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PROJECT 1 ABSTRACT

(1 Page Limit)

In the United States, Fusarium head blight (FHB) of wheat and barley, is caused primarily by *Fusarium graminearum* Schwabe [teleomorph: *Gibberella zeae* (Schwein.). Both yield and quality are severely affected by the fungal mycotoxin, deoxynivalenol (DON). The Brazilian spring wheat, 'Frontana', represents a genetically different source of resistance, and indications are that its mechanism of action prevents or limits initial fungal infection (type I resistance) or prevents the accumulation of DON (type V resistance). We have developed unique reciprocal backcross monosomic (RBCM) lines using the resistant cultivar 'Frontana' and the susceptible cultivar 'Chris'. The main objectives of this seed grant are to: i) use *in vivo* attach-leaf bioassay to measure lesion size in the inoculated leaf as a parameter of type I resistance in Frontana, and selected RBCM lines, and ii) characterize type I resistance to FHB in 'Frontana' and selected RBCB lines in a greenhouse.