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INFORMATION CARD ABOUT DEFENDED DISSERTATION

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ACQUIRED DEGREE AND DIPLOMA DATA

(mark the correct answer with X)

☐ PhD☒ DSc

(please specify)

Number and date of diploma: N / (dd.mm.yyyy)

Code of professional field

6.5 "Forestry"

DISSERTATION TITLE (THEME)

Physiological acclimation of European beech

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ANNOTATION

(not longer than 1500 characters)

Acclimation is a characteristic of individuals, realized within the framework of their genetic potential and individual duration of life. It is an adjustment to stress provoked by fluctuating environmental factors. Biochemical changes occur the fastest, such as a change in the balance of phytohormones, redirection of resources for synthesizing protective compounds – enzymes, terpenes, phenols, flavonoids, etc.; accumulation of reserve substances, etc. These biochemical changes cause a cascade of changes occurring at the physiological level, such as a change in the balance between photosynthesis and respiration, compromises related to the water regime and mineral nutrition, and changes in growth and reproduction. At a later stage, the changes are reflected at the anatomical and morphological levels. Some species, such as the common beech, form typical sun and shade leaves—significantly different in arrangement—which helps them to use resources more efficiently under the relevant light conditions. This change can be annual because the species invests in the formation of winter buds from the previous year's summer (month of July). However, this is associated with increased costs and the redistribution of available resources. And, although acclimation is not fixed at the genetic level and cannot be passed down through generations, for the long-lived tree species that make up the forest, it is crucial to their medium-term adaptation to climate dynamics. From this point of view, the potential for physiological acclimation is of interest, and its knowledge can enrich the understanding of adaptive forestry.

ORGANIZATION WHERE THE DISSERTATION WAS DEFENCED**University** “University of Forestry”

– faculty “Faculty of Forestry”

– primary unit “Department of Dendrology”

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