Original article

DOI 10.24419/LHI.2304-3083.2021.4.07

Clonal Micropropagation of Promising Cultivars and Forms of Half-Highbush Blueberry Using a Vitamin-Mineral Complex

***Sergey S. Makarov*[1]**
Candidate of Agricultural Sciences

***Irina B. Kuznetsova*[2]**
Candidate of Agricultural Sciences

***Alexandra V. Zaushintsena*[3]**
Doctor of Biology Sciences

***Elena I. Kulikova*[4]**
Candidate of Agricultural Sciences

Abstract. *The results of studies on growing in vitro plants of half-highbush blueberry of Northblue cultivar and hybrid form 23-1-11 with the use of a vitamin-mineral complex. Regenerated plants are cultivated on nutrient medias WPM, WPM 1/2, and WPM 1/4 supplemented with cytokinin 2-iP at concentrations of 2.0 and 4.0 ml/l. The highest viability (84–90 %) of explants of half-highbush blueberry of Northblue cultivar and hybrid form 23-1-11 are observed when using Chlorine-free Ecosterilizer 1:1, mercuric chloride (0.1 %) and Lizoformin3000 (5 %) as sterilizing agents with a sterilization time of 15 minutes at the stage of introduction into in vitro culture. An increase in the concentration of cytokinin 2-iP from 2.0 to 4.0 ml/l contributed to an increase in the number of microshoots of blueberry plants by 1.1–1.2 times and a decrease in the total length by 1.3–1.6 times at the stage of "actual micropropagation". The number of half-highbush blueberry micro-shoots increased by 1.0–1.2 times and the total length of shoots by 1.3–2.1 times with the addition of a vitamin-mineral complex. The number and total length of microshoots of blueberry plants of the half-highbush of hybrid form 23-1-11 exceeded than Northblue cultivar by 1.1–1.3 and 1.3–1.4 times respectively.*

Keywords: *half-highbush blueberry, forest berry plants, clonal micropropagation, in vitro, vitamin-mineral complex.*

For citation: *Makarov S.S., Kuznetsova I.B., Zaushintsena A.V., Kulikova E.I. Clonal Micropropagation of Promising Cultivars and Forms of Half-Highbush Blueberry Using a Vitamin-Mineral Complex // Forestry Information. 2021. № 4. P. 97–105. DOI 10.24419/LHI.2304-3083.2021.4.07*

[1] Central European Forestry Experimental Station, Branch of the Russian Research Institute of Silviculture and Mechanization of Forestry, Senior Researcher (Kostroma, Russian Federation), makarov_serg44@mail.ru

[2] Kostroma State Agricultural Academy, Associate Professor of Agrochemistry, Soil Science and Plant Protection Chair (Kostroma, Russian Federation)

[3] Kemerovo State University, Professor of Ecology and Nature Management Chair (Kemerovo, Russian Federation)

[4] Vologda State Dairy Academy named after N.V. Vereshchagin, Head of the Department of Plant Growing, Agriculture and Agrochemistry, Associate Professor (Vologda, Russian Federation), elena-kulikova@List.ru