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Guest Editorial

Open Tissue Culture and Rapid Propagation Technique of Golden Wire Lotus

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Wannian County Agricultural Technology Promotion Center, Jiangxi Province, China Golden Wire Lotus (*Anoectochilus roxburghii*). Also known as Gold wire orchid, golden silk grass, for the orchid open lip orchid perennial valuable Chinese herbal medicine, with clear heat and cold blood, dehumidification detoxification and other effects, used in the treatment of diabetes, acute and chronic hepatitis and other disorders, enjoy the "king" reputation. Due to the low natural reproduction rate of gold wire lotus, strict requirements for ecological environment, poor adaptability, combined with artificial excessive mining, resulting in a sharp decline in wild resources, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (cites) included it in the attached. The conservation species of II, the list of national key protected wild plants of the People's Republic of China (second batch), classified it as a level two protected plant. There are many reports on the technique of conventional aseptic group culture, but the technique of open tissue culture and rapid propagation of golden wire Lotus has not been reported, and is briefly introduced as follows: (detailed tissue disinfection technique, explants disinfection technology, Sterilization medium production Technology, open inoculation technology and other operating methods [1].

First generation culture

Select stem tips or stem segments of a well-grown plant with no pests or diseases as explants in the first generation. Rinse them under running water for 30 minutes, then disinfect them with 75% alcohol for 30s. After that, disinfect them with 0.1% $HgCl_2$ for 8 minutes and finally wash them with tap water 3 ~ 4 times and drain. Immerse them in 100 ml cold boiled water with 0.5 ml S106 solution for 2 hours. After that, pinch the tips or segments and shake off drops of water, and place them horizontally on the induction medium of MS+BA0.2 mg/L+NAA0.5 mg/L+100 g/L banana+1 g/L activated carbon+S106bactericide 0.3 ml/L +sucrose 30 g/L +AGAR 4 g/L. The PH value should be adjusted to 5.5. Inoculate each bottle with one stem tip or stem segment, and culture them in a culture chamber. The temperature of the culture chamber should be maintained at 23°C ± 2°C, the light intensity be 2000~3000 lx, and the illumination time be 14 h/d. And after 4~5 months of culture, each stem tip or segment will grow into a seedling with roots, a stem and 4~5 leaves.

Successive culture

Take the seedlings of first-generation culture, remove the leaves and get single stem segments. Inoculate them horizontally on culture medium of MS+100 g/L Banana+1 g/L activated carbon+ S106bactericide 0.3 ml/L+sucrose 30 g/L+ AGAR 4g /L. The PH value should be adjusted to 5.5. Inoculate each 200ml bottle with 8~10 segments.

After inoculation, culture them in a culture chamber. The temperature of the culture chamber should be at 23°C ± 2°C, the light intensity be 2000~3000 lx, and the illumination time be 14 h/d. After 4~5 months of culture, the segments will grow into seedlings with roots, stems and leaves.

Repeat the above steps until the target number of seedlings is reached. Seedlings can be dried out or transplanted out of the bottle.

Bibliography

1. Wu Youguang. ""Hiogi" Rose Open Tissue Culture and Rapid Propagation Technology". *EC Agriculture* 5.3 (2019): 170-172.

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