



University of Agricultural Sciences

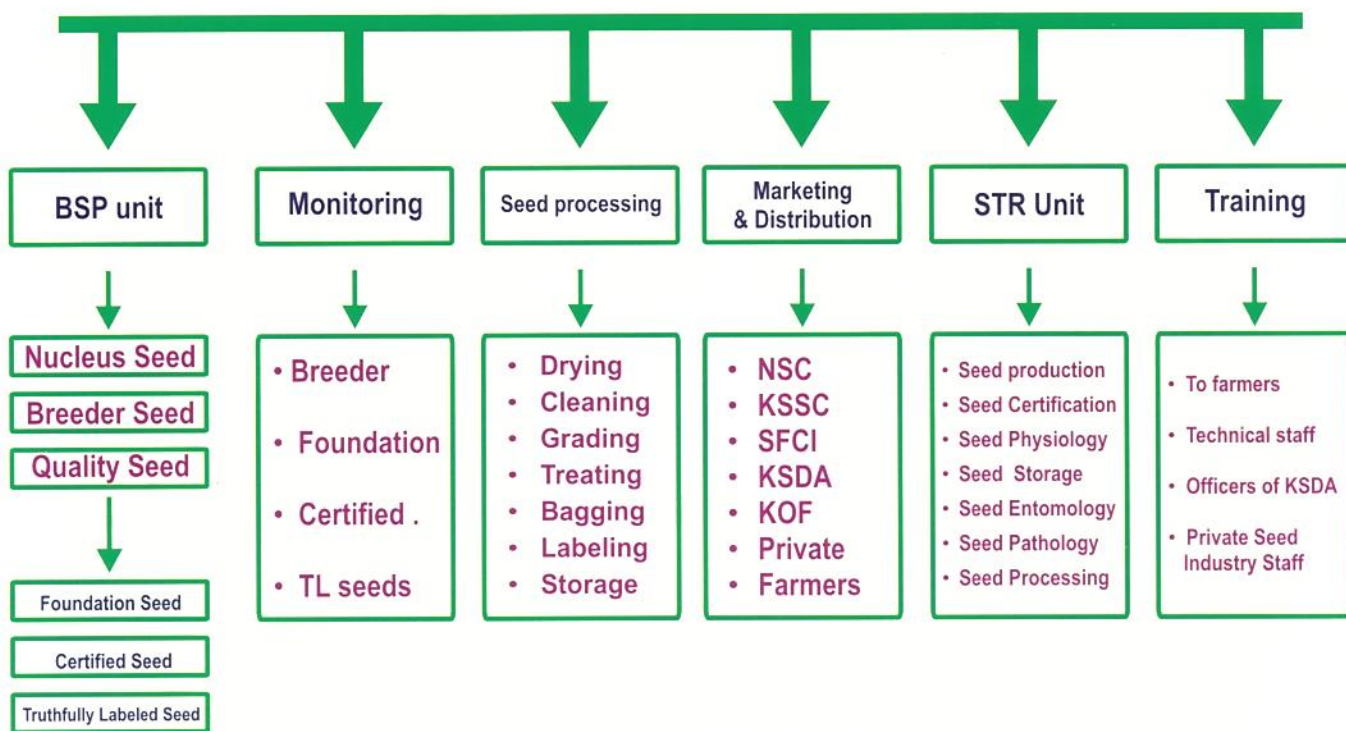
GKVK, Bengaluru - 560 065

Seed Center

National Seed Project (Crops) - *at a Glance*



SEED DEVELOPMENT ACTIVITIES AT UAS, BENGALURU



National Seed Project (Crops) - At a Glance

University Of Agricultural Sciences, GKVK, Bengaluru

Quality seeds play a vital role in increasing the production and productivity of field crops. The miracle seeds of improved varieties and hybrids have played a key role in agricultural transformation in India. Over the decade, the role of quality seed is becoming crucial and the swiftness of development in agricultural production largely depends on the progress of seed programs. It is not enough if a desirable cultivar or hybrid is released unless and until sufficient quantities of quality seeds are made available to the farming community at an affordable price at right time in right place.

National Seed Project (Crops) was established during the year 1979-80 with the financial assistance of Rs.1.68 crores from the World Bank with a grant-in-aid of Rs.45 lakhs from GOI. Since then the University has created very good infrastructure for quality seed production, processing and storage. Two seed processing units, one at GKVK, Bengaluru and another at ZARS, Mandya with processing capacity of 2.0 tonnes /hour were established. In addition, the storage facilities were also established to accommodate around 60,000 quintals of quality seeds. Further, NSP was strengthened under Mega Seed Project by providing additional seed processing plants, storage and production facilities with adequate manpower.

Objectives

- * Production and supply of breeder seeds as per the indent of GOI, GOK and Private seed agencies.
- * Production and supply of quality seeds (Foundation, Certified and Truthfully labeled) produced on farms and under Scientists-Farmers Participatory Seed Production Program (SFPP) as per the Seed Village Concept.
- * To undertake research on seed technology aspects as per the national mandate.
- * To impart advanced training on seed production, processing, testing and storage.
- * To conduct seed testing including field GOT for different crop seeds for in-house quality assurance and also DNA marker test for hybrids.

Besides, the National Seed Project is also involved in human resource development Programs by conducting training programmes to seed producers/personnel involved in seed industry on various aspects of seed production, seed testing and seed storage of different cereals, pulses and oil seed crops to augment the productivity by using quality seeds. The training programmes are also being organized by involving farmers to take up seed production in their own fields with latest seed production techniques. Further, field days and demonstrations are organized in fields to create awareness among the farmers.

Impact of the Seed Project

- * Increase in seed production by 2 to 3 fold over last five years
- * The University is contributing about 3 to 4% of total seed requirement of Karnataka
- * Increased Seed Replacement Rates (SRR) to the tune of 2.2%
- * Increased area under quality seed in the State
- * Timely availability of quality seeds of cereals, pulses and oilseed crops
- * Popularization of new improved varieties/hybrids & their rapid spread
- * Supply of quality seeds to other states to cater the needs of farmers
- * Improved the nutrition and socio-economic status of farmers
- * HRD by imparting training to the staff of state department of agriculture, farmers and unemployed youth on seed production and quality testing technologies
- * Generated employment to the extent of 3 to 4 fold (55 lakhs) over last five years
- * Increased productivity and production due to supply of quality seeds of new varieties and hybrid
- * Technical assistance to the farmers and personnel involved in seed production
- * Public – private partnership (PPP) for production and supply of hybrid seeds for export
- * Creation of seed processing and testing facilities at different satellite centers of the university

Released varieties/ hybrids under seed chain

Cereals	Pulses	Oilseeds
Paddy: KMP-101 (Tanu), Jaya, KRH-2, KRH-4, IR-58025 A, IR-58025 B, Raksha, Daksha, BR-2655, IET-8116, KCP-1, IR-30864, Intan, Hemavathi, IET-7191, MTU-1001, MTU-1010, JGL-1798, KHP-5, KHP-9, KHP-10, CTH-1(Mukthi), Jyothi, Mahaveer, CTH-3, KHP-2, BPT-5204, Sharavathi, Rasi (IET-1444)	Red gram: BRG-1, BRG-2, BRG-3, BRG-4, BRG-5	Soybean : JS-335, JS-9560, MAUS-2
	Cowpea: C-152, KBC-2, IT-38956-1, PKB-6, PKB-4, AV-5, AV-6/KBC-9	Sunflower: KBSH-1, KBSH-41, KBSH-42, KBSH-44, KBSH-53, KBSH-78
	Greengram: PDM-84-178, KKM-3	
Aerobic rice: BI -33, MAS-26, MAS-946-1	Blackgram: LBG-625 (Rashmi)	Groundnut: TMV-2, JL-24, KCG-6, K-6, ICGV-91114, GKVK-5
Ragi: L-5, Indaf-7, Indaf-9, MR-1, MR-6, GPU-26, GPU-28, GPU-45, GPU-48, GPU-66, GPU-67, ML-365, KMR-301, KMR-204, KMR-630, KMR-340	Horse gram : PHG-9, BGM-1	Sesamum: GT-1
Maize: NAC-6002, NAC-6004, African Tall, NAH-2049 (Nityasree), NAH-1137 (Hema), MAH-14-5	Chickpea : JG-11	Niger: KBN-1
Little millet: JK-8	Field bean: HA-3, HA-4	Castor: Kranthi, Jyothi, DCH-177, DCS-9
Foxtail millet: SiA 326		

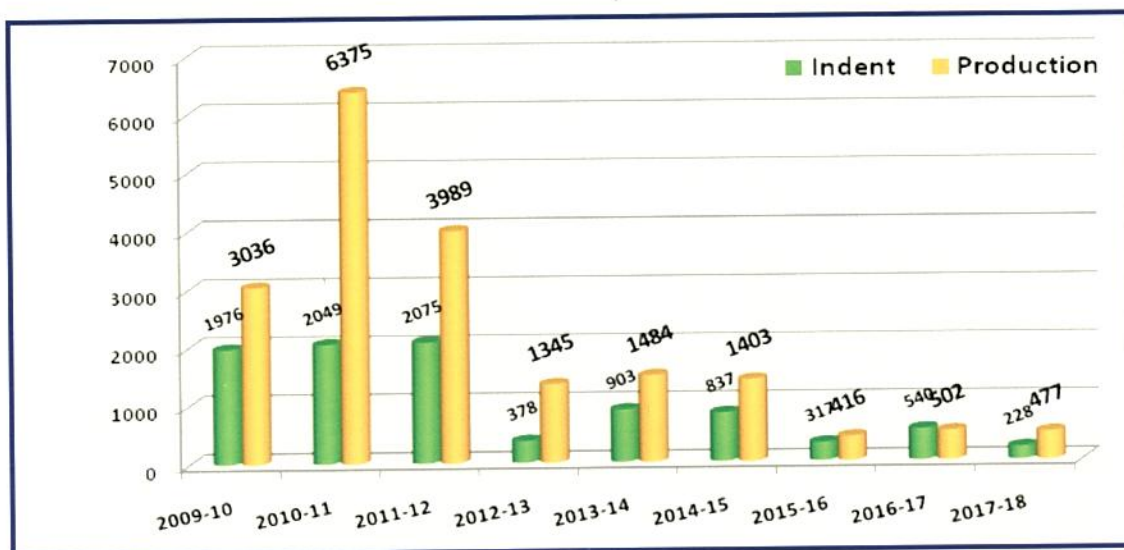
BREEDER SEED PRODUCTION

The Breeder Seed Production unit was started in 1979-80 at the University of Agricultural Sciences, Bengaluru under the umbrella of AICRP on NSP (Crops). ICAR Seed Project is well supported by this BSP unit by producing adequate quantities of nucleus seeds to meet the breeder seeds indented by GOI and state government.

Objectives

- * Production of nucleus seeds of different crop varieties (maintenance breeding)
- * Production and supply of breeder seeds as per the indent of GOI, GOK and private seed agencies.
- * Monitoring the breeder seed production for ensuring genetic purity
- * Popularization of new varieties developed by the University
- * Identification of diagnostic characteristics of varieties, parental lines and hybrids for DUS testing to impart training on breeder seed production and maintenance breeding

Progress of Quality Seed Production and Breeder Seed Production over years



SEED TECHNOLOGY RESEARCH

The Seed Technology Research Unit was sanctioned under National Seed Project Phase-II during 1980-81. The research work on various aspects like seed production and certification, seed physiology, storage and testing, seed pathology, seed entomology and seed processing are in progress. The research projects planned during Annual workshops are being conducted. In addition to the AICRP experiments set out from the national mandate, the experiments on various aspects of seeds were also being conducted to address the local issues to meet the requirements of farmers as well as seed industry

Mandates of Seed Technology Research

- * Development of technology for maximizing seed yield in both varieties and hybrids
- * Standardization of techniques for seed certification and seed quality testing
- * Identification of biochemical and molecular markers for genetic purity analysis
- * Identification and development of improved package and suitable seed treatments methods for safe storage of seeds
- * To work out the seed enhancement treatments for optimizing seed rate and enhancing the performance of seeds
- * Work out quick, reliable vigour tests and to assess its impact on crop productivity
- * Identification of disease free locations for seed production
- * Study of compatibility & synergistic effect of insecticides & fungicides for seed treatment
- * Safe technology / methods / treatments for control of storage insects / pests
- * Exploitation of pollinators for hybrid seed production
- * Standardization of screen sizes and processing techniques for different crop varieties / hybrids / parental lines
- * Development of pelleting / coating / colouring technology
- Demonstration of superiority of quality seed to harness higher yields
- * Demonstration of seed production technology
- * Determination of seed drying technology for different crop varieties
- * Studies on DUS characters for identification of varieties, parental lines and hybrids

Seed Testing Services

Besides the mandates the unit is also involved in testing seed samples for both germination and genetic purity of seed lots of University produce as well as seed industry samples to ensure quality.

Seed Infrastructure Created



NSP, GKV, Bangalore



ZARS, Mandya



ARS, Tiptur



ARS, Arasikere



ARS, Chinthamani



KVK, Chamarajnagar



KVK, Mandya



ARS, Nagenahalli



KVK, Ramnagar



Tribal sub plan Programme



Netherland team visit



Nigerian team visit



Director, Indian Institute of Seed Science MAU (UP) visit