Original article

DOI 10.24419/LHI.2304-3083.2022.4.04

Organizational and Economic Assessment of the Method of Clonal Micropropagation of Forest Berry Plants of the Genus Vaccinium

Sergey S. Makarov¹
Doctor of Agricultural Sciences

Anton I. Chudetsky²
Irina B. Kuznetsova³

Candidate of Agricultural Sciences

Elena I. Kulikova⁴
Candidate of Agricultural Sciences
Andrey N. Kulchitsky⁵
Elena A. Surina⁶

Candidate of Agricultural Sciences

Abstract. The results of calculations of the economic efficiency of clonal micropropagation of forest berry plants of the genus Vaccinium are presented on the example of cultivation of European cranberry, lingonberry and narrow-leaved blueberry in in vitro. The organization of growing forest berries through the creation of industrial plantations is of great practical and relevant importance for the conservation of non-timber forest resources and the activation of their controlled harvesting in Russia in the context of increasing consumer demand for berry products. Traditional methods of vegetative reproduction of forest berry plants don't provide stable results and are labor-intensive when creating berry plantations, and therefore this is necessary to use optimal costeffective and environmentally friendly growing technologies. The data on the composition and structure of production costs and the cost of growing planting material of forest berry plants of the genus Vaccinium in in vitro culture and under production conditions (in terms of 1 ha of plantation area) are presented. The economic efficiency of production (profitability - 187.7-475.4 %) using the method of clonal micropropagation in obtaining planting material of forest berry plants of the genus Vaccinium for industrial cultivation at enterprises is shown.

Key words: forest berry plants, lingonberry, blueberry, cranberry, clonal micropropagation, in vitro, production costs, profitability

For citation: Makarov S., Chudetsky A., Kuznetsova I., Kulikova E., Kulchitsky A. Surina E. Organizational and Economic Assessment of the Method of Clonal Micropropagation of Forest Berry Plants of the Genus Vaccinium. – Text: electronic // Forestry information. 2022. № 4. P. 30–38. DOI 10.24419/LHI.2304-3083.2022.4.04

¹ Central European Forestry Experimental Station, Branch of the Russian Research Institute of Silviculture and Mechanization of Forestry, Senior Researcher (Kostroma, Russian Federation); Northern (Arctic) Federal University named after M.V. Lomonosov, Undergraduate, Professor of the Department of Landscape Architecture and Artificial Forests (Arkhangelsk, Russian Federation), makarov_serg44@mail.ru

² Central European Forestry Experimental Station, Branch of the Russian Research Institute of Silviculture and Mechanization of Forestry, Leading Engineer (Kostroma, Russian Federation), a.chudetsky@mail.ru

 $^{^{3}}$ Kostroma State Agricultural Academy, Associate Professor (Kostroma, Russian Federation), sonnereiser@yandex.ru

⁴Vologda State Dairy Academy named after N.V. Vereschagin, Head of Plant Growing, Agriculture and Agrochemistry Chair (Surgut, Russian Federation), elena-kulikova@list.ru

⁵ Northern (Arctic) Federal University named after M.V. Lomonosov, Undergraduate Student (Arkhangelsk, Russian Federation), 5060637@mail.ru

⁶ Northern Research Institute of Forestry, Leading Researcher (Arkhangelsk, Russian Federation), surina_ea@sevniilh-arh.ru