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BOOK OF ABSTRACTS

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BLACK OAT (*Avena strigosa* Schreb) - NEW SPECIES IN PRODUCTION IN SERBIA

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On the territory of Vojvodina, since 2013 was organized the production of the black oat seed (*Avena strigosa* Schreb), which at the same time presents the introduction of this plant species into Serbia. The goal of this study was to establish the productive characteristics of this plant species in different agroecological conditions. Black oat belongs to a subset of diploid annual cultivated species of the genus *Avena* and according to its morphological propertiesdiffers from other cultivated species of this genus by extremely thin and high stem. Centre of the black oat origin is the Iberian Peninsula, from where it spread to Western and Central Europe and occupied series of ecological niches all the way to Afghanistan. Since the Bronze Age, over time its cultivation and use in human consumption decreased, so that at the end of the twentieth century in Europe it was on the brink of extinction. In recent years, due to its biological characteristics (ability to perform soil remediation, pronounced allelopathic and nematocidal action), black oat found an application in sustainable farming systems as the cover crop. Four-year study (2013-2016) was performed under the production conditions on the hydromorphic black soil in South Banat, on carbonate chernozem in Srem and brown steppe soil on sand in Bačka. The research material was the sort Pratex. For the analysis of meteorological conditions (quantity and distribution of rainfall and thermal conditions) were used the data from meteorological stations of agricultural expert services.Our results show that the type of soil, weather conditions and their interaction had statistically significant effect on the yield of the black oats seed ($P < 0.01$). During all four years of research and at all three locations, the average yield of natural seed was 2.27 t ha^{-1}, the highest yield was recorded on chernozem soil: 2.58 t ha^{-1}, and the lowest one on brown steppe soil: 1.86 t ha^{-1}. In the second and most favorable year, the type of soil had nearly identical effect on the yield as the average value, in the fourth and most humid year it had higher effect, and in the third year, with the least rainfall, the soil type had the highest effect on the seed yield. It can be concluded that there are favorable conditions for cultivation of black oat in the Republic of Serbia. However, in order to include black oat into production as a cover crop it is necessary to perform more research, as well as do an evaluation of this plant species invasiveness in different regions of cultivation.

Key words: *black oat, introduction, agroecological conditions, yield*

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