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Analysis of Genetic Variation of *Perilla* Germplasm Using RAPD

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ABSTRACT

Genetic variation of *Perilla* germplasms was investigated using RAPD markers. Forty-two *Perilla frutescens* lines and cultivars collected from locals were subjected to RAPD analysis using 220 primers. Among them only 13 primers showed polymorphic bands and these 13 primers provided a total of 144 bands, consist of 115 polymorphic and 29 monomorphic ones. The polymorphic bands were subjected to phylogenetic analysis using UPGMA and maximum parsimony (MP) methods. In the UPGMA method, similarity coefficient of 42 *Perilla frutescens* lines and cultivars ranged from 0 to 0.7842. The dendrogram of 42 lines and cultivars obtained through UPGMA method resulted in two major groups, and the similar clustering pattern was found by MP method, suggesting *Perilla* germplasms utilized in this study truly can be divided into two major groups. Although the two major groups were consistent roughly with their phenotypes (number of node, weight of 1,000 grains, and oil content), in detail, much inconsistency also was present.