

## Utjecaj konzervacijske obrade tla na pojavnost korova u kukuruzu u uvjetima klimatskih promjena

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### Sažetak

Konzervacijski sustavi na različite načine utječu na ublažavanja klimatskih promjena uz pozitivan utjecaj na produktivnost biljne proizvodnje. Istraživanje s konzervacijskim sustavima obrade tla i kalcizacijom provedeno je 2021. godine u Čačincima (17.86336 E, 45.61316 N, n.v. 111 m). Poljski pokus postavljen je po split plot eksperimentalnom dizajnu u tri ponavljanja s glavnim tretmanom obrade tla: ST (konvencionalna s oranjem), CTD (konzervacijska duboka, obrada rahljenjem do 30 cm s minimalno 30 % žetvenih ostataka na površini) i CTS (konzervacijska plitka, obrada do 10 cm s minimalno 50 % žetvenih ostataka na površini) s podtretmanom kalcizacija. Uzorkovanje korova provedeno je dva puta (fenofaza V10 i R5). Ocjena pokrovnosti vršila se metodom vizualne procjene, a brojnost i nadzemna biomasa korova utvrđivala se brojanjem pojedinačnih vrsta. Dominantne korovne vrste bile su *Ambrosia artemisiifolia* L., *Calystegia sepium* (L.) R. Br. i *Echinochloa crus-galli* (L.) PB. Svi istraživani parametri zakorovljenosti u prosjeku su bili najmanji na kalciziranim tretmanima, a statistički značajan utjecaj utvrđen je za broj korova u V10 i pokrovnost u fenofazi R5 na kalcizaciji. Obrada tla značajno je utjecala na pokrovnost korova u R5, a najmanja je bila na CTD (24,67 %). CTS tretman rezultirao je najvećim brojem korova (24 m<sup>-2</sup>), biomasom (134,43 g m<sup>-2</sup>) i pokrovnosti (69,84 %) ali bez statistički značajnih razlika u odnosu na ST i CTD te su se konzervacijski sustavi obrade u ovom istraživanju pokazali održivim u pogledu gospodarenja korovima.

**Ključne riječi:** konzervacijska obrada tla, zakorovljenost, *Zea mays* L., klimatske promjene

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## Influence of conservation tillage on weed occurrence in maize under climate change conditions

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### Summary

Conservation systems have different effects on climate change mitigation with a positive impact on crop production productivity. The research with conservation tillage systems and liming was conducted in 2021 in Čačinci (17.86336 E, 45.61316 N, n.v. 111 m). The field experiment was set up according to split plot experimental design in three replicates with the main tillage treatment: ST (conventional with plowing), CTD (conservation deep, loosening up to 30 cm with a minimum of 30% of crop residues on the surface) and CTS (conservation shallow, tillage up to 10 cm with a minimum 50% of crop residues on the surface) with sub-treatment liming (carbocalc, 10 t ha<sup>-1</sup>). Weed sampling was performed twice (phenophase V10 and R5). The assessment of weed coverage was performed by visual assessment and number and aboveground biomass of weeds were determined by counting individual weed species. The dominant weed species were *Ambrosia artemisiifolia* L., *Calystegia sepium* (L.) R. Br. and *Echinochloa crus-galli* (L.) PB. All investigated weed parameters were on average the lowest on liming treatments, and a statistically significant effect was found for the number of weeds in V10 and the coverage in phenophase R5 on liming. Tillage significantly affected weed cover in R5, and the lowest was on CTD (24.67%). CTS treatment resulted in the highest number of weeds (24 m<sup>-2</sup>), biomass (134.43 g m<sup>-2</sup>) and cover (69.84%), but without statistically significant differences in relation to ST and CTD, and conservation in this study proved to be sustainable in terms of weed management.

**Key words:** conservation tillage, weediness, *Zea mays* L., climate change

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