

***In vitro* Preservation of *Euonymus nanus* Bieb.**

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Aim of the study: The aim of the research was the preservation of *Euonymus nanus* Bieb. *in vitro*. To achieve this aim it was necessary to optimize the nutrient medium composition for *in vitro* cultivation of vegetative shoots, to search the optimal hormonal composition of nutrient medium for morphogenesis induction as well as to optimize the nutrient medium composition for *in vitro* rooting of *Euonymus nanus*.

Material and Methods: As initial material isolated segments of stem, leaf blade were placed on the Murashige and Skoog (MS) cultural medium supplemented with following growth regulators: 1 mg/l BAP + 0.5 mg/l IBA; 1 mg/l BAP + 1 mg/l IBA; 1 mg/l 2ip + 0.5 mg/l IBA; 1 mg/l 2ip + 1 mg/l IBA. One of the methods of micropropagation is regeneration of plants from callus tissue. Primary explants (stem and leaf blade segments) were cultured on MS nutrient medium with the following hormonal ingredients: 0.2 mg/l BAP + 2 mg/l NAA; 0.2 mg/l BAP + 4 mg/l NAA; 0.2 mg/l kinetin + 2 mg/l NAA; 0.2 mg/l kinetin + 4 mg/l NAA. The formed shoots were subsequently transferred to a nutrient medium for rooting. Rooting of derived plants was carried out on the medium containing ½ mineral salts and vitamins according to MS, sucrose 30 g/l, and 0.5 or 1.0 mg/l IAA. In the course of this work we managed to work out a method of clonal micropropagation of *Euonymus nana*, to obtain large number of regenerated plants, well rooted in non-sterile conditions.

Results: For induction of adventitious shoots development we recommend to use the MS medium supplemented with 1 mg/l BAP and 0.5-1 mg/l IAA. It is established that for induction of a stem morphogenesis, stem segments should be placed on the medium containing 0.2 mg/l BAP and 2 mg/l NAA. Effectiveness of morphogenesis on leaf blade explants was low. For induction of rhizogenesis using the medium with 0.2 mg/l kinetin and 2-4 mg/l NAA is recommend. As primary explants, isolated segments of internodes are preferred. Microclones rooting can be performed on the medium containing ½ mineral salts and vitamins according to MS, sucrose 30 g/l.

Keywords: *Euonymus nanus* Bieb., *in vitro*, clonal micropropagation, morphogenesis