U.S. Wheat and Barley Scab Initiative
FY01 Final Performance Report (approx. May 01 – April 02)
July 15, 2002

Cover Page

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Year:	**FY2001 (approx. May 01 – April 02)**
Grant Number:	**59-0790-0-065**
Grant Title:	**Fusarium Head Blight Research**
FY01 ARS Award Amount:	**$ 10,173**

Project

Program Area	Project Title	Requested Amount
Chem/Bio	Uniform Fungicide Trials to Identify Safe Products Effective Against Fusarium head blight	$ 5,250
Variety/Uniform	Uniform scab nursery for Iowa	$ 4,200
	Total Amount Requested	**$ 9,450**

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Principal Investigator Date

(Form – FPR01)

Project 1: Uniform Fungicide Trials to Identify Safe Products Effective Against Fusarium head blight

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

Currently available commercial wheat varieties are not sufficiently resistant to Fusarium head blight. I am collaborating with other researchers in an attempt to solve this problem by developing wheat varieties with improved resistance to Fusarium head blight. My role is to provide data on head blight reactions of what varieties, breeding lines, and introductions in the Iowa environment. It is essential to evaluate these genotypes under a wide variety of environments in order to ensure that their performance is reliable and consistent.

2. What were the most significant accomplishments?

We have made progress toward the objective of accelerating the development of resistant wheat varieties by accumulating data on scab reactions of the entries in the spring and winter wheat nurseries. We collected data on disease severity, scabby kernels, 100-kernel weights, and deoxynivalenol for 45 entries for spring wheat and 46 entries for winter wheat.

Project 2: Uniform scab nursery for Iowa

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

Fusarium head blight currently cannot be controlled adequately by non-chemical methods. It is uncertain whether currently available fungicides and those under development can provide effective, economical control of Fusarium head blight under a variety of environmental conditions. We are resolving the problem by conducting experiments to identify fungicides that can do so. Our main objectives are to identify effective compounds, and to assess the benefits of fungicide applications for Fusarium head blight control in Iowa.

2. What were the most significant accomplishments?

We were not successful in identifying effective compounds because Fusarium head blight symptoms were virtually nonexistent in our research plot in 2001. Although we augmented the natural inoculum in the plots, weather conditions were unfavorable for disease development and we were not able to distinguish among treatments. We did not provide supplemental irrigation in this experiment because of our objective to assess the benefits of fungicide applications under natural Iowa conditions. The sporadic occurrence of Fusarium head blight in Iowa suggests that fungicide applications are rarely warranted. Research on Fusarium head blight prediction, under way at other institutions, may prove to be useful in assessing when fungicide applications may be necessary in Iowa.

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.

None.