

SELECTIVE THINNING INDUCED CHANGES IN RADIAL GROWTH OF *QUERCUS ROBUR* IN MIXED STANDS

Agnese Anta Liepiņa, Roberts Matisons, Guntis Brūmelis, Āris Jansons

In the Baltic sea region, *Quercus robur* is associated with high habitat and structural diversity of forests. Therefore, there are efforts to improve the survival of oaks using selective thinning. The enhanced light conditions can be favorable for oak trees and species associated with them, however, the changes in microclimate caused by thinning could have a contrasting effect on oak lifespan. In this study, the radial growth response of *Quercus robur* to environmental changes caused by selective removal of adjacent trees was analysed. Increment cores were sampled in 13 forest stands, where selective thinning was made around oak trees, and dendrochronological methods were used in data analysis. To determine whether thinning changed the trends in oak growth sensitivity, the chronological cluster analysis was used. Cumulative radial increment of oaks was reconstructed. Preliminary results show that selective thinning had no impact on *Quercus robur* growth sensitivity to meteorological conditions. The local stand conditions had a contrasting effect on the radial increment of the oak trees after thinning. Selective thinning in mixed stands improved radial growth for approximately half of studied oak trees, and the rest had negative or no changes in radial growth. Continued research is needed to determine the interaction of stand composition and thinning intensity on the further growth of oak trees.

Agnese Anta Liepiņa, The Department of Tree Breeding and Adaptation, Latvian State Forest Research Institute SILAVA, Latvia and Department of Botany and Ecology, University of Latvia, Latvia

Roberts Matisons, The Department of Tree Breeding and Adaptation, Latvian State Forest Research Institute SILAVA, Latvia

Guntis Brūmelis, Department of Botany and Ecology, University of Latvia, Latvia

Āris Jansons, The Department of Tree Breeding and Adaptation, Latvian State Forest Research Institute SILAVA, Latvia