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## The effect of different microbial fertilizer on the weediness of maize

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### Abstract

The maize cultivation trial was conducted at the Research and Experimental Field "Radmilovac" of the Faculty of Agriculture in Belgrade in 2022 on the soil type luvisol chernozem in completely randomized blocks. The cropping system included tillage with a disk harrow at 25-30 cm with complete incorporation of winter wheat crop residues and tillage with a harrow before sowing. Basic fertilizer was applied in the fall at 500 kg ha<sup>-1</sup> NPK (15:15:15). The following microbiological fertilizers were used for top dressing in spring: Biofertilizer ("Slavol", manufacturer "Agrounik" Serbia) with 5 l ha<sup>-1</sup> in two treatments and Eko lame with 10 l ha<sup>-1</sup> in 3 treatments. The top dressing in the control variant was done with nitrogen fertilizer AN at the rate of 60 kg ha<sup>-1</sup> N. Maize varieties (ZPSC 666) were used. The maize was grown in a six crop rotation. Statistical analysis confirmed that top dressing had a greater effect on weediness of maize. The weed community in maize crops consisted of 15 weed species, with terophytes dominating: *Stellaria media* (L.) Vill., *Veronica persica* Poir. and *Sonchus oleraceus* (annual species) and *Agropyrum repens* (L.) Beauv., *Cirsium arvense* (L.) Scop., *Convolvulus arvensis* L. and *Sorghum halepense* (L.) Pers. (perennial species). The obtained results show that the highest number of weeds, weeds per species, fresh and air-dry biomass were recorded in the control variant. The statistically lowest values for the number of weed plants per species and fresh biomass, as the most important parameters of weed infestation, were recorded in the treatment with Eko lame. The differences in weed population in the variants with microbiological fertilizers were not statistically significant, while there were statistically very significant differences compared to the control. The use of microbiological fertilizers affected the initial faster development of maize plants and increased competitiveness against weeds.

*Key words:* competition, weed, maize, top dressing