## TRITICALE BREEDING PROGRAM FOR FUSARIUM HEAD BLIGHT RESISTANCE

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Since the late seventies triticale (X *Triticosecale* Wittmack) breeding has been conducted at Embrapa Trigo. Triticale is cultivated in southern Brazil with 135,000 hectares in 2005, but decreased to the lowest value in 2015, with 35,000 hectares. Factors that have contributed to this decline included less available seeds, diseases and weather damage. Fusarium Head Blight (FHB), induced by *Gibberella zeae* (*Fusarium graminearum*), is one of the most important diseases and a challenge to researchers. Here we report methods used to evaluate, at field conditions, the reaction of triticale genotypes to FHB. In the first method, three sowing times, have been used to screen genotypes. At full flowering stage, the central spikelet of 30 spikes in each plot is inoculated with 0.02 mL of a suspension containing $5x10^5$ propagules of *F. graminearum*. At the soft dough stage, FHB severity at spikes is evaluated using the following scale: 10= disease symptoms not spread beyond the infected spikelet; 30= symptoms spread to no more than three spikelets; 50= symptoms spread to less than half of the spike; 70= symptoms spread to less than three quarters of the spike; and 90 = symptoms spread all over the spike also peduncle. The disease indexes are represented by the average scores over sowing times. The highest index has been used to rank the genotypes for FHB reaction. The second method used fungicide for foliar diseases control until the booting stage. To induce infection, wheat grains with *Giberella zeae* perithecia are spread over the ground after the inflorescence emergence. The experimental area is submitted to irrigation in a daily-basis with fog formation during five minutes at every 20-30 minutes, except in rainy days. Reaction of triticale genotypes to FHB is based on the infection severity of kernels collected at ripening. Some released cultivars are moderately susceptible to scab: BRS 203 with the five types of resistance; BRS Minotauro classified as type II, but with higher levels of deoxynivalenol (DON), and the newest cultivar BRS Saturno has high yield grain is type II and III. The best results were obtained with lines PFT 1304, PFT 1402 and PFT 1404, moderately resistant to FHB.

Keywords: field trials; resistance; Triticosecale