

## Effect of Gibberellin Acid on Embryo Development and Germination of *Dicentra spectabilis* (L.) Lem. Seeds

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This study was carried out to develop the seed propagation method of *Dicentra spectabilis* (L.) Lem. which is an ornamental plant native to Korea. In the previous studies, it was found that the seeds of *D. spectabilis* were morphophysiological dormant (MPD), and high and low temperature of stratification were continuously required for the embryo growth and germination of the seeds. Especially, it was most effective to store for 1 month at 20°C and then to transfer to 4°C. The treatment of GA<sub>3</sub> was carried out to promote embryo development and germination. The seeds were submerged in 100, 200 or 500 mg · L<sup>-1</sup> GA<sub>3</sub> for 72 hours and then stored at various conditions as follow. The temperature conditions disposed of this experiment were 1 month at 10, 15, 20, and 25°C or 2, 4, 8, and 12 months at 4°C, respectively. As a result, the length of embryo and germination rate of the seeds were the best when stored at 4°C for 8 months after 500 mg · L<sup>-1</sup> GA<sub>3</sub> treatment. Besides, when the seeds stored at 4°C, significant differences in embryo length and germination rate were shown with GA<sub>3</sub> concentration and storage period. It was also proved that high-concentration of GA<sub>3</sub> could replace the high temperature and could promote germination. Consequentially, the *D. spectabilis* seeds were classified into intermediate simple levels among MPD types.

**Key words:** Embryo length, GA<sub>3</sub>, Morphophysiological dormant, Ornamental plant, Seed propagation