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Effects of conservation tillage on soil properties and soybean yields on Stagnosol, Eastern Croatia

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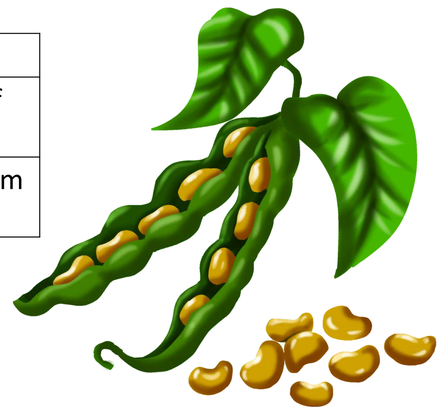
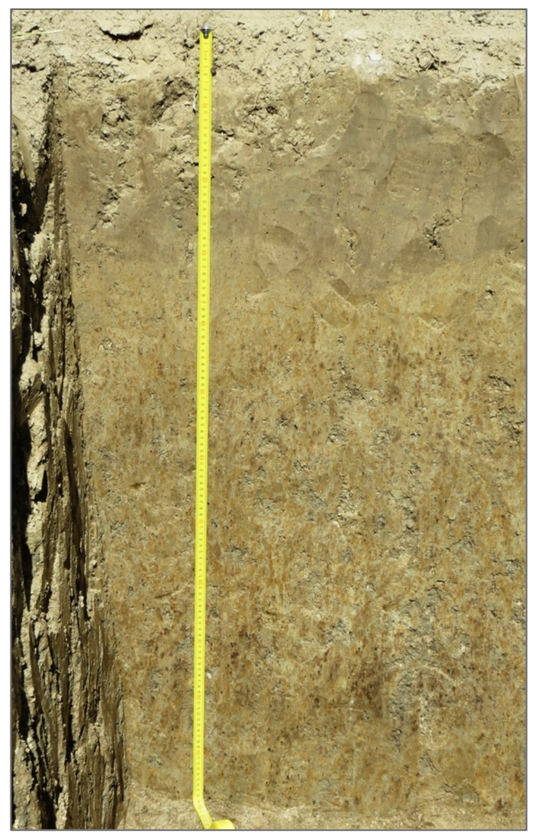
ST	Standard tillage, deep mouldboard ploughing up to 30 cm
CTD	Conservation tillage deep, up to 30 cm (chiseling with minimum 30% of surface covered with plant residues)
CTS	Conservation tillage shallow tillage, up to 10 cm (chiseling with minimum 50% of surface covered with plant or plant residues)

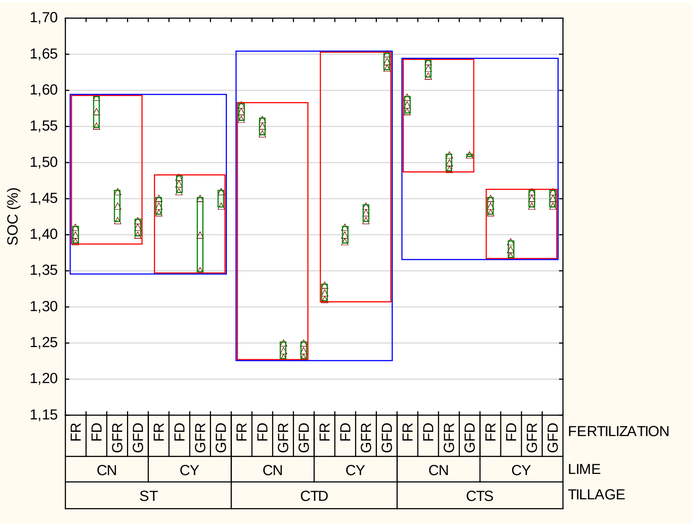
FR	Fertilization according recommendation (NPK)
FD	Fertilization decreased by 50% compared to recommendation
GFR	Fertilization according recommendation + 300 kg ha^{-1} Geo2
GFD	Fertilization decreased by 50% + 300 kg ha^{-1} Geo2

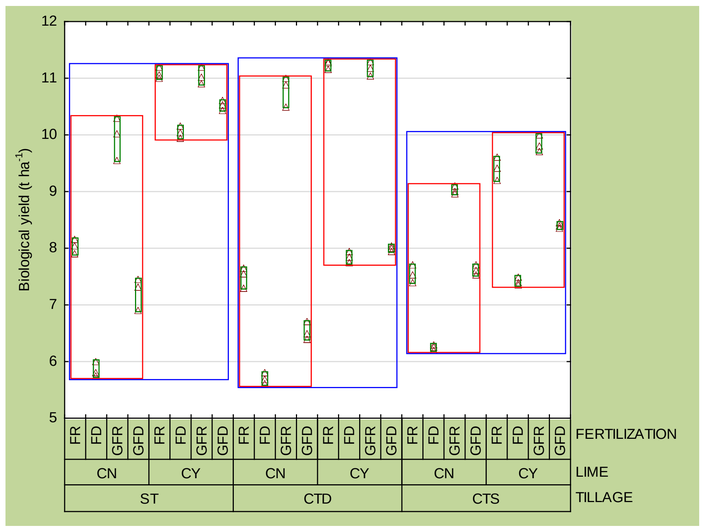
CY	Treatment with liming
CN	Treatment without liming

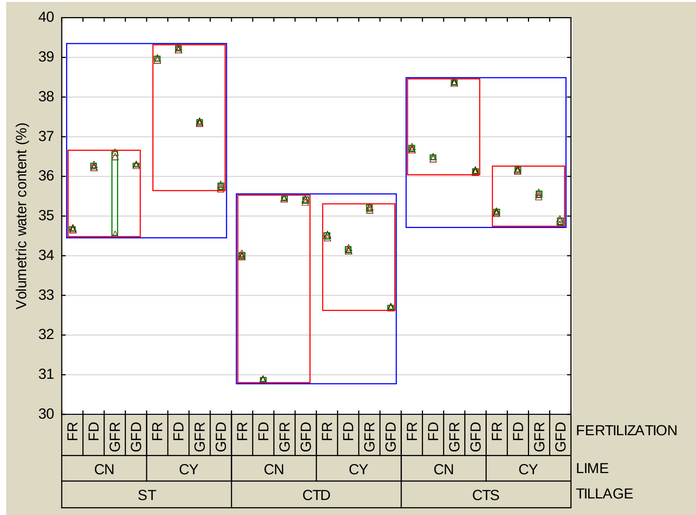


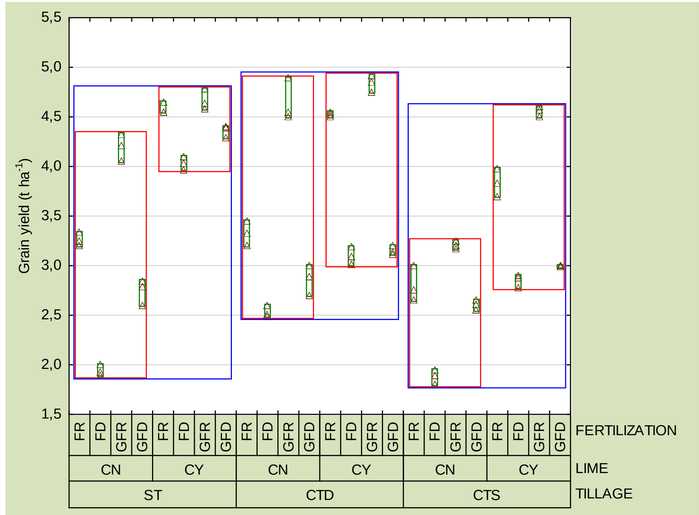
Physical properties		Chemical properties	
Soil texture: Silty clay loam		pH (H_2O)	5.12
Silt = 60.84		pH (KCl)	3.92
Clay = 29.35			
Sand = 9.81			
Field capacity - FC (vol.%)	43.04	Hy (cmol$^{(+)}$ kg^{-1})	7.48
Particle density – ρ_b (g cm^{-3})	2.65	P_2O_5 mg kg^{-1} soil	75
Packing density – PD (g cm^{-3})	1.76	K_2O mg kg^{-1} soil	111
Total porosity – ε (%)	43.50	SOM (%)	2.83





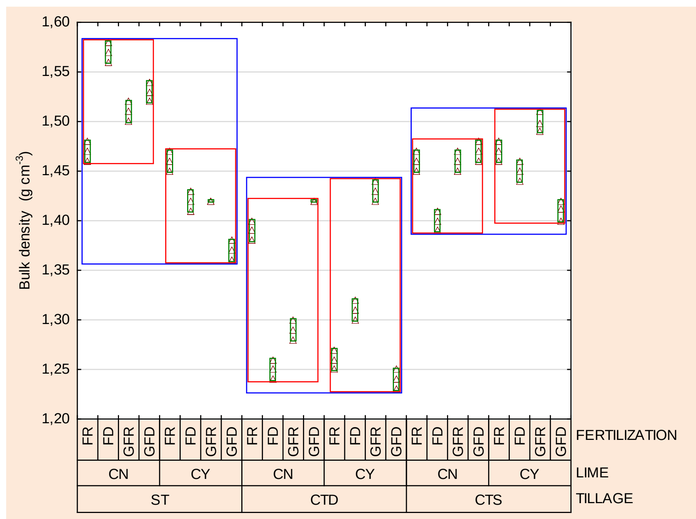


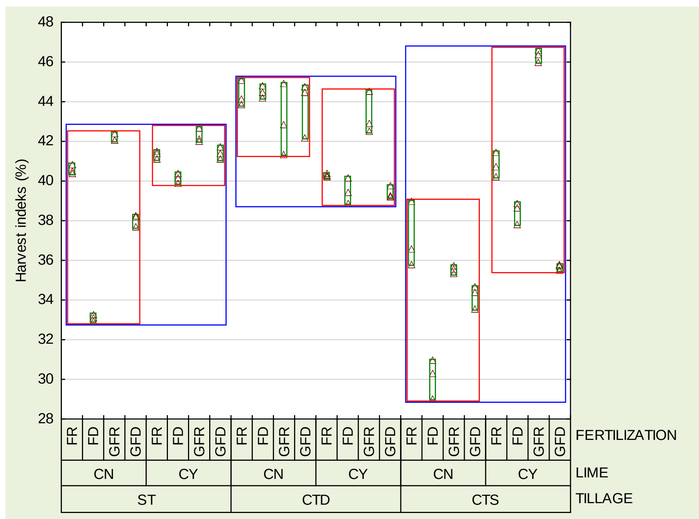




Properly selected sustainable land management practices are essential for maintaining long-term soil productivity and reducing soil degradation caused by agricultural activities, especially on soils with poorer productive capabilities.

Effective management practices, like conservation soil tillage, liming and optimal doses of fertilizers with the use of biophysiological soil activators are essential to mitigate the challenges posed by Stagnosols and improve their productivity.





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