

Evaluation of Horticultural Characteristics on Water Dropwort (*Oenanthe stolonifera* DC.) Genetic Resources for Various Utilization

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Water dropwort (*Oenanthe stolonifera* DC.) is a perennial herbaceous plant that grows wild throughout Korea. As of 2020, 24,819 tons (51.7% of open field, 48.3% of facility) are produced in 1,278 ha (59.9% of open field, 40.1% of facility) nationwide. Water dropwort, which is rich in nutrients such as vitamins and iron, is mainly cultivated by vegetative propagation method using local traditional species, however, seed propagation and breeding of cultivars are insufficient so far. Since securing, propagating and continuous characterization of various genetic resources are required to breed new cultivars, this study was conducted to compare the main characteristics of domestic genetic resources and to improve their utilization. Growth characteristics such as plant height, fresh weight, plant type, and flowering date were investigated for the 89 varieties of genetic resources owned by Jeollabuk-do Agricultural Research and Extension Services after vegetative propagation in the individual pots. Also, the morphological image information of leaves and flowers was constructed. Genetic resources were collected nationwide and originated in 30 regions including Hwaseong, Siheung and Jeju. Their plant types could be classified into straight, intermediate and creeping types according to their morphological characteristics, and at this time, the number of intermediate types accounted for the largest proportion. Flowering was carried out under high-temperature and long-day conditions in summer. According to the flowering date, they could be classified into early, middle and late flowering varieties, and at this time, the middle flowering varieties occupied the largest proportion. As a result of the investigation of vegetative growth characteristics, varieties with long plant height, heavy fresh weight and thick stem thickness were identified. Along with this result, it is thought that classification and selection of genetic resources for various purposes will be possible through additional investigations such as analysis of components and antioxidant activity. Moreover, it is judged that such results can be used as basic data for breeding new water dropwort cultivars in the future.

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