

**U.S. Wheat and Barley Scab Initiative
Annual Progress Report
September 18, 2000**

Cover Page

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Year:	FY2000
Grant Number:	59-0790-9-031
Grant Title:	Fusarium Head Blight Research
Amount Granted:	\$55,000.00

Project

Program Area	Objective	Requested Amount
Epidemiology	Investigate inoculum potential of crop residues.	\$55,000.00
	Requested Total	\$55,000.00

Principal Investigator

Date

Project 1: Investigate inoculum potential of crop residues.

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

This project is addressing the management of *Fusarium* infested residues. *Fusarium* head blight originates from inoculum that develops on host residues including corn, small grain cereals, and some grasses. Changes in cropping practices that leave more residues at the soil surface have likely contributed to inoculum in the recent FHB epidemics. This project aims to determine the role of residues in the survival of *Fusarium*, the relative importance of residue components in contributing to inoculum, and the impact of post-planting burning of the residue on the survival of *F. graminearum*.

1. Please provide a comparison of the actual accomplishments with the objectives established.

Studies of the survival and ascospore production of wheat residue components (including nodes, kernels, and floral bracts) have been undertaken. *G. zeae* was readily recovered from all three components examined, although the fungus was most readily recovered from node tissue. In conditions promoting the development of perithecia and ascospores, mature ascospores were more readily recovered from kernels than the other components studied. Residue from wheat, barley, and corn was collected, separated into major components and stored for examination this fall. Two trial sites to examine the post planting burning of residues has been established, these sites follow wheat and barley crops where significant levels of FHB were observed during the growing season. A propane fuel burner similar to that used for burning potato vines has been purchased and tested. Residue collected from control and burned treatments will be examined for the survival of *Fusarium* later this fall. Data from this preliminary burning experiment will be used in finalizing the plans for further experiments scheduled for spring.

1. What were the reasons established objectives were not met? If applicable.

Project work has been delayed as we were unable to fill the research associate position associated with this project as rapidly as we would have liked. A well qualified candidate was recently identified and I am hopeful that the individual will be in the position by early November. This will expedite the laboratory work, especially the isolation and identification of *Fusarium* spp. associated with residue samples collected this summer.

1. What were the most significant accomplishments this past year?

Identifying field sites and establishing the treatments was perhaps the most significant accomplishment and is the foundation of most of the experimental work of the project. Identifying a candidate for the position associated with this project was also significant as this individual will be responsible for the processing of samples collected this season.

Year: 2000

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Project 5:

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.

Pereyra, S.A., Dill-Macky, R., and Sims, A.L. 2000. Survival and inoculum potential of *Fusarium graminearum* on wheat residue. *Phytopathology*:90:S60