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The cultivation of the mixture is a technique based on placing a piece of plant in a container helped with nutrient solutions and artificial hormones vegetable or able to propagate in a sterile environment, ie in an environment free of microorganisms (clean). Each plant produces a fragment identical to the fragment was taken, but may be genetically modified to have artificial varieties.

cell suspensions

In recent decades it has developed several systems for cultivation of protoplasts, cells, tissues and plant organs, one of which is the suspension culture (cell suspensions), which is a way to maintain and propagate plant cells.

Description and Manipulation of Cell Suspensions

The cell suspensions free consist of cells and cell clusters distributed over a moving medium. These suspensions may be permanent by continuous supply of nutrients. Culture media for the cultivation of cell suspensions of a wide variety of plants was used developed by MS medium Murashige and Skoog (1962) for tissue culture snuff, as well as B-5 medium of Gamborg et al. (1968). Also used other means, but its composition does not differ much from the above. Often, the best means of induction and callus growth from primary explants are not the same as for establishment of cell suspensions, the optimal level of auxins and cytokinins, eg may be different (Torrey et al. , 1961). Sometimes suspension cells need organic supplements, amino acids, CH, yeast extract, and AC, the most widely used auxin is 2,4-D. Initiation of suspension cell suspensions are generally initiated by incubation of friable callus pieces in liquid media that are in continuous motion. Erlenmeyer flasks are commonly used, which is deposited in the liquid medium with callus pieces dispersed in to fill about 1/5 of the ability to cough bottles, these are then placed in incubation on a rotary shaker at 80-150 rpm under continuous light and 25 Â° C temperature. By subculturing weekly, cell suspensions are set after several days. During the first subcultures is advisable to use a low dilution ratio (eg. 1:1 to 1:4) using four parts of fresh medium per part of cell suspension. Then you can use a higher dilution rate, according to the purpose for which the suspension has been established.

In the broadest sense, the plant tissue culture is defined as a very heterogeneous set of techniques that have in common the fact that an explant -that is, a separate part of the plant, such as protoplasts , cells , tissues or organs - is aseptically grown in artificial media of defined chemical composition and incubated under controlled environmental conditions. These techniques behind can be used as tools for plant micropropagation , rapid spread of clones , removal of viruses and diseases, production of haploids , protoplast isolation and utilization, embryo culture, production of phytochemicals , genetic engineering , mutationand cell selection, production of synthetic seeds and basic studies of anatomy, development, physiology and plant nutrition.

Tissue culture starts with the microscopic dissection of the plant under strict hygienic conditions in order to transfer an actively growing tissue (meristematic tissue) with safety and cleanliness in a sterile container without introducing micro pollutants.

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