataka, sugarcane occupied an area of 4.2 lakh hectares and ranks 4<sup>th</sup> in sugarcane production. It is the most important commercial and industrial crop of Karnataka. It requires irrigation facility so that it is grown in command areas of Karnataka.

Farmers prefer the varieties based on cane and sugar yield potential, non-lodging, non or shy flowering, ratoonability, tolerance to insect pests and disease. To meet the requirements of the both the farmers and industry, UASB has drafted its research programmes to develop varieties with different maturity periods so that proper and effective varietal scheduling can be practiced to ensure quality cane supply to the factories throughout the crushing period for their economic sustainability. List and details of High Yielding varieties released by UASB is presented in Table–20.

**Table–20: List of high yielding Sugarcane varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety       | Year of release | Sl. No. | Variety              | Year of release |
|---------|---------------|-----------------|---------|----------------------|-----------------|
| 1       | CoVC–18061    | 2021            | 9       | CO–7804              | 1990            |
| 2       | CoVC–16061    | 2019            | 10      | CO–7219 (Sanjeevini) | 1986            |
| 3       | CoVC–16062    | 2019            | 11      | B–37172              | 1977            |
| 4       | VCF-0517      | 2017            | 12      | CO–6415              | 1977            |
| 5       | CoVC-99463    | 2011            | 13      | KHS–2045             | 1975            |
| 6       | CoVC–2003–165 | 2008            | 14      | CO–62175             | 1975            |
| 7       | Co–86032      | 2003            | 15      | IC–225               | 1968            |
| 8       | Co 8371       | 1997            | 16      | Co–419               | 1956            |

### F1.1 CoVC – 18061

|    |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Variety              | CoVC – 18061                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2  | Pedigree             | Co – 86032 x Co – 86011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3  | IC Number            | IC 633964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4  | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5  | Gazette Notification | SO. 4388 (E) dated 08.10.2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6  | Duration             | 12 – 14 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 7  | Cane Yield           | Main crop: 70 t/acre; Ratoon crop: 55 – 60 t/acre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Sparse and late flowering variety</li> <li>➤ Moderate lodging with Semi erect habitat</li> <li>➤ Resistant to foliar disease and less susceptible to early and top shoot borer</li> <li>➤ Moderately susceptible to internode borer</li> <li>➤ Ideal variety for January– February planting</li> <li>➤ High tillering potential &amp; suitable for wide row planting with medium thick cane</li> <li>➤ Lush, green and semi erect leaf canopy</li> <li>➤ Self detrashing and exhibits good ratooning</li> </ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



## F1.2 CoVC – 16062

|    |                      |                                                                                                                                                                                                                                                                                                                                      |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sugarcane                                                                                                                                                                                                                                                                                                                            |
| 2  | Variety              | CoVC – 16062                                                                                                                                                                                                                                                                                                                         |
| 3  | IC Number            | IC 633963                                                                                                                                                                                                                                                                                                                            |
| 4  | Year of Release      | 2019                                                                                                                                                                                                                                                                                                                                 |
| 5  | Gazette Notification | SO. 8 (E) dated 24.12.2021                                                                                                                                                                                                                                                                                                           |
| 6  | Duration             | 12 – 14 months                                                                                                                                                                                                                                                                                                                       |
| 7  | Cane yield           | Main crop: 70 – 75 t/acre<br>Ratoon crop: 55 – 60 t/acre                                                                                                                                                                                                                                                                             |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for planting during July to November months</li> <li>➤ High tillering ability so it is recommended for planting in wider row spacing (5 ft)</li> <li>➤ Good ratooning ability</li> <li>➤ With stands moisture stress conditions</li> <li>➤ Good for Jaggery preparation</li> </ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                                                                                         |
| 10 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                                                                             |



### F1.3 CoVC – 16061

|    |                      |                                                                                                                                                                                                                                                                          |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sugarcane                                                                                                                                                                                                                                                                |
| 2  | Variety              | CoVC – 16061                                                                                                                                                                                                                                                             |
| 3  | IC Number            | IC 633962                                                                                                                                                                                                                                                                |
| 4  | Year of Release      | 2019                                                                                                                                                                                                                                                                     |
| 5  | Gazette Notification | SO. 8 (E) dated 24.12.2021                                                                                                                                                                                                                                               |
| 6  | Duration             | 9 – 10 months                                                                                                                                                                                                                                                            |
| 7  | Cane yield           | Main crop: 60 t/acre<br>Ratoon crop: 50 – 55 t/acre                                                                                                                                                                                                                      |
| 8  | Special features     | <ul style="list-style-type: none"><li>➤ Early maturing variety.</li><li>➤ Suitable for wider row (5ft) planting</li><li>➤ Higher tillering ability</li><li>➤ Good ratooning ability</li><li>➤ Withstand moisture stress</li><li>➤ Good for Jaggery preparation</li></ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                             |
| 10 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                 |



#### F1.4 VCF 0517

|    |                      |                                                                                                                                                                                                                                  |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sugarcane                                                                                                                                                                                                                        |
| 2  | Variety              | VCF 0517                                                                                                                                                                                                                         |
| 3  | Pedigree             | General cross of Co 8371                                                                                                                                                                                                         |
| 4  | Year of Release      | 2017                                                                                                                                                                                                                             |
| 5  | Gazette Notification | SO. 6318 (E) dated 26.12.2018                                                                                                                                                                                                    |
| 6  | IC Number            | IC 623109                                                                                                                                                                                                                        |
| 7  | Duration             | 12 – 14 months                                                                                                                                                                                                                   |
| 8  | Cane yield           | Jun–Aug: 80 – 90 t/acre<br>Oct–Nov: 70 – 80 t/acre                                                                                                                                                                               |
| 9  | Special features     | <ul style="list-style-type: none"><li>➤ Tall and thick cane</li><li>➤ Suitable for wider row (5ft) planting &amp; inter cultivation</li><li>➤ Good for Jaggery making</li><li>➤ High tillering and ratooning potential</li></ul> |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                     |
| 11 | Recommended zone     | Zone – 6                                                                                                                                                                                                                         |



### F1.5 CoVC – 99463

|    |                      |                                                                                                                                                                                                                          |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Sugarcane                                                                                                                                                                                                                |
| 2  | Variety              | CoVC – 99463                                                                                                                                                                                                             |
| 3  | Pedigree             | Polycross of Co 6806 PC                                                                                                                                                                                                  |
| 4  | Year of Release      | 2011                                                                                                                                                                                                                     |
| 5  | Gazette Notification | SO. 1379 (E) dated 27.03.2018                                                                                                                                                                                            |
| 6  | IC Number            | IC 611631                                                                                                                                                                                                                |
| 7  | Duration             | 12 – 13 months                                                                                                                                                                                                           |
| 8  | Cane Yield           | Jun–Aug: 70 t/acre<br>Oct–Nov: 60 t/acre                                                                                                                                                                                 |
| 9  | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for planting during July to November months</li> <li>➤ High tillering potential</li> <li>➤ Good ratoon variety</li> <li>➤ Ideal for wide row planting (5ft)</li> </ul> |
| 10 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                             |
| 11 | Recommended zone     | Zone – 6 & 7                                                                                                                                                                                                             |



### F1.6 CoVC–2003–165

|   |                  |                                                                                                                                                                                    |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                                                                                                                                          |
| 2 | Variety          | CoVC–2003–165                                                                                                                                                                      |
| 3 | Pedigree         | General cross of CoS8436                                                                                                                                                           |
| 4 | Year of Release  | 2008                                                                                                                                                                               |
| 5 | Duration         | 12 – 14 months                                                                                                                                                                     |
| 6 | Cane Yield       | 65 – 70 t/acre                                                                                                                                                                     |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Resistant to woolly aphid</li><li>➤ Tolerant to drought</li><li>➤ Better juice quality</li><li>➤ Suitable for wider row planting</li></ul> |
| 8 | Developed centre | ZARS, Mandya                                                                                                                                                                       |
| 9 | Recommended zone | Irrigated areas of Southern Karnataka.                                                                                                                                             |



### F1.7 Nayana (Co 86032)

|   |                      |                                                                               |
|---|----------------------|-------------------------------------------------------------------------------|
| 1 | Crop                 | Sugarcane                                                                     |
| 2 | Variety              | Nayanna (Co 86032)                                                            |
| 3 | Year of Release      | 2005                                                                          |
| 4 | Gazette Notification | SO. 821 (E) dated 13.09.2000                                                  |
| 5 | Duration             | 12 – 14 months                                                                |
| 6 | Cane Yield           | Jun–Aug: 60 – 65 t/acre<br>Oct–Nov: 50 – 55 t/acre<br>Jan–Feb: 45 – 50 t/acre |
| 7 | Special features     | ➤ Suitable for jaggery preparation                                            |
| 8 | Developed centre     | ZARS, Mandya                                                                  |
| 9 | Recommended zone     | Suitable for all cane growing areas except lowlands and problematic soils     |



### F1.8 Bhima (Co 8371)

|   |                      |                                                                                   |
|---|----------------------|-----------------------------------------------------------------------------------|
| 1 | Crop                 | Sugarcane                                                                         |
| 2 | Variety              | Bhima (Co 8371)                                                                   |
| 3 | Year of Release      | 1998                                                                              |
| 4 | Gazette Notification | SO. 821 (E) dated 13.09.2000                                                      |
| 5 | Duration             | 12 – 14 months                                                                    |
| 6 | Cane Yield           | Zone – 6: 40 – 68 t/acre<br>Zone – 7: 36 – 52 t/acre<br>Zone – 10: 44 – 48 t/acre |
| 7 | Special features     | ➤ Suitable for August to February plantings                                       |
| 8 | Developed centre     | ZARS, Mandya                                                                      |
| 9 | Recommended zone     | Zone – 6, 7 & 10                                                                  |



### F1.9 CO-7804

|   |                  |                                                                                   |
|---|------------------|-----------------------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                                         |
| 2 | Variety          | CO-7804                                                                           |
| 3 | Year of Release  | 1990                                                                              |
| 4 | Duration         | 12 – 14 months                                                                    |
| 5 | Cane Yield       | Zone – 6: 36 – 62 t/acre<br>Zone – 7: 30 – 45 t/acre<br>Zone – 10: 36 – 40 t/acre |
| 6 | Special features | ➤ Tolerant to <i>Helminthosporium</i>                                             |
| 7 | Developed centre | ZARS, Mandya                                                                      |
| 8 | Recommended zone | Zone – 6, 7 & 10                                                                  |



### F1.10 Sanjeevini (CO–7219)

|   |                  |                                               |
|---|------------------|-----------------------------------------------|
| 1 | Crop             | Sugarcane                                     |
| 2 | Variety          | Sanjeevini (CO–7219)                          |
| 3 | Year of Release  | 1986                                          |
| 4 | Duration         | 10 – 11 months                                |
| 5 | Cane Yield       | 44 – 45 t/acre                                |
| 6 | Special features | ➤ Suitable to heavy soils than to light soils |
| 7 | Developed centre | ZARS, Mandya                                  |
| 8 | Recommended zone | Northern districts of Karnataka.              |

### F1.11 CO–6415

|   |                  |                           |
|---|------------------|---------------------------|
| 1 | Crop             | Sugarcane                 |
| 2 | Variety          | CO–6415                   |
| 3 | Year of Release  | 1977                      |
| 4 | Special features | ➤ Fairly Drought tolerant |
| 5 | Developed centre | RRS, Mandya               |
| 6 | Recommended zone | Belagum zone              |

### F1.12 B–37172

|   |                  |                                                                   |
|---|------------------|-------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                         |
| 2 | Variety          | B–37172                                                           |
| 3 | Year of Release  | 1975                                                              |
| 4 | Special features | ➤ Suitable for late planting<br>➤ Early variety<br>➤ Non–arrowing |
| 5 | Developed centre | RRS, Mandya                                                       |
| 6 | Recommended zone | Zone – 6                                                          |

### F1.13 CO–62175

|   |                  |                                                                                                                                                                                                                                                 |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                                                                                                                                                                                                       |
| 2 | Variety          | CO–62175                                                                                                                                                                                                                                        |
| 3 | Year of Release  | 1975                                                                                                                                                                                                                                            |
| 4 | Duration         | 12 – 14 months                                                                                                                                                                                                                                  |
| 5 | Cane Yield       | Zone – 6: 40 – 68 t/acre<br>Zone – 7: 32 – 52 t/acre<br>Zone – 10: 40 – 45 t/acre                                                                                                                                                               |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Mid-late variety with less fibre content</li><li>➤ High rationing capacity</li><li>➤ Susceptible to drought</li><li>➤ Buds sprout because of low apical dominance</li><li>➤ Deteriorates fast</li></ul> |
| 7 | Developed centre | RRS, Mandya                                                                                                                                                                                                                                     |
| 8 | Recommended zone | Zone – 6, 7 & 10                                                                                                                                                                                                                                |



### F1.14 KHS–2045

|   |                  |                                                                                                                                                                    |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                                                                                                                          |
| 2 | Variety          | KHS–2045                                                                                                                                                           |
| 3 | Year of Release  | 1975                                                                                                                                                               |
| 4 | Special features | <ul style="list-style-type: none"><li>➤ Non–arowing,</li><li>➤ Low fibre variety</li><li>➤ Whitish green</li><li>➤ Erect habit with small round eye buds</li></ul> |
| 5 | Developed centre | RRS, Mandya                                                                                                                                                        |
| 6 | Recommended zone | Zone – 6                                                                                                                                                           |

### F1.15 IC–225

|   |                  |                                                                                                                                                                                                   |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                                                                                                                                                         |
| 2 | Variety          | IC–225                                                                                                                                                                                            |
| 3 | Year of Release  | 1968                                                                                                                                                                                              |
| 4 | Duration         | 10 – 11 months                                                                                                                                                                                    |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Early maturing variety</li><li>➤ Suitable for cultivation in lift irrigation and tankfed areas</li><li>➤ Thin cane with large amount of sucrose</li></ul> |
| 6 | Developed centre | MRS, Hebbal                                                                                                                                                                                       |
| 7 | Recommended zone | Zone – 6                                                                                                                                                                                          |

### F1.16 Co 419

|   |                  |                                                                                   |
|---|------------------|-----------------------------------------------------------------------------------|
| 1 | Crop             | Sugarcane                                                                         |
| 2 | Variety          | Co 419                                                                            |
| 3 | Year of Release  | 1956                                                                              |
| 4 | Duration         | 12 – 16 months                                                                    |
| 5 | Cane Yield       | Zone – 6: 36 – 48 t/acre<br>Zone – 7: 32 – 48 t/acre<br>Zone – 10: 33 – 36 t/acre |
| 6 | Special features | ➤ Drought tolerant<br>➤ Susceptible to <i>Helminthosporium</i>                    |
| 7 | Developed centre | RRS, Mandya                                                                       |
| 8 | Recommended zone | Zone – 6, 7 & 10                                                                  |



## F2. Cotton

Cotton is known as “White gold” or the “King of Fibers” due to its importance in agricultural as well as industrial economy throughout the world. India accounts for approximately 25% of world's total cotton area and 18% of global cotton production. India is the only country in the world growing all four cultivated species of cotton, viz., *G. hirsutum*, *G. arboreum*, *G. herbaceum* and *G. barbadense*. The first inter-specific cotton hybrid to be released anywhere in the world was developed by UASB. Now, maximum area has been covered by the hybrids. Research on developing cotton varieties were taken up vigorously till the bifurcation of UAS, Bangalore into UAS, Dharwad and UAS, Bangalore. The main cotton growing districts in Karnataka are Dharwad, Ballari and Raichur. Details of 13 High Yielding Varieties/ Hybrids developed and released from the mother university before bifurcation are listed in Table–21 and further described.

**Table–21: List of high yielding Cotton varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety                                  | Year of release |
|---------|------------------------------------------|-----------------|
| 1       | KDCd–1                                   | 1983            |
| 2       | DCH–32 / Jayalaxmi (Hybrid)              | 1982            |
| 3       | DS –59 / Soubhagya                       | 1982            |
| 4       | Sharada (CPD 8–1)                        | 1980            |
| 5       | Bhagya ( <i>G.hirsutum</i> StrainGS–23)  | 1973            |
| 6       | Varalaxmi / DCH–3                        | 1970            |
| 7       | Mysore Vijaya (Strain AS–23)             | 1969            |
| 8       | Raichur–51 ( <i>G.herbaceum</i> )        | 1969            |
| 9       | Hampi (Strain:5110 <i>G.hirsutum</i> L.) | 1967            |
| 10      | 3870 IV/A                                | 1967            |
| 11      | AK235                                    | 1966            |
| 12      | 5117                                     | 1966            |
| 13      | Strain 14–2 / Mysore 14                  | 1964            |

### F2.1 KDCd-1

|   |                  |                                                                                                                                           |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Cotton                                                                                                                                    |
| 2 | Variety          | KDCd-1                                                                                                                                    |
| 3 | Year of Release  | 1983                                                                                                                                      |
| 4 | Duration         | 165 – 170 days                                                                                                                            |
| 5 | Yield            | 2 – 2.1 q/acre                                                                                                                            |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Higher ginning outturn and 30 per cent higher lint</li><li>➤ Resistant to fusarium wilt</li></ul> |
| 7 | Developed centre | RRS, Dharwad                                                                                                                              |

### F2.2 Soubhagya (DS –59)

|   |                      |                                                                                                                                                                                                                                                                                      |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Cotton                                                                                                                                                                                                                                                                               |
| 2 | Variety              | Soubhagya (DS –59)                                                                                                                                                                                                                                                                   |
| 3 | Year of Release      | 1982                                                                                                                                                                                                                                                                                 |
| 4 | Gazette Notification | SO. 449 (E) dated 08.07.1983                                                                                                                                                                                                                                                         |
| 5 | Duration             | 160 – 170 days                                                                                                                                                                                                                                                                       |
| 6 | Yield                | 7 – 8 q/acre                                                                                                                                                                                                                                                                         |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Good plant type with predominant vegetative branches</li><li>➤ Distinct superior fibre property with 40's count ginning potential</li><li>➤ Large boll size (&gt;6.5gm)</li><li>➤ Tolerant to bacterial blight and red leaf blight</li></ul> |
| 8 | Developed centre     | RRS, Dharwad                                                                                                                                                                                                                                                                         |

### F2.3 Jayalaxmi (DCH-32) – Hybrid

|   |                                                   |                                                                                                                                                                                                                                           |
|---|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety                                           | Jayalaxmi (DCH-32) – Hybrid                                                                                                                                                                                                               |
| 2 | Year of Release                                   | 1982                                                                                                                                                                                                                                      |
| 3 | Duration                                          | 185 – 195 days                                                                                                                                                                                                                            |
| 4 | Yield<br>Southern Karnataka<br>Northern Karnataka | Black clay: 7 – 8 q/acre; Sandy soils: 5 – 6 q/acre<br>Irrigated: 6 – 8 q/acre; Rainfed: 4.8 – 6 q/acre                                                                                                                                   |
| 5 | Special features                                  | <ul style="list-style-type: none"> <li>➤ Large boll size with bright white lint</li> <li>➤ Synchronous flowering and fruiting</li> <li>➤ Higher ginning outturn (36–37 %)</li> <li>➤ Tolerant to blackarm &amp; redleaf blight</li> </ul> |
| 6 | Developed centre                                  | RRS, Dharwad                                                                                                                                                                                                                              |
| 7 | Recommended zone                                  | Zone – 2, 3, 4, 7, 8 & 9                                                                                                                                                                                                                  |

### F2.4 Sharada (CPD 8-1)

|   |                      |                                                                                                                                                                                                                                                                                                                            |
|---|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety              | Sharada (CPD 8-1)                                                                                                                                                                                                                                                                                                          |
| 2 | Year of Release      | 1980                                                                                                                                                                                                                                                                                                                       |
| 3 | Gazette Notification | SO. 19(E) dated 14.01.1982                                                                                                                                                                                                                                                                                                 |
| 4 | Duration             | 150 – 160 days (Short duration)                                                                                                                                                                                                                                                                                            |
| 5 | Yield                | 4.4 – 4.5 q/acre                                                                                                                                                                                                                                                                                                           |
| 6 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for early sowing (Escapes boll worm attack when sown early)</li> <li>➤ Medium staple with 40–42 ginning percentage</li> <li>➤ Fibers can be spun to heavy demand counts of 30's K 40's</li> <li>➤ Highly tolerant to jassids &amp; angular leaf spot diseases</li> </ul> |
| 7 | Developed centre     | RRS, Dharwad                                                                                                                                                                                                                                                                                                               |
| 8 | Recommended area     | Transition tract of Karnataka                                                                                                                                                                                                                                                                                              |

## F2.5 Bhagya (Strain GS–23)

|   |                      |                                                                                                                                                                                                              |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety              | Bhagya ( <i>G.hirsutum</i> Strain GS–23)                                                                                                                                                                     |
| 2 | Pedigree             | Laxmi x 0812–B–4–11–6                                                                                                                                                                                        |
| 3 | Year of Release      | 1973                                                                                                                                                                                                         |
| 4 | Gazette Notification | SO. 13 (E) dated 19.12.1978                                                                                                                                                                                  |
| 5 | Yield                | 2 – 4 q/acre                                                                                                                                                                                                 |
| 6 | Special features     | <ul style="list-style-type: none"> <li>➤ High ginning percentage (40%)</li> <li>➤ Jassid and red leaf blight tolerant</li> <li>➤ Suitable for deep black cotton soils and low rainfall conditions</li> </ul> |
| 7 | Developed centre     | RRS, Dharwad                                                                                                                                                                                                 |
| 8 | Recommended area     | Bijapur, Raichur & Eastern parts of Dharwad District                                                                                                                                                         |

## F2.6 Varalaxmi (DCH–3) – Interspecific hybrid

|   |                                                   |                                                                                                                                                                                                                                                                                                   |
|---|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety                                           | Varalaxmi (DCH–3) – Hybrid                                                                                                                                                                                                                                                                        |
| 2 | Pedigree                                          | $\frac{G.Hirsutum}{cv\ Lakshmi} \times \frac{G.Barbadense}{cv\ SB289-E}$                                                                                                                                                                                                                          |
| 3 | Year of Release                                   | 1970                                                                                                                                                                                                                                                                                              |
| 4 | Gazette Notification                              | SO. 440 (E) dated 21.08.1975                                                                                                                                                                                                                                                                      |
| 5 | Duration                                          | 185 – 195 days                                                                                                                                                                                                                                                                                    |
| 6 | Yield<br>Southern Karnataka<br>Northern Karnataka | Black clay: 7 – 8 q/acre; Sandy soils: 5 – 6 q/acre<br>Irrigated: 6 – 8 q/acre; Rainfed: 4.8 – 6 q/acre                                                                                                                                                                                           |
| 7 | Special features                                  | <ul style="list-style-type: none"> <li>➤ First interspecific hybrid cotton to be released anywhere in the world</li> <li>➤ Extra-long staple and strong fibres that can be spun up to 80's counts</li> <li>➤ Wider adaptability</li> <li>➤ Seed contains 2–3 percent more oil (22–23%)</li> </ul> |
| 8 | Developed centre                                  | RRS, Dharwad                                                                                                                                                                                                                                                                                      |
| 9 | Recommended zone                                  | Zone – 2, 3, 4, 7, 8 & 9                                                                                                                                                                                                                                                                          |

### F2.7 Mysore Vijaya (Strain AS–23)

|   |                  |                                                                                                                                                                                                                                                                           |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety          | Mysore Vijaya (Strain AS–23)                                                                                                                                                                                                                                              |
| 2 | Pedigree         | Selection in EL–192 bulk                                                                                                                                                                                                                                                  |
| 3 | Year of Release  | 1969                                                                                                                                                                                                                                                                      |
| 4 | Duration         | 180 – 190 days (Relatively early variety)                                                                                                                                                                                                                                 |
| 5 | Yield            | 9 – 10 q kappas/acre                                                                                                                                                                                                                                                      |
| 6 | Special features | <ul style="list-style-type: none"> <li>➤ Dwarf and bushy variety</li> <li>➤ Suitable for even late sown conditions</li> <li>➤ Superior long staple cotton</li> <li>➤ Capable of spinning 50's counts</li> <li>➤ More tolerant to Black arm disease and jassids</li> </ul> |
| 7 | Developed centre | Arabhavi                                                                                                                                                                                                                                                                  |
| 8 | Recommended area | Ghatapraha project area                                                                                                                                                                                                                                                   |

### F2.8 Raichur–51

|   |                      |                                                                                                                                                                                                                                    |
|---|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Variety              | Raichur–51                                                                                                                                                                                                                         |
| 2 | Pedigree             | RK–19 X NS–12                                                                                                                                                                                                                      |
| 3 | Year of Release      | 1969                                                                                                                                                                                                                               |
| 4 | Gazette Notification | SO. 449 (E) dated 08.07.1983                                                                                                                                                                                                       |
| 5 | Duration             | 175 – 180 days                                                                                                                                                                                                                     |
| 6 | Yield                | 10 – 11 q/acre                                                                                                                                                                                                                     |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Ginning: 32–33 %</li> <li>➤ Lower medium staple cotton</li> <li>➤ Resistant to wilt</li> <li>➤ Tolerant to drought conditions</li> <li>➤ High adaptability to local conditions</li> </ul> |
| 8 | Recommended area     | Rainfed conditions in Raichur and Gulbarga districts                                                                                                                                                                               |

### F2.9 3870 IV/A

|   |                  |                                                                          |
|---|------------------|--------------------------------------------------------------------------|
| 1 | Crop             | Cotton                                                                   |
| 2 | Variety          | 3870 IV/A                                                                |
| 3 | Year of Release  | 1967                                                                     |
| 4 | Special features | ➤ 30 – 31ginning percent<br>➤ 27/32 inches staple length and 30's counts |
| 5 | Developed centre | ARS, Hagari                                                              |

### F2.10 Hampi (Strain 5110)

|   |                      |                                                                                                          |
|---|----------------------|----------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Cotton                                                                                                   |
| 2 | Variety              | Hampi (Strain 5110: <i>G. Hirsutum</i> )                                                                 |
| 3 | Year of Release      | 1967                                                                                                     |
| 4 | Gazette Notification | SO. 5505 (E) dated 18.12.1971                                                                            |
| 5 | Yield                | Seed cotton: 9 q/acre<br>Lint: 3 q/acre                                                                  |
| 6 | Duration             | 180 – 190 days                                                                                           |
| 7 | Special features     | ➤ Medium staple cotton spinnable up to 50's counts<br>➤ Tolerant to black arm & red leaf blight diseases |
| 8 | Developed centre     | ARS, Siruguppa                                                                                           |
| 9 | Recommended zone     | Irrigated cotton belt of TBP area                                                                        |

### F2.11 5117

|   |                  |                                  |
|---|------------------|----------------------------------|
| 1 | Crop             | Cotton                           |
| 2 | Variety          | 5117                             |
| 3 | Year of Release  | 1966                             |
| 4 | Developed centre | RRS, Raichur                     |
| 5 | Recommended zone | For TBP area in place of Lakshmi |

### F2.12 AK235

|   |                  |              |
|---|------------------|--------------|
| 1 | Crop             | Cotton       |
| 2 | Variety          | AK235        |
| 3 | Year of Release  | 1966         |
| 4 | Developed centre | RRS, Raichur |

### F2.13 Strain 14–2 (Mysore 14)

|   |                  |                               |
|---|------------------|-------------------------------|
| 1 | Crop             | Cotton                        |
| 2 | Variety          | Strain 14–2 (Mysore 14)       |
| 3 | Year of Release  | 1964                          |
| 4 | Developed centre | RRS, Mandya                   |
| 5 | Recommended zone | Mysore American Cotton tracts |

### F3. Tobacco

Tobacco is grown in approximately 15 states in India, making a significant impact on the economy and well-being of the farming community. Karnataka is a significant state for Flue-Cured Virginia (FCV) tobacco production in India, primarily in its Southern Transitional Zone with a large share of tobacco being exported. Karnataka's output is around 8% of India's total tobacco.

In Karnataka, minimum of one lakh small and marginal farmers and nearly, 10 lakhs farm workers of Hassan, Mysore, Chikkamagalur, Shimoga, Davanagere and Chamarajanagar district are dependent on the FCV tobacco processing industry for their livelihood. The "Mysore style" FCV tobacco is valued internationally for its low levels of tar, carbon monoxide, and heavy metals, as well as its desirable physical qualities. After bifurcation of UASB, breeding materials were shifted to UAHS, Shimoga for further research work.

Details of the High Yielding Varieties developed and released from UASB are tabulated in Table–22 and detailed below;

**Table–22: List of high yielding Tobacco varieties released from UAS, Bangalore (1965–2025)**

| Sl. No. | Variety           | Year of release |
|---------|-------------------|-----------------|
| 1       | Sahyadri (KST–28) | 2008            |
| 2       | Thrupthi (KST–19) | 1998            |
| 3       | Bhavya            | 1991            |
| 4       | Spoorthy (PL–5)   | 1984            |
| 5       | NPN–190           | 1979            |

### F3.1 Sahyadri (KST–28)

|   |                  |                                                                                                                                                                                                                                        |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Tobacco                                                                                                                                                                                                                                |
| 2 | Variety          | Sahyadri (KST–28)                                                                                                                                                                                                                      |
| 3 | Pedigree         | KSJ–19 x NLS–5                                                                                                                                                                                                                         |
| 4 | Year of Release  | 2008                                                                                                                                                                                                                                   |
| 5 | Duration         | 155 – 175 days                                                                                                                                                                                                                         |
| 6 | Yield            | 6 – 7 q/acre                                                                                                                                                                                                                           |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Moderately tolerant to drought</li><li>➤ Produce 24–25 curable leaves</li><li>➤ Tolerant to nematodes, leaf eating caterpillar</li><li>➤ Moderately resistant to Black shank disease</li></ul> |
| 8 | Developed centre | ZARS, Navile                                                                                                                                                                                                                           |
| 9 | Recommended zone | Zone – 7                                                                                                                                                                                                                               |

### F3.2 Thrupthi (KST–19)

|   |                  |                                                                                                                                                                                                                 |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Tobacco                                                                                                                                                                                                         |
| 2 | Variety          | Thrupthi (KST–19)                                                                                                                                                                                               |
| 3 | Year of Release  | 1998                                                                                                                                                                                                            |
| 4 | Duration         | 155 – 175 days                                                                                                                                                                                                  |
| 5 | Yield            | 6 – 7 q/acre                                                                                                                                                                                                    |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Superior to FCV Spl in both cured leaf yield (40–41%) and top-grade equivalent (64–65%)</li><li>➤ Moderately resistant to black shank and root knot nematodes</li></ul> |
| 7 | Developed centre | ZARS, Navile                                                                                                                                                                                                    |

### F3.3 Bhavya

|   |                  |                                                                |
|---|------------------|----------------------------------------------------------------|
| 1 | Crop             | Tobacco                                                        |
| 2 | Variety          | Bhavya                                                         |
| 3 | Year of Release  | 1991                                                           |
| 4 | Duration         | 150 – 170 days                                                 |
| 5 | Yield            | 6 – 7 q/acre                                                   |
| 6 | Special features | ➤ Moderately resistant to black shank and root knot nematodes. |
| 7 | Developed centre | ZARS, Navile                                                   |
| 8 | Recommended zone | Powdery mildew free areas of northern parts of Zone – 7        |

### F3.4 Spoorthy (PL–5)

|   |                  |                                                                                                                                                                                                                        |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Tobacco                                                                                                                                                                                                                |
| 2 | Variety          | Spoorthy (PL–5) : Bidi Tobacco                                                                                                                                                                                         |
| 3 | Year of Release  | 1984                                                                                                                                                                                                                   |
| 4 | Duration         | 135 – 140 days                                                                                                                                                                                                         |
| 5 | Yield            | 5.5 – 6 q/acre                                                                                                                                                                                                         |
| 6 | Special features | <ul style="list-style-type: none"> <li>➤ Tall variety</li> <li>➤ Withstands variations in monsoonal / unseasonal rains</li> <li>➤ Higher percentage of reducing sugar content and better smoking qualities.</li> </ul> |
| 7 | Developed centre | ARS, Navile                                                                                                                                                                                                            |
| 8 | Recommended area | Bidi tobacco growing areas of Nippani and Mysore                                                                                                                                                                       |

### F3.5 NPN–190

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                                        |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Tobacco                                                                                                                                                                                                                                                                                                                                                                                                |
| 2 | Variety          | NPN–190                                                                                                                                                                                                                                                                                                                                                                                                |
| 3 | Year of Release  | 1979                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4 | Special features | <ul style="list-style-type: none"><li>➤ Light yellow produce and Sweetish aroma at final stage</li><li>➤ Larger, thicker and wider leaves with intensive puckering and spangling</li><li>➤ Vigorous growth</li><li>➤ Less internode space and comparatively short in height than Gujarat varieties</li><li>➤ Resistant to black shank</li><li>➤ Slightly tolerant to water–logging condition</li></ul> |
| 5 | Developed centre | ARS, Navile                                                                                                                                                                                                                                                                                                                                                                                            |

## VII. HORTICULTURAL CROPS

### G1. Cashew

#### G1.1 Chintamani–2 (ME 4/4)

|   |                  |                                     |
|---|------------------|-------------------------------------|
| 1 | Crop             | Cashew                              |
| 2 | Variety          | Chintamani–2 (ME 4/4)               |
| 3 | Pedigree         | Seedling selection from ARS, Ullal  |
| 4 | Year of Release  | 2007                                |
| 5 | Yield            | 11 – 12 kg/year/tree                |
| 6 | Special features | ➤ Early bearing with Bold sized nut |
| 7 | Developed centre | Chintamani                          |
| 8 | Recommended zone | Suitable for Plain land             |

#### G1.2 Dhana (H1608)\*

|   |                  |                                          |
|---|------------------|------------------------------------------|
| 1 | Crop             | Cashew                                   |
| 2 | Variety          | Dhana (H1608) *                          |
| 3 | Year of Release  | 2005                                     |
| 4 | Yield            | 9 – 10 kg/year/tree                      |
| 5 | Special features | ➤ Late bearing variety with good kernels |
| 6 | Developed centre | Chintamani                               |
| 7 | Recommended zone | Zone – 5                                 |

#### G1.3 UN–50

|   |                  |                                                        |
|---|------------------|--------------------------------------------------------|
| 1 | Crop             | Cashew                                                 |
| 2 | Variety          | UN–50                                                  |
| 3 | Year of Release  | 1996                                                   |
| 4 | Yield            | 10 – 10.5 kg /year/tree                                |
| 5 | Special features | ➤ Bold sized nut & kernels (8–9 g)<br>➤ Export quality |
| 6 | Developed centre | Ullal                                                  |

#### G1.4 Ullal Cashew-4

|   |                  |                                                                                                                                                                            |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Cashew                                                                                                                                                                     |
| 2 | Variety          | Ullal Cashew-4                                                                                                                                                             |
| 3 | Year of Release  | 1995                                                                                                                                                                       |
| 4 | Yield            | 9 – 9.5 kg/tree/year                                                                                                                                                       |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Uniform &amp; Early bearing</li><li>➤ Export quality, bold size kernel (7–7.15 g)</li><li>➤ Shelling percentage (30–31%)</li></ul> |
| 6 | Developed centre | Ullal                                                                                                                                                                      |

#### G1.5 Ullal Cashew-3

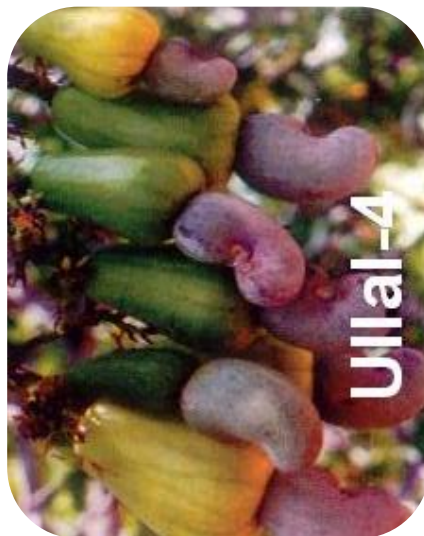
|   |                  |                                                                                                                                                                            |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Cashew                                                                                                                                                                     |
| 2 | Variety          | Ullal-Cashew-3                                                                                                                                                             |
| 3 | Year of Release  | 1994                                                                                                                                                                       |
| 4 | Yield            | 14 – 14.6 kg/year/tree                                                                                                                                                     |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Canopy is highly spreading</li><li>➤ Number of bisexual flowers per panicle is 308 times more than the ruling varieties.</li></ul> |
| 6 | Developed centre | Ullal                                                                                                                                                                      |
| 7 | Recommended zone | Coastal districts of Karnataka                                                                                                                                             |

#### G1.6 Ullal Cashew-2

|   |                  |                                                                    |
|---|------------------|--------------------------------------------------------------------|
| 1 | Variety          | Ullal- Cashew-2                                                    |
| 2 | Pedigree         | Variety 3/67 Guntur-Andhra has been released as Ullal-Cashew-2     |
| 3 | Year of Release  | 1984                                                               |
| 4 | Yield            | 16 – 16.8 kg/year/tree                                             |
| 5 | Harvest          | February to April                                                  |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Medium size nuts</li></ul> |
| 7 | Developed centre | Ullal                                                              |



UN – 50



Ullal-4



Ullal-3



Ullal-2

### G1.7 Ullal Cashew-1

|   |                  |                                                                      |
|---|------------------|----------------------------------------------------------------------|
| 1 | Crop             | Cashew                                                               |
| 2 | Variety          | Ullal-Cashew-1                                                       |
| 3 | Pedigree         | Variety 8'46 Tail Paramba-Kerala has been released as Ullal-Cashew-1 |
| 4 | Year of Release  | 1984                                                                 |
| 5 | Yield            | 17 kg/year/tree                                                      |
| 6 | Harvest          | March to May with peak harvest during April                          |
| 7 | Special features | ➤ Large greyish white nuts                                           |
| 8 | Developed centre | Ullal                                                                |

## G2. Tomato

### G2.1 Vaibhav (TLB-182)

|   |                                                   |                                                                                                                                                                                                                                          |   |                    |
|---|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------|
| 1 | Crop                                              | Tomato                                                                                                                                                                                                                                   |   |                    |
| 2 | Variety                                           | Vaibhav (TLB-182)                                                                                                                                                                                                                        |   |                    |
| 3 | Pedigree (Recombinant derivative of double cross) | CL5915*H24                                                                                                                                                                                                                               | x | PT4671A*CRA84-58-1 |
|   |                                                   | CLN 2114DC1 F1-2-29-20-23-14                                                                                                                                                                                                             |   |                    |
| 4 | Year of Release                                   | 2001                                                                                                                                                                                                                                     |   |                    |
| 5 | Gazette Notification                              | SO. 642 (E) dated 31.05.2004                                                                                                                                                                                                             |   |                    |
| 6 | Yield                                             | 16 – 18 t/acre                                                                                                                                                                                                                           |   |                    |
| 7 | Special features                                  | <ul style="list-style-type: none"> <li>➤ Highly resistant to Tomato leaf curl virus</li> <li>➤ Tolerant to bacterial wilt</li> <li>➤ Semi determinate plant type</li> <li>➤ Oblong, deep red, firm &amp; export quality fruit</li> </ul> |   |                    |
| 8 | Developed centre                                  | ZARS, GKVK                                                                                                                                                                                                                               |   |                    |
| 9 | Recommended zone                                  | Zone – 4, 5, 6 & 7                                                                                                                                                                                                                       |   |                    |



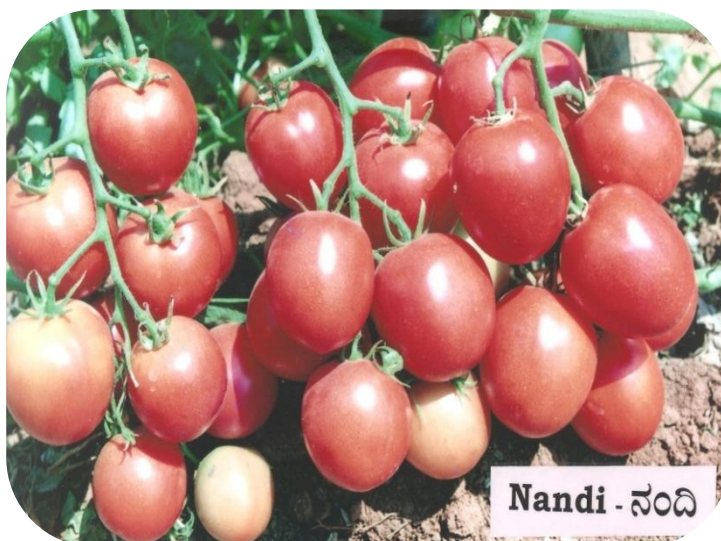
## G2.2 Sankranthi (TLB-111)

|   |                                                   |                                                                                                                                                                                                                  |   |                    |
|---|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------|
| 1 | Crop                                              | Tomato                                                                                                                                                                                                           |   |                    |
| 2 | Variety                                           | Sankranthi (TLB-111)                                                                                                                                                                                             |   |                    |
| 3 | Pedigree (Recombinant derivative of double cross) | CL5915*H24                                                                                                                                                                                                       | x | CRA84-58-1 *UC204A |
|   |                                                   | CLN 2116DC1 F1-180-31-10-25-11                                                                                                                                                                                   |   |                    |
| 4 | Year of Release                                   | 2001                                                                                                                                                                                                             |   |                    |
| 5 | Gazette Notification                              | SO. 642 (E) dated 31.05.2004                                                                                                                                                                                     |   |                    |
| 6 | Yield                                             | 16 – 18 t/acre                                                                                                                                                                                                   |   |                    |
| 7 | Special features                                  | <ul style="list-style-type: none"> <li>➤ Semi determinate plant type</li> <li>➤ Round and light red fruit</li> <li>➤ Highly resistant to tomato leaf curl virus</li> <li>➤ Tolerant to bacterial wilt</li> </ul> |   |                    |
| 8 | Developed centre                                  | ZARS, GKVK                                                                                                                                                                                                       |   |                    |
| 9 | Recommended zone                                  | Zone – 4, 5, 6 & 7                                                                                                                                                                                               |   |                    |



### G2.3 Nandi (TLB-130)

|   |                                                   |                                                                                                                                                                     |   |             |
|---|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------|
| 1 | Crop                                              | Tomato                                                                                                                                                              |   |             |
| 2 | Variety                                           | Nandi (TLB-130)                                                                                                                                                     |   |             |
| 3 | Pedigree (Recombinant derivative of double cross) | CL5915* CRA84-58-1                                                                                                                                                  | x | PT4664A*H24 |
|   |                                                   | CLN 2131DC1 F1-96-46-17-6                                                                                                                                           |   |             |
| 4 | Year of Release                                   | 2001                                                                                                                                                                |   |             |
| 5 | Gazette Notification                              | SO. 642 (E) dated 31.05.2004                                                                                                                                        |   |             |
| 6 | Yield                                             | 16 – 18 t/acre                                                                                                                                                      |   |             |
| 7 | Special features                                  | <ul style="list-style-type: none"> <li>➤ Round and red fruit</li> <li>➤ Highly resistant to tomato leaf curl virus</li> <li>➤ Tolerant to bacterial wilt</li> </ul> |   |             |
| 8 | Developed centre                                  | ZARS, GKVK                                                                                                                                                          |   |             |
| 9 | Recommended zone                                  | Zone – 4, 5, 6 & 7                                                                                                                                                  |   |             |



## G2.4 NTDR-1

|   |                      |                                                                                                                                                                                                                                                                                         |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Tomato                                                                                                                                                                                                                                                                                  |
| 2 | Variety              | NTDR-1                                                                                                                                                                                                                                                                                  |
| 3 | Year of Release      | 1978                                                                                                                                                                                                                                                                                    |
| 4 | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                                                                                                             |
| 5 | Special features     | <ul style="list-style-type: none"><li>➤ Early bearing</li><li>➤ More flesh with less seeds</li><li>➤ Less shrinkage on storage</li><li>➤ Vigorous growth</li><li>➤ Good keeping quality</li><li>➤ Withstands transportation damages</li><li>➤ Resistant to root-knot nematode</li></ul> |
| 6 | Developed centre     | RRS, GKVK                                                                                                                                                                                                                                                                               |

## G3. Jack fruit

### G3.1 GKV Red Jack

|   |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                    | Jackfruit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2 | Variety                 | GKV Red Jack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3 | Year of Release         | 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4 | Gazette Notification    | SO. 4917 (E) / 13.11.2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 5 | IC Number               | IC 650865                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6 | Yield (10year old tree) | 120 to 150 fruits /tree/year<br>Flake weight : 600 – 700 g/ kg fruit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 7 | Special Features        | <ul style="list-style-type: none"> <li>➤ Early bearing (3.5 years from planting)</li> <li>➤ <u>Flakes</u>: medium size, coppery red colour, crisp, oblong with excellent taste, each weighing 25 to 35 g</li> <li>➤ <u>Fruit</u>: Oblong shape, medium sized (5.5–10 kg /fruit), small central core, outer green rind is thin (&lt;1.50 cm) weighing 300 – 400g/kg fruit weight</li> <li>➤ Highly preferred for table purpose and processing into squash</li> <li>➤ Flake to fruit ratio is good (0.63:1)</li> <li>➤ TSS: 25 to 30° Brix</li> <li>➤ Small seeds (20 seed weight :100 – 130g)</li> <li>➤ Suitable for commercial cultivation for its red colour flakes with excellent taste and gum less trait in ripe fruits</li> <li>➤ Total carotenoid (604.75 µg/100g), lycopene (4.30µg/100g) and lutein (20.68 µg/100g) content is higher compared to other red flake types</li> </ul> |
| 8 | Developed Centre        | Dept. of Biotechnology, GKV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 9 | Recommended Zone        | Zone – 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### G3.2 Byrachandra

|   |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Jack Fruit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2 | Variety              | Byrachandra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3 | Year of Release      | 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4 | Gazette Notification | SO. 4917 (E) / 13.11.2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5 | IC Number            | IC 647968                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6 | Yield                | Twice bearing type: 120 - 150 fruits /tree /year<br>60-75 fruits/season/tree after 10 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7 | Special features     | <ul style="list-style-type: none"> <li>➤ Dual purpose variety (table &amp; vegetable)</li> <li>➤ Suitable for commercial and kitchen gardens</li> <li>➤ Excellent fruit quality with less gum in ripen fruits</li> <li>➤ Fruits are borne on trunk and primary branches</li> <li>➤ Big sized fruits (&gt;10kg /fruit)</li> <li>➤ Oblong shaped fruits with green rind</li> <li>➤ Orange colour medium sized flakes</li> <li>➤ Flake to fruit ratio (0.55:1) is good</li> <li>➤ Flake weight: 650-700g/kg fruit</li> <li>➤ Each flake weighs: 25-35 g</li> <li>➤ Thin rind (&lt;1 cm) weighing 300-350g/kg fruit weight</li> <li>➤ TSS: 30-33° Brix</li> <li>➤ Small &amp; rudimentary seeds (20 seed wt: 110-130g)</li> </ul> |
| 8 | Developed centre     | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 9 | Recommended zone     | Zone – 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### G3.3 Lalbaugh Madhura

|   |                  |                                                                                                                                                                                                                                                                                                                             |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Jack Fruit                                                                                                                                                                                                                                                                                                                  |
| 2 | Variety          | Lalbaugh Madhura                                                                                                                                                                                                                                                                                                            |
| 3 | IC Number        | IC 632494                                                                                                                                                                                                                                                                                                                   |
| 4 | Year of Release  | 2019                                                                                                                                                                                                                                                                                                                        |
| 5 | Yield            | 640-800 kg/tree (80-100 fruits/ tree/after 10 <sup>th</sup> year                                                                                                                                                                                                                                                            |
| 6 | Special features | <ul style="list-style-type: none"> <li>➤ Fruit weight: 8 to 10 kg</li> <li>➤ Individual flake: 68 to 120 g</li> <li>➤ Flakes are yellow with thick pulp</li> <li>➤ TSS: 29–30 brix.</li> <li>➤ Fruit is suitable for both table purpose and for preparation of value-added products such as squash, jam and pulp</li> </ul> |
| 7 | Developed centre | ZARS, GKVK                                                                                                                                                                                                                                                                                                                  |
| 8 | Recommended zone | Zone – 5                                                                                                                                                                                                                                                                                                                    |

### G3.4 Swarna Halasu (SSB–15 (B))

|   |                  |                                                                                                                                                                                                                                                                                                                                                               |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Jack Fruit                                                                                                                                                                                                                                                                                                                                                    |
| 2 | Variety          | Swarna Halasu (SSB–15 (B))                                                                                                                                                                                                                                                                                                                                    |
| 3 | Pedigree         | Clonal selection                                                                                                                                                                                                                                                                                                                                              |
| 4 | IC Number        | IC 566526                                                                                                                                                                                                                                                                                                                                                     |
| 5 | Year of Release  | 2009                                                                                                                                                                                                                                                                                                                                                          |
| 6 | Special features | <ul style="list-style-type: none"> <li>➤ Medium tall: 10–15m</li> <li>➤ Elliptical crown, long and cylindrical trunk with branches spreading at an angle of 30–50 degree</li> <li>➤ Fruits are borne on trunk, primary and secondary branches</li> <li>➤ Round and medium sized fruits</li> <li>➤ Thick, juicy and deep yellow bulbs with high TSS</li> </ul> |
| 7 | Developed centre | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                                    |
| 8 | Recommended zone | Zone – 5                                                                                                                                                                                                                                                                                                                                                      |



**Lalbaugh Madhura**



**GKV Red Jack**



**Byrachandra**



**Swarna Halasu (SSB-15 (B))**

## G4. Chilli

### G4.1 Sonia (KBCH-1)

|    |                  |                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Chilli                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2  | Variety          | Sonia (KBCH-1)– Hybrid                                                                                                                                                                                                                                                                                                                                                                                             |
| 3  | Pedigree         | CMS 8A × Gauribidanur                                                                                                                                                                                                                                                                                                                                                                                              |
| 4  | Year of Release  | 2013                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5  | IC Number        | IC 628254                                                                                                                                                                                                                                                                                                                                                                                                          |
| 6  | Duration         | 160 – 180 days                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7  | Yield            | Green chilli: 12 – 14 t/acre                                                                                                                                                                                                                                                                                                                                                                                       |
| 8  | Special features | <ul style="list-style-type: none"><li>➤ Optimum plant height with stiff–hard woody stem (Lodging resistant) facilitating easy picking</li><li>➤ Highly pungent &amp; dark green fruits</li><li>➤ Fresh fruits have 8–9 cm length and 1.3–1.4 cm width and are rich in ascorbic acid, Hence have higher consumer preference</li><li>➤ Tolerant to anthracnose, bacterial wilt and powdery mildew diseases</li></ul> |
| 9  | Developed centre | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10 | Recommended zone | Irrigated regions of Karnataka in Zone – 4 & 5                                                                                                                                                                                                                                                                                                                                                                     |



#### G4.2 Ceylon

|   |                  |                            |
|---|------------------|----------------------------|
| 1 | Crop             | Chilli                     |
| 2 | Variety          | Ceylon                     |
| 3 | Year of Release  | 2002                       |
| 4 | Duration         | 160–165 days               |
| 5 | Yield            | Green chilli:8 – 10 t/acre |
| 6 | Special features | ➤ Green chilli purpose     |
| 7 | Developed centre | ZARS, GKVK                 |
| 8 | Recommended zone | Zone – 4, 5 & 7            |

#### G4.3 DH–7–6–6

|   |                  |                                                                                                                                                                                                                                |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Chilli                                                                                                                                                                                                                         |
| 2 | Variety          | DH–7–6–6                                                                                                                                                                                                                       |
| 3 | Year of Release  | 1979                                                                                                                                                                                                                           |
| 4 | Yield            | Green chilli: 8 – 10 t/acre                                                                                                                                                                                                    |
| 5 | Special features | <ul style="list-style-type: none"><li>➤ Upright trailing habit of growth</li><li>➤ Resistant to leaf mosaic</li><li>➤ Tolerant to leaf curl virus</li><li>➤ Bears profusely</li><li>➤ Bright red fruit with wrinkles</li></ul> |

## G5. Cardamom

### G5.1 Mudigere–3

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                       |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Cardamom                                                                                                                                                                                                                                                                                                                                                                              |
| 2 | Variety          | Mudigere–3                                                                                                                                                                                                                                                                                                                                                                            |
| 3 | Year of Release  | 2009                                                                                                                                                                                                                                                                                                                                                                                  |
| 4 | Yield            | Dry capsules: 1.8 – 2 q/acre                                                                                                                                                                                                                                                                                                                                                          |
| 5 | Special features | <ul style="list-style-type: none"> <li>➤ High yielding cardamom clone (34% higher yield over check variety: M–1)</li> <li>➤ Dry capsules are light green in colour and have premium rate in the market</li> <li>➤ Seeds have 6.8–6.9 per cent oil and 8.6–8.7 per cent of oleoresin</li> <li>➤ Tolerant to leaf spot with least incidence of capsule rot and capsule borer</li> </ul> |
| 6 | Developed centre | ZARS, Mudigere                                                                                                                                                                                                                                                                                                                                                                        |
| 7 | Recommended zone | Zone – 9                                                                                                                                                                                                                                                                                                                                                                              |

### G5.2 Mudigere–2

|   |                  |                                                                                                                                                                                                     |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Cardamom                                                                                                                                                                                            |
| 2 | Variety          | Mudigere–2                                                                                                                                                                                          |
| 3 | Year of Release  | 1995                                                                                                                                                                                                |
| 4 | Yield            | Dry capsules: 1.5 – 1.8 q/acre                                                                                                                                                                      |
| 5 | Special features | <ul style="list-style-type: none"> <li>➤ High yielding (40 to 60%)</li> <li>➤ Bold capsules</li> <li>➤ High litter weight</li> <li>➤ More oil &amp; oleoresin content than in Mudigere–1</li> </ul> |
| 6 | Developed centre | ZARS, Mudigere                                                                                                                                                                                      |
| 7 | Recommended zone | Zone – 9                                                                                                                                                                                            |

### G4.3 Mudigere-1

|   |                  |                                                                                                                                                                                                     |
|---|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Cardamom                                                                                                                                                                                            |
| 2 | Variety          | Mudigere-1                                                                                                                                                                                          |
| 3 | Pedigree         | Clonal selection from prostrate type (YT II S-0081)                                                                                                                                                 |
| 4 | Year of Release  | 1984                                                                                                                                                                                                |
| 5 | Yield            | Dry capsules: 1.2 – 1.5 q/acre                                                                                                                                                                      |
| 6 | Special features | <ul style="list-style-type: none"> <li>➤ Medium size, oval shaped green capsules</li> <li>➤ Capsules weight: 0.7–0.8 g</li> <li>➤ High yielding clone</li> <li>➤ Profuse suckering habit</li> </ul> |
| 7 | Developed centre | ZARS, Mudigere                                                                                                                                                                                      |
| 8 | Recommended zone | Adaptable to most of the cardamom growing areas in the State                                                                                                                                        |

## G6. Turmeric

### G6.1 CHNBT-1

|    |                   |                                                        |
|----|-------------------|--------------------------------------------------------|
| 1  | Crop              | Black Turmeric                                         |
| 2  | Variety           | CHNBT-1                                                |
| 3  | Pedigree          | Clonal selection from MV-6 genotype                    |
| 4  | IC Number         | IC 653069                                              |
| 5  | Year of Release   | 2025                                                   |
| 6  | Duration          | 255 – 265 days                                         |
| 7  | Rhizome Yield     | 40 – 48 q/acre                                         |
| 8  | Special Features  | ➤ Bold rhizomes with rich blue flesh<br>➤ Curing: >20% |
| 9  | Developed Centre  | ICAR-KVK, Chamarajanagar                               |
| 10 | Recommended Zones | Zone – 6                                               |



## G6.2 IISR PRATIBHA\*

|    |                  |                                                                                                                                                                 |
|----|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Turmeric                                                                                                                                                        |
| 2  | Variety          | IISR Pratibha*                                                                                                                                                  |
| 3  | Pedigree         | Clonal selection                                                                                                                                                |
| 4  | IC Number        | IC 349078                                                                                                                                                       |
| 5  | Year of Release  | 2025                                                                                                                                                            |
| 6  | Duration         | 240 – 245 days                                                                                                                                                  |
| 7  | Rhizome Yield    | 144 – 152 q/acre                                                                                                                                                |
| 8  | Special Features | <ul style="list-style-type: none"> <li>➤ Bold rhizomes with reddish yellow flesh</li> <li>➤ Curing: &gt;20%</li> <li>➤ High curcumin content: &gt;5%</li> </ul> |
| 9  | Proposed centre  | ICAR-KVK, Chamarajanagar                                                                                                                                        |
| 10 | Recommended zone | Zone – 6                                                                                                                                                        |



\*Endorsed

### G6.3 Sudarshana

|   |                  |                  |
|---|------------------|------------------|
| 1 | Crop             | Turmeric         |
| 2 | Variety          | Sudarshana       |
| 3 | Year of Release  | 2000             |
| 4 | Yield            | 2.8 – 2.9 q/acre |
| 5 | Developed centre | RRS, Brahamvar   |
| 6 | Recommended zone | Zone – 10        |

## G7. Pomegranate

### G7.1 Jyothi (GKVK–1)

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Pomegranate                                                                                                                                                                                                                                                                                                                                                                                           |
| 2 | Variety          | Jyothi (GKVK–1)                                                                                                                                                                                                                                                                                                                                                                                       |
| 3 | Pedigree         | Selection from Bassein seedless from UASB                                                                                                                                                                                                                                                                                                                                                             |
| 4 | Year of Release  | 1985                                                                                                                                                                                                                                                                                                                                                                                                  |
| 5 | Yield            | 7 – 8 t/acre (40 plants/acre & 9 year old tree)                                                                                                                                                                                                                                                                                                                                                       |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Attractive yellowish red fruit</li><li>➤ Deep pink arils with soft seeds</li><li>➤ Flowers thrice a year (Jan–Feb, June–July and October)</li><li>➤ The highest fruit set is about 79% of which retention is about 77%, when flowered during June–July</li><li>➤ Average fruit weight: 200 – 240 g</li><li>➤ TSS: 15° Brix</li><li>➤ Acidity: 0.56%</li></ul> |
| 7 | Developed centre | RRS, GKVK                                                                                                                                                                                                                                                                                                                                                                                             |
| 8 | Recommended zone | Arid and semi–arid areas of the state                                                                                                                                                                                                                                                                                                                                                                 |

## G8. Mango

### G8.1 MA–1 clone

|   |                  |                                                               |
|---|------------------|---------------------------------------------------------------|
| 1 | Crop             | Mango                                                         |
| 2 | Variety          | MA–1 clone                                                    |
| 3 | Pedigree         | Clonal selection                                              |
| 4 | Year of Release  | 1998                                                          |
| 5 | Yield            | 4 – 5 t/acre                                                  |
| 6 | Special features | ➤ Regular bearing<br>➤ Lower incidence (11%) of spongy tissue |
| 7 | Developed centre | ZARS, GKVK                                                    |

## G9. Banana

### G9.1 Elakki bale\*

|   |                  |                          |
|---|------------------|--------------------------|
| 1 | Crop             | Banana                   |
| 2 | Variety          | Elakki bale*             |
| 3 | Year of Release  | 2001                     |
| 4 | Special features | Recommended for Zone – 7 |

## G10. Brinjal

### G10.1 Punjab Moti

|   |                  |                             |
|---|------------------|-----------------------------|
| 1 | Crop             | Brinjal                     |
| 2 | Variety          | Punjab Moti                 |
| 3 | Year of Release  | 2006                        |
| 4 | Duration         | 110 – 115 days              |
| 5 | Yield            | 3 – 3.2 t/acre              |
| 6 | Special features | ➤ Medium sized purple fruit |
| 7 | Recommended zone | Zone – 7                    |

## G11. Tamarind

### G11.1 GKVK-17

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                  |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Tamarind                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | Variety          | GKVK-17                                                                                                                                                                                                                                                                                                                                                                          |
| 3 | Pedigree         | Clonal selection                                                                                                                                                                                                                                                                                                                                                                 |
| 4 | Year of Release  | 2015                                                                                                                                                                                                                                                                                                                                                                             |
| 5 | Yield            | 230 – 233 kg/tree/year                                                                                                                                                                                                                                                                                                                                                           |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Ideal planting is during June–July</li><li>➤ Higher pod weight and pulp to seed ratio: 119</li><li>➤ Dark brown pulp</li><li>➤ Compact &amp; umbrella shape crown</li><li>➤ Widely accepted by the farmers and industry</li><li>➤ Moderately tolerant to leaf spot and rust</li><li>➤ Adaptable to rainfed and irrigated areas</li></ul> |
| 7 | Developed centre | ARS, Chintamani                                                                                                                                                                                                                                                                                                                                                                  |
| 8 | Recommended zone | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                                                                     |



## G12. Jamun

### G12.1 Chinthamani Selection–1

|   |                  |                                                                                                                                                                               |
|---|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Jamun                                                                                                                                                                         |
| 2 | Variety          | Chinthamani Selection–1                                                                                                                                                       |
| 3 | Pedigree         | Clonal selection from Maravapalli, Chinthamani Tq.                                                                                                                            |
| 4 | Year of Release  | 2017                                                                                                                                                                          |
| 5 | Yield            | 140 – 150 kg /tree/year                                                                                                                                                       |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ High yield (190–198% higher yield over local variety)</li><li>➤ Compact umbrella shape crown</li><li>➤ Better fruit quality</li></ul> |
| 7 | Developed centre | ARS, Chintamani                                                                                                                                                               |
| 8 | Recommended zone | Zone – 5                                                                                                                                                                      |



## G13. Pomello

### G13.1 Veda

|   |                  |                                                                                                                                                                           |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Pomello                                                                                                                                                                   |
| 2 | Variety          | Veda                                                                                                                                                                      |
| 3 | Pedigree         | Open selection                                                                                                                                                            |
| 4 | Year of Release  | 2009                                                                                                                                                                      |
| 5 | Yield            | 105 – 125 fruits/tree/year                                                                                                                                                |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Medium sized fruit with pink pulp</li><li>➤ Seedless variety</li><li>➤ High TSS, low acidity and has good juice quality</li></ul> |
| 7 | Developed centre | ZARS, GKVK                                                                                                                                                                |
| 8 | Recommended zone | Zone – 5                                                                                                                                                                  |

## G14. Potato

### G14.1 JX576\*

|   |                  |                                                                                                          |
|---|------------------|----------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Potato                                                                                                   |
| 2 | Variety          | JX576* (Hybrid)                                                                                          |
| 3 | Year of Release  | 2004                                                                                                     |
| 4 | Duration         | 85 – 90 days                                                                                             |
| 5 | Yield (tubers)   | 6 – 6.5 t/acre                                                                                           |
| 6 | Special features | <ul style="list-style-type: none"><li>➤ Moderately resistant to late and early blight diseases</li></ul> |
| 7 | Developed centre | ARS, Madenur                                                                                             |
| 8 | Recommended zone | Zone – 6 &7                                                                                              |

## G15. Sweet Potato

### G15.1 KBSP-1(CI-853-4)

|   |                  |                  |
|---|------------------|------------------|
| 1 | Crop             | Sweet Potato     |
| 2 | Variety          | KBSP-1(CI-853-4) |
| 3 | Year of Release  | 1992             |
| 4 | Duration         | 85 – 90 days     |
| 5 | Yield            | 10 – 12 t/acre   |
| 6 | Developed centre | Ullal            |
| 7 | Recommended zone | Zone – 4, 5 & 6  |

## G16. Medicinal Coleus

### G16.1 M-7 – ISIRI

|    |                  |                                                                                                                                                                                                                                     |
|----|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop             | Medicinal Coleus                                                                                                                                                                                                                    |
| 2  | Variety          | M-7 – ISIRI                                                                                                                                                                                                                         |
| 3  | Pedigree         | Induced mutation and selection from IC547017                                                                                                                                                                                        |
| 4  | Year of Release  | 2008                                                                                                                                                                                                                                |
| 5  | IC Number        | IC 547017                                                                                                                                                                                                                           |
| 6  | Duration         | 180 – 200 days                                                                                                                                                                                                                      |
| 7  | Yield            | Tuber: 2.8 – 2.9 t/acre; Forskolin: 2.6 – 2.7 t/acre                                                                                                                                                                                |
| 8  | Special features | <ul style="list-style-type: none"><li>➤ Non-flowering</li><li>➤ Management of Hypertension, Cardiac Problem and Dermatitis</li><li>➤ Low incidence of root knot nematode</li><li>➤ Moderately resistant to bacterial wilt</li></ul> |
| 9  | Developed centre | ZARS, GKVK                                                                                                                                                                                                                          |
| 10 | Recommended zone | Zones 5 & 6                                                                                                                                                                                                                         |

## G17. Chrysanthemum

### G17.1 Punjab Anuradha

|   |                  |                                                                                                                                                                                                                                                                                                                                    |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Chrysanthemum                                                                                                                                                                                                                                                                                                                      |
| 2 | Variety          | Punjab Anuradha                                                                                                                                                                                                                                                                                                                    |
| 3 | Pedigree         | FLIRT x GUL-E-SAHIR                                                                                                                                                                                                                                                                                                                |
| 4 | Year of Release  | 2008                                                                                                                                                                                                                                                                                                                               |
| 5 | Duration         | 80 – 90 days (early variety)                                                                                                                                                                                                                                                                                                       |
| 6 | Yield            | 7.0 – 7.2 t/acre                                                                                                                                                                                                                                                                                                                   |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Dual purpose (cut flower and loose flower)</li><li>➤ Prolonged flowering duration throughout the year with high suckering ability</li><li>➤ Good keeping quality</li><li>➤ Double Korean type flowers with attractive golden yellow colour</li><li>➤ Higher consumer preference.</li></ul> |
| 8 | Developed centre | ZARS, GKVK                                                                                                                                                                                                                                                                                                                         |
| 9 | Recommended zone | Zone – 5                                                                                                                                                                                                                                                                                                                           |



## G18. Stevia

### G18.1 GKVK Stevia–1

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Stevia                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2 | Variety          | GKVK Stevia–1                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3 | Pedigree         | Mixaploid by colchicine treatment                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4 | IC Number        | IC 635986                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5 | Year of Release  | 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6 | Herbage yield    | 3.7 – 3.8 t/acre                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Suitable for May–June planting</li><li>➤ Higher Stevioside content (13.5%) and Rebaudioside content (5.94%)</li><li>➤ Big and thick leaves produce diterpene glycosides (Stevioside &amp; Rebaudioside)</li><li>➤ High potency &amp; natural source of non–calorie sweetener (300 times more sweeter than sugar)</li><li>➤ Plants are hardy and can be repeatedly harvested</li><li>➤ Tolerant to most of the insect</li></ul> |
| 8 | Developed centre | ZARS, GKVK                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 9 | Recommended zone | Zone – 5                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



## VIII. FODDER

### H1. CNFS-1

|   |                      |                                                                                                                                                                                                              |
|---|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Fodder Sorghum                                                                                                                                                                                               |
| 2 | Variety              | CNFS – 1                                                                                                                                                                                                     |
| 3 | IC Number            | IC 639766                                                                                                                                                                                                    |
| 4 | Year of Release      | 2022                                                                                                                                                                                                         |
| 5 | Gazette Notification | SO. 4388(E) / 08.10.2024                                                                                                                                                                                     |
| 6 | Straw Yield          | 22 – 23 t/acre                                                                                                                                                                                               |
| 7 | Special Features     | <ul style="list-style-type: none"> <li>➤ Suitable for both <i>Kharif</i> (June – July) and Rabi (October – November)</li> <li>➤ Rich in Fibre (35–36%)</li> <li>➤ Rich in Protein content (9–10%)</li> </ul> |
| 8 | Developed Centre     | ZARS, V. C. Farm, Mandya                                                                                                                                                                                     |
| 9 | Recommended Zone     | Zone – 6                                                                                                                                                                                                     |



## H2. PBN-342

|   |                  |                                                                                                                                                                                                                    |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Bajra Napier                                                                                                                                                                                                       |
| 2 | Variety          | PBN-342                                                                                                                                                                                                            |
| 3 | Pedigree         | Kale bajra x N-22                                                                                                                                                                                                  |
| 4 | IC Number        | IC 623436                                                                                                                                                                                                          |
| 5 | Year of Release  | 2024                                                                                                                                                                                                               |
| 6 | Straw yield      | 56-60 t/acre                                                                                                                                                                                                       |
| 7 | Special Features | <ul style="list-style-type: none"><li>➤ Higher dry matter yield (9-10 t/acre)</li><li>➤ Higher leaf stem ratio (0.74:1)</li><li>➤ Better crude protein yield (6.8%)</li><li>➤ Better nutritional quality</li></ul> |
| 8 | Proposed Centre  | ZARS, Mandya                                                                                                                                                                                                       |
| 9 | Recommended Zone | Zone – 6                                                                                                                                                                                                           |



### H3. RO-11-1\*

|   |                                     |                                                                                                                                                                                                                                                                                                                                                                                        |
|---|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                                | Fodder Oats                                                                                                                                                                                                                                                                                                                                                                            |
| 2 | Variety                             | RO-11-1*                                                                                                                                                                                                                                                                                                                                                                               |
| 3 | Pedigree                            | Selections from RO-19                                                                                                                                                                                                                                                                                                                                                                  |
| 4 | Year of release                     | 2021                                                                                                                                                                                                                                                                                                                                                                                   |
| 5 | 1 <sup>ST</sup> Harvest starts from | 55–65 days                                                                                                                                                                                                                                                                                                                                                                             |
| 6 | Fodder Yield                        | 12 – 16 t/acre                                                                                                                                                                                                                                                                                                                                                                         |
| 7 | Special features                    | <ul style="list-style-type: none"> <li>➤ High crude protein yield (3 – 3.5 q/ha)</li> <li>➤ Tall variety (110 – 120 cm)</li> <li>➤ Long (48.5 cm) &amp; broad leaves (2.1–2.6 cm)</li> <li>➤ High leaf stem ratio (0.55:1)</li> <li>➤ Improved quality and digestibility attributes.</li> <li>➤ Moderately tolerant to leaf blight, root rot and less susceptible to aphids</li> </ul> |
| 8 | Proposed center                     | ZARS, Mandya                                                                                                                                                                                                                                                                                                                                                                           |
| 9 | Recommended zone                    | Zone – 5 & 6                                                                                                                                                                                                                                                                                                                                                                           |

\*Endorsed



#### H4. MFC-09-3

|    |                      |                                                                                                                                                                 |
|----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Forage Cowpea                                                                                                                                                   |
| 2  | Variety              | MFC-09-3 (MFC-3)                                                                                                                                                |
| 3  | Pedigree             | UPC5286 x UPC 628                                                                                                                                               |
| 4  | Year of Release      | 2020                                                                                                                                                            |
| 5  | Gazette Notification | SO. 8 (E) dated 24.12.2021                                                                                                                                      |
| 6  | IC Number            | IC 637625                                                                                                                                                       |
| 7  | Yield                | Green fodder: 10 – 10.5 t/acre<br>Dry matter: 2 – 2.1 t/acre; Seed: 1.8 – 2 q/acre                                                                              |
| 8  | Special features     | ➤ High <i>In vitro</i> Dry Matter Digestibility (61%)<br>➤ Leaf to stem ratio- 0.78:1<br>➤ Resistant to Yellow mosaic virus disease. Rust and leaf spot disease |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                    |
| 10 | Recommended zone     | Zone – 5 & 6                                                                                                                                                    |



## H5. MFC-09-1

|    |                      |                                                                                                                                                                                                                                                 |
|----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Forage Cowpea                                                                                                                                                                                                                                   |
| 2  | Variety              | MFC-09-1                                                                                                                                                                                                                                        |
| 3  | Pedigree             | KBC-2 x CoFC-8                                                                                                                                                                                                                                  |
| 4  | Year of Release      | 2017                                                                                                                                                                                                                                            |
| 5  | Gazette Notification | SO. 3540 (E) dated 22.11.2016                                                                                                                                                                                                                   |
| 6  | IC Number            | IC 610215                                                                                                                                                                                                                                       |
| 7  | Yield                | Green fodder: 9.5 – 9.7 t/acre<br>Dry matter: 1.7 – 1.8 t/acre<br>Crude protein: 2.8 – 3 q/acre                                                                                                                                                 |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Semi determinate growth</li> <li>➤ Erect, broad and dark green leaves</li> <li>➤ Light green pods</li> <li>➤ Moderately resistant to yellow mosaic virus, leaf spot <i>Meloidogyne spp.</i></li> </ul> |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                    |
| 10 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                        |



## H6. JHGG-08-01\*

|    |                    |                                                                                                                                                                                                                                                                                                              |
|----|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop               | Guinea grass                                                                                                                                                                                                                                                                                                 |
| 2  | Variety            | JHGG-08-01*                                                                                                                                                                                                                                                                                                  |
| 3  | Pedigree           | Colonial selection from Bundel collection                                                                                                                                                                                                                                                                    |
| 4  | Year of Release    | 2015                                                                                                                                                                                                                                                                                                         |
| 5  | IC Number          | IC 597571                                                                                                                                                                                                                                                                                                    |
| 6  | Duration           | 1 <sup>st</sup> harvest: 40–45 days after planting<br>Subsequent cuts: 30–35 days                                                                                                                                                                                                                            |
| 7  | Yield (8 cuttings) | Green forage: 4.0 – 4.1 t/acre<br>Dry matter: 5.2 –5.6 t/acre<br>Crude protein: 4.8 – 5.2 q/acre                                                                                                                                                                                                             |
| 8  | Special features   | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Kharif</i> season under rainfed condition</li> <li>➤ Leaf to stem ratio - 0.71:1</li> <li>➤ Quick regeneration</li> <li>➤ Tall variety with higher tillering capacity</li> <li>➤ Resistant to stem borer, leaf Caterpillars &amp; Webber</li> </ul> |
| 9  | Developed centre   | ZARS, Mandya                                                                                                                                                                                                                                                                                                 |
| 10 | Recommended zone   | Zone – 6                                                                                                                                                                                                                                                                                                     |



## H7. BNH-10\*

|    |                      |                                                                                                                                                                                                               |   |                    |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------|
| 1  | Crop                 | Napier Bajra                                                                                                                                                                                                  |   |                    |
| 2  | Variety              | BNH-10*                                                                                                                                                                                                       |   |                    |
| 3  | Pedigree             | BAIF Bajra-1                                                                                                                                                                                                  | x | Napier grass BRN-2 |
| 4  | Year of Release      | 2015                                                                                                                                                                                                          |   |                    |
| 5  | Gazette Notification | SO. 1228(E) dated 07.05.2015                                                                                                                                                                                  |   |                    |
| 6  | Duration             | 1 <sup>st</sup> harvest: 60 – 80 days after planting<br>Subsequent cuts: 40 – 45 days                                                                                                                         |   |                    |
| 7  | Yield (8 cuttings)   | Green forage: 5.6 – 5.7 t/acre<br>Dry matter: 1.0 – 1.1 t/acre<br>Crude protein: 7 – 7.2 q/acre                                                                                                               |   |                    |
| 8  | Special features     | <ul style="list-style-type: none"> <li>➤ Clonal selection</li> <li>➤ Leaf to stem ratio- 0.76:1</li> <li>➤ Quick regeneration</li> <li>➤ Suitable for <i>Kharif</i> season under rainfed condition</li> </ul> |   |                    |
| 9  | Developed centre     | ZARS, Mandya                                                                                                                                                                                                  |   |                    |
| 10 | Recommended zone     | Zone – 6                                                                                                                                                                                                      |   |                    |



## H8. MFC-08-14

|   |                      |                                                                                                                                                                                                                                                         |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Fodder Cowpea                                                                                                                                                                                                                                           |
| 2 | Variety              | MFC-08-14                                                                                                                                                                                                                                               |
| 3 | Pedigree             | KBC-2 x Bundel Lobia 1                                                                                                                                                                                                                                  |
| 4 | Year of Release      | 2015                                                                                                                                                                                                                                                    |
| 5 | Gazette Notification | SO. 2125 (E) dated 10.09.2012                                                                                                                                                                                                                           |
| 6 | Yield                | Green forage: 8 – 8.7 t/acre; Seed: 2.8 – 2.9 q/acre<br>Dry matter: 1.6 – 1.7 t/acre<br>Crude protein: 6.5 – 6.7 q/acre                                                                                                                                 |
| 7 | Special features     | <ul style="list-style-type: none"><li>➤ Superior in green forage yield</li><li>➤ Wider adaptability</li><li>➤ Leaf to stem ratio- 0.73:1</li><li>➤ Possesses high <i>Invitro</i> dry matter digestibility (61%)</li><li>➤ Resistance to rust.</li></ul> |
| 8 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                            |
| 9 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                |



## H9. OS-6

|    |                      |                                                                                                                                                                                                                                                                            |
|----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Crop                 | Fodder Oats                                                                                                                                                                                                                                                                |
| 2  | Variety              | OS-6                                                                                                                                                                                                                                                                       |
| 3  | Pedigree             | HFO10 x HFO55-P2-2                                                                                                                                                                                                                                                         |
| 4  | Year of Release      | 2012                                                                                                                                                                                                                                                                       |
| 5  | Gazette Notification | SO. 19 (E) dated 14.01.1982                                                                                                                                                                                                                                                |
| 6  | Duration             | Fodder: 50 – 60 days; Seed to seed: 85 – 90 days                                                                                                                                                                                                                           |
| 7  | Yield                | 11.5 – 14.1 t/acre                                                                                                                                                                                                                                                         |
| 8  | Dry matter           | 24 – 25 q/acre                                                                                                                                                                                                                                                             |
| 9  | Crude protein        | 1.7 – 1.8 q/acre                                                                                                                                                                                                                                                           |
| 10 | Special features     | <ul style="list-style-type: none"> <li>➤ Suitable for <i>Rabi</i> season</li> <li>➤ Medium tillering (3–5)</li> <li>➤ Erect plant type (100 – 150cms)</li> <li>➤ Higher crude protein: 8–9 %</li> <li>➤ Leaf to stem ratio- 0.43:1</li> <li>➤ Good palatability</li> </ul> |
| 11 | Developed centre     | ZARS, Mandya                                                                                                                                                                                                                                                               |
| 12 | Recommended zone     | Zone – 6                                                                                                                                                                                                                                                                   |



**H10. Co-4\***

|   |                  |               |
|---|------------------|---------------|
| 1 | Crop             | Hybrid Napier |
| 2 | Variety          | Co-4*         |
| 3 | Year of Release  | 2012          |
| 4 | Special features | ➤ Hybrid      |
| 5 | Developed centre | Mandya        |
| 6 | Recommended zone | Coastal zone  |

**H11. CoFS-29**

|   |                      |                                                                                                       |
|---|----------------------|-------------------------------------------------------------------------------------------------------|
| 1 | Crop                 | Fodder Sorghum                                                                                        |
| 2 | Variety              | CoFS-29                                                                                               |
| 3 | Pedigree             | TNS-30 x <i>S.sudanense</i>                                                                           |
| 4 | Year of Release      | 2011                                                                                                  |
| 5 | Yield                | Green Forage: 25 – 26 t/acre<br>Dry fodder: 6.8 – 7 t/acre                                            |
| 6 | Gazette Notification | SO. 1134 (E) dated 15.11.2001                                                                         |
| 7 | Special features     | ➤ Profuse tillering (12–15) with open panicle<br>➤ Broad and dark green leaves<br>➤ High palatability |
| 8 | Developed centre     | ZARS, Mandya                                                                                          |
| 9 | Recommended zone     | Zone – 5 & 6                                                                                          |



**Co-4\***



**CoFS-29**

### H12. RL-88

|   |                      |                               |
|---|----------------------|-------------------------------|
| 1 | Crop                 | Lucerne                       |
| 2 | Variety              | RL-88                         |
| 3 | Year of Release      | 2002                          |
| 4 | Yield                | 32 – 34 t/acre                |
| 5 | Gazette Notification | SO. 1 (E) dated 01.01.1996    |
| 6 | Special features     | ➤ High tonnage fodder variety |
| 7 | Developed centre     | RRS, Tiptur                   |
| 8 | Recommended zone     | Zone – 4 & 5                  |

### H13. Deena Bhandhu (49–A)

|   |                  |                                                                             |
|---|------------------|-----------------------------------------------------------------------------|
| 1 | Crop             | Fodder Bajra                                                                |
| 2 | Variety          | Deena Bhandhu (49–A)                                                        |
| 3 | Year of Release  | 1990                                                                        |
| 4 | Duration         | 65 – 70 days                                                                |
| 5 | Yield            | 20 – 23 t/acre                                                              |
| 6 | Special features | ➤ Suitable for rainfed situations<br>➤ Tolerant to foliar disease and pests |
| 7 | Developed centre | MRS, Hebbal                                                                 |
| 8 | Recommended zone | Zone – 4, 5, 6 & 7                                                          |

#### H14. BH-18

|   |                  |                                                 |
|---|------------------|-------------------------------------------------|
| 1 | Crop             | Fodder Napier                                   |
| 2 | Variety          | BH-18 (hybrid)                                  |
| 3 | Year of Release  | 1987                                            |
| 4 | Yield            | Green Forage: 60–61 t/acre/year in 7–8 cuttings |
| 5 | Special features | ➤ Resistant to <i>Helminthosporium</i>          |
| 6 | Developed centre | MRS, Hebbal                                     |

#### H15. Kamadhenu (Napier-2)

|   |                  |                                                                                    |
|---|------------------|------------------------------------------------------------------------------------|
| 1 | Crop             | Fodder Napier                                                                      |
| 2 | Variety          | Kamadhenu (Napier-2)                                                               |
| 3 | Year of Release  | 1973                                                                               |
| 4 | Yield            | Green fodder: 80 – 100 t/acre                                                      |
| 5 | Special features | ➤ Perennial habit<br>➤ Better tillering habit<br>➤ Highly palatable and nutritious |

## I. ANIMAL BREEDS

Before the bifurcation of University of Agricultural Sciences, Bangalore the following six improved poultry breeds and one sheep breed were released for the benefit of farming community. The list of improved animal breeds are presented in Table–23 detailed below:

**Table–23: List of improved Animal breeds released from UASB (1965–2025)**

| Sl. No.                | Breeds    | Year of release |
|------------------------|-----------|-----------------|
| <b>Poultry breeds:</b> |           |                 |
| 1                      | Giriraja  | 1989            |
| 2                      | Girirani  | -               |
| 3                      | IBB–80    | 1982            |
| 4                      | IBB–83    | 1982            |
| 5                      | UBRO–I    | 1973            |
| 6                      | UBRO–II   | 1973            |
| <b>Sheep breed:</b>    |           |                 |
| 1                      | UAS Sheep | 1984            |

### I1. Poultry breeds

#### I1.1 Giriraja

|   |                                    |                                                                                                                                                         |
|---|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Breed                              | Giriraja                                                                                                                                                |
| 2 | Year of Release                    | 1989                                                                                                                                                    |
| 3 | Body weight @ 8 <sup>th</sup> week | 1500 g                                                                                                                                                  |
| 4 | Feed efficiency                    | 2.5                                                                                                                                                     |
| 5 | Survivability                      | 98%                                                                                                                                                     |
| 6 | Egg production                     | 150 eggs/annum                                                                                                                                          |
| 7 | Special features                   | <ul style="list-style-type: none"> <li>➤ Dual purpose</li> <li>➤ Synthetic colour plumage bird</li> <li>➤ Suitable for all weather condition</li> </ul> |
| 8 | Developed centre                   | MRS, Hebbal                                                                                                                                             |

## 11.2 Girirani

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                 |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Breed            | Girirani                                                                                                                                                                                                                                                                                                                                                                        |
| 2 | Cross            | Synthetic male lines: Cornish, New Hampshire and white Plymouth Rock<br>Purebred female line: White Leghorn eTi strain                                                                                                                                                                                                                                                          |
| 3 | Egg production   | 230 eggs/annum                                                                                                                                                                                                                                                                                                                                                                  |
| 4 | Special features | <ul style="list-style-type: none"><li>➤ Hardy, scavenging, dual purpose poultry breeds</li><li>➤ Ideal for household poultry rearing</li><li>➤ Multi-coloured breed with scavenging potentialities</li><li>➤ Light weight</li><li>➤ Approved for release by UASB in 1990's with suggestion on name change but released as Swarnadhara by KVA &amp; FSU, Bidar in 2005</li></ul> |
| 5 | Developed centre | MRS, Hebbal                                                                                                                                                                                                                                                                                                                                                                     |

## 11.3 IBB – 80 (Indian Broiler Bangalore – 80)

|   |                                    |             |
|---|------------------------------------|-------------|
| 1 | Breed                              | IBB – 80    |
| 2 | Year of Release                    | 1982        |
| 3 | Body weight @ 6 <sup>th</sup> week | 1300 g      |
| 4 | Feed efficiency                    | 2.15        |
| 5 | Dressed weight                     | 73%         |
| 6 | Survivability                      | 98%         |
| 7 | Developed centre                   | MRS, Hebbal |

#### **I1.4 IBB – 83 (Indian Broiler Bangalore – 83)**

|   |                                    |             |
|---|------------------------------------|-------------|
| 1 | Breed                              | IBB – 83    |
| 2 | Year of Release                    | 1982        |
| 3 | Body weight @ 6 <sup>th</sup> week | 1300 g      |
| 4 | Feed efficiency                    | 2.15        |
| 5 | Dressed weight                     | 73%         |
| 6 | Survivability                      | 98%         |
| 7 | Developed centre                   | MRS, Hebbal |

#### **I1.5 UBRO–I (University broiler –I)**

|   |                                    |             |
|---|------------------------------------|-------------|
| 1 | Breed                              | UBRO–I      |
| 2 | Year of Release                    | 1973        |
| 3 | Body weight @ 7 <sup>th</sup> week | 1269 g      |
| 4 | Feed efficiency                    | 3.14        |
| 5 | Dressed weight                     | 70.48%      |
| 6 | Survivability                      | 97%         |
| 7 | Developed centre                   | MRS, Hebbal |

#### **I1.6 UBRO–II (University broiler –II)**

|   |                                    |             |
|---|------------------------------------|-------------|
| 1 | Breed                              | UBRO–II     |
| 2 | Year of Release                    | 1973        |
| 3 | Body weight @ 7 <sup>th</sup> week | 1269 g      |
| 4 | Feed efficiency                    | 3.1         |
| 5 | Dressed weight                     | 70%         |
| 6 | Survivability                      | 90%         |
| 7 | Developed centre                   | MRS, Hebbal |



**Giriraja**



**Girirani**

## I2. Sheep breed

### I2.1 UAS Sheep

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                                          |
|---|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Crop             | Sheep                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2 | Variety          | UAS sheep                                                                                                                                                                                                                                                                                                                                                                                                |
| 3 | Cross breed      | Exotic male line: English south Down<br>Female line: Indigenous Bannur and Deccani breeds                                                                                                                                                                                                                                                                                                                |
| 4 | Year of Release  | 1984                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5 | Lambing Interval | 8–9 months                                                                                                                                                                                                                                                                                                                                                                                               |
| 6 | Wool yield       | 0.6–0.8 Kg/clip                                                                                                                                                                                                                                                                                                                                                                                          |
| 7 | Special features | <ul style="list-style-type: none"><li>➤ Dual purpose breed</li><li>➤ Breed has Bannur (25%), South Down (25%) Deccany (50%) blood</li><li>➤ White, polled, medium sized sheep</li><li>➤ Growth rate is faster than Indian parent breeds</li><li>➤ Soft and more crimpy wool</li><li>➤ Meat is more soft and tender</li><li>➤ Adult sheep weighs: 30–40 Kg</li><li>➤ Dressing percentage: 48–55</li></ul> |
| 8 | Developed centre | MRS, Hebbal                                                                                                                                                                                                                                                                                                                                                                                              |

## Annexure – 1

### List of Research Stations transferred from State Department of Agriculture, Horticulture, Animal Husbandry and Fisheries to the then newly established UASB in 1965

| Sl. No. | Research Station               | Location    | Year of Est. |
|---------|--------------------------------|-------------|--------------|
| 1       | Research Institute             | Dharwad     | 1904         |
| 2       | Agricultural Research Station  | Gadag       | 1906         |
| 3       | Agricultural Research Station  | Hagari      | 1906         |
| 4       | Research Institute             | Hebbal      | 1906         |
| 5       | Agricultural Research Station  | Arabhavi    | 1909         |
| 6       | Agriculture Research Institute | Naganahally | 1917         |
| 7       | Agricultural Research Station  | Mugad       | 1923         |
| 8       | Agriculture Research Institute | Mandya      | 1931         |
| 9       | Agriculture Research Institute | Raichur     | 1932         |
| 10      | Agricultural Experiment Farm   | Vijayapur   | 1933         |
| 11      | Agricultural Research Station  | Siraguppa   | 1937         |
| 12      | Agricultural Research Station  | Nippani     | 1938         |
| 13      | Agricultural Research Station  | Rannebennur | -            |
| 14      | Agricultural Research Station  | Mangalore   | 1945         |
| 15      | Agricultural Research Station  | Annigeri    | 1947         |
| 16      | Agricultural Experiment Farm   | Saundatti   | -            |
| 17      | Agricultural Research Station  | Bailhongal  | 1947         |
| 18      | Agricultural Research Station  | Dharwad     | 1947         |

|    |                                        |             |      |
|----|----------------------------------------|-------------|------|
| 19 | Agricultural Research Station          | Bagalkote   | 1951 |
| 20 | Agricultural Experiment Farm           | Ponnampet   | 1951 |
| 21 | Agricultural Research Station          | Nargund     | -    |
| 22 | Agricultural Research Station          | Ullal       | 1953 |
| 23 | Agricultural Research Station (Paddy)  | Sirsi       | 1955 |
| 24 | Central Cashew Research Station        | Kotekar     | -    |
| 25 | Agricultural Research Station          | Gangavathi  | 1956 |
| 26 | Cardamom Research station              | Mudigere    | 1957 |
| 27 | Coconut Research Station               | Arsikere    | 1958 |
| 28 | Agricultural Research Station          | Sankeshwar  | 1959 |
| 29 | Agricultural Experiment Farm           | Ankola      | 1959 |
| 30 | Fisheries Research Station             | Hesarghatta | 1960 |
| 31 | Agricultural Experiment Farm           | Bidar       | 1963 |
| 32 | Agricultural Research Station          | Alnawar     | -    |
| 33 | Agricultural Research Station          | Hiriyur     | 1916 |
| 34 | Agricultural Experiment Farm           | Mercara     | 1951 |
| 35 | Agricultural Research Station (Pepper) | Sirsi       | 1961 |

## Annexure – 2

### List of Research stations transferred from UAS, Bangalore to UAS, Dharwad after bifurcation during 1986

| Sl. No. | Research Station              | Location        |
|---------|-------------------------------|-----------------|
| 1       | Regional Research Station     | Dharwad         |
| 2       | Agricultural Research Station | Gadag           |
| 3       | Agricultural Research Station | Hagari          |
| 4       | Agricultural Research Station | Arabhavi        |
| 5       | Agricultural Research Station | Mugad           |
| 6       | Regional Research Station     | Raichur         |
| 7       | Agricultural Research Station | Bijapur         |
| 8       | Agricultural Research Station | Siraguppa       |
| 9       | Agricultural Research Station | Nippani         |
| 10      | Agricultural Research Station | Annigeri        |
| 11      | Agricultural Research Station | Bailhongal      |
| 12      | Agricultural Research Station | Dharwad (Hebli) |
| 13      | Agricultural Research Station | Bagalkote       |
| 14      | Agricultural Research Station | Sirsi           |
| 15      | Agricultural Research Station | Gangavathi      |
| 16      | Agricultural Research Station | Sankeshwar      |
| 17      | Agricultural Research Station | Ankola          |
| 18      | Agricultural Research Station | Bidar           |
| 19      | Agricultural Research Station | Belvatagi       |
| 20      | Agricultural Research Station | Hanumanamatti   |

|    |                               |                 |
|----|-------------------------------|-----------------|
| 21 | Agricultural Research Station | Gulbarga        |
| 22 | Agricultural Research Station | Prabhunagar     |
| 23 | Agricultural Research Station | Bhimarayanagudi |
| 24 | Agricultural Research Station | Janvada         |
| 25 | Agricultural Research Station | Kavadimatti     |
| 26 | Agricultural Research Station | Kallolli        |

## Annexure – 3

### List of Research stations retained with UASB after transferring to UAS, Dharwad

| Sl. No. | Research Station              | Location      |
|---------|-------------------------------|---------------|
| 1       | Main Research Station         | Hebbal        |
| 2       | Agricultural Research Station | Hiriyur       |
| 3       | Agricultural Research Station | Naganahally   |
| 4       | Regional Research Station     | Mandya        |
| 5       | Agricultural Research Station | Kankanady     |
| 6       | Agricultural Research Station | Ponnampet     |
| 7       | Agricultural Research Station | Ullal         |
| 8       | Regional Research Station     | Mudigere      |
| 9       | Agricultural Research Station | Arasikere     |
| 10      | Agricultural Research Station | Balajigapade  |
| 11      | Fisheries Research Station    | Hessaraghatta |
| 12      | Regional Research Station     | GKVK          |
| 13      | Agricultural Research Station | Madenur       |
| 14      | Agricultural Research Station | Honnavile     |
| 15      | Agricultural Research Station | Kathalagere   |
| 16      | Agricultural Research Station | Chinthamani   |
| 17      | Regional Research Station     | Navile        |
| 18      | Agricultural Research Station | Kandali       |
| 19      | Agricultural Research Station | Nagamangala   |
| 20      | Agricultural Research Station | Konehally     |
| 21      | Regional Research Station     | Bramhavara    |
| 22      | Agricultural Research Station | Mercara       |

## Annexure – 4

**List of Research stations transferred to KVA & FSU, Bidar in April, 2005;  
UHS, Bagalkot during November, 2008 and UAHS, Shimoga in April, 2013**

| <b>Sl. No.</b> | <b>Research Station</b>       | <b>Location</b> | <b>Transferred University</b> |
|----------------|-------------------------------|-----------------|-------------------------------|
| 1              | Fisheries Research Station    | Hessaraghatta   | KVA & FSU, Bidar              |
| 2              | Agricultural Research Station | Hiriyur         | UAHS, Shimoga                 |
| 3              | Agricultural Research Station | Kankanady       | UAHS, Shimoga                 |
| 4              | Agricultural Research Station | Ponnampet       | UAHS, Shimoga                 |
| 5              | Agricultural Research Station | Ullal           | UAHS, Shimoga                 |
| 6              | Regional Research Station     | Mudigere        | UAHS, Shimoga                 |
| 7              | Regional Research Station     | Bramhavara      | UAHS, Shimoga                 |
| 8              | Agricultural Research Station | Mercara         | UAHS, Shimoga                 |
| 9              | Agricultural Research Station | Kathalagere     | UAHS, Shimoga                 |
| 10             | Regional Research Station     | Navile          | UAHS, Shimoga                 |
| 11             | Agricultural Research Station | Nagamangala     | KVA & FSU, Bidar              |
| 12             | Agricultural Research Station | Honnavile       | UAHS, Shimoga                 |
| 13             | Agricultural Research Station | Tiptur          | KVA & FSU, Bidar              |
| 14             | Main Research Station         | Hebbal          | KVA & FSU, Bidar              |

## Annexure – 5

### List of IC Numbers

| No. | Crop  | Variety                       | IC numbers                                     |
|-----|-------|-------------------------------|------------------------------------------------|
| 1   | Paddy | KMP-225                       | IC 642474                                      |
| 2   | Paddy | MSN-99 (IET-28349)            | IC 637626                                      |
| 3   | Paddy | KMP-220                       | IC 637186                                      |
| 4   | Paddy | Paustic-9                     | IC 621499                                      |
| 5   | Paddy | Paustic-7                     | IC 621498                                      |
| 6   | Paddy | Paustic-1                     | IC 621497                                      |
| 7   | Paddy | KMP-175 (Daksha)              | IC 620838                                      |
| 8   | Paddy | KRH-4                         | IC 613756                                      |
| 9   | Paddy | KHP-11                        | IC 588761                                      |
| 10  | Paddy | KMP-105 (Raksha)              | IC 586873                                      |
| 11  | Paddy | KMP-101 (Thanu)               | IC 528121                                      |
| 12  | Paddy | BR-2655                       | IC 528120                                      |
| 13  | Paddy | IR-57773 (Sharavathi)         | IC 400222                                      |
| 14  | Jowar | CNGS-1                        | IC 653157                                      |
| 15  | Jowar | Strain 5-4-1                  | Bijapur:<br>IC 289093<br>Bellary:<br>IC 289119 |
| 16  | Jowar | Siruguppa Neerjola (C-7-1195) | IC 287615                                      |
| 17  | Jowar | G.M.2-3-1<br>(Gidda Maldandi) | IC 544733                                      |
| 18  | Maize | MAH-15-84                     | IC 651397                                      |

| No. | Crop           | Variety            | IC numbers |
|-----|----------------|--------------------|------------|
| 19  | Maize          | MAH-14-138         | IC 644682  |
| 20  | Maize          | MAH-14-5           | IC 623731  |
| 21  | Ragi           | Indaf-9 (Chitta)   | IC 75487   |
| 22  | Ragi           | Indaf-8 (Chethana) | IC 75486   |
| 23  | Ragi           | Indaf-7(Hasta)     | IC 75484   |
| 24  | Ragi           | Indaf-5            | IC 75483   |
| 25  | Ragi           | Indaf-1            | IC 75481   |
| 26  | Ragi           | Indaf-3            | IC 75482   |
| 27  | Ragi           | Shakti (ROH-2)     | IC 75479   |
| 28  | Ragi           | Purna              | IC 75476   |
| 29  | Ragi           | ML-322             | IC 648947  |
| 30  | Ragi           | KMR-316            | IC 637187  |
| 31  | Ragi           | KMR-630            | IC 625725  |
| 32  | Ragi           | KMR-340            | IC 618419  |
| 33  | Ragi           | KMR-301 (Gowri)    | IC 594591  |
| 34  | Ragi           | KMR-204            | IC 594590  |
| 35  | Ragi           | GPU-48             | IC 565523  |
| 36  | Ragi           | MR-6 (Divya)       | IC 560482  |
| 37  | Ragi           | GPU-28             | IC 425957  |
| 38  | Ragi           | GPU-26             | IC 312307  |
| 39  | Foxtail Millet | GPUF -3            | IC 635733  |
| 40  | Proso Millet   | GPUP 32            | IC 645427  |
| 41  | Proso Millet   | GPUP-28            | IC 635735  |
| 42  | Little Millet  | GPUL-11            | IC 645428  |

| <b>No.</b> | <b>Crop</b>     | <b>Variety</b>              | <b>IC numbers</b> |
|------------|-----------------|-----------------------------|-------------------|
| 43         | Little Millet   | GPUL-6                      | IC 635734         |
| 44         | Browntop Millet | GPUBT-2                     | IC 639753         |
| 45         | Ricebean        | KBR-1                       | IC 628266         |
| 46         | Grain Amaranth  | KBGA-4                      | IC 623709         |
| 47         | Grain Amaranth  | KBGA-1                      | IC 597082         |
| 48         | Cowpea          | KBC-12                      | IC 652010         |
| 49         | Cowpea          | PGCP-6                      | IC 631710         |
| 50         | Cowpea          | KC-8 (KBC-11)               | IC 633629         |
| 51         | Cowpea          | AV-6 (KBC-9)                | IC 621819         |
| 52         | Cowpea          | AV-5                        | IC 594419         |
| 53         | Cowpea          | PKB-4                       | IC 587033         |
| 54         | Cowpea          | PKB-6                       | IC 587032         |
| 55         | Cowpea          | IT-38956-1                  | IC 565522         |
| 56         | Pigeonpea       | BRG-3                       | IC 623716         |
| 57         | Pigeonpea       | BRG-5                       | IC 614822         |
| 58         | Pigeonpea       | BRG-10-2 (BRG-4)            | IC 593951         |
| 59         | Pigeonpea       | BRG-2                       | IC 565447         |
| 60         | Fieldbean       | Hebbal Avare-5              | IC 643974         |
| 61         | Fieldbean       | Hebbal Avare-4              | IC 567219         |
| 62         | Blackgram       | LBG-791                     | IC 630329         |
| 63         | Soybean         | KBS-23                      | IC 627080         |
| 64         | Soybean         | MAUS-2 (Pooja)              | IC 596789         |
| 65         | Soybean         | Karune<br>(GC-002009-4-1-1) | IC 596788         |

| <b>No.</b> | <b>Crop</b> | <b>Variety</b>                             | <b>IC numbers</b> |
|------------|-------------|--------------------------------------------|-------------------|
| 66         | Groundnut   | GKVK-27                                    | IC 628566         |
| 67         | Groundnut   | GKVK-5                                     | IC 613988         |
| 68         | Groundnut   | Dh-8                                       | IC 308029         |
| 69         | Groundnut   | S-230 (Spreading)<br>(Raichur Habbu Senga) | IC 305032         |
| 70         | Groundnut   | VRI-2                                      | IC 305031         |
| 71         | Groundnut   | R.S-206 (Raichur Gejje Senga)              | IC 305001         |
| 72         | Groundnut   | K-134                                      | IC 304791         |
| 73         | Groundnut   | KRG-1 (MGS-9)                              | IC 296351         |
| 74         | Groundnut   | DH-3-30                                    | IC 113078         |
| 75         | Sunflower   | KBSH-88                                    | IC 649390         |
| 76         | Sunflower   | KBSH-90                                    | IC 651414         |
| 77         | Sunflower   | KBSH-85                                    | IC 644835         |
| 78         | Sunflower   | KBSH-78                                    | IC 627748         |
| 79         | Sunflower   | KBSH-53                                    | IC 561254         |
| 80         | Sunflower   | KBSH-42                                    | IC 400221         |
| 81         | Sunflower   | KBSH-41                                    | IC 400220         |
| 82         | Sunflower   | KBSH-44                                    | IC 296304         |
| 83         | Sunflower   | KBSH-1                                     | IC 586589         |
| 84         | Sesamum     | GKVKS-1                                    | IC 643837         |
| 85         | Castor      | ICH-66*                                    | IC 627759         |
| 86         | Niger       | KBN-2                                      | IC 643838         |
| 87         | Niger       | KBN-1                                      | IC 565448         |
| 88         | Sugarcane   | COVC-18061                                 | IC 633964         |

| <b>No.</b> | <b>Crop</b>         | <b>Variety</b>   | <b>IC numbers</b> |
|------------|---------------------|------------------|-------------------|
| 89         | Sugarcane           | CoVC-16062       | IC 633963         |
| 90         | Sugarcane           | CoVC-16061       | IC 633962         |
| 91         | Sugarcane           | VCF-0517         | IC 623109         |
| 92         | Sugarcane           | CoVC-99463       | IC 611631         |
| 93         | Chilly              | KBCH-1 (Sonia)   | IC 628254         |
| 94         | Jackfruit           | GKVK Red Jack    | IC 650865         |
| 95         | Jackfruit           | Byrachandra      | IC 647968         |
| 96         | Jackfruit           | Lalbagh madhura  | IC 632494         |
| 97         | Jackfruit           | Swarna Halasu    | IC 566526         |
| 98         | Black Turmeric      | CHNBT-1          | IC 653069         |
| 99         | Turmeric            | IISR Pratibha    | IC 349078         |
| 100        | Stevia              | GKVK Stevia-1    | IC 635986         |
| 101        | Coleus              | M-7 (ISIRI)      | IC 547017         |
| 102        | Fodder Cowpea       | MFC-09-3 (MFC-3) | IC 637625         |
| 103        | Fodder Cowpea       | MFC-09-1         | IC 610215         |
| 104        | Bajra Napier hybrid | PBN-342          | IC 623436         |
| 105        | Fodder Sorghum      | CNFS-1           | IC 639766         |
| 106        | Guinea grass        | JHGG-08-01*      | IC 597571         |

## Annexure – 6

### List of varieties registered in Protection of Plant Varieties and Farmers' Rights Authority, New Delhi

| Sl. No. | Common Name    | Denomination Registered | Certificate Issue Date |
|---------|----------------|-------------------------|------------------------|
| 1       | Sunflower      | KBSH-41                 | 20-May-2014            |
| 2       | Sunflower      | KBSH-53                 | 20-May-2014            |
| 3       | Sunflower      | KBSH-42                 | 21-May-2014            |
| 4       | Finger Millet  | ML-365                  | 31-Mar-2017            |
| 5       | Finger Millet  | GPU 67                  | 29-Dec-2016            |
| 6       | Finger Millet  | Rathna (GPU-48)         | 22-Oct-2016            |
| 7       | Finger Millet  | Indira Ragi 1           | 31-Mar-2017            |
| 8       | Finger Millet  | MR-6                    | 31-Mar-2017            |
| 9       | Rice           | Sharada (MAS 946-1)     | 28-Mar-2018            |
| 10      | Rice           | Ona Siri (MAS 26)       | 28-Mar-2018            |
| 11      | Pigeon pea     | BRG 5                   | 10-Oct-2019            |
| 12      | Pigeon pea     | BRG-4 (BRG10-2)         | 10-Oct-2019            |
| 13      | Grain Amaranth | KBGA-1                  | 24-Jun-2021            |
| 14      | Maize          | MAH-14-5                | 12-Jun-2024            |
| 15      | Rice           | Daksha (KMP-175)        | 22-May-2023            |
| 16      | Cowpea         | PKB 6                   | 2-Nov-2021             |
| 17      | Cowpea         | PKB 4                   | 15-Nov-2022            |
| 18      | Cowpea         | KBC-9                   | 15-Nov-2022            |
| 19      | Sunflower      | KBSH-88                 | 6-May-2025             |
| 20      | Sunflower      | KBSH-78                 | 6-May-2025             |
| 21      | Sunflower      | KBSH-85                 | 6-May-2025             |

## Annexure – 7

### Details of Area (lakh ha) of Major crops of Karnataka and change over in 5 and 10 years

Source: DA & FW

| Crop           | Season | 2015-16 | 2020-21 | 2024-25 | % Change in 10 years | %Change in 5 years |
|----------------|--------|---------|---------|---------|----------------------|--------------------|
| Rice           | Kharif | 9.8     | 10.4    | 8.9     | -9.3                 | -14.6              |
| Rice           | Rabi   | 1.3     | 3.6     | 0.4     | -69.2                | -88.6              |
| Rice           | Total  | 11.1    | 14.0    | 12.3    | 11.0                 | -11.8              |
| Wheat          | Rabi   | 1.7     | 2.0     | 1.6     | -6.3                 | -19.7              |
| Maize          | Kharif | 10.9    | 15.3    | 15.9    | 45.4                 | 3.5                |
| Maize          | Rabi   | 1.3     | 1.9     | 2.7     | 107.8                | 38.1               |
| Maize          | Total  | 12.2    | 17.3    | 19.0    | 55.9                 | 10.2               |
| Jowar          | Kharif | 1.1     | 0.9     | 1.1     | 2.9                  | 22.7               |
| Jowar          | Rabi   | 10.0    | 6.6     | 5.4     | -45.8                | -18.3              |
| Jowar          | Total  | 11.0    | 7.5     | 6.5     | -41.2                | -13.5              |
| Bajra          | Kharif | 1.7     | 2.2     | 1.2     | -28.3                | -46.4              |
| Ragi           | Kharif | 7.1     | 7.9     | 8.7     | 23.8                 | 11.2               |
| Small Millets  | Kharif | 0.3     | 0.3     | 0.5     | 82.1                 | 96.2               |
| Nutri Cereals  | Kharif | 10.0    | 11.2    | 11.5    | 14.6                 | 2.7                |
| Nutri Cereals  | Rabi   | 10.0    | 6.6     | 5.4     | -45.8                | -18.3              |
| Nutri Cereals  | Total  | 20.0    | 17.8    | 16.9    | -15.5                | -5.1               |
| Coarse Cereals | Kharif | 21.0    | 26.5    | 27.4    | 30.6                 | 3.2                |
| Coarse Cereals | Rabi   | 11.3    | 8.6     | 8.1     | -28.3                | -5.5               |
| Coarse Cereals | Total  | 32.2    | 35.1    | 35.9    | 11.5                 | 2.4                |
| Cereals        | Kharif | 30.7    | 36.9    | 36.2    | 17.9                 | -1.8               |
| Cereals        | Rabi   | 14.4    | 14.2    | 10.1    | -29.4                | -28.6              |
| Cereals        | Total  | 45.1    | 51.1    | 49.9    | 10.7                 | -2.3               |
| Tur            | Kharif | 6.6     | 16.3    | 17.4    | 165.4                | 6.9                |
| Gram           | Rabi   | 14.2    | 7.1     | 6.8     | -52.5                | -5.3               |
| Urad           | Kharif | 0.8     | 0.9     | 1.0     | 24.4                 | 20.0               |
| Urad           | Rabi   | 0.1     | 0.0     | 0.0     | -77.8                | -50.0              |
| Urad           | Total  | 0.9     | 0.9     | 1.0     | 14.3                 | 16.9               |

| Crop              | Season | 2015-16 | 2020-21 | 2024-25 | % Change in 10 years | %Change in 5 years |
|-------------------|--------|---------|---------|---------|----------------------|--------------------|
| Moong             | Kharif | 3.4     | 4.3     | 5.6     | 63.2                 | 30.0               |
| Moong             | Rabi   | 0.1     | 0.3     | 0.1     | 62.5                 | -50.0              |
| Moong             | Total  | 3.5     | 4.5     | 5.7     | 63.2                 | 25.4               |
| Other Pulses      | Kharif | 1.7     | 1.0     | 1.9     | 13.3                 | 96.8               |
| Other Pulses      | Rabi   | 1.4     | 1.5     | 1.3     | -9.2                 | -11.0              |
| Other Pulses      | Total  | 3.1     | 2.4     | 3.2     | 2.9                  | 31.7               |
| Total Pulses      | Kharif | 12.4    | 22.4    | 25.9    | 108.0                | 15.6               |
| Total Pulses      | Rabi   | 15.8    | 8.9     | 8.2     | -48.1                | -7.8               |
| Total Pulses      | Total  | 28.2    | 31.3    | 34.1    | 20.7                 | 9.0                |
| Total Food Grains | Kharif | 43.2    | 59.3    | 62.1    | 43.9                 | 4.8                |
| Total Food Grains | Rabi   | 30.1    | 23.1    | 18.3    | -39.2                | -20.6              |
| Total Food Grains | Total  | 73.3    | 82.4    | 84.0    | 14.5                 | 2.0                |
| Groundnut         | Kharif | 4.1     | 5.0     | 2.6     | -35.2                | -47.3              |
| Groundnut         | Rabi   | 1.6     | 2.2     | 1.1     | -30.5                | -48.6              |
| Groundnut         | Total  | 5.7     | 7.2     | 4.7     | -18.4                | -35.5              |
| Castor            | Kharif | 0.1     | 0.0     | 0.0     | -66.7                | -25.0              |
| Sesamum           | Kharif | 0.5     | 0.2     | 0.3     | -47.1                | 22.7               |
| Soybean           | Kharif | 2.6     | 3.1     | 3.7     | 44.6                 | 19.9               |
| Sunflower         | Kharif | 1.3     | 0.8     | 0.7     | -48.0                | -13.3              |
| Sunflower         | Rabi   | 2.1     | 0.5     | 0.4     | -82.9                | -22.2              |
| Sunflower         | Total  | 3.3     | 1.2     | 1.0     | -68.8                | -14.2              |
| Safflower         | Rabi   | 0.5     | 0.3     | 0.2     | -64.8                | -34.5              |
| Total Oil Seeds   | Kharif | 8.6     | 9.1     | 7.3     | -14.6                | -19.8              |
| Total Oil Seeds   | Rabi   | 4.3     | 3.0     | 1.7     | -60.9                | -43.4              |
| Total Oil Seeds   | Total  | 12.9    | 12.1    | 9.9     | -23.0                | -18.1              |
| Sugarcane         | Kharif | 4.5     | 4.4     | 5.5     | 23.1                 | 25.1               |
| Cotton            | Kharif | 6.4     | 8.2     | 6.8     | 5.1                  | -17.7              |

## Annexure – 8

### Details of Production (lakh tons) of Major crops of Karnataka and change over in 5 and 10 years

Source: DA & FW

| Crop           | Season | 2015-16 | 2020-21 | 2024-25 | % Change in 10 years | % Change in 5 years |
|----------------|--------|---------|---------|---------|----------------------|---------------------|
| Rice           | Kharif | 26.4    | 31.5    | 30.2    | 14.3                 | -3.9                |
| Rice           | Rabi   | 3.8     | 11.5    | 1.2     | -69.4                | -89.9               |
| Rice           | Total  | 30.2    | 42.9    | 40.5    | 33.9                 | -5.7                |
| Wheat          | Rabi   | 1.6     | 2.6     | 2.0     | 30.8                 | -22.1               |
| Maize          | Kharif | 29.8    | 46.7    | 50.2    | 68.3                 | 7.4                 |
| Maize          | Rabi   | 3.3     | 6.9     | 9.6     | 194.2                | 39.8                |
| Maize          | Total  | 33.1    | 53.6    | 61.6    | 86.2                 | 14.9                |
| Jowar          | Kharif | 1.2     | 1.8     | 2.1     | 79.8                 | 20.9                |
| Jowar          | Rabi   | 8.4     | 7.3     | 6.0     | -28.0                | -17.2               |
| Jowar          | Total  | 9.6     | 9.0     | 8.2     | -14.6                | -9.7                |
| Bajra          | Kharif | 1.5     | 2.8     | 1.5     | 6.2                  | -44.2               |
| Ragi           | Kharif | 11.9    | 13.7    | 12.3    | 3.9                  | -9.9                |
| Small Millets  | Kharif | 0.1     | 0.2     | 0.8     | 650.0                | 275.0               |
| Nutri Cereals  | Kharif | 14.6    | 18.4    | 16.8    | 14.7                 | -9.0                |
| Nutri Cereals  | Rabi   | 8.4     | 7.3     | 6.0     | -28.0                | -17.2               |
| Nutri Cereals  | Total  | 23.0    | 25.7    | 22.8    | -0.8                 | -11.3               |
| Coarse Cereals | Kharif | 44.5    | 65.2    | 67.0    | 50.7                 | 2.8                 |
| Coarse Cereals | Rabi   | 11.6    | 14.2    | 15.6    | 34.4                 | 10.5                |
| Coarse Cereals | Total  | 56.1    | 79.3    | 84.4    | 50.5                 | 6.4                 |
| Cereals        | Kharif | 70.9    | 96.6    | 97.2    | 37.1                 | 0.6                 |
| Cereals        | Rabi   | 17.0    | 28.2    | 18.8    | 11.0                 | -33.3               |
| Cereals        | Total  | 87.9    | 124.9   | 126.9   | 44.5                 | 1.7                 |
| Tur            | Kharif | 2.4     | 12.4    | 10.0    | 312.4                | -19.4               |
| Gram           | Rabi   | 6.6     | 4.5     | 4.1     | -38.8                | -9.2                |
| Urad           | Kharif | 0.2     | 0.5     | 0.6     | 185.7                | 22.4                |
| Urad           | Rabi   | 0.0     | 0.0     | 0.0     | -75.0                | -50.0               |
| Urad           | Total  | 0.3     | 0.5     | 0.6     | 144.0                | 19.6                |

| Crop              | Season | 2015-16 | 2020-21 | 2024-25 | % Change in 10 years | %Change in 5 years |
|-------------------|--------|---------|---------|---------|----------------------|--------------------|
| Moong             | Kharif | 0.4     | 1.7     | 2.4     | 482.9                | 38.2               |
| Moong             | Rabi   | 0.0     | 0.1     | 0.0     | 33.3                 | -55.6              |
| Moong             | Total  | 0.4     | 1.8     | 2.4     | 452.3                | 33.5               |
| Other Pulses      | Kharif | 1.0     | 0.6     | 1.0     | 5.2                  | 82.1               |
| Other Pulses      | Rabi   | 0.7     | 0.9     | 0.8     | 17.6                 | -13.0              |
| Other Pulses      | Total  | 1.7     | 1.5     | 1.8     | 9.6                  | 23.0               |
| Total Pulses      | Kharif | 4.0     | 15.2    | 14.0    | 248.6                | -7.8               |
| Total Pulses      | Rabi   | 7.4     | 5.5     | 4.9     | -33.7                | -10.9              |
| Total Pulses      | Total  | 11.4    | 20.7    | 18.9    | 65.8                 | -8.6               |
| Total Food Grains | Kharif | 74.9    | 111.8   | 111.2   | 48.5                 | -0.5               |
| Total Food Grains | Rabi   | 24.4    | 33.7    | 23.7    | -2.6                 | -29.6              |
| Total Food Grains | Total  | 99.2    | 145.5   | 145.8   | 46.9                 | 0.2                |
| Groundnut         | Kharif | 2.7     | 4.7     | 2.5     | -10.6                | -47.9              |
| Groundnut         | Rabi   | 1.2     | 2.5     | 1.2     | -0.8                 | -52.2              |
| Groundnut         | Total  | 4.0     | 7.2     | 4.4     | 12.4                 | -38.4              |
| Castor            | Kharif | 0.1     | 0.0     | 0.0     | -60.0                | -50.0              |
| Sesamum           | Kharif | 0.2     | 0.2     | 0.2     | -20.8                | -5.0               |
| Soybean           | Kharif | 1.4     | 3.8     | 4.8     | 244.3                | 27.9               |
| Sunflower         | Kharif | 0.5     | 0.7     | 0.6     | 23.5                 | -3.1               |
| Sunflower         | Rabi   | 1.0     | 0.4     | 0.4     | -61.4                | -9.3               |
| Sunflower         | Total  | 1.5     | 1.1     | 1.1     | -30.9                | -2.8               |
| Safflower         | Rabi   | 0.3     | 0.2     | 0.1     | -53.3                | -26.3              |
| Total Oil Seeds   | Kharif | 5.0     | 9.4     | 8.1     | 63.3                 | -13.4              |
| Total Oil Seeds   | Rabi   | 2.5     | 3.1     | 1.7     | -32.3                | -45.2              |
| Total Oil Seeds   | Total  | 7.5     | 12.5    | 10.7    | 42.1                 | -14.7              |
| Sugarcane         | Kharif | 378.3   | 425.3   | 498.6   | 31.8                 | 17.2               |
| Cotton            | Kharif | 20.0    | 23.2    | 22.7    | 13.4                 | -2.3               |

## Annexure – 9

### Details of Productivity (Kg/ha) of Major crops of Karnataka and change over in 5 and 10 years

Source: DA & FW

| Crop           | Season | 2015-16 | 2020-21 | 2024-25 | % Change in 10 years | % Change in 5 years |
|----------------|--------|---------|---------|---------|----------------------|---------------------|
| Rice           | Kharif | 2704    | 3030    | 3409    | 26.1                 | 12.5                |
| Rice           | Rabi   | 2850    | 3193    | 2833    | -0.6                 | -11.3               |
| Rice           | Total  | 2722    | 3072    | 3285    | 20.7                 | 6.9                 |
| Wheat          | Rabi   | 897     | 1291    | 1253    | 39.7                 | -2.9                |
| Maize          | Kharif | 2734    | 3051    | 3166    | 15.8                 | 3.8                 |
| Maize          | Rabi   | 2535    | 3546    | 3589    | 41.6                 | 1.2                 |
| Maize          | Total  | 2713    | 3107    | 3240    | 19.4                 | 4.3                 |
| Jowar          | Kharif | 1133    | 2006    | 1982    | 74.9                 | -1.2                |
| Jowar          | Rabi   | 837     | 1098    | 1112    | 32.9                 | 1.3                 |
| Jowar          | Total  | 865     | 1205    | 1257    | 45.3                 | 4.3                 |
| Bajra          | Kharif | 875     | 1241    | 1290    | 47.4                 | 3.9                 |
| Ragi           | Kharif | 1685    | 1745    | 1414    | -16.1                | -19.0               |
| Small Millets  | Kharif | 357     | 778     | 1471    | 312.0                | 89.1                |
| Nutri Cereals  | Kharif | 1456    | 1643    | 1457    | 0.1                  | -11.3               |
| Nutri Cereals  | Rabi   | 837     | 1098    | 1112    | 32.9                 | 1.3                 |
| Nutri Cereals  | Total  | 1147    | 1441    | 1347    | 17.4                 | -6.5                |
| Coarse Cereals | Kharif | 2122    | 2456    | 2447    | 15.3                 | -0.4                |
| Coarse Cereals | Rabi   | 1031    | 1653    | 1933    | 87.5                 | 16.9                |
| Coarse Cereals | Total  | 1740    | 2260    | 2349    | 35.0                 | 3.9                 |
| Cereals        | Kharif | 2307    | 2618    | 2683    | 16.3                 | 2.5                 |
| Cereals        | Rabi   | 1183    | 1991    | 1860    | 57.2                 | -6.6                |
| Cereals        | Total  | 1949    | 2444    | 2544    | 30.5                 | 4.1                 |
| Tur            | Kharif | 368     | 759     | 572     | 55.4                 | -24.6               |
| Tur            | Total  | 368     | 759     | 572     | 55.4                 | -24.6               |
| Gram           | Rabi   | 466     | 625     | 600     | 28.8                 | -4.0                |
| Gram           | Total  | 466     | 625     | 600     | 28.8                 | -4.0                |

| Crop              | Season | 2015-16 | 2020-21 | 2024-25 | % Change in 10 years | %Change in 5 years |
|-------------------|--------|---------|---------|---------|----------------------|--------------------|
| Urad              | Kharif | 256     | 577     | 590     | 130.5                | 2.3                |
| Urad              | Rabi   | 444     | 549     | 429     | -3.4                 | -21.9              |
| Urad              | Total  | 275     | 576     | 587     | 113.5                | 1.9                |
| Moong             | Kharif | 121     | 405     | 430     | 255.4                | 6.2                |
| Moong             | Rabi   | 363     | 346     | 300     | -17.4                | -13.3              |
| Moong             | Total  | 126     | 402     | 427     | 238.9                | 6.2                |
| Other Pulses      | Kharif | 589     | 589     | 545     | -7.5                 | -7.5               |
| Other Pulses      | Rabi   | 482     | 637     | 618     | 28.2                 | -3.0               |
| Other Pulses      | Total  | 539     | 618     | 575     | 6.7                  | -7.0               |
| Total Pulses      | Kharif | 322     | 677     | 540     | 67.7                 | -20.2              |
| Total Pulses      | Rabi   | 467     | 618     | 598     | 28.1                 | -3.2               |
| Total Pulses      | Total  | 403     | 661     | 554     | 37.5                 | -16.2              |
| Total Food Grains | Kharif | 1735    | 1885    | 1790    | 3.2                  | -5.0               |
| Total Food Grains | Rabi   | 808     | 1463    | 1295    | 60.3                 | -11.5              |
| Total Food Grains | Total  | 1354    | 1767    | 1737    | 28.3                 | -1.7               |
| Groundnut         | Kharif | 675     | 941     | 930     | 37.8                 | -1.2               |
| Groundnut         | Rabi   | 738     | 1131    | 1049    | 42.1                 | -7.3               |
| Groundnut         | Total  | 693     | 999     | 955     | 37.8                 | -4.4               |
| Castor            | Kharif | 556     | 896     | 585     | 5.2                  | -34.7              |
| Sesamum           | Kharif | 471     | 921     | 697     | 48.0                 | -24.3              |
| Soybean           | Kharif | 543     | 1212    | 1293    | 138.1                | 6.7                |
| Sunflower         | Kharif | 408     | 863     | 963     | 136.0                | 11.6               |
| Sunflower         | Rabi   | 490     | 956     | 1107    | 125.9                | 15.8               |
| Sunflower         | Total  | 459     | 898     | 1019    | 122.0                | 13.5               |
| Safflower         | Rabi   | 563     | 665     | 732     | 30.0                 | 10.1               |
| Total Oil Seeds   | Kharif | 579     | 1026    | 1108    | 91.4                 | 8.0                |
| Total Oil Seeds   | Rabi   | 590     | 1055    | 1025    | 73.7                 | -2.8               |
| Total Oil Seeds   | Total  | 583     | 1033    | 1077    | 84.7                 | 4.3                |
| Sugarcane         | Kharif | 84075   | 96000   | 90000   | 7.0                  | -6.3               |
| Cotton            | Kharif | 530     | 481     | 571     | 7.7                  | 18.7               |

