



# Agricultural Journals

*Czech Journal of*

## **GENETICS AND PLANT BREEDING**

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# **Czech J. Genet. Plant Breed.**

**Veškrna O., Bobková  
L.:**

# **The impact of cultivar resistance and fungicide treatment on mycotoxin content in grain and yield losses caused by *Fusarium* head blight in wheat**

Czech J. Genet. Plant Breed., 46 (2010):  
21-26

Reactions to artificial infection with *Fusarium graminearum* isolates and a new fungicide Swing Top were studied in nine winter wheat cultivars evaluated in field experiments at two sites for three years for expression of symptoms, deoxynivalenol (DON) content in grain and grain yield. The results demonstrate a pronounced and relatively stable effect of cultivar resistance on reducing head blight, grain yield losses and contamination of grain by the mycotoxin DON. It is advantageous that the moderate level of resistance to *Fusarium* head blight (FHB) was detected also in two commonly grown Czech cultivars Sakura and Simila. Average fungicide efficacy for DON was 49.5% and 63.9% for a reduction in yield loss, however, it was found highly variable in different years and sites. The joint effect of cultivar resistance and fungicide treatment was 86.5% for DON and even 95.4% for reducing the yield loss. A very high risk was documented for susceptible cultivars and also the effects of medium responsive cultivars were found to be highly variable in different environments and therefore not guaranteeing sufficient protection against FHB under different conditions.

## **Keywords:**

cultivar resistance; deoxynivalenol content; efficacy of fungicide; *Fusarium graminearum*; FHB; grain yield; risk

assessment; winter wheat

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