11 Plant Regeneration and Morphological Characterization of Regenerants from *Heloniopsis orientalis*(Thunb.) C. Tanaka

Park, Hye-Jeong*, Byeong-Mee Min[1], and Hyeon-Cheol Cha

Department of Biology, [1]Department of Science Education, Dankook University, Cheonan 330-714, Korea

Because the nation's polices has been focused on the land development, the natural environment is being destroyed rapidly which leads to the gradual disappearance of the vegetation. One member of Liliaceae, *Heloniopsis orientalis* is a Korean native plant valuable to develop as a horticultural purpose. This plant is known to propagate by seeds in natural condition with poor germination and delayed growth. So, we tried to examine a vegetative propagation with vigorous growth characteristics by means of tissue culture. Leaf tissues of *H. orientalis* were cultured on MS basal medium supplemented with growth regulators, 2,4-D, TDZ, BAP and zeatin to regenerate shoots. Shoot was initiated directly on MS medium with 0.1 mg/L and 0.5 mg/L 2,4-D and 1.0 mg/L BAP. Complete plantlets were also formed on medium with 0.1 mg/L BAP. The effect of TDZ was effective to trigger callus initiation without caulogenesis or rhizogenesis. Callus formation is more effective on the 1/2 strength MS medium than full strength. The extent of regeneration was also determined by the explant age so that the younger leaves were more accessible to regenerate shoots than older ones. We investigated the morphology of the some parts of regenerants at some stages of differentiation with LM and SEM. To find out the causes of poor germination of *H. orientalis* we examined the internal structure of seed and found that seed size was 5.3 mm long, 0.4 mm wide in which a very tiny, 350 μm length embryo was situated.

Keywords: *Heleniopsis orientalis,* regeneration, seed