

Introduction to Innovative Plant Tissue Culture Technology Under Open Conditions

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First, the concept of open plant tissue culture Under open conditions, a part of the plant body is taken, inoculated on an artificially produced bactericidal medium, cultured under artificially controlled environmental conditions, and developed in accordance with the will of the people, continuously proliferating, rooting, and forming a complete plant. The process, called open plant tissue culture technology, is referred to as open plant tissue culture.

Second, the characteristics of open plant tissue culture.

Equipment simplification, less investment

The traditional tissue culture equipment, all around the “sterile” word, requires supplies for autoclaving, aseptic operation and aseptic environment culture, but to achieve “sterility”, equipment investment, technical requirements are strict Innovative open plant tissue culture, because of the addition of safe and efficient fungicides in the culture medium, can be inoculated and cultured under open environmental conditions, eliminating the need for a large proportion of autoclave and ultra-clean workbench. Since the culture medium does not require autoclaving, the selection range of the culture flask is very wide, such as using a disposable cup for the culture bottle, which requires only about 0.1 yuan per bottle.

Easy to operate, high efficiency

Open plant tissue culture operation, using different safe and efficient fungicides from explants to rooting shoots, complete disinfection of culture bottles, sterilization medium preparation, disinfection of explants, inoculation and cultivation in an open environment, easy to operate work efficiency increased by 3 - 4 times.

The process is simple, easy to promote

In the traditional tissue culture, strict aseptic environment, aseptic operation and aseptic culture become the necessary conditions, which makes the technology the main reason for the large investment, high cost and difficulty in popularization. The innovative open plant tissue culture goal is to face the vast rural areas and farmers, so the complicated and complicated traditional tissue culture process is simplified: cleaning the culture bottle - soaking bottle sterilization - preparation medium - dispensing condensation - --- explant Body disinfection, inoculation, subculture, rooting - cultivation room culture - bottle seedling transplanting - management.

Third, open plant tissue culture drugs and equipment.

Drugs

A large number of elements, trace elements, iron salts, organic matter, plant growth regulators, safe and efficient fungicides - S105 (culture bottle and cap disinfection), S106 (start, proliferation, rooting medium sterilization), 75% alcohol, hydrochloric acid sodium hydroxide, tap water, white sugar, agar, etc.

Equipment

Ordinary room, plastic tube, plastic basin, various types of bottle brush, small porcelain plate or stainless steel plate, cotton wool, trash can, ordinary table and chair, rice cooker, simple inoculation box, air conditioner, culture frame, 1% balance, medical anatomy Shears, scalpels, tweezers, plastic graduated measuring cups, 0.1 - 10 ml series pipettes, ear-washing balls, 250 ml ground-mouth jars, plastic cover glass or plastic cups or flasks. Four open plant tissue culture application prospects:

1. It is used for tissue culture and rapid cultivation of agricultural and horticultural seedlings to reduce production costs;
2. It is used for the utilization of traditional tissue cultured bottle seedlings to reduce the seedling abandonment rate;
3. It is used for group training in various schools and families, which is conducive to technology popularization.

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