Mass Propagation of *Primula sieboldii* Through Leaf Segment Culture

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The population of *Primula sieboldii* E. Morr., which is native to Japan, has been decreasing because of development in rural regions. The objective of this research was to develop a micropropagation method for the propagation of *P. sieboldii* to protect the plant from extinction. Young expanding leaves excised from donor plants grown in vivo were sterilized with 1% sodium hypochlorite solution, then divided into two halves, a distal half and a proximal one. The leaf segments were cultured on a modified MS medium (Murashige and Skoog, 1962) supplemented with benzyladenine (BA) and naphthaleneacetic acid (NAA) in various concentrations and combinations. After 2 or 3 weeks of culture on medium supplemented with BA and NAA, small globular tissues, so-called nodules were formed at the cut surface of the leaf segments. Most of the shoots developed from the nodules. The formation of shoots on leaf segments from in vivo plants was most promoted on medium with 1 mg liter^{-1} BA and 0.1 mg liter^{-1} NAA. The formation of shoots was not observed on media without NAA. The condition of total darkness for the 2 weeks of initial culture promoted shoot formation from the cut section of leaf segments. Leaf segments from in vitro plants had a higher potential for shoot formation than those from in vivo plants. At all conditions, the formation of shoots from cut sections of the distal half of the leaves was greater than that from the proximal half. The shoots formed rooted easily in medium without hormones. With this method, a lot of plantlets available for acclimatization could be obtained within 3 months after the initiation of culture. The plants that regenerated grew well and flowered in early spring. No phenotypic variation in the regenerants was observed.

LITERATURE CITED

Murashige, T. and **F. Skoog.** 1962. A revised medium for rapid growth and bio assays with tobacco tissue cultures. Physiol. Plant. 15:473-497.