AGROSYM

BOOK OF ABSTRACTS

XV International Scientific Agriculture Symposium

"Agrosym 2024"

Jahorina, October 10-13, 2024

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THE IMPACT OF MICROPLASTICS ON INSECT BIODIVERSITY IN THE ALLUVIUMS OF THE THREE LARGEST RIVER BASINS IN SERBIA

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Abstract

The pollution with plastics has been recorded in all parts of the biosphere including aquatic and terrestrial ecosystems. Plastic particles smaller than 5 mm and larger than 100 nm are recognized as most dangerous to ecosystems and are called microplatics (MP). There are numerous studies that have shown the presence of MP in surface waters, primarily in river ecosystems. Despite the fact that rivers have a great ability to self-purify, microplastic particles remain in the river basin, contaminating the floodplain where they remain for a long period of time, including the process of matter circulation in nature. The presence of MP in the soil among all makes changes in the biodiversity of insects and other soil organisms. The one of the first researches on the presence of MP in soils in Serbia is currently being carried out as part of the project EMIPLAST - SoS. This research aimed to access the impact of MP on soil′s main chemical, physical and biological properties by comparing polluted and non-polluted forest sites and agricultural soils, used for cultivation in the three largest alluvial plains in Serbia – Danube, Sava and Morava. After a series of samplings done by standard Pitfall traps, the dominance of insect species from Carabidae family was significant. The presence of other different species such as Milipedes, Spiders and Flies was also recorded. Their numbers depended on the degree of contamination (polluted and unpolluted) of the soil with microplastics.

Keywords: *Microplastic, Insects diversity, Soil, Alluvial plains.*

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