

## **MBB AT A GLANCE**

Realizing the role and wide application of Biotechnology and Molecular Biology in various fields of Agriculture, Industry and environment protection, the Department of Molecular Biology and Biotechnology (MBB) was established at CCS Haryana Agricultural University, Hisar in January 1997. Before 1997, it existed in the form of a Biotechnology Center with research and teaching (M.Sc. only) being shared by some of the faculty members from the Departments of Genetics, Biochemistry, Microbiology, Veterinary Microbiology, etc. The MBB department now offers M.Sc. and Ph.D. programs in Molecular Biology and Biotechnology. Today, MBB is recognized as one of the best and leading Department for research and teaching in various fields of Plant Biotechnology and Molecular Biology.

Presently, MBB has a strength of seven Scientists (two professor, six senior scientists and one assistant professor with expertise in the fields of plant and microbial biotechnology, molecular marker technology, plant tissue culture, genetic transformation, etc. Faculty of this department has a unique distinction and privilege to secure several prestigious fellowships (Rockefeller Foundation PDF and BCF fellowships, USA; DAAD fellowships, Germany; Indo-Japan Exchange Fellowship, AHRD Fellowship), for their Post-doctoral and/or advance research in USA, UK, Germany, and Japan. To date, more than seventy students have received their post-graduate degrees in Molecular Biology & Biotechnology.

Currently, 19 M.Sc. and 30 Ph.D. students are on roll. There are four Senior Research Fellows working in various research projects funded by the DBT and DST in the Department. Most of our Ph.D. students have cleared CSIR/ICAR/UGC NET. The Department offers a total of 15 basic and applied courses in Biotechnology, Molecular Biology, Plant and Animal Tissue Culture, Genetic Engineering, Immunology, Biotechnology and Environment, etc to the undergraduate (B.Sc. Agriculture) and postgraduate students of Molecular Biology and Biotechnology and other courses offered by the constituent colleges of the University.

The department has four states--plan schemes/projects, one Self finance scheme and six projects worth over ~ Rs. Two crores and twenty laks from different outside agencies.

In research, the department is pursuing research in several priority areas of state/ country interests. The major areas of research include:

- Plant tissue culture and micro-propagation of important plant species Micropropagation of important crop plants, cash crops, ornamentals and forest and horticultural trees
- Development of transgenics in rice chickpea, *Brassica* and cotton,
- DNA fingerprinting studies in Basmati rice,
- Molecular mapping and tagging of stress tolerant genes/ QTLs in rice and disease resistant gene(s) in sorghum
- Metabolic Engineering for higher starch biosynthesis.
- Crop improvement through gene transfer
- Use of molecular markers for genotype identification and linkage mapping in crop plants
- Identification of novel genes and development of suitable vectors for genetic improvement of microorganisms and plants
- Value addition in microorganisms towards processing agribyproducts for benefiting farmers