

**ICFRE sponsored "Specialised Training Programme on Genetic Engineering" conducted at IFGTB, Coimbatore, from 11-22 March 2013**

The last decade has seen an unprecedented increase in the cultivated area of transgenic plants the world over. Transgenic Bt cotton hybrids constitute 93 % of the total cotton grown in India, accounting for an area of 10.8 Mha. Recognising the potential opportunities for breeding trees harnessing the techniques of genetic engineering, and in line with the ICFRE: Vision 2040, the Indian Council of Forestry Research and Education, envisaged the need for developing a critical mass of human resource in this advancing area of forestry research. The Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore, a pioneer in the area of forest biotechnology and research in these areas, was identified by ICFRE to conduct this training. A total of 6 Scientists of different ICFRE institutes participated in the programme from 11-22 March 2013, and were exposed to basic as well as state of art aspects of Genetic Engineering ranging from *"Gene discovery, gene cloning, plant transformation, gene silencing, gene knockout, transgene integration and expression analysis, and biosafety regulations"*

The training was inaugurated by Dr. N. Krishnakumar, IFS, Director, IFGTB, Coimbatore on 11<sup>th</sup> March 2013. Shri. T. P. Raghunath, IFS, Group Coordinator (Research), welcomed the participants, Dr. Animesh Sinha, Scientist D, IFP, Ranchi, Dr. J. M. S. Chauhan, Scientist C, FRI, Dehradun, Dr. Tara Chand, Scientist C, RFRI, Jorhat, Dr. A. Karthikeyan, Scientist D, IFGTB, Dr. Rekha Warriar, Scientist D, IFGTB, and Dr. A. Shanthi, Scientist B, IFGTB. In the inaugural address, the Director hoped that the training programme would enable ICFRE institutes to make significant advances in this area and forest biotechnology at large in the context of trees outside forests. Dr. R. Yasodha, Scientist F and Head, Plant Biotechnology Division gave a broad overview of the training programme. Dr. B. Nagarajan, Scientist F

elaborated on the concept of "New Genes Old Trees", followed by vote of thanks by the Course coordinator, Dr. Mathish Nambiar Veetil, Scientist E.

The two week programme comprised 18 lectures that were open to all, in addition to 25 demonstrations of which 20 were conducted at IFGTB. The techniques of transgene integration and expression analysis were demonstrated at the Tamil Nadu Agricultural University (TNAU), Coimbatore, and the Sugarcane Breeding Institute (SBI), Coimbatore respectively. The visit to Rubber Research Institute of India (RRII), Kottayam, provided exposure on the advances being made in transgenic Rubber trees. The Industrial visit to Rasi Seeds, Salem, provided firsthand information on how transgenics in combination with hybrids have revolutionised cotton farming in India.

The valedictory function held on 22<sup>nd</sup> March 2013, was chaired by Shri. T. P. Raghunath, IFS, Group Coordinator (Research). Following welcome address by Dr. B. Nagarajan, Scientist F, participants gave their feedback. The participants expressed that the training programme was a full package of genetic engineering from gene isolation to transgene validation along with exposure visits to research institutes and industry. They felt that they had a good learning experience and broad overview of future possibilities on genetic transformation in forestry. Shri. T. P. Raghunath, IFS, commended the team for the efforts and arrangements made to conduct this marathon two week long training programme. He acknowledged the support rendered by the Director General and ADG (Edu), ICFRE, the Director, IFGTB, TNAU, Coimbatore, SBI, Coimbatore, RRII, Kottayam, Rasi Seeds, Salem and all the resource persons for making this a comprehensive training programme on Genetic Engineering. This was followed by distribution of certificates to the participants. The session concluded with a vote of thanks by the Course coordinator, Dr. Mathish Nambiar Veetil, Scientist E.



Inaugural Session Group Photograph



Inaugural Address by Dr. N. Krishnakumar, IFS, Director, IFGTB



Participants using Gene Gun to transform explants at the Genetic transformation Lab, Plant Biotechnology Division, IFGTB, Coimbatore



Participants initiating SDS PAGE for transgene expression analysis at the Sugarcane Breeding Institute, Coimbatore



Lecture at IFGTB on Biosafety Regulations by Prof. Dr. D. Sudhakar, TNAU, Coimbatore



Industrial Visit to Rasi, Seeds, Salem



At the Rubber Research Institute of India, Kottayam



**Valedictory Session:** Certificate distribution