USDA-ARS/

U.S. Wheat and Barley Scab Initiative FY11 Final Performance Report

One-Year No Cost Extension (NCE) through FY12 July 16, 2013

Cover Page

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Fiscal Year:	FY11 (NCE for FY12)		
USDA-ARS Agreement ID:	59-0206-9-089		
USDA-ARS Agreement	nent Uniform Fungicide and Biocontrol Agent Tests for Control of		
Title:	Fusarium Head Blight and Deoxynivalenol.		
FY11 USDA-ARS Award	1 % 6 X / X		
Amount:			

USWBSI Individual Project(s)

USWBSI Research		
Category*	Project Title	ARS Award Amount
MGMT	Uniform Fungicide and Biocontrol Agent Tests for Control of Fusarium Head Blight.	\$ 6,878
	Total ARS Award Amount	\$ 6,878

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6/17/13

Principal Investigator

Date

FSTU - Food Safety, Toxicology, & Utilization of Mycotoxin-contaminated Grain

GDER - Gene Discovery & Engineering Resistance

PBG - Pathogen Biology & Genetics

BAR-CP - Barley Coordinated Project

DUR-CP - Durum Coordinated Project

HWW-CP – Hard Winter Wheat Coordinated Project

VDHR - Variety Development & Uniform Nurseries - Sub categories are below:

SPR - Spring Wheat Region

NWW - Northern Soft Winter Wheat Region

SWW - Southern Soft Red Winter Wheat Region

^{*} MGMT – FHB Management

FY11 (approx. May 11 – May 13)

PI: Kirk, William

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Project 1: *Uniform Fungicide and Biocontrol Agent Tests for Control of Fusarium Head Blight.*

1. What major problem or issue is being resolved relevant to Fusarium head blight (scab) and how are you resolving it?

The research evaluated products (fungicides and biofungicides) for potential registration by providing supporting documentation for Section 18 registration (if necessary) or for the registration of new products; and provided an additional testing site for the uniform trials in Michigan. Test results provided information to producers locally and nationwide on what products are providing the greatest disease control and improvement in yield and quality. The test results can supply necessary information for this purpose.

2. List the most important accomplishment and its impact (i.e. how is it being used) to minimize the threat of Fusarium head blight or to reduce mycotoxins. Complete both sections (repeat sections for each major accomplishment):

Accomplishment:

The trials in MI established that the fungicides tested all reduced head scab but did not eliminate the disease. The biofungicides were largely ineffective even under light infection pressure.

Impact:

The data contributed to a fungicide efficacy document that the industry now uses routinely in extension advisory efforts. Growers can choose an appropriate fungicide(s) and appropriate timing of application to minimize the impact of Fusarium head blight and DON accumulation and maximize crop health and profit.

FY11 (approx. May 11 – May 13)

PI: Kirk, William

USDA-ARS Agreement #: 59-0206-9-089

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.

- Bradley, C. A., Adee, E. A., Ebelhar, S. A., Dill-Macky, R., Bergstrom, G.C. Wiersma, J. J., Grybauskas, A. P., Kirk, W. W., McMullen, M. P., Halley, S., Milus, E. A., Osborne, L. E., Ruden, K. R., Wise, K.A. Conley, S.P. and Esker P.D. 2011. Effects of Triazole, Strobilurin, and Triazole + Strobilurin Fungicides on Fusarium Head Blight and Associated Mycotoxins. Proceedings of the National Fusarium Head Blight Forum, St. Louis, MS, p. 76.
- 2. Bradley, C. A., Adee, E. A., Ebelhar, S. A., Dill-Macky, R., Wiersma, J. J., Grybauskas, A. P., Kirk, W. W., McMullen, M. P., Halley, S., Milus, E. A., Osborne, L. E., Ruden, K. R., and Young, B. G. 2010. Multi-state uniform fungicide evaluations for control of Fusarium head blight and associated mycotoxins. Proceedings of the National Fusarium Head Blight Forum, Milwaukee, WI, p. 74.
- 3. Yuen, G.Y., C.C. Jochum, S.A. Halley, K. Misek, L.E. Sweets, W. Kirk and D.A. Schisler. 2009. Results of 2009 Uniform Biological Control Trials. In: S. Canty, A. Clark, J. Mundell, E. Walton, D. Ellis and D. Van Sanford (Eds.), Proceedings of the National Fusarium Head Blight Forum; 2009 Dec 7-9; Orlando, FL. Lexington, KY: University of Kentucky. pp. 101-105.
- 4. Kirk, W.W., R.L. Schafer. 2012. Evaluation of foliar fungicides treatments for control of head scab and winter wheat foliar diseases, Clarksville, MI, 2010/11. 6:FC030
- 5. Kirk, W.W., R.L. Schafer, P. Tumbalam. 2010. Evaluation of foliar fungicides treatments for control of winter wheat foliar diseases, Clarksville MI, 2008/09. 4:CF022