

IECAG
2023

The 3rd International Electronic Conference on Agronomy

15–30 October 2023 | Online

Chaired by **Dr. Gianni Bellocchi**



The 3rd International Electronic Conference on Agronomy

Part of the **International Electronic Conference on Agronomy** series

15–30 Oct 2023

Genetic Erosion, Rural Engineering, Grassland-Based Livestock Farming, Agricultural Digitalisation, Agrobiodiversity, Post-harvest Technology, Quality Breeding, Plant Growth Promoters, Service Crops

Sessions

S1. Disease, pest and weed control in sustainable agriculture

S2. Agro-ecology innovation to reinvent cropping and grazing systems

S3. Improving nutrient- and water-use efficiencies

S4. Digital farming for the evolution of agriculture and agricultural engineering

S5. Plant breeding, genetics, genomics and biotechnology

S6. Horticultural and floricultural crops

S7. Poster session

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sciforum-076336	Carbon stocks and sequestration rate under 50-years of increasing doses of mineral N fertilization	N/A	N/A	Elmira Saljnikov , Nikola Koković , Tara Grujić , Ljubomir Životić , Sonja Tošić Jojević , Vojislav Lazović , Goran Jačimović	Hide Abstract
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Soil organic carbon loss occurs at a rate equivalent to 10 % of the total fossil fuel emissions for Europe as a whole. Intensive use of synthetic fertilizers results in soil degradation and nutrient loss. Microbially mediated soil organic matter is an extremely sensitive pool that indicates subtle changes in the quality parameters responsible for the soil's ecological and productive functions. The goal of the research was calculation of carbon budget and changes in carbon accumulation/sequestration as a result of more than 50 years of mineral fertilization. Stocks of C in organic carbon, labile carbon, light carbon and microbial carbon fractions were analyzed, as well as carbon sequestration rate in 50-yr were calculated. The highest input of organic C, PMCLFC and MBC was found for the treatments with the highest N-fertilization. However, C sequestration rates of the fertilized plots were from 10.68 – to 12.12 % from the 100% adjacent natural meadow. C sequestration rate between the fertilized plots were not significantly different except for the control plot for each studied fraction of carbon (OC, PMC, LFC and MBC). The sensitivity index correlated with the amount of light-fraction OM. The results give a deeper insight into the behavior of different pools of labile SOM in the agro-landscapes and can serve as a reliable basis for further researches focused on neutral carbon emissions and effective C sequestration