

NATURAL FUSARIUM TOXIN CONTAMINATION OF WHEAT IN SOUTHERN PART OF HUNGARY

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Fusarium head blight (FHB) is an important fungal disease of small grain cereals. In Hungary bread and durum wheat are the most affected by this disease. FHB results not only reduction in yield, but also spoils quality and usability, the fungus can produce harmful secondary metabolites (mycotoxins). In 2019, weather conditions were favorable for *Fusarium* infections, in May the average amount of precipitation was 134 mm. A severe *Fusarium* epidemic occurred in most regions of the country. 192 samples of different bread wheat (*Triticum aestivum* L.) genotypes from two conventional breeding nurseries (Szeged, Makó) were tested for deoxynivalenol (DON) toxin contamination in 2019. The wheat genotypes were the same at the two locations and represented a high variability in resistance. After extraction and clean-up, samples were assayed with HPLC-DAD. Samples were analyzed by gradient HPLC method. Average level of DON contamination was 3.80 mg/kg, it is three times higher than the European maximum limit for unprocessed cereals intended for human consumption (1.25 mg/kg). The content range was very wide (0.15–20.71 mg/kg), 76% of the samples exceeded the EU risk threshold level. Wheat samples derived from Szeged had lower levels of DON contamination, average 1.84 mg/kg, while samples from Makó the average contamination was 5.77 mg/kg. The 49% of the examined genotypes in both locations had lower toxin content than the average levels, 28% was higher than the average toxin contaminations. It is very important that producers are familiar with this potentially damaging disease and protect appropriately their crops.