

All India Co-ordinated Research Project on Sunflower



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Technologies/ Patents developed/Varieties released, Technologies included under Package of Practices of University

- 1)Associated in identification of Cowpea variety viz., KM-5 for cultivation in Zone-5 and Zone-7 of Karnataka during 2008.
- 2)Developed Cowpea variety DCS-47-1 during 2011-12 for Zone-3 & 8 of Karnataka during 2012
- 3)Released KBSH 78 sunflower hybrid for Karnataka State during 2018

Project operated as PI

- 1) Studies on introgressive hybridization to incorporate the germplasm of local land races into cultivated background of Cowpea (*Vigna unguiculata*)
- 2) Molecular characterization and diversity analysis of cowpea germplasm
- 3) DNA marker assisted identification of rust resistance in Cowpea (*Vigna unguiculata*)
- 4) Genotyping Service System-Cowpea
- 5) Marker assisted selection for temperature stress tolerance in sunflower
- 6) Identification and development of nitrogen use efficient rice varieties
- 7) Popularization of nutritional crop genotypes for economic and nutritional enhancement of primitive tribes (soliga) of Male Mahadeshwarahills, Chamarajanagar District

Project operated as Co-PI

- 1)Promotion of sustainable nutrition and empowerment of SC/ST women through nutrifarms in Chamarajanagar District

Trainings Undertaken (National & International)

1. Hybrid rice seed production technology, 4-11 Nov 1996, V.C. Farm, Mandya, Karnataka
2. Hybrid rice seed production technology, 2-5 April 1998, DRR, Hyderabad
3. Molecular Marker Applications in Plant Breeding from 26.9.2002 to 5.10.2002 at IARI, New Delhi.
4. Physiology and Molecular approaches for improving sugarcane productivity from 16.6.03 to 15.7.2003 at ISSR, Lucknow.
5. Application of stable isotopes to study physiological processes for crop improvement from 2.12.03 to 22.12.03 at Dept. of Crop Physiology, Bangalore
6. Teaching Methods in Agriculture, summer school during 9-29 August 2004, GKVK, Bangalore.
7. Refresher course on Participatory Plant Breeding and Support of local seed supply held at from 30th October 2004 to 13th November 2004 at Chiang Mai, Thailand.
8. Generation Challenge Programme Training Course on Plant Genetic Diversity Analysis and Marker-Assisted Breeding at Kasetsart University, Thailand; 20 Aug – 04 Sep 2005
9. Training Workshop on Regulations of GM crops with a special focus on Cartagena protocol on Biosafety at GKVK Bangalore on 9.1.2007
10. KSDA-UAS Workshop on Protection of Plant Varieties and Farmers Rights Act 2001, at UAS, GKVK, Bangalore 19-05-2007
11. Molecular Marker Techniques and Plant transformation for crop improvement funded by KIRK HOUSE TRUST, held at Department of Biotechnology, UAS, Bangalore, GKVK from 17th December 2007 to 9th January 2008.
12. State level workshop on Management and Monitoring of Field trials of Genetically Engineered crops in State Agricultural Universities, Sponsored by Department of Biotechnology, Government of India on 26-11 2008, UAS, GKVK, Bangalore
13. Training workshop on Biodiversity conservation, at WII, Dehradun on 6th - 10th February 2012
14. Training workshop on Agrobiodiversity Conservation, Sustainable Livelihoods and need for Climate Change Adaptation organised by M S Swaminathan Research Foundation, Pootharvoyal, Kalpetta Wayanad, Kerala, 18-24 November 2016
15. Training to all oilseeds breeders of AICRP Sunflower, Castor, Sesamum & Niger at IOR, Hyderabad. 20-23 August, 2019
16. Netherlands fellowship (NFP) for special training on Applied Plant Breeding at IAC, Wageningen for 10 weeks from 7.5.2001 to 14.7.2001
17. Refresher course on Participatory Plant Breeding and Support of local seed supply held at Chiang Mai, Thailand from 30th October to 13th November 2004 under Netherlands fellowship (NFP).
18. Generation Challenge Programme Training Course on Plant Genetic Diversity Analysis and Marker-Assisted Breeding at Kasetsart University, Thailand; 20 Aug – 04 Sep 2005

Publication (Research paper, review paper, book and book chapter)

1. Asish I. Edakkalathur, Uma M. S., Erayya and Ayyoob, K.C. 2016. Inheritance of Resistance to Rust in Cowpea *Vigna unguiculata* (L.) Walp. *Advances in Life Sciences* 5(5), 1968 -1972.
 2. Asish I. Edakkalathur, Uma M. S., Erayya and Gangadhara, K. 2016. Early Generation Selection in Cowpea (*Vigna unguiculata* L. Walp). *Advances in Life Sciences* 5(6), Print : ISSN 2278-3849, 2211-2216.
 3. Naveen kumar, V.M and M. S. Uma. 2016. Genetic variability for nitrogen use efficiency and yield related traits in rice under low nitrogen and available soil nitrogen conditions. *International Journal of Applied and Pure Science and Agriculture*. 82-90
 4. K.L. Girishraj Urs and M.S. Uma. 2016. Character association and path analysis in Confectionery Sunflower (*Helianthus annuus* L.) germplasm. *Advances in Life Sciences* 5(11), 4593 -4596.
 5. K.L. Girishraj Urs and M.S. Uma. 2016. Assessment of genetic diversity in Confectionery Sunflower (*Helianthus annuus* L.) germplasm. *Advances in Life Sciences* 5(11), 4627 -4632.
 6. Naveen Kumar V.M, Uma. M. S., Lohithaswa, H.C. and Hittalmani Shailaja. 2016. Identification of nitrogen use efficient local rice genotypes under low soil nitrogen conditions. *International Journal of Agriculture Sciences*, 8 (16) 3450-3455.
 7. Uma M. S., Girishraj Urs, K. L. & Umesh, H. O. 2018. Microsatellite DNA marker aided diversity analysis in confectionery Sunflower (*Helianthus annuus* L.) *International Journal of Agricultural Science and Research (IJASR)*, ISSN(P): 2250-0057; ISSN(E): 2321-0087, Vol. 8, Issue 1, Feb 2018, 27-34
 8. Geetha N., Uma, M. S and Ravishankar. P. 2018. Genetic Variability for Yield and Yield Attributing Traits in Elite Germplasm Lines of Little Millet *Int. J. Pure App. Biosci.* 6 (1): 1466-1471.
 9. Uma. M. S., and Bharani. H. K. 2018. Comparative assessment of sunflower (*Helianthus annuus* L.) genotypes for yield and yield attributing traits under two different temperature regimes. *Journal of Farm Sciences*, 31(1): 21-26.
 10. Savitri, A.M., Uma, M.S., Lohitashwa, H.C., Denesh, G.R., Shobha, D., Geetha, N., Naveen, V.M., Genetic Variability Studies for Nitrogen Use Efficiency in Rice, *Int. J. Pure App. Biosci.* 6(5): 696-701 (2018). doi: <http://dx.doi.org/10.18782/2320-7051.6975>
 11. M.S. Uma. Minor oilseed crops and their therapeutic values in relation to ancient agriculture: Contemporary review. National conference on Agricultural science in Indian ancient literature held at UAHs, Shivamogga, Karnataka, December 28-29, 2019.
 12. Uma M. S. and Usha Ravindra. 2020. Perception and adoption of nutritive crops cultivation practices among soliga farmers. *International Journal of Current Microbiology and Applied Sciences*. Vol 9 (09) September-2020
- Book Chapters 1. Adunika Krishi Samshodhaneyalli Vishesh Hakkugala Pramukyate. M.S. Uma, Suvarna Krishi, 2. Role of Women in conservation of Agro-Biodiversity, Dr. M.S. Uma, State level agro-Biodiversity seminar Souvenir
- Books 1. $\text{À} \text{E} \text{A} \text{i} \text{À} \text{À} \text{P} \text{A} \text{A} \text{W} \text{P} \text{À} \text{E} \text{I}$, qÁ|| JA.J.i.G°ÀiÁ °ÀÄvÀÄÜ qÁ|| °ÉÉ.f.µÀqÁPÀëj.PÀÈ¶ «±ÀÉ«zÁâµ®AiÀÄ fPÉ«PÉ °ÉAUÀ¼ÀÆgÀÄ.

Awards

1. Team Award from Ministry of water resources, Govt of India during 1997-98 and 1998-99 for “ Increasing production through improved drainage in waterlogged/salt affected soils of Thungabhadra command area, Karnataka
2. Certificate of Merit was presented by UAS, Bangalore for “Participatory hybrid Sunflower quality seed production” during the year 2006-2007 on foundation day of University.
3. Certificate of Merit was presented by UAS, Bangalore for “Scientist –Farmer Participatory Seed Production- Sunflower” during the year 2007-2008 on foundation day of University.
4. UAS, Bangalore Incentive award for obtaining a research project worth of 39.04 lakhs from DBT, GOI
5. UAS, Bangalore Incentive award for obtaining a research project worth of 10.75 lakhs from UGC, GOI
6. UAS, Bangalore Incentive award for obtaining a research project worth of 29.62 lakhs from DST, GOI

