

# Influence of Substrate Composition On Survival Rate and Root Formation of Adaptable *ex vitro* Plants of North American Varieties of Half-Highbush Blueberry

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The article presents the results of studies of the influence of substrate composition on the survival rate and root formation at the stage of adaptation of North American varieties (Northblue and Northcountry) of half-highbush blueberry plants to the *ex vitro* conditions. The half-highbush blueberry is a hybrid of *Vaccinium corymbosum* × *V. angustifolium* Ait species. This species is frost-resistant, high-yielding, and resistant to various diseases and pests. Blueberry fruits contain a rich composition of biologically active substances, provitamin A, vitamins B<sub>1</sub>, B<sub>2</sub>, C, PP, phosphorus, calcium and iron in an easily digestible form.

Studies on the adaptation of blueberry plants of the half-highbush varieties Northblue and Northcountry on three types of soil substrate: peat+soil 1:1, peat+sand 3:1, transitional peat type. An optimal soil substrate is selected for plant adaptation *in vitro* to *ex vitro* non-sterile conditions. The highest percentage of blueberry plant survival is on the substrate peat of the transitional type. The largest total length of the roots is observed in adapted plants on the substrate "peat + soil 1: 1" is observed (14,5 cm), on the substrate "peat + sand 3: 1" – 9,6 cm.

Both the composition of the substrate and the variety have a significant impact on the average length of blueberry roots. The average root length of Northcountry blueberry varieties is 1,8 cm, which is longer than Northblue (1,6 cm). The largest total length of the roots is observed in Northblue blueberry plants. The percentage survival rate of viable plants of the half-highbush blueberry reached up to 90%.