

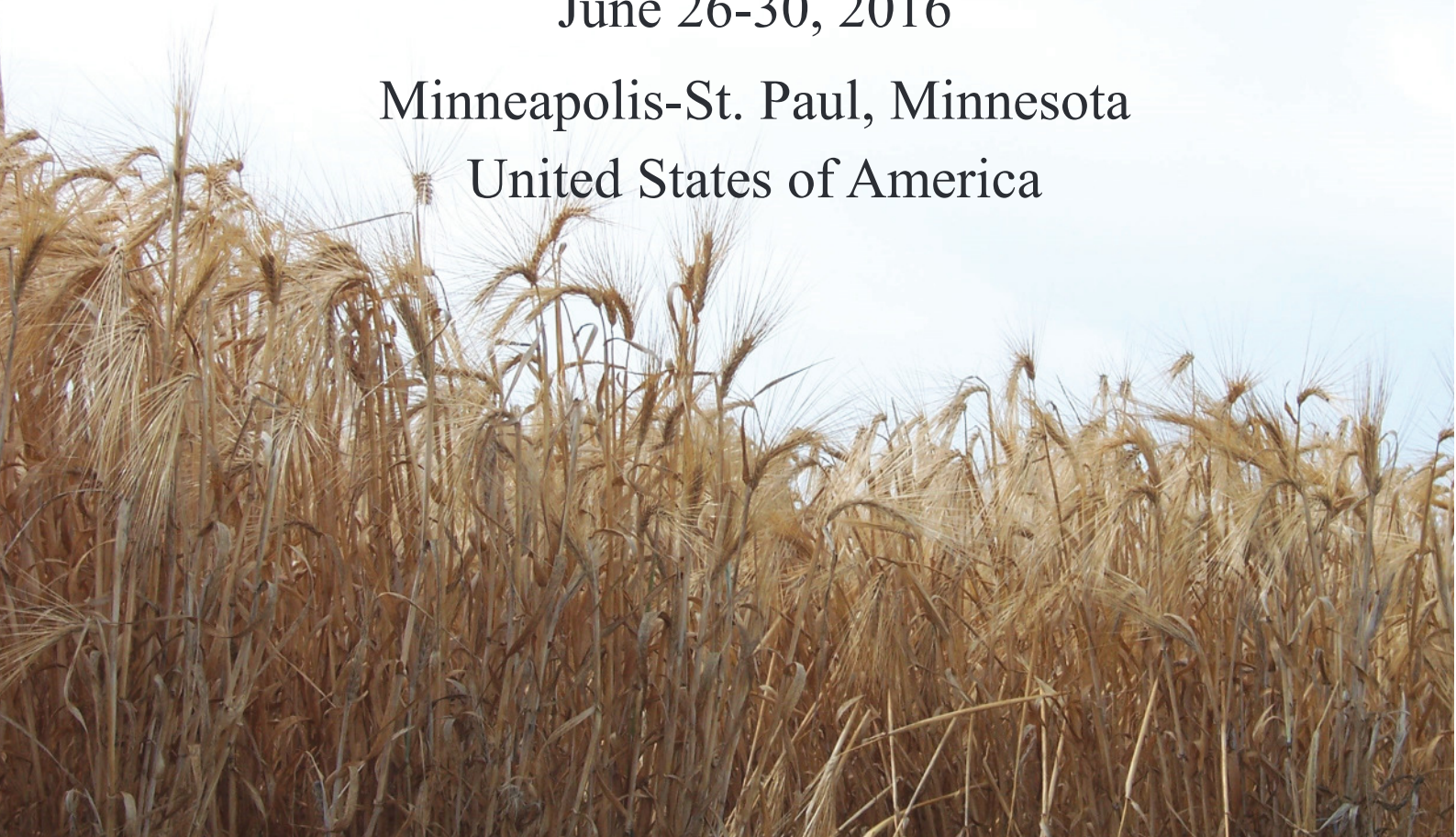
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Evaluation of barley genotypes to fusarium head blight (FHB) under favorable environment for the disease

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ABSTRACT

Fusarium head blight (FHB) caused by *Gibberella zeae* (*Fusarium graminearum*) is a major barley disease in Southern Brazil because the associated mycotoxins. The objectives of this work were to evaluate grain infection by *F. graminearum* and the production of the mycotoxin deoxynivalenol (DON) in FHB favorable environment.

An experiment was seeded at Embrapa Wheat, Passo Fundo, RS, Brazil in 2013, in the "FHB Nursery". The trial was established in a randomized block design with six genotypes and three replications in of seven five meter long plots. At heading, wheat grains with perithecia of *G. zeae* were spread on the soil surface followed by plant watering. Fifty spikes were harvested, threshed and a 100 g sample of grain was classified in 2.8, 2.5, 2.2 and < 2.2 mm sieves. DON quantification was made in 2.8 + 2.5 mm grains samples.

One hundred seeds of each class, after asepsis, were plated on PDA medium and incubated in a 12 h photoperiod,  $24 \pm 2$  °C temperature for six days. The incidence of *F. graminearum* was very low and was statistically different only for PFC 2008067 in the grain class < 2.2 (7.7%). There were no statistical differences among genotypes for classes 2.5 and < 2.2. The infection of *F. graminearum* in line PFC 2008067 (10.7%) was different and inferior to PFC 2007103 (24.0%) and PFC 2008012 (24, 7%) for class 2.5. BRS Cauê (26.7%) differed statistically from PFC 2008067 (7.7%) in the for the < 2.2 mm class. The lowest levels of DON in  $\mu\text{g/kg}$  were quantified in BRS Cauê (263) and PFC 2008067 (253) and the largest in PFC 2008012 (480). DON was not detected in genotypes PFC 2008058. The results confirm that even in low *F. graminearum* grain infection, can produce DON at low detected levels.

SECTION:

Abiotic stresses