

## Grains of Winter Wheat Spelt (*Triticum spelta* L.) for Save Food Production

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**Abstract :** Organic farming does not allow the use of conventional mineral fertilizers and crop protection products. As a result, in our experiments we chose to grow different species of cereals and to see how cereal species affects mycotoxin accumulation. From the phytopathological and entomological viewpoint, the glumes of spelt grain perform a positive role since they protect grain from the infection of pathogenic microorganisms. On the background of the above-mentioned infection, there were more Fusarium-affected grains of spelt than of common wheat. It can be assumed that spelt is more susceptible to the Fusarium fungi infection than common wheat. This study describes the occurrence of DON, ZEA and T2/HT2 toxin in a survey of spelt and common wheat and their bran as well as flour. The analysis was conducted using the enzyme-linked immunosorbent assay (ELISA) method. The concentrations of DON, ZEA, and T2/HT2 in *Triticum spelta* and *Triticum aestivum* are influenced by species, cereal type and year interaction. The highest concentration of mycotoxin was found in spelt grain with glumes. The obtained results indicate the significantly higher concentrations of Fusarium toxins in glumes than in dehulled grain which implicate the possible protective effect of spelt wheat glumes. The lowest DON, ZEA, and T2/HT2 concentration was determined in spelt grain without glumes.

**Keywords :** Fusarium mycotoxins, organic farming, spelt

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