

APPLICATION OF DIFFERENT METHODS AND INTERMEDIATE CUTTINGS INTENSITIES AND THEIR INFLUENCE ON THE PINE STANDS FORMATION

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Since the beginning of intermediate cuttings in the 1920s foresters have begun to realize that the lack of young forest plantations maintenance, especially in mixed high-bonitat forest stands, can easily turn them into semi-subsistence and long-boled ones with a minimum portion of main tree species. Thus, the main task of intermediate cuttings is aimed at wood improving (size, quality) to conduct final cutting.

Goal of research is to conduct long-term monitoring of permanent test areas in a pine plantation in order to study the effect of different methods (line and selective), regimes and intermediate cuttings intensities on assortment and spatial structure of forest stands, on accumulation of timber stock, overall productivity of plantations and to trace their dynamic change.

Materials and methods of research. The object of the study is a pine plantation artificially created in completely uprooted in 1963 area in conditions of prime pine forest. Test plots were laid according to techniques generally accepted in forestry and forest estimation in accordance with state standard requirements. Standard calipers and Makarov altimeters were used for a total list of a forest stand and model trees taking. The tables from officially functioning manuals were used to determine forest stand taxation indexes on test plots.

Research results. Beginning of study the effect of different methods (line and selective), regimes and intermediate cuttings intensities on assortment, spatial-parametric structure of forest stands and accumulation of timber stock and their overall productivity were started at cleaning age.

From these data it can be seen that as a result of intermediate cuttings starting with cleanings and finishing the first thinning the number of trees over a 10-year

period (1974-1983 years) has decreased sharply, that has provided their optimum feeding area and location equability by area.

The intensive growth of the stock started only after the first thinning in 1988. During the further monitoring of pine stands growth it can be noted that at the age of 25 high stock of wood was observed in sections 1 and 2, where intermediate cuttings have been carried out in compliance with the completeness at 0,9 and 0,8 levels respectively, a bit higher stock among sections of the line cutting was obtained from its one stage – cutting of every 2nd row in the year of sample plot establishment. Analyzing the results of the last checklist of trees in 2013, one should note that general state of changes in planting stock a little bit changed. The highest stock was on the control section №5, where during the study period only dead standing trees were cut down. Section №1 showed a negative result, where density during intermediate cuttings was kept at 0,9 level. Thus it was necessary to leave a significant number of intermediate trees of Kraft III and IV classes, which during their growth gradually died and fell off the plantation.

Conclusions. Based on the data presented above, one can highlight the following:

1. The best results in a change of forestry and taxation measures were obtained from selective cuttings with the removal of only dead standing trees and completeness at 0,8 level during different types of intermediate cuttings.

2. Also intermediate cuttings conducted with a line method showed rather good results.

3. It can be quite affirmatively said about the negative result of selective intermediate cuttings for pine stands in compliance with stand density at 0,9 level.