

Plant tissue culture and its agricultural applications

Butterworths - Tissue Culture and its Types

Applications:

- Tissue culture technique has helped in studying various biochemical and physiological processes in pure cultures without complications of other factors.
- The effect of various hormones are differentiation and growth processes can be studied by using tissue culture technique.
- Organogenesis has been studied by inducing formation of roots, shoot tips etc from callus on nutrient medium.



Description: -

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Plant propagation -- Congresses.

Plant tissue culture -- Congresses. Plant tissue culture and its agricultural applications

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Top 10 Applications of Plant Cell and Tissue Culture

However, changes in these cells may occur after cloning. Suspension culture from callus : Suspension cultures can be initiated by transferring friable callus to liquid nutrient medium. Fig. Large scale micropropagation laboratories are providing millions of plants for the commercial ornamental market and the agricultural, clonally propagated crop market.

Plant Tissue Culture and Its Applications

The procedures depends on the type of species being cultured, hence there is need for trial and error method for any new species if there is no review about that species. In this type of culture, the characteristic individual organ structure is maintained and the progeny formed is similar in structure as that of the original organ. Rescue plants from attack by pathogens in the field as culturing conditions are sterile, thus reduce spread of pathogens.

Applications of plant tissue culture, Tissue culture technology in India

ACS Distance Education reserves the right to decline orders arising from such errors. This is because cells in suspension culture mostly exist as colonies in varying sizes. The cells present in the outflowing medium are separated mechanically and added back to the culture system.

Tissue Culture home study

The recent identification of expressed sequence tags EST that are differentially expressed during the infestation of coffee plants by coffee leaf miners and the isolation and cloning of the promoter for the N-methyltransferase gene associated with caffeine production open up the possibility of producing varieties of coffee with new traits.

Scope and Training of Plant Tissue Culture

Bacteria and fungi are the most common contaminants in plant tissue culture. Generally, tissue culture plants are micro propagated cuttings or clones, genetically identical to the mother and all the daughter plants. Plasticity allows plants to be able to alter their metabolism in order to adapt and survive in a particular environment and totipotency allows the plant to maintain its genetic makeup or potential, thus the plant regenerated from

any explants will have the same genetic make up as the parent plant.

Plant Tissue Culture and its Agricultural Applications

The conventional methods employed for crop improvement are very tedious and longtime processes sometimes decades. Applications of Plant Tissue Cultures: Plant tissue cultures are associated with a wide range of applications—the most important being the production of pharmaceutical, medicinal and other industrially important compounds. In plant tissue culture, this could be either the leaves or other parts of the plant- depending on the protocol.

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