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INFLUENCE OF HUSK ON GRAIN CONTAMINATION BY *Fusarium* spp. AND *Alternaria* spp. IN HULLED SPELT (*Triticum spelta L.*)

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Abstract

Fusarium Head Blight is caused by several *Fusarium* species. Infections can result in mycotoxin contamination on cereals and associated foods. Harvested products are contaminated due to its secondary metabolites. The aim was to analyse the occurrence of spike *Fusarium* and *Alternaria* spp. in hulled *Triticum spelta* L. wheat species via polymerase chain reaction (PCR) method and the deoxynivalenol (DON) content analysis. Three varieties of spelt were used (Ceralio and Rubiota – winter and one spring form variety from genetics resources). Grains were sown in a randomized complete block design on organic certified experimental parcels during the years of 2011 and 2013. During the vegetation period plants were artificially inoculated with *Fusarium* spp. The occurrence of spike *Fusarium* and *Alternaria* spp. was assessed by the PCR method - DNA extracting and determination of *Fusarium* species and *Alternaria* spp. by the DNA markers and PCR method. DON content was analysed by ROSA®-DON Quantitative test. Strong infestation of grains with *Fusarium* spp. led to low contamination of grains with *Alternaria* spp. The technological operation of grain dehulling was performed and it was highly efficient there. The grain contamination by *Fusarium* spp. and *Alternaria* spp. decreased. Hulls protect grains to a certain point because of protection against *Fusarium* spp. and *Alternaria* spp. occurrence which produce harmful secondary metabolites. On the other hand the protection of grain by hulls only partly works. It is also important to pay attention to chemism of secondary metabolites in grain.

Key words: Alternaria spp., contamination, *Fusarium* spp., husk, wheat

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