

# Plant Science

October 06-08, 2016 London, UK

## Application of plant tissue culture techniques for bio-resources recovery

**Rakhi Chaturvedi**

Indian Institute of Technology Guwahati, India

The unique capacity of plant cells has found many applications in plant improvement, propagation, conservation and in other basic & applied plant sciences. The tissue culture technique would not only surmount the limitations of vegetative propagation but also can hasten the production of clonal material for field planting. It offers many advantages over the conventional methods of vegetative propagation: The rate of multiplication is extremely rapid and can continue round the year, independent of the season. Thus, over a million plants can be produced in a year starting from a small piece of tissue and; the enhanced rate of multiplication can considerably reduce the period between the selection of plus trees and raising enough planting material for field trials. The other application of tissue culture is the production of haploid plants which are extremely valuable in plant breeding and genetics. As with haploids, homozygosity can be achieved in a single step otherwise obtaining homozygous lines of woody perennials by the conventional method of recurrent inbreeding is impractical and time consuming because of highly heterozygous nature and long generation cycle of these plants as well as inherent inbreeding depression. The technique can further be used to produce bioactive metabolites in bulk irrespective of seasons and regions. To channelize the output obtained on laboratory scale, more efforts are required in right direction to make the results more viable and of use to the general public.

### Biography

Rakhi Chaturvedi is a Professor of Plant Biotechnology at BSBE Department, Associate Dean of Alumni & External Relations. She was Vice-Chairperson of All India examinations of Graduate Aptitude Test in Engineering (GATE) and Joint Admission Test for MSc (JAM) 2013, Chairperson GATE-JAM 2014, Chairperson GATE-2015 and Organizing Chairperson JAM-2015 examinations. Her research area is "Plant Tissue Culture & Metabolite Production". She won "Prof Y S Murty Gold Medal-2011" by Indian Botanical Society (IBS) and member of National Academy of Sciences, India (NASI) and Society for *In vitro* Biology (SIVB), USA.

rakhi\_chaturvedi@yahoo.co.uk

### Notes: