

THE RESUMPTION OF LARCH AFTER GROUND FIRES

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Forests play a major role in the economy of Russia as sources of timber. In addition, they are rich in food and non-timber resources, which have huge social and economic value.

The most important biological property of the plantations is their natural renewability. However, natural regeneration on the plots of the deceased to the forest is not always successful. The process of natural overgrowth often develops under the negative scenario, which entails a change of woody vegetation in shrub or herb, the protective functions are significantly lower.

According to official statistics, the area of disposal of forests is increasing annually. The main factor of deforestation of natural systems over a long period there are fires destroying vegetation communities over large areas.

But the pyrogenic effects on natural systems can be both positive, the result depends on the force of the fire [2].

Accordingly, the aim of our study was to establish the optimum strength of fire in the preparation of a comfortable environment for subsequent natural regeneration of tree species. The work was carried out in the northwestern part of Eastern Sayan (Mansko-Kansky forest growing district).

The object of study were the moss larch forests, traversed by fires of different forces, and not passed the fire cenoses, as a control area.

Silvicultural and geobotanical description of plant communities, all accounting work is carried out according to standard techniques [1, 3].

When evaluating the renewal was taken into account only the viable saplings, without obvious signs of necrosis and severe forms of oppression.

Should indicate that in the studied conditions the main reason for blocking the colonization of forest land by self-seeding tree species, is a layer of moss cover (thickness 4-5 cm) and forest floor (thickness 3-4 cm). In these circumstances, the force of the fire was determined as follows. As a result of poor fire exposure only degraded moss cover; after the middle of the fire burned out part of the forest floor, the thickness of the remaining layer does not exceed 1.5-2 cm big fire destroyed the whole ground phytomass and soil fitodetrit. In the sixth year after fire on plots performed accounting of natural regeneration, the results of which are presented in the table.

Table – Condition post-fire reforestation

| The fire power | Average | | Density, thousand PCs./ha | Frequency, % |
|----------------|------------|--------------|---------------------------|--------------|
| | height, cm | diameter, mm | | |
| weak | 23,7±3,63 | 3,8±0,52 | 11,4 | 56 |

| | | | | |
|---------|-----------|----------|------|-----|
| average | 35,4±4,09 | 4,7±0,73 | 30,2 | 100 |
| strong | 42,3±5,36 | 5,3±0,84 | 45,3 | 100 |

The analysis of the data revealed a number of salient features characteristic of the renewal process specific habitats. Weak fire damage not only the forest but also the lower tiers of vegetation, quickly recovering after the fire. The density of cenosis determines the degree and nature of interactions of plants, and the higher this ratio, the greater apparent competitive relationship governing the growth and development of both the individuals and their groups, and ultimately lead the population of the community in accordance with environmental conditions and resources of the environment. In addition, the remaining layer of dead phytomass, characterizing the potential renewal of edaphotope, physically prevents root shoot safely reach the mineral substrate and to obtain the necessary for the vital substance. Plants are poorly developed, and the rate of occurrence characterizing the chorologic aspects of forest forming process, the smallest.

Qualitative renewal environment is formed in the case where the organic substrate burned by 40-50 % (medium strength fire). Hence we can conclude that surviving in the detritus layer of about 2 cm larch is well developed and successfully inhabits the forest.

Gary (strong fire) in wet habitats, where the exogenous impact of root competition is reduced, and moss cover and dead phytomass removed, it is optimal for the settlement of a new generation of tree species. As can be seen from the table, on sites with mineral soil is the maximum amount of self-seeding, and the plants have the best biometrics.

In summary, it can be stated that the results of these studies are not only of theoretical interest, but also have significant practical value. Illustrates the actual materials features of natural regeneration of larch forests subjected to fire exposure to different forces, you need to consider when developing optimal fire management in the forests of the study region, ensuring the preservation of the indigenous natural environment, dynamics and direction of successional processes.

References

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