National Bureau of Plant Genetic Resources
New Delhi

Course

1. *In vitro* Conservation and Cryo-preservation of Plant Genetic Resources

National Bureau of Plant Genetic Resources (NBPGR) was established in 1976 as the nodal agency at national level for management of plant genetic resources (PGR) for food and agriculture, and to carry out related research and human resource development. The NBPGR, with the network of its 10 regional stations located in diverse agro-climatic zones of the country, the 57 national active germplasm sites (NAGS) situated at different crop based ICAR institutions and state agricultural universities and other locations has been spearheading various activities on PGR management. The national PGR programme essentially includes- germplasm exploration and collection; germplasm exchange and plant quarantine; germplasm characterisation; PGR conservation- *ex situ* base collection, including seed bank (-20°C), cryo-bank (-156°C/-196°C) and *in vitro* bank; field genebanks for clonally propagated crops; medium-term conservation of active/working collections; on-farm conservation studies; back-up research on conservation regimes and protocols; registration of plant germplasm; PGR policy issues; DNA fingerprinting of crop cultivars; new areas related to PGR - regulation of exchange of transgenics and GMOs. Human resources development, training and postgraduate teaching in PGR has also been the major thrust.
Objectives
The course is designed to improve skills of international and national participants in using tissue culture techniques and cryopreservation for conservation and management of PGR for crops relevant in their countries.

Faculty
The resource persons will be from NBPGR and Bioversity International and in specific cases international experts will be invited to give lectures.

Course Director: Dr S K Sharma
Duration: 2 weeks (November, 2009)
Course fee: US $ 1,250
No. of trainees per course: 20
Accommodation: International Guest Houses at IARI or NASC Complex at Pusa Campus, New Delhi
Eligibility: Masters degree in botany/any branch of agricultural science preferably with experience in PGR

Course Contents
- Importance of in vivo conservation and cryopreservation techniques
- In vitro techniques in conservation and use cycle
- Methods of in vitro clonal propagation
- Methods of in vitro conservation
- Cryopreservation: principles and requirements
- Techniques of cryopreservation
- Cryopreservation of in vitro cultures
- Cryopreservation of non-orthodox seeds