

0203-MU-043 Enhancement of scab resistance in wheat and barley by plant transformation.

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PROJECT ABSTRACT

(1 Page Limit)

Fusarium head blight (FHB), a fungal disease of small grain crops caused by *Fusarium graminearum*, threatens to reduce wheat and barley to economically unviable crops in the United States. Substantial losses are occurring due to reduced grain yield and quality. Major breeding efforts are underway to combat this disease problem. To complement the breeding efforts, my lab is developing transgenic wheat and barley carrying genes with potential to confer resistance to FHB. We plan to continue to develop these plants, and characterize them for the presence and expression of the resistance genes and test them for enhanced resistance to FHB. Recent results indicate that we have identified transgenic wheat with reduced FHB severity. We plan to continue to characterize these plants as well as all other transgenic plants we develop. In addition, we plan to combine different resistance genes into a common genetic background and test the efficacy against FHB. The proposed research meets the objectives of the U.S. Wheat and Barley Scab Initiative and fits within the biotechnology area of research because we are developing transgenic wheat and barley with enhanced resistance to scab.