USDA-ARS/
U.S. Wheat and Barley Scab Initiative
FY05 Final Performance Report (approx. May 05 – April 06)
July 14, 2006

Cover Page

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Fiscal Year:	**2005**
FY05 ARS Agreement ID:	**59-0790-4-103**
Agreement Title:	**Fusarium Head Blight Uniform Fungicide Trial in Maryland.**
FY05 ARS Award Amount:	**$ 10,136**

USWBSI Individual Project(s)

USWBSI Research Area*	Project Title	ARS Adjusted Award Amount
CBC	Fusarium Head Blight Uniform Fungicide Trial in Maryland.	$ 10,136
	Total Award Amount	**$ 10,136**

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Principal Investigator Date

* BIO – Biotechnology
CBC – Chemical & Biological Control
EDM – Epidemiology & Disease Management
FSTU – Food Safety, Toxicology, & Utilization
GIE – Germplasm Introduction & Enhancement
VDUN – Variety Development & Uniform Nurseries

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?

This project examines which fungicides can be used to manage Fusarium head blight in wheat by reducing yield losses and toxin accumulation in the grain. This is being accomplished by testing products in fields that are deliberately inoculated with the pathogen and maintained moist for disease development. These trials are conducted in a uniform manner at multiple locations to ensure useful data is obtained.

2. List the most important accomplishment and its impact (how is it being used?). Complete all three sections (repeat sections for each major accomplishment):

Accomplishment:

There are several products that provide a higher level of control than the product that recently received section 18 emergency registration for use against this disease. The active ingredients of the most effective products are prothioconazole and metconazole.

Impact:

Data is now available to support attempts to register new fungicides for Fusarium head blight disease management.

As a result of that accomplishment, what does your particular clientele, the scientific community, and agriculture as a whole have now that they didn't have before?:

It is now known that fungicides containing the active ingredients prothioconazole or metconazole can reduce the impact of Fusarium head blight epidemics. However, significant losses and toxin development can still develop in cases of severe epidemics even with these products. Therefore unless newer, more active ingredients can be found, adequate disease management can only be obtained by integration of multiple disease management tactics.

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. S.F. Wallace and E. Reed. 2005. Effect of fungicides on Fusarium head blight in Maryland, 2005. Fungicide and Nematicide Tests 61:CF020. The American Phytopathological Society, St. Paul, MN. (http://www.apsnet.org/online/FNtests/)

Grybauskas, A.P. 2006. Stripe rust outbreak and FHB fungicide management concerns. APS Potomac division annual meeting, March 15-17, 2006, Rehoboth Beach, DE.

Grybauskas, A. P. 2005. Extension programs and field crop disease management research in Maryland in 2004. NJ-Del-Mar-VA-PA plant pathologist association annual meeting. May 4, 2005, Newark, DE.

Wheat head blight and soybean rust management with fungicides, Field tour for EPA regulatory personnel sponsored by BASF, June 14, 2005, Beltsville, MD

Disease status and outlook for 2006. A. Grybauskas. Wye Grains Twilight tour, May 16, 2006. Queenstown, MD.

Economically important wheat and barley diseases in MD. A. Grybauskas. Carroll County Grain Marketing Club, September 9, 2005. Westminster, MD