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STRUCTURAL CHARACTERISTICS OF MIXED FIR AND SPRUCE FORESTS IN SOUTHWESTERN SERBIA

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The paper presents the results of research on the structural characteristics of mixed fir (*Abies alba* Mill.) and spruce (*Picea abies* Karst.) forests in the area of southwestern Serbia. According to the coeno-ecological affiliation, the studied stands belong to the group of ecological units - spruce and fir forests (*Piceo - Abietetum*) on humus acid brown soils, brown podzolic soils, terra fusca and bleached terra fusca. The basis for the study of the structural characteristics and production potential of these forests are data from 6 stationary experimental fields, square shape, with an average size of 0.25 ha. These forests are characterized by very diverse structural forms, ranging from the structure of even-aged stands to typical multi-storey, unevenaged-aged stands. The form of tree diameter distributions in all stands largely depends on the fir as the dominant species. At the same time, trees of small and medium diameters dominate, with a minimal presence of trees with large diameters. The average number of trees in the studied stands is 787 per ha, where fir are represented by 93%, while the average basal area is 48.5 m^2 ha^{-1}, where fir are represented by 92%. The average volume in these stands is 680.1 m^3 ha^{-1} with a mixture ratio of 0.9:0.1 where fir is the dominant species. The average value of the current volume increment is 11.5 m^3 ha^{-1}, with the share of fir 89% and spruce 11%. Habitat potential, stand characteristics and interrelationships of tree species within them, have resulted in structural complexity, high productivity and ecological stability of these forests, so that in future management more radical measures and interventions that would disrupt established relationships and dynamic processes should be avoided.

Keywords: southwestern Serbia, structural characteristics, mixed forests, fir and spruce forests.