ISSN NO: 2771-8840
November 2024

The Propagation Technology Of A Unique Orchid Flower In Namangan's Environmental Conditions.

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Abstract The unique orchid flower is said to be unique in that there are more than 25,000 species in the world, and many species are now endangered, and the reproduction process of this flower is much more difficult than other flowers. One orchid seed can grow from 1300 to 4000000 seeds, which makes the plant the leader among flowers in terms of seed yield, but it is much more difficult to fertilize this flower and seeds. Orchid and mushroom live in symbiosis, because they also have important conditions for germination or if there is a root coexisting fungal environment.
Keywords:

Introduction

An orchid flower can be in the form of a small or tree-like liana - the smallest of them reaches only a few millimeters, and the largest orchid can grow up to 35 meters. Among orchids, there are long-lived species that can grow for 70 years or more. The famous scientist Charles Darwin did research on orchid pollination and he admired the process of fertilization in orchids and gave many examples and details about these flowers. In London, the Kew Royal Botanic Gardens has an extensive collection of orchids, some of which have been preserved since the beginning of the last century. No wonder they are 100 years old

Materials and methods

Reagents used for growth media

The following reagents were used: MS-murosigu skugo nutrient medium, ribofilavin (vitamin B2), vitamin B12, kinetin, folic acid (vitamin B9), thiamine hydrochloride (vitamin B), inositol, calcium pantosinate (vitamin B5), nicotinic acid, adinine, D-biotin, gebirylic acid, 6-BAP, D-glucose, sucrose, agar, NaCl (HIMEDIA) from India. All reagents used are of purity qualification for chemical analysis in the experiment.

- **Experiment 1** was prepared on a simple basis, mainly for the production of plant flower seeds.
- A mixture of mineral salts Murashege skoog 1l / 4.4 gr
- Carbohydrates (sucrose) 1 l/25g
- Inositol 1l/0.01gr
- Amino acid protein (casein) 1l/0.01g
- Agar agar 1l/6gr
- NaOH, HCl for neutralization
- Medium solution 5.6-5.8 PH
- **Experiment 2** was prepared on a simple basis, mainly for the cultivation of the peduncle of the plant.
- A mixture of mineral salts Murashege skoog 1l / 4.4 gr
- Carbohydrates (sucrose) 1 l/30g
- Inositol 1l/0.02g
- Amino acid protein (Casein) 1l/0.02g
- BAP 1l/0.01mg
- Agar agar 1l/6gr
- NaOH, HCl for neutralization
- Medium solution 5.6-5.8 PH
- **Experiment 3** was prepared on a simple basis, mainly for the production of flower seeds of the plant.
- A mixture of mineral salts Murashege skoog 1l / 4.4 gr
- Carbohydrates (sucrose) 1 l/25g
- Inositol 1l/0.01gr

ISSN NO: 2771-8840
November 2024

- Amino acid protein (casein) 1l/0.01g
- Agar agar 1l/6gr
- NaOH, HCl for neutralization
- antibiotics (tetracycline, benzylpenicillin) 100 mg/l
- Adsorbent-activated carbon in the amount of 0.5-1%
- Medium solution 5.6-5.8 PH
- **Experiment 4** was prepared, on a simple basis, mainly for the production of flower seeds of the plant.
- A mixture of mineral salts Murashege skoog 1l / 4.4 gr
- Carbohydrates (sucrose) 1 l/25g
- Inositol 1l/0.01gr
- Amino acid protein (casein) 1l/0.01g
- Agar agar 1l/6gr
- NaOH, HCl for neutralization
- antibiotics (tetracycline, benzylpenicillin) 100 mg/l
- Adsorbent-activated carbon in the amount of 0.5-1%
- Trichoderma veride-1l/1.5g
- Medium solution 5.6-5.8 PH

Results and discussions

When breeding an orchid flower, we initially selected several varieties most suitable for our local conditions (Orchis purpurea, Orchis pallens, Orchis purpurea, tridentate and oprys opifera, Orchidea coriophora). These plants stand out for their beautiful and long flowering and the high price of tanning in the world market. In our project, we used the most modern method of propagation of this plant - microclonaria, in which we selected stems and germinated seeds, on which various parts of the plant were presented. Orchids face many challenges in naturally propagating plants. The first of these problems is that the orchid that has formed in nature weakens the seeds and does not germinate for a long time. the size of orchid flower seeds will be 0.25-1.2 mm long and 0.09-0.27 mm wide, and weight 0.3-1.4 mg. These seeds have a powdery texture and even one seed is difficult to distinguish by eye. Related to this is the difficulty of propagating this plant. These seeds do not have endosperm, in other words, they are nutritious tissue. Contains "embryo" only in the seed coat. In addition to the appropriate environmental conditions that seeds require in order for these seeds to germinate in nature, there is a need to partner with "Mushroom" in nature. By working with orchid mycorrhiza, the energy needed to germinate your embryos comes from carbohydrates such as glucose. In mycorrhiza, the fungus first infects the seeds of the orchid as a parasite; after a short time, the fungus is terminated by germ cells, assimilated, and a balance is established. The small, nail-like structure that occurs when a seed germinates is called a mycorrhiza or protocorm. The fungus converts starch and similar compounds produced by the decomposition of organic humus in the environment into water-soluble sugars and sends them to the young orchid plant. The young plant has a supply of nutrients that allows it to germinate. The growth of mycorrhiza is very slow, as the orchid tubers from Salep produce one seed tuber per year. As a result, large-scale production is reduced due to the low productivity of many plants. Difficult to grow and slow growing, this plant can still be found today despite being unknowingly dismantled for human consumption. In order for the seeds to be very small and germinate without lack of nutritional value and defects, it needs the cooperation of the mycorrhiza fungus; even after germination, it takes many years before it becomes a mature plant; reasons such as the limitation or lack of opportunities for propagating an orchid flower in a vegetative way; limits orchid production by quantity. At the same time, obtaining asymbiotic sprouts and plants using the "tissue culture" method makes it possible to eliminate the risk of extinction of orchids and to produce them in large quantities.

ISSN NO: 2771-8840
November 2024

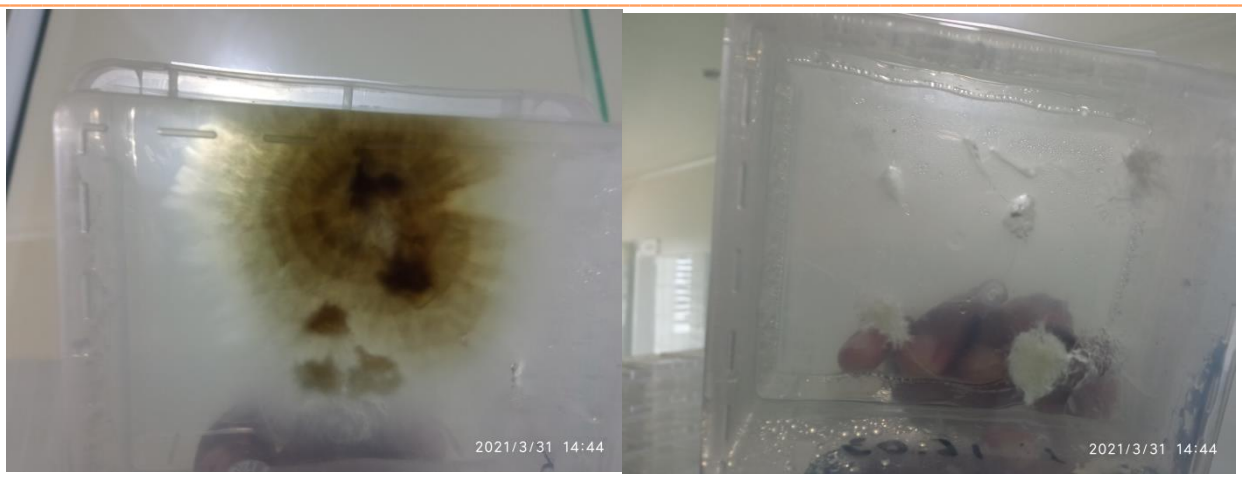

Figure 1 Fungal microbes in the process of growing orchid seeds on a hormone-free medium

After that, we continued our research by adding an antibiotic and activated charcoal to the composition of the nutrient medium (as indicated in the literature), the seeds were selected and prepared for sterilization. During sterilization, 40%, 30% and 15% solutions of calcium hypochloride and 96% alcohol were used. Separation work was carried out in laminar boxes sterilized with bactericidal lamps. Before starting work, workplaces, tables, nutrient jars are wiped with alcohol. The instruments used for sowing (tweezers, scalpels, needles) are sterilized, for this; the instruments are immersed in alcohol and kept on the flame of an alcohol lamp.

Conclusions

Separation and cultivation of orchid seeds

Work progress. Work on the separation of seeds is carried out in sterilized laminar boxes with bactericidal lamps. Before starting work, workplaces, a table, binocular magnifiers and stands with test tubes are wiped with alcohol. Tools used for separation into parts (tweezers, scalpels, needles) are sterilized after each separation, for this, the tools are immersed in alcohol and kept on the flame of an alcohol lamp.

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November 2024

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November 2024

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November 2024

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