

PRODUCTIVITY OF ARTIFICIAL PINE STANDS KYIV-CHERNIHIV POLISSYA

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Was studied the influence of agricultural techniques of the creation on intensity of growth and productivity of artificial pine plantations in clearings and lands withdrawn from the temporary agricultural use. Characterized stock change of the total number of trunks in pure and mixed stands. Was proposed the way of definition the average distance between the trees in the plantation, and thus the density of the stands at the maximum diameter of the crown, which forms by the thickest branches.

Key words: *artificial forest stands, logging, conservation tillage, crop density, growth rate, diameter of the crown, the composition, the stock plants.*

The success of artificial plantations provides by a choice of species for which the most favorable existing site conditions, method of cultivation and the agrotechniques of creation of cultures. Among the factors that lead to differentiation of trees in pine plantations, should indicate how their mutual influence on each other and the other components of the biota. In mixed stands interaction with the environment runs more difficult than in clean, due to different bioecological properties of trees. In the area of research, usually created pure pine cultures on fresh log cabins, a width of 40 m. The soil was treated strips. The initial density cultures was 9.5 –13.3 thousand planting places per 1 ha. Studies have shown that with age in cultures created clearings, appeared self-seeding hardwood, which in some areas forms the second tier. Analysis of the data indicates a preference for most indicators, mixed plantations over pure. In the studied oak stands height to 7–12 meters lower than the pine, that it forms a stable second tier and plumping plantations, occupying free space. In the fresh pine forests in the highest productivity mature age with the equal fullness differ planting

involving oak 5–10%. The admixture of birch also increases the overall productivity of forest stands, but the stock of wood in plantations of pine oak aged 79 surpasses similar stock those where impurities consisting birch prevails. Although overall productivity of these stands the same. With increasing participation in the second tier of birch decrease the pine stock and common stock of plantations. Study pine growth by height showed that pure cultures or mixed cultures with low birch rate of growth at a young age is higher than in mixed stands. Since 15 years of age, rate of growth of mixed plantations increased. Thus, the growth of mixed stands is dependent on the impurity of species that are part of the plantations. Thus, in the pine-oak stands in the a young age pine grows more rapidly than in pine-birch. The intensity of the growth of pine increases considerably in the last 15–20 years of age. In stands aged 45–55 years birch stand or fall out of the cut down in order thinning. This decrease in the intensity of growth in height. It should be noted that in a fresh pine forests of birch growing class productivity reached I–II, while oak – III–IV. The maximum productivity plantations for a certain type of appropriate soil achieved the highest level of uptake and effective use of solar energy. Tent trees should be formed evenly located by area and the most producing trees. To achieve this goal evaluated in character (features) branching twigs, their diameter, morphological location in the crown. Conducted research revealed that the highest economic value are characterized by trees, where the bulk of the branches attached to the trunk at an angle of 60–70°. As a result, a method is proposed determining the average distance between the trees in the plantation, and hence density stands for the maximum diameter of the crown that forms the thickest branches. According to the normative materials maximum diameter of twigs permitted for large timber first and second grades is respectively 5 and 10 cm. Knowing the limits sizes of knots and angle of attaching them to the trunk defined limit of the crown, and thus the distance between the trees. So fresh pine forests in the highest productivity in ripe age for equal fullness include planting oak involving 5–10%. The admixture of birch also increases the overall productivity of forest stands, but the stock of wood

in plantations of pine oak aged of maturity exceeds similar stock, consisting of impurities dominated by birch.

Study growth of pine by height showed that pure cultures or mixed cultures with low birch rate of growth at a young age is higher than in mixed stands. However, starting from 15–20 years of age rate of growth in pine stands in mixed plantations increases. Thus, the growth of mixed stands is depended on the impurity species that are part of the plantations. Thus, in the pine-oak stands in the a young age pine grows more rapidly than in pine and birch. The intensity of the growth of pine increases considerably in the last 15–20 years of age. These plantations aged 45–55 years birch stand or fall out of the cut down in order thinning. At the same time, a decrease in the intensity of growth in height.

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