



**XI INTERNATIONAL SYMPOSIUM OF
AGRICULTURAL SCIENCES**

BOOK OF ABSTRACTS

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Occurrence of toxigenic fungi on spelt grain with special reference to *Aspergillus* species

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Abstract

In recent years, public attention has increasingly focused on the production and consumption of high quality safe food. Changes in the dietary trend have influenced the formation of specific market requirements that have led to the fact that in the diet are increasingly used alternative cereals of high nutritional value, in addition to conventional. The ancient wheat species spelt [*Triticum aestivum* subsp. *spelta* (L.) Thell.] has a growing interest due to its various health benefits. Due to its biological and agronomic characteristics, spelt takes an important place among alternative cereals. The aim of this study was to investigate the natural occurrence of pathogenic and toxigenic fungi on seven breeding lines of spelt grains in 2021 grown in Zemun Polje, Serbia. Based on morphological properties (colony and spore appearance) it was determined that breeding line 6337 was the least infected (2,2%) and that the peeled grains had a lower degree of infection compared to grains with glumes. Glumes have been shown to be a physical protection against pathogens. Mycological analyses confirmed the presence *Aspergillus* spp., *Alternaria* spp., *Fusarium* spp. which were the most prevalent. Considering the average values, the most frequent were *Aspergillus* section Nigri (1,64%). Significance of *Aspergillus* section Nigri is reflected not only in the deterioration of spelt grain yield, quality and large economic losses but also in the fact that many species of this genus produce toxic metabolites (mycotoxins), which are harmful to human and animal health. Climate change and high adaptability and resistance of toxigenic *Aspergillus* species are cited as the reason for this phenomenon.

Key words: fungi, *Aspergillus*, spelt