

The Dynamics of the Population Status of Spruce in Stands Forming after Cutting of Birch Stands with Preservation of Regrowth

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In 1992 the Rybinsk district of the Yaroslavl region North of LOS Institute of forest science RAS wounds were felling birch (part – 7B2As1S, age 55 years, stand density 0,7) the preservation of regrowth of spruce. Indigenous forest types were spruce of oxalidosum-myrtillosum group of forest types. After 2 years here was based on two permanent plots (PP), which every 10 years 3 accounting (first year bookmark PP) of all spruce trees with the measurement of biometric characteristics and determination of the state.

It was determined that a high-density 60-years-old spruce-deciduous forest stand of the second bonitet class formed at the PEPs in 22 years after the felling of the birch. The total reserve of stemwood in this forest planting is $195 \text{ m}^3 \text{ ha}^{-1}$ where $158 \text{ m}^3 \text{ ha}^{-1}$ (81 %) fall on spruce wood.

For the dynamics of the state population by an increase in the proportion of trees normal state (up to 94% in 22 years after logging) as part of the first tier. In the first 10 years, improving the health of trees second tier. Later weak specimens remain in this layer individuals. State of the regrowth of preliminary generation is constantly deteriorating and in 22 years after felling only 3 % of the trees can be attributed to normal.

The share of trees with different kinds of damage during the reporting period was changed in the range of 28-40%. In the regrowth are the most common injuries associated with the deformation of the trunks, breaking of central shoots and stems, defoliation of tree crowns.

The trees of the first and second tiers are the most common injuries of the bark and wood on tree trunks. To potentially dangerous damage by insects include bark moose. They lead to the development of stem rot and tree death. With the increase in the prescription of felling the number of trees increases.

The analysis of the dynamics of the state of the prior generation ate showed that research when the wind blows plantations have a great potential to restore high performance spruce.