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Konsocijacija drvenastih vrsta i poljoprivrednih kultura kao inovativni pristup u agroekosustavima

Vladimir IVEZIĆ, Miro STOŠIĆ, Vladimir ZEBEC, Brigita POPOVIĆ, Josipa PUŠKARIĆ, Jelena ILIĆ, Jurica JOVIĆ

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Sažetak

Konsocijacija podrazumijeva uzgoj više kultura na istoj površini u isto vrijeme. Kombiniranjem trajnih nasada drvenastih kultura s poljoprivrednim kulturama na jednoj proizvodnoj površini direktno utječemo na temperaturu, vlagu, insolaciju te strujanje vjetra unutar nasada (mikroklimu) što za posljedicu ima veću otpornost biljaka na stresne uvijete kao što su klimatski ekstremi (suša, poplava). Cilj istraživanja je ispitati utjecaj međuodnosa oraha i poljoprivrednih kultura na prinose poljoprivrednih kultura unutar nasada. Pokus će biti proveden kroz pet godina, na dva lokaliteta od kojih će se svaki sastojati od tri parcele s istim tipom tla i sa ujednačenom gnojdbom na sve tri parcele na kojima se provodi ekološka poljoprivreda – kontrolna parcela sa usijanim poljoprivrednim kulturama bez oraha, parcela s nasadom oraha gdje će između redova biti usijane poljoprivredne kulture te trajni nasad oraha bez ratarskih kultura. U prvoj godini (2017/2018) usijana je pšenica. Na kontrolnoj parceli prinos pšenice je bio 6.7 t/ha dok je prinos pšenice usijane u orahe bio 6.0 t/ha, dakle za 11% niži. No s obzirom da je na parceli s orasima samo 75% površine bilo usijano (25% površine su zauzimali orasi), možemo reći da je prinos po ha još i niži, tj. 4.5 t/ha. Dakako ne smijemo zaboraviti na prinos oraha koji je bio jednak kao i u nasadu oraha bez pšenice tako da možemo reći da je 4.5 t/ha pšenice samo dodatni prinos tj. dodatni izvor zarade. Neophodna je provesti daljnju ekonomsku analizu kako bi se utvrdila isplativost ovakvih agroekosustava.

Ključne riječi: agrošumarstvo, orah, prinos, pšenica, međuredna proizvodnja

Intercropping of wood species and agricultural crops as an innovative approach in agroecosystems

Vladimir IVEZIĆ, Miro STOŠIĆ, Vladimir ZEBEC, Brigita POPOVIĆ, Josipa PUŠKARIĆ, Jelena ILIĆ, Jurica JOVIĆ

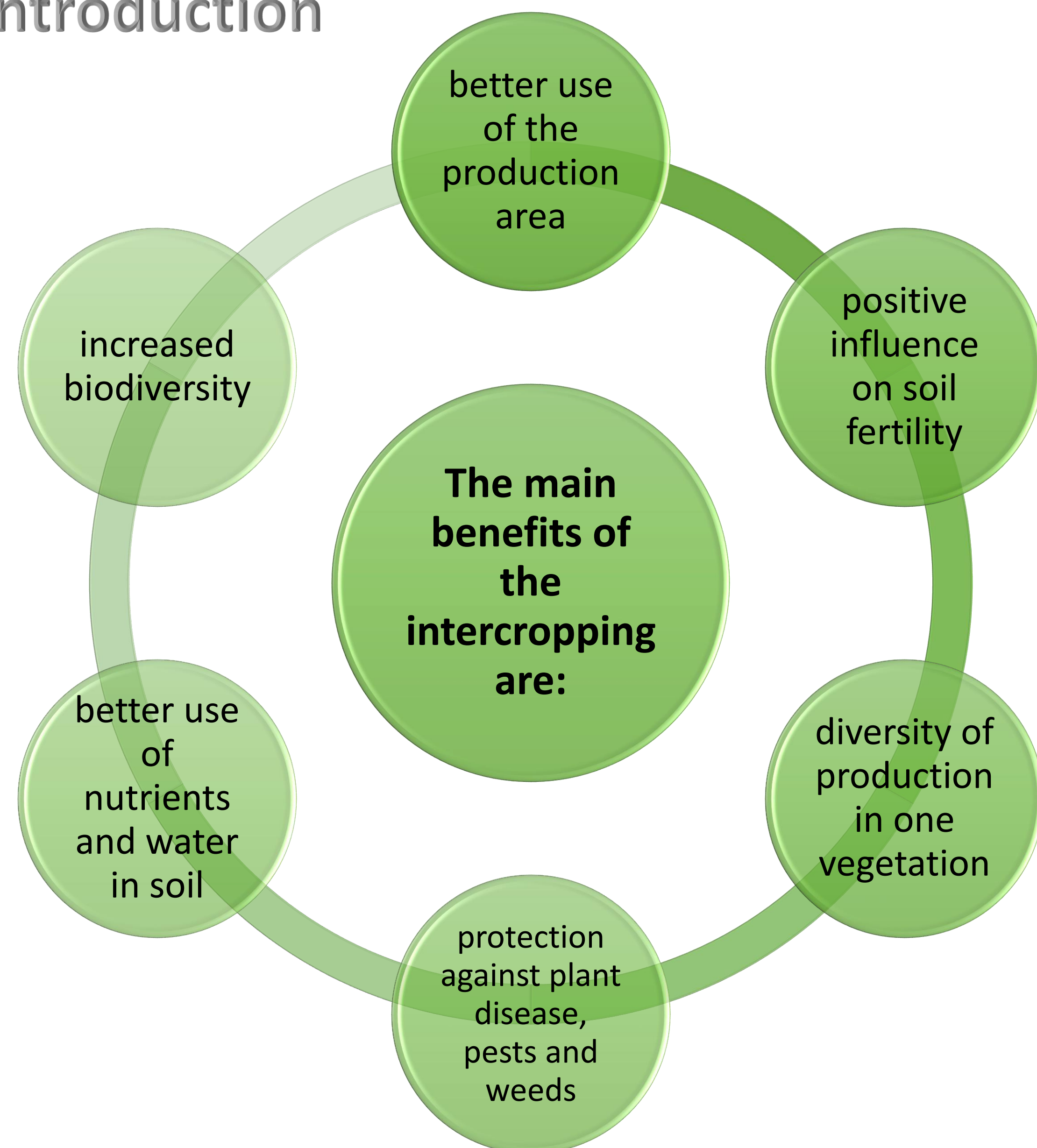
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Abstract

Intercropping involves combining more plant species on the same parcel of land at the same time. The main benefits of the intercropping are: better use of the production area, positive influence on soil fertility, diversity of production in one vegetation, protection against plant disease, pests and weeds, better use of nutrients and water in soil as well as increased biodiversity. The aim of the research is to investigate the crop yields in such intercropped systems. The field trial will be conducted during five years, at two locations in two Counties, each field trial will consist of three parcels - control plot of agricultural crops without walnuts, walnut orchards with intercropped agricultural crops and a permanent walnut orchard without intercropped agricultural crops. Crop specie in the first year (2017/2018) was wheat. On the control plot the wheat yield was 6.7 t/ha, intercropped with the walnuts the wheat yield was 6.0 t / ha, which is 11% lower than control. However, given that only 75% of the intercropped area was covered with wheat (25% of the area occupied the walnuts), we can say that yield is even lower, i.e. 4.5 t/ha. However, the intercropped area in addition to wheat yield also has walnut yield which was the same as in walnut orchard without wheat. Therefore, wheat yield is an additional source of profit. It is necessary to carry out further economic analysis to determine the viability of such agroecosystems.

Key words: agroforestry, intercropping, yield, walnut, wheat

Introduction



Key words

agroforestry

intercropping

yield

walnut

wheat

Material and methods

The field trial will be conducted during five years, at two locations in two Counties, each field trial will consist of three parcels - control plot of agricultural crops without walnuts, walnut orchards with intercropped agricultural crops and a permanent walnut orchard without intercropped agricultural crops. Crop specie in the first year (2017/2018) was wheat.

On the control plot the wheat yield was 6.7 t/ha, intercropped with the walnuts the wheat yield was 6.0 t / ha, which is 11% lower than control. However, given that only 75% of the intercropped area was covered with wheat (25% of the area occupied the walnuts), we can say that yield is even lower, i.e. 4.5 t/ha. However, the intercropped area in addition to wheat yield also has walnut yield which was the same as in walnut orchard without wheat.

Therefore, wheat yield is an additional source of profit. It is necessary to carry out further economic analysis to determine the viability of such agroecosystems.



permanent
walnut orchard

walnut orchards with
intercropped agricultural crops

control plot of agricultural
crops without walnuts

