

***Ex situ* acclimatization of asymbiotically germinated seedlings of endangered lady's slipper orchid(*Cypripedium macranthos* Sw.)**

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멸종위기종 복주머니란 발아특성 및 실생묘 현지의 적응성 검토

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We use two different methods for laboratory propagation from seed of lady's slipper orchid(*Cypripedium macranthos* Sw.); immature seed which also called green capsule or fully mature seed about 120~130 days from pollination. In green capsule culture, the seed pods should be collected within precisely right time. The right time of seed collection could be diverse under the wether conditions or nutritional factors of the plants. In fully matured seed culture, the more complicated procedures are needed to break the dormancy of the seed; thermal or chemical treatment. The seedlings in this study were easily germinated from immature seeds in Harvais medium; 53 days after pollination(DAP) in *Cypripedium pubescens*, DAP 65 in *C. parviflorum* and *C. macranthos*. The germinated seedlings were transplanted to hormone free media immediately to avoid abnormal growth of seedlings. When the seedlings have roots with a minimum length of around 2-3cm and have visible dormant buds, the seedlings were removed from the flask and stored in refrigerator for vernalization. To examine the correlation of seedlings and maternal plants, the 125 seedlings of *C. macranthos* were transplanted in the soil bed at a distance of 20-100 cm from mother plants on April 20. The survival rate of seedlings were 92% in 20 cm distance from the ripe plants, and 56 % in 100 cm distance. The seedlings which were transplanted near mother plants showed vigorous growth in plant height, leaf width, and especially dormant buds.

Considering the existence of mycorrhiza which is a symbiotic association between a fungus and the roots of a orchid vascular, the various fungus from mother plants could affect the growth of the seedlings. These results indicate the possibility of high and stable production and practical industrialization of endangered lady's slipper orchids.

Key Words : lady's slipper orchid, *C. macranthos*, liquid media

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