USDA-ARS / USWBSI
FY03 Final Performance Report (approx. May 03 – April 04)
July 15, 2004

Cover Page

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Year:	**FY2003 (approx. May 03 – April 04)**
FY03 ARS Agreement ID:	**59-0790-9-041**
FY03 ARS Agreement Title:	**Fusarium head blight research and service project.**
FY03 ARS Award Amount:	**$ 90,611**

USWBSI Individual Project(s)

USWBSI Research Area*	Project Title	ARS Adjusted Award Amount
CBC	Chemical Management of FHB in Wheat.	$ 8,415
FSTU	Regional Diagnostic Clinic Providing DON Analytical Services for Regional FHB Research Projects.	$ 82,196
	Total Amount Recommended	**$ 90,611**

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Principal Investigator Date

* BIO – Biotechnology
CBC – Chemical & Biological Control
EDM – Epidemiology & Disease Management
FSTU – Food Safety, Toxicology, & Utilization
GIE – Germplasm Introduction & Enhancement
VDUN – Variety Development & Uniform Nurseries

Project 1: ***Chemical Management of FHB in Wheat.***

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

Reducing DON levels in grain is a major goal of the initiative. Presently, any reduction in DON levels when overall levels are high would benefit the commercial end users of wheat. To that end, fungicide management appears to be the best option at this time until resistant varieties are available on a broad basis.

2. What were the most significant accomplishments?

Field trials with a variety of fungicides were evaluated in 2003, but weather conditions resulted in a root rot disease called take-all severely affecting the entire research plot and reliable data was not obtained. The fungicide trials are being repeated in 2004. Preliminary examination of the plots indicates excellent levels of infection in untreated controls.

Project 2: ***Regional Diagnostic Clinic Providing DON Analytical Services for Regional FHB Research Projects.***

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

The FHB initiative determined that the food safety issue related to DON was of major importance. Therefore, this program was established to provide a uniform DON testing laboratory for initiative related research.

2. What were the most significant accomplishments?

In 2003, more than 5,000 samples were ultimately tested for DON. These samples were submitted by twenty researchers, representing research projects in fifteen states. Determination of DON levels in these research projects is helping the initiative understand the relationship between wheat varieties, environment and DON production.

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 you grant. Please reference each item using an accepted journal format. If you need more space, continue the list on the next page.

Gillespie, J., P. Schwarz, M. S. Mostrom, B. Tacke, Y. Dong, P. Hart, and B. Munn. 2003. Update on the USWBSI DON diagnostic laboratories. Proceedings 2003 Fusarium Head Blight Forum. p. 187-190.

Hart, P. and M. Catal. 2003. Application of real time polymerase chain reaction to the detection and quantification of *Fusarium* in wheat. Proceedings 2003 Fusarium Head Blight Forum. p. 191-194.

Lewis, J. M., G-L. Jiang, R. R. Shi, L. P. Hart and R. W. Ward. 2003. Bioassay vs. conventional characterization of FHB resistance in Ning 7840. Proceedings 2003 Fusarium Head Blight Forum. p. 142-147.