

Silvicultural activity impacts on food and medicinal plant condition and productivity

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The paper reviews various silvicultural operation impacts on food and medicinal plant condition and productivity. Data on various cut (clear and partial) impacts on forest fruit and medicinal plants. The authors also analyze impacts of forest harvesting machinery and various cutting technologies on condition of ground cover and bush layer where food and medicinal plants grow mostly.

Clear cuts mostly affect forest growing conditions. Total destruction of timber layer significantly change phytocoenosis ecological modes. Key factor affecting useful plant condition in clear cuts in addition to environmental condition changes is a mechanical destruction of its shrubs in felling operations. Data on cranberry and bilberry overgrowth regeneration periods after clear cuts and identification of factors that impact this process for central areas of south taiga subzone and other regions.

Impacts of selective cuts: clearings, cleanings and thinning in forest phytocoenosis are under thorough study now. Bilberry active overgrowth related to development of light mode optimal for berry plant under a stand canopy has been found. Bilberry production harvest is feasible in pine, spruce and birch stands after increment felling and at lesser extent after thinning. Cranberry plant cover grows sufficiently after clearings and cleanings however berry yield capacity mainly depends on time of young stand thinning.

One of key conclusions of this paper - selective cuts are suitable in forest areas with available commercial stock of food forest resources and medicinal plants since clear cut is the key factor that affects its overgrowth condition.

Due to the topics under study the paper also covers issues of soil preparation for silvicultural operations, plantation establishment, felling area cleaning, promotion of forest regeneration, forest draining.

Natural forest regeneration is recommended for logging areas with available high productive overgrowth of food and medicinal plants and grounds.

The presented data on silvicultural operation impacts on food and medicinal plants should be taken into consideration in silvicultural operation planning, forest management plan development in the Russian Federation subjects, forest management guideline development in forest districts, design of forest areas for lease holding.