Article published on February 29th 2012 | Business

These tissues grown in vitro are in a microcosm a sterile glass or plastic, protected from the outside environment is not sterile. Is essential to maintain the sterility of the confined environment in the container, since any microorganism that is gained entry to the same opportunistically grow at a rate much faster than the plant tissues and colonize and eventually kill the tissue. In order to maintain the vigor of the plant tissues and allow them to grow, multiply and develop, ie "cultivating the tissues', should be provided in addition to certain external requirements. The fabrics may require that the supports or are placed on or inside the surface of an aqueous gel, solidified with agar or can be placed in a liquid medium. The fabrics also need a supply of mineral elements which are essential nutrients for plant growth, possibly also some vitamins , sugars as energy source and a mixture ofplant hormones known to control the growth and development of these particular tissues. For proper growth and development of tissue culture is generally necessary to supply extremely low light, much lower than that of sunlight. Accumulation in plants of the energy from carbohydrates come from sugars added to the culture medium rather than the photosynthesis , so that unnecessary high light levels.

The plant tissue culture is used as a key tool in a number of areas and techniques of research and plant production, all related to what is now known as plant biotechnology . Here are some of the most important:

? Basic studies of anatomy, development and plant nutrition.

? Somaclonal variation and gametoclonal through cell selection.

? Protoplast isolation. Used for cell fusion (somatic hybridization) and genetic engineering .

? Production of haploid plants through anther culture or pollen culture.

? Rescue of fertilized eggs and embryos of interspecific and intergeneric crosses

? Genetic Engineering: includes all techniques that use living organisms or their components to produce or modify products. The variety of applications including the areas of energy, environmental management and agricultural and pharmaceutical products.

? Micropropagation plants. Clonal spread or spread in vitro and vegetative propagation.

? Somatic embryogenesis .

? Meristem culture for elimination of viruses and diseases in plants.

? Production of phytochemicals or production of substances of secondary metabolism .

The asexual reproduction in tissue culture plants is possible because, in general, a plant cells have the capacity to allow growth and development of a new individual, without there being any type of sexual cell fusion gametes. This ability is called cell totipotency and is characteristic of a group of plant cells known as meristematic cells , present in various organs of the plant. The potential of a differentiated cell (a cell transmission, epidermal) to generate new tissues and eventually a complete body, decreases with the degree of differentiation achieved by that cell, but may partially or completely reversed by the culture conditions to those the subject. 4 The successful propagation

of a plant is achieved depends on the expression of cell potential, namely, that some cells regain their meristematic condition. To do so, dedifferentiation induced first and then the cell redifferentiation. Under natural conditions, a process of this nature happens during adventitious root formation on rooting of cuttings, adventitious bud formation or when looking for the spread of any plant. Among the most important factors for achieving the desired morphogenetic response is the composition of the culture medium. Any attempt to plant propagation, either in vitro or in vivo , the nature of the differentiation process is regulated by the hormonal balance itself and the physiological state of the organ, tissue or cell culture setting. However, this balance can be modified by the addition of compounds that mimic the action of plant hormones. These compounds, termed growth regulators , are used in growth media to achieve a plant micropropagation.

http://www.yongefloristmississauga.ca/

Article Source:
http://www.articleside.com/business-articles/plant-tissue-culture.htm - Article Side

Seolncr - About Author:
a Florists mississauga a Canadian leading online flower shop. The same day a flower shop mississauga. Premium quality - affordable prices visit now http://www.yongefloristmississauga.ca/

Article Keywords:
flower shop mississauga, florists mississauga