

## **Conserved Genetic Mechanisms for Biotic Stress in Sorghum**

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### **Project Goals: Short statement of goals. (Limit to 1000 characters)**

Developing durable disease resistance for biofuel crops is crucial, particularly as the range of biofuel crop production expands and pathogens of other plant species evolve to cause diseases of bioenergy feedstocks. *Setosphaeria* species are significant fungal pathogens of the Andropogonae, and *S. turcica* can infect both maize and sorghum, making it a strong candidate to be an increasing problem for biofuel sorghum. Our overall objective is to gain a systems-level understanding of the pathosystem by leveraging natural genetic variation, host specificity of the pathogen, and transcriptome analysis to improve biotic stress resistance in sorghum. The proactive strategy of paired identification of fungal effectors and plant resistance genes in a pathosystem with a high likelihood of producing a host jump is a paradigm shift in disease management through host resistance.

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