

**PI: Kiersten Wise**

**PI's E-mail: kawise@purdue.edu**

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**Project Title: Integrated Management Strategies for Fusarium Head Blight of Wheat in Indiana.**

### **PROJECT 1 ABSTRACT**

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FHB levels on wheat vary each year in Indiana but the disease is consistently present and of concern to growers. FHB has reduced yields in Indiana, and reduced grain quality and dockage have occurred due to high levels of DON in recent years. Several consecutive years of FHB outbreaks within the state have brought attention and awareness to the disease, and there is a need for effective FHB and DON management programs. Varieties with moderate resistance to FHB do not always provide desirable levels of disease control in certain environments, and fungicides have become an important component in FHB and DON management plans in the region. Previous involvement in this project has shown that the combination of genetic resistance and fungicide application can increase yields above the level of either tactic alone. However, reliance upon natural inoculum has led to inconsistent results within Indiana, and more research is needed to validate findings. Assessing the effects of fungicide applications in combination with genetic resistance will provide information on the collective effects of these two management techniques on FHB and DON under Indiana growing conditions.

The proposed research will be conducted at the Purdue Agricultural Center for Research and Education in West Lafayette, Indiana. Effects of previous crop, fungicide, and cultivar resistance will be examined to determine their effects on FHB development and DON accumulation in grain. This information will improve recommendations for FHB and DON management for growers in Indiana. Information obtained from this research will also contribute to knowledge on integrated management of FHB across differential environmental locations in the Midwest.