

Dynamics of Shrinking Spruce Forests in the Moscow Region

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In the spruce forests of the Moscow region, during more than 120-year period, there were six waves of mass drying of spruce. The development cycle of desiccation is considered and it is shown that a temporary weakening of old spruce stands is the mechanism that triggers the desiccation processes, most often caused by drought effects on them. If this weakening coincides with a period of somewhat increased number of bark beetle in the forest, which may be caused by windfalls or unsatisfactory sanitary condition of forests, and increased heat supply of summer seasons, then the centers of mass reproduction of the printer are formed and it destroys weakened trees, leading to the development of mass drying of stands .

In the event that during the period of the spruce forest weakening the low level of the typographer's population was maintained and if the heat supply of the summer seasons did not allow the second generation to be realized, the temporarily weakened stands recover and there is no mass drying of the forests.

The main objectives of preventing the development of a massive shrinkage of spruce are to prevent the accumulation of spruce trees over the age of 80 years, to maintain the sanitary condition of spruce forests on a regular basis and to take measures to reduce the number of the printer in the forests.

The considered scheme for the development of shrinking spruce allows us to develop an algorithm for farming in spruce forests, which allows us to manage their condition and prevent the formation of foci of mass reproduction of the bark beetle and the associated mass drying of spruce.