

Microclonal Propagation of Grape Seedlings

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ABSTRACT

In the scientific article, the role and importance of the nutrient environment in the non-traditional method of growing tree seedlings is mentioned. In the experiment, for the purpose of microclonal reproduction of grapes in vitro, information is provided on the selection of Sharobbop varieties (Bayan Shirey, Rkatsiteli, Morastel) as mother material and the preparation of high-quality seedlings from their tissue in a short period of time.

KEYWORDS: *tissue, explant temperature, microclimate, light, in a special room with controlled conditions.*

Today, many new innovative technologies are entering the agricultural sector of our Republic. A large amount of work is being done by the government to attract investments, further improve the development of the sector, and create new jobs in the development of the fruit growing and viticulture industry in the republic.

Decree of the President of the Republic of Uzbekistan "On measures to improve state regulation of the production and circulation of alcohol and tobacco products and to develop viticulture and winemaking" dated February 5, 2019 No. PF-5656 Viticulture in the agricultural sector today is the basis for the development of the network.

The problem of increasing the quality indicators of grapes and other fruits grown in the republic and bringing them to the world market remains urgent. These problems can be successfully solved with the use of biotechnological methods of breeding valuable grape varieties. Obtaining genetically identical plant seedlings, improving the reproduction of unique genotypes in plant selection, maintaining the purity of hybrids of varieties whose purity may change when propagated from seeds, obtaining plants free from fungi and bacterial diseases, shortening the duration of the selection process, speeding up the time of transition from the juvenile stage to the reproductive stage in the process of plant development, and increasing vine varieties that are difficult to propagate by traditional methods 'facilitates the possibility of reproduction.

The method of microclonal reproduction due to the activation of the meristem is one of the most suitable methods, unlike others, this method allows the formation of a new plant from the cells of the meristem, and they have high cytokinetic stability, complete preservation of the original maternal plant genotype provides. It will be possible to create several new varieties in one year, and to obtain millions of high-quality planting material in 2-3 years. It takes more than 10 years with conventional reproductive methods.

Most of the world's mass-produced grape seedlings are developed using microclonal propagation technologies. France, the USA, Israel, Poland and other countries are the leading countries with microclonal reproduction technologies in vitro. Scientific work is being carried out by scientists in these regions with the technology of in vitro microclonal reproduction of the grape plant. Among the CIS countries, in Russia, new highly effective and resource-efficient methods of microclonal reproduction of grape plants in vitro in a test tube have been established [1]; [6]; [7]; [8]. A delicate chain path from merisycythema to a ready seedling state is to acclimatize them outside the test tube,

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in which it should be assumed that the plants in the test tube are in a state of rapid dehydration, they do not have an epicuticular layer. [2]. At the last stage of the work, virus-free, healthy planting material is obtained from the mother material in vitro. This method has been proven in France, where methods of microclonal reproduction and cultivation technologies in in vitro conditions have also been developed [3]; [5]; [9]; [10]; [11].

Grapes are one of the most popular fruits around the world today. In this experiment, cultivars of grapes growing in gardens and greenhouses and in regions with a cold climate were obtained. The role of grapes in folk medicine for human health is huge. Its leaves contain minerals (potassium, selenium, magnesium, zinc). Based on the above information, it is appropriate to breed the grape plant not only as a fruit, but also to use it in the field of medicine, as well as to use the fruits, that is, in vitro microclonal reproduction of the grape plant in the development of the economy of our country. is important.

In vitro propagation of the grape plant includes the following stages;

1. Extract the explant under sterile conditions and transfer it to artificial food;
2. Growing the explant in a special room where the temperature, microclimate and light conditions are controlled;
3. organization of in-vitro reproduction consisting of one or more parts;
4. formation of root part in vitro;
5. Transfer of in-vitro plants to special rooms.

In the laboratory of the Tashkent State Agrarian University, we selected Wine varieties (Bayan Shirey, Rkatsiteli, Morastel) as mother material for the purpose of microclonal reproduction of grapes in vitro. These varieties are distinguished by their appearance and disease resistance. Experiments show that 2.5-3 cm long shoots of grape plants were used as explants. All processes of the experiment are carried out in a laminar; we sterilize non-sterile (in vivo) explants in 4 stages: in the 1st stage, explants are washed in 70% alcohol solution for 1-2 seconds. At the 2nd stage, explants washed in alcohol are washed in 4% hypochlorite solution, rinsed twice in sterile water and dried. The bottom tube of dried explants is cut and planted in nutrient medium. Explants in nutrient medium are placed in a special cell growth room at a temperature of 14-18 C. The explant takes root in 11-13 days and becomes king in 20 days. Transplantation takes 25-30 days, so it is possible to get several materials from one expensor. And this serves as a basis for quickly and effectively increasing the demand for rare naavs.



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