

# **Plant Tissue Culture (Nucleic Acids, Amino Acids, Callus Culture, Transgenic Plants, Embryo Rescue, Embryonic Tissues, Cometabolism, Fungi and Actinomycetes, Grampositive Rods, Cloning Vectors, Biodegradation, Batch Cultures, Organ Culture)**

## **Description:**

Plants cell tissue culture is a rapidly developing technology which holds promise of restructuring agricultural and forestry practices. During the last two decades cell culture have made considerable advanced in the field of agriculture, horticulture, plant breeding, forestry, somatic cell genetics, phytopathology etc. Plant cells can be grown in isolation from intact plants in tissue culture systems. The cells have the characteristics of callus cells, rather than other plant cell types. These are the cells that appear on cut surfaces when a plant is wounded and which gradually cover and seal the damaged area. Plant cells and tissue culture are often used for the production of primary and secondary metabolites. Plant tissue cultures can be initiated from almost any part of a plant. The physiological state of the plant does have an influence on its response to attempts to initiate tissue culture. The parent plant must be healthy and free from obvious signs of disease or decay. The source, termed explant, may be dictated by the reason for carrying out the tissue culture. Younger tissue contains a higher proportion of actively dividing cells and is more responsive to a callus initiation programme. The plants themselves must be actively growing, and not about to enter a period of dormancy.

Plant tissue culture is a collection of techniques used to maintain or grow plant cells, tissues or organs under sterile conditions on a nutrient culture medium of known composition. Plant tissue culture is widely used to produce clones of a plant in a method known as micro propagation. Different techniques in plant tissue culture may offer certain advantages over traditional methods of propagation, including:

The production of exact copies of plants that produce particularly good flowers, fruits, or have other desirable traits.

To quickly produce mature plants.

The production of multiples of plants in the absence of seeds or necessary pollinators to produce seeds.

The regeneration of whole plants from plant cells that have been genetically modified.

The production of plants in sterile containers that allows them to be moved with greatly reduced chances of transmitting diseases, pests, and pathogens.

The production of plants from seeds that otherwise have very low chances of germinating and growing, i.e.: orchids and Nepenthes.

To clear particular plants of viral and other infections and to quickly multiply these plants as 'cleaned stock' for horticulture and agriculture.

**For more details download PDF file.**

**Keywords:** Plant Tissue Culture in India, Commercialization of Plant Tissue Culture in India, Role of Plant Tissue Culture in Agriculture, Plant Tissue Culture Industry in India, Industrial Plant Tissue Culture, Tissue Culture in Agriculture, Plant Tissue Culture, Tissue Culture, Cell Culture and Tissue Culture, Tissue Culture and Cell Culture, Tissue Culture in Plants, Plant Cell and Tissue Culture, Commercial Plant Tissue Culture in India, Plant Tissue Culture Business Plan, Plant Tissue Culture and Biot

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