

## **P7 – Optimization of preculture medium for *in vitro* microcuttings in the procedure of cryopreservation of the grapevine cultivar 'Graševina'**

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### **Abstract**

Grapevine (*Vitis vinifera* L.) is one of the oldest agricultural species. Wide application of this culture in the economy makes it one of the most important agricultural fruit culture in the world. Republic of Croatia is important gene center for native, as well as for introduced cultivars of grapevine, so the viticulture's aim is to conserve and revitalize its cultivation. Cryopreservation is the most efficient procedure for the conservation of the plant material. In the cryopreservation procedure different preculture of microcuttings, cryoprotectants and steps during freezing can be toxic and make the stress within cultivars of grapevine. The aim of this study is the optimization of preculture medium for preculture of microcuttings with addition of antioxidants (salicylic acid) with the purpose of the successful growth of shoot tips of the cultivar 'Graševina'. The study was made on microcuttings of cultivar 'Graševina', planted on half-strength MS medium, with or without cytokinins benzylaminopurine and different concentrations of salicylic acids (0, 0.1, 0.5 and 1 mMol). The highest percentage of shoot microcuttings was achieved on the medium without the salicylic acid and BAP (68, 38%), and the lowest on the medium with addition of salicylic acid in concentration 0.1 mMol and supplement of 1 μmol BAP (35, 00%). Microcuttings cryopreservation of cultivar 'Graševina' reached the highest results of regeneration in controlled explants (15%) in comparison on the freezing ones (10%). Given results are implying that some additional studies should be done for successful cryopreservation of this cultivar.

**Keywords:** *Vitis vinifera* L., cultivar 'Graševina', preculture of microcuttings, antioxidants, salicylic acid, regrowth