

Book of Abstracts



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International Scientific Conference

GREEN AGENDA FOR WESTERN BALKANS

UNIVERSITY OF BELGRADE
FACULTY OF GEOGRAPHY

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ASSESSMENT OF THE GEN-ECOLOGICAL POTENTIAL OF EUROPEAN WHITE ELM FROM THE NATURAL PROTECTED AREA „VELIKO RATNO OSTRVO“

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Abstract: European White Elm (*Ulmus laevis* Pall.) is considered a rare and endangered species in the forest fund of the Republic of Serbia. One of its native populations in Serbia is conserved in the natural protected area „Veliko ratno ostrvo“ (Belgrade). This research aimed to assess the genetic and ecological potential of European White Elm from the protected area „Veliko ratno ostrvo“ based on research conducted in a nursery progeny test. The selection of test trees was done in the area of “Veliko ratno ostrvo” based on the yield in spring 2019. The progeny test was established in the nursery of the Faculty of Forestry, University of Belgrade. The assessment of gen-ecological potential was based on the survival of the one- and two-year-old seedlings of 6 half-sib lines during two vegetations and their morphological characteristics (height and root collar diameter). Statistical analyses were performed with Statgraphics Centurion XVI software. The results of descriptive statistics, one-way analysis of variance, and the least significant difference test were presented. The percentage of seedlings' survival at the end of the second vegetation period was above 50% in all half-sib lines. The differences in the measured characteristics were significant among all half-sib lines ($p < 0.05$), which indicates a strong effect of genetic control. The highest mean value of the height and root collar diameter of one- and two-year-old seedlings was recorded in half-sib line 4. The analysis of the gene-ecological potential of different European White Elm half-sib lines will be continued in the pilot stand, established on the „Veliko ratno ostrvo“, which will be used to monitor the survival and development of seedlings over a longer period. Collected information on the gene-ecological potential of certain half-sib lines will serve as a basis for further breeding of the species, through the selection of superior genotypes.

Keywords: endangered species, *Ulmus laevis*, progeny testing, seedlings, variability