Mycotoxin levels in maize grown on different conservation soil tillage systems

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As Climate Change (CC) are recognised as one of the main threats for food and feed security and safety, each concerned and interested parties try to find "most elegant way-out" from that position. Also, in relation to CC, its expected impact on the presence of mycotoxins in food and feed is of great concern. One of the most adaptable and applicable platforms in combat to climate change on global level is Conservation Agriculture (CA). In 2021 was set up experiment on two different locations (eastern and western part of Croatia) with different conservation tillage treatments (as part of three main pillars of CA). One of the main goals of this project are try to find influence of different conservation soil tillage treatment (in comparison with conventional) on occurrence intensity of different type of mycotoxins (maize in 2021 year). Soil and maize were analysed, and the mycotoxin profiles were obtained. As expected certain, regulated, mycotoxins were prevalent in maize, while emerging mycotoxins, *Aspergillus* and *Alternaria* metabolites had higher occurrence and concentrations in soil. The effect of the tillage treatment showed differences in the concentrations of mycotoxins in both soil and maize, where conservation soil tillage treatment showed reduced mycotoxins concentrations. Only one sample exceeded regulated concentrations of Fumonisins, while other samples had all mycotoxin levels within legal limits.

Keywords: Climate change; Conservation Soil Tillage; Mycotoxins.

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