

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

Cover Page

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Year:	FY2000
Grant Number:	59-0790-0-064
Grant Title:	Fusarium Head Blight Research
Amount Granted:	\$15,000.00

Project

Program Area	Objective	Requested Amount
Biotechnology	Develop new elite soft red winter wheat germplasm with enhanced resistance to scab and evaluate the effectiveness of marker-assisted selection	\$51,800.00
	Requested Total	\$51,800.00¹

Principal Investigator

Date

¹ Note: The Requested Total and the Amount Granted are not equal.

Project 1: Develop new elite soft red winter wheat germplasm with enhanced resistance to scab and evaluate the effectiveness of marker-assisted selection

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

Major problem is the rapid and effective incorporation of resistance to scab from exotic sources into adapted soft red winter wheat (SRWW) germplasm. The approach is to use backcrossing, three-way crossing, and marker-assisted selection (MAS).

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

To compare methods of introducing scab resistance into SRWW (objective #1), 62 initial one-way crosses were made between exotic and adapted wheat genotypes in the Spring of 2000. These will be backcrossed or top-crossed (three-way cross) with adapted parental genotypes during the 2000/2001 crossing season.

To compare the effectiveness of MAS, random F2-derived F4 lines of the crosses Ning7840/Pioneer 2643 and Ning7840/Pioneer 2684 were advanced to the F5 generation. These F5 lines will be evaluated during the 2000/2001 growing cycle.

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

N/A

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

This project is in the initial phase.

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Progress Report

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.

Costa , J.M., Grant, K. and K. Salmon. 2000. Marker Assisted Selection for Head Blight Resistance in Soft Red Winter Wheat. 2000 American Society of Agronomy Meeting. Minneapolis, MN.