

**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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Year:	FY2002 (approx. May 02– April 03)
Grant Number:	59-0790-9-042
Grant Title:	Fusarium Head Blight Research
FY02 ARS Award Amount:	\$ 5,854

Project

Program Area	Project Title	USWBSI Recommended Amount
CBC	Identification of Safe and Effective Foliar Fungicides for Managing Fusarium Head Blight in Wheat.	\$6,000
	Total Amount Recommended	\$6,000

Donald E. Hershman

June 11, 2003

 Principal Investigator

 Date

Project 1: Identification of Safe and Effective Foliar Fungicides for Managing Fusarium Head Blight in Wheat.

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

Project involved testing various foliar fungicides and advanced biological control agents (BCA's) for efficacy against Fusarium head blight (symptom expression and crop response) in soft red winter wheat and deoxynivalenol (DON) contamination in harvested grain. This study was part of the 2002 National Fusarium Head Blight Uniform Fungicide and Biocontrol Trial.

2. What were the most significant accomplishments?

The methods employed allowed for a valid comparison of the different foliar fungicide and BCA treatments for FHB control, relative to the non-treated control.

The test confirmed that some fungicide and BCA treatments reduce FHB incidence by 25-60%. However, some fungicide treatments, and most BCA's, do not produce a measurable response to FHB incidence. Studies have also shown that FHB severity is rarely impacted by either foliar fungicides or BCA's. Crop yield response to treatments is inconsistent and is often insignificant when compared with non-treated wheat. DON accumulation is often reduced in fungicide-treated wheat, but the response is minimal, overall, and excessive DON accumulation frequently occurs in fungicide-treated wheat. DON accumulation in wheat is rarely impacted by application of BCA's. Grain quality response to treatments, in terms of "visually scabby kernels" and grain infection by *Fusarium* spp., is variable and frequently non-significant.

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.

Hershman, D., Bachi, P., TeKrony, D., and VanSanford, D. 2002. Management of Fusarium Head Blight in Wheat Using Selected Biological Control Agents and Foliar Fungicides, 2002. pages 3-31 IN University of Kentucky Wheat Science Group 2001-2002 Research Report.

Hershman, D. E., P. R. Bachi, D. M. TeKrony. And D. A VanSanford. 2002. Management of Fusarium Head Blight in Wheat Using Selected Biological Agents and Foliar Fungicides, 2002. Pages 88-90 IN: 2002 National Fusarium Head Blight Forum Proceedings, Erlanger, KY, December 7-9, 2002.