

**U.S. Wheat and Barley Scab Initiative
 FY02 Final Performance Report (approx. May 02 – April 03)
 July 15, 2003**

Cover Page

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Grant Number:	59-0790-9-039
Grant Title:	Fusarium Head Blight Research
FY02 ARS Award Amount:	\$ 6,829

Project

Program Area	Project Title	USWBSI Recommended Amount
CBC	Fusarium head blight uniform fungicide trial in Maryland.	\$7,000
	Total Amount Recommended	\$7,000

 Principal Investigator

 Date

Project 1: Fusarium head blight uniform fungicide trial in Maryland.

1. What major problem or issue is being resolved and how are you resolving it?

The immediate problem that producers are faced with in the Mid-Atlantic production area is that there are no effective tools to manage a Fusarium Head Blight outbreak. Registered fungicides are not effective. Furthermore, production practices that increase the risk of FHB outbreaks are becoming more popular. There are only a few cultivars of soft red winter wheat purported to be have some resistance. However these are only slightly better than susceptible cultivars and are inadequate in a severe epidemic. Experimental and off-label applications of fungicides have been shown on occasion to provide some efficacy but parameters for their application need to be investigated to determine if adequate levels of control can be achieved consistently. Field trials examining registered and experimental fungicides and biocontrol agents, and application timing are being conducted to determine if fungicidal controls can be implemented.

2. What were the most significant accomplishments?

A field trial, part of a uniform multi-state trial, was conducted in Maryland using a soft red winter wheat cultivar in a field that was inoculated with the causal agent of Fusarium Head Blight. Irrigation just prior to and several days after inoculation attempted to provide a favorable environment for infection. However, cool temperatures from flowering through soft-dough stages of crop development greatly hampered the investigation and only low levels of infection were obtained. Disease incidence in fungicide treated plots was generally lower than in inoculated check plots. The current standard treatment, Folicur (tebuconazole) did not significantly reduce the incidence of FHB. However, experimental products, AMS 21619A in combination with Folicur, and BAS 505, significantly reduced diseases incidence. Disease severity, as defined by the percentage of infected heads x the percentage of infected spikelets, was not affected by any treatment. This lack of resolution was believed to be due to the relatively low disease levels caused by unfavorable environmental conditions especially cool temperatures. Nevertheless, disease reduction by the experimental materials is encouraging and warrants further investigation.

Include below a list of the publications, presentations, peer-reviewed articles, and non-peer reviewed articles written about your work that resulted from all of the projects included in the grant. Please reference each item using an accepted journal format. If you need more space, continue the list on the next page.

Grybauskas, A. P. and S. Wallace. 2003. Evaluation of foliar fungicides for the management of scab of soft red winter wheat, 2002. University of Maryland, Plant Pathology report.