

**USDA-ARS/
U.S. Wheat and Barley Scab Initiative
FY09 Final Performance Report
July 15, 2010**

Cover Page

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Fiscal Year:	2009
USDA-ARS Agreement ID:	59-0206-9-059
USDA-ARS Agreement Title:	Genetics and Breeding of FHB Resistant Soft White Winter Wheat for the Northeastern U.S.
FY09- USDA-ARS Award Amount:	\$ 36,101

USWBSI Individual Project(s)

USWBSI Research Category*	Project Title	ARS Adjusted Award Amount
VDHR-NWW	Genetics and Breeding of FHB Resistant Soft White Winter Wheat for the Northeastern U.S.	\$ 36,101
	Total Award Amount	\$ 36,101



Principal Investigator

July 9, 2010

Date

* MGMT – FHB Management
 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 Winter Wheat Region
 SWW – Southern Sinter Wheat Region

Project 1: *Genetics and Breeding of FHB Resistant Soft White Winter Wheat for the Northeastern U.S.*

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

We have resolved most of the major problems and screening for resistance is now efficient and routine. We also have adequate irrigation capacity to service our breeding program as well as our mapping activities.

We have released 4 soft white winter wheat varieties that have moderate resistance to FHB. Unfortunately, white wheat acreage in NY has declined in recent years. A new problem with branded varieties has arisen that is difficult to solve. By the time we get FHB data on them, they are gone and replaced with something new. We do not have a solution to this problem.

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:

Clearly the release of 4 new soft white winter wheat varieties with FHB and preharvest sprouting resistance is a major accomplishment. Two of the varieties have *fhb1* from MAB and two have native resistance that we are currently mapping

Impact:

Impact has been low because of the reduced acreage of soft white wheat and increase in red-kerneled branded varieties. Branded varieties come into NY untested and some only last a year or two before something new is introduced. Many are not entered in our state trials and we cannot legally evaluate them for FHB resistance. This limits our ability to keep susceptible red varieties out of the state.

Include below a list all germplasm or cultivars released with full or partial support of the USWBSI. List the release notice or publication. Briefly describe the level of FHB resistance.

Jensen Soft White Winter Wheat - Crop Science Registration manuscript in preparation. A release notice has been distributed through the Cornell Cooperative Extension Network. FHB resistance is moderate and native in origin.

Saranac Soft White Winter Wheat - Crop Science Registration manuscript in preparation. A release notice has been distributed through the Cornell Cooperative Extension Network. FHB resistance is moderate and Chinese in origin.

Hopkins Soft White Winter Wheat - Crop Science Registration manuscript in preparation. A release notice has been distributed through the Cornell Cooperative Extension Network. FHB resistance is moderate and Chinese in origin.

Medina Soft White Winter Wheat - Crop Science Registration manuscript in preparation. A release notice has been distributed through the Cornell Cooperative Extension Network. FHB resistance is moderate and native in origin.

All of these varieties have been made available for licensing and Foundation seed quantities are adequate. Jensen has been licensed for sale by 3 seed companies.

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 at this point but registration articles are in preparation.