Project Abstract

Project Title:	Investigation of Fusarium Head Blight in Tennessee	
Principal Investigator:	Heather Kelly	University of Tennessee
Co-Investigator:	Tyson Raper	University of Tennessee

Overall project goals are to develop integrated management strategies for FHB and mycotoxins that are robust to conditions experienced in production fields and help develop and validate the next generation of management tools for FHB/DON control

Project objectives:

1) Evaluate the integrated effects of fungicide treatment and genetic resistance on FHB and DON in soft winter wheat, with emphasis on new combination fungicides, Prosaro Pro® and Sphaerex®.
2) Compare the efficacy of Prosaro Pro and Sphaerex to that of Prosaro®, Caramba®, and Miravis Ace®.
3) Generate data to further quantify the economic benefit of FHB and DON management programs.
4) Generate data to validate and advance the development of FHB risk prediction models.

Expected outcomes:

1) As previously observed with Prosaro, Caramba, and Miravis Ace, the highest percent reduction of FHB index and DON relative to the non-treated, susceptible check will be observed when Prosaro Pro or Sphaerex is applied to moderately resistant cultivars
2) That Prosaro Pro and Sphaerex will provide comparable levels of FHB and DON control to Prosaro, Caramb,a and Miravis Ace when applied at or shortly after 50 early anthesis
3) Economic increase is expected to be shown when applications protect yield/DON levels when disease risk is increased and cost savings when no fungicide application is made in the absence of disease
4) The FHB risk prediction model will continue to become more accurate with the added data generation and validation

Two locations for the trial will be used each year, with a RCBD, split-plot arrangement of cultivar (main-plot) and fungicide (sub-plot) program. Four different cultivars will be utilized, from 2 different commercial companies where one will be most recent release with resistant/tolerance to FHB and the other being FHB susceptible. Fungicide treatments will include: Prosaro (6.5 oz/a), Caramba (13.5), Miravis Ace (13.7), Prosaro Pro (10.3), Sphaerex (7.3), and compared to non-treated checks, all applied at early anthesis.