Original article

DOI 10.24419/LHI.2304-3083.2022.1.02

Restoration of Oak Forests on the Basis of Natural Oak Renewal in the Middle Volga Region

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Abstract. *The article presents the results of many years of research on the restoration of oak forests based on the natural regeneration of oak under the influence of assistance measures through regular thinning, aimed at both preserving the main species and the formation of stands of mixed composition, complex structure and high productivity.*

The periods of formation of plantings by thinning before the withdrawal of the main species into the first tier are shown. Optimization of the density of oak in "biogroups" is given for its better growth and for shortening the timing of alignment of biometric indicators between oak and accompanying tree species.

It was found that thinning methods significantly affect the growth of oak. The best growth was observed for oak trees when they were lightened in "biogroups" and at a distance of 2–3 m from them, oak trees grew worse when the accompanying species and shrubs were completely cut down by the corridor method.

As a result of regularly conducted thinning, clarification and clearing, as well as partial thinning of oak in "biogroups", by the age of thinning, stands of complex structure and high productivity (quality class II) were formed.

With this method of restoration of oak forests, no costs are required for growing planting material in forest nurseries and for the creation of oak forest cultures in clearings. The costs are required only for regular silvicultural cuttings for oak maintenance.

Reforestation of oak forests by means of promoting the natural regeneration of oak is beneficial from an ecological point of view, since it does not disturb the forest environment from the use of heavy forestry equipment and tools, which is observed when creating oak forest cultures.

Key words: *natural restoration, ensured renewal, silvicultural thinning, optimization of the density of oak in biogroups, composition of young stands, quality of plantings.*

For citation: *Petrov V., Ilyin F., Kuznetsova N. Restoration of Oak Forests on the Basis of Natural Oak Renewal in the Middle Volga Region // Forestry information. 2022. № 1. P. 35–49. DOI 10.24419/LHI.2304-3083.2022.1.02*

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