

**U.S. Wheat and Barley Scab Initiative
 FY00 Final Performance Report (approx. May 00 – April 01)
 July 30, 2001**

Cover Page

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Year:	FY2000 (approx. May 00 – April 01)
Grant Number:	59-0790-9-059
Grant Title:	Fusarium Head Blight Research
2000 ARS Award Amount:	\$19,512

Project

Program Area	Project Title	Requested Amount
Epidemiology & Disease Management	Development of integrated management approaches to scab control.	\$19,626.00
Chemical & Biological Control	Identify safe fungicides that are effective against FHB.	\$5,000.00
	Requested Total	\$24,626.00¹

Principal Investigator

Date

¹ Note: The Requested Total and the Award Amount are not equal.

Project 1: Development of integrated management approaches to scab control.

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

Fusarium head blight (FHB) is a major problem in wheat growing areas of the midwest Corn Belt. The pathogen survives on corn debris and FHB tends to be greater when wheat is planted after corn in a reduced tillage system. With the emphasis on reduced tillage and no-till to help control soil erosion, it is important to know if the sequence of crop rotation and tillage can be integrated to reduce FHB. The main objective was to determine the effect of tillage on FHB on wheat following soybean or corn.

2. What were the most significant accomplishments?

The greatest risk of FHB on wheat occurs when wheat is planted in a no-till system after corn. By imposing a minimum tillage (chisel-plowing prior to planting), there was a significant reduction in FHB, compared with the no-till treatment. However, the greatest reduction in FHB occurred when wheat was planted after soybean. In addition to reduction in FHB, there also was a significant increase in yield and test weight.

Project 2: Identify safe fungicides that are effective against FHB.

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

The major objective of this study was to evaluate several fungicides for the control of FHB on wheat in Illinois. The study included several compounds, including several experimental fungicides and additional data was obtained on the control of leaf rust and Septoria leaf blight/glume blotch.

2. What were the most significant accomplishments?

FHB was very low in both 1999, 2000, and 2001; hence the evaluation of fungicides for the control of FHB was not accomplished. Plots were planted no-till following corn and trapping of ascospores indicated the inoculum level was high for both years. Assays of DON levels at Michigan State indicated that no samples had levels above the tolerance level and many samples did have any detectable DON. There were differences for the control of leaf rust and Septoria leaf blight/glume blotch.

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.

One publication on the effect of crop rotation and tillage is being written.

Data from fungicide evaluation was forwarded to Dr. Marcia McMullen – NDSU.