

## THE DEVELOPMENT OF SEEDLINGS AFTER THE SHELTERWOOD REMOVAL CUT IN THE SESSILE OAK STAND IN NORTHEASTERN SERBIA

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### Abstract

This paper presents the analysis of the development of seedlings after the shelterwood removal cut in the sessile oak stand in northeastern Serbia. The stand is phytocenologically defined as an association of sessile oak with hairy sedge (*Carici pilosae - Quercetum petraeae* B. Jov. 1989) on eutric brown soil on neutral and basic eruptive rocks. The stand is located at an altitude between 290 and 320 m, on slope up to 20°, and western - southwestern exposure. The shelterwood cuttings were done in two stages. The first was combined preparatory and seed cut in 2010 (after abundant acorn production in 2009), when the undergrowth of accompanying tree species was removed, together with individual dead sessile oak trees. The removal cut was performed at the end of 2016. After the removal cut, the development of seedlings in full light conditions was analyzed over the next three years. At the end of the vegetation period in 2017, the average number of 8-year-old seedlings per m<sup>2</sup> was 13.4, the average height of seedlings was 55.8 cm and the average diameter was 7.1 mm. At the end of the vegetation period in 2018, the average number of 9-year-old seedlings per m<sup>2</sup> was 13.2, the average height of seedlings was 78.4 cm and the average diameter was 8.7 mm. At the end of the vegetation period in 2019, the average number of 10-year-old seedlings per m<sup>2</sup> was 12.0, the average height of seedlings was 106.1 cm and the average diameter was 10.4 mm. The obtained results indicate very intensive development of the seedlings after the shelterwood removal cut.

**Keywords:** *Northeastern Serbia, Sessile oak, Shelterwood cutting, Development of seedlings.*