U.S. Wheat and Barley Scab Initiative
FY01 Final Performance Report (approx. May 01 – November, 20, 2002)
July 28, 2003

Cover Page

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Year:	**FY2001 (approx. May 01 – April 02)**
Grant Number:	**59-0790-9-070**
Grant Title:	**Fusarium Head Blight Research**
FY01 ARS Award Amount:	**$ 18,935**

Project

Program Area	Project Title	Requested Amount
Epid/Dis. Mgt.	Plant Residue Management in the Control of Fusarium Head Blight	$ 19,451
	Total Amount Requested	**$ 19,451**

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Principal Investigator Date

(Form – FPR01)

Project 1: Plant Residue Management in the Control of Fusarium Head Blight

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

This research is part of an ongoing investigation to establish the correlation between residue management and the survival of *Fusarium*. Residue decomposition and fusarium survival were quantified when wheat, barley and corn plant residues are placed on and below the soil surface. Cover crop and nitrogen (N) fertilizer treatments are included as well as parameters related to decomposition. If *Fusarium graminearum* survival is related to residue decomposition, then residue management strategies which enhance displacement of *Fusarium* might be developed. Since residue decomposition is a microbial process, manipulation of the indigenous microorganisms might accelerate the loss of *Fusarium.*

2. What were the most significant accomplishments?

Residue bags have been periodically collected and analyzed since September 1999. In the case of the three substrates, buried residue decomposed at a faster rate than residue left on the surface. Corn residue was lost at a faster rate than either the wheat or barley residues. Nitrogen fertilizer did not enhance the decomposition rates. Fusarium populations appear consistent with the level of residue present.

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.

Todd, R., E. Deibert, R. Stack and J. Enz. 2001. Fusarium Head Blight and Plant Residue Management. *In* Proceedings of the National Wheat Industry Research Forum, New Orleans, Louisiana, February 1-2, 2001.

Todd, R. L., R. Stack, E. Deibert and J. Enz. 2001. Plant Residue in the Control of Fusarium Head Blight. *In* Proceedings of the 2001 National Fusarium Head Blight Forum, Cincinnati, OH, page 161.

Todd, R. L., R. Stack, E. Deibert and J. Enz. 2001. Control of Fusarium Head Blight using Plant Residues. *In* Proceedings of the 2001 Annual Meeting of the Soil Science Society of America, Charlotte, NC, October 23, 2001, page 923.

Todd, R. L., 2001. An Integrated Approach to Control Fusarium Head Blight in Wheat and Barley. An Invited Paper presented at the 2001 Annual Meeting of the Soil Science Society of America, Charlotte, NC, October 22, 2001.

Todd, R., E. Deibert, R. Stack and J. Enz, 2002.Fusarium Head Blight and Plant Residue Management. *Presented at* 24th Annual Manitoba-North Dakota Zero Tillage Workshop, Minot, ND, January 29-30, 2002.