U.S. Wheat and Barley Scab Initiative
FY02 Final Performance Report (approx. May 02 – April 03)
July 15, 2003

Cover Page

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Year:	**FY2002 (approx. May 02– April 03)**
Grant Number:	**59-0790-0-064**
Grant Title:	**Fusarium Head Blight Research**
FY02 ARS Award Amount:	**$ 12,388**

Project

Program Area	Project Title	USWBSI Recommended Amount
VDUN	Developing new SRWW germplasm with resistance to scab.	$12,698
	Total Amount Recommended	**$12,698**

____Jose Costa_____6/13/03_____
Principal Investigator Date

(Form – FPR02)

Project 1: Developing new SRWW germplasm with resistance to scab.

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 into adapted wheat lines and varieties as well as marker-assisted selection (MAS) by incorporation of the Sumai 3 allele and other exotic alleles into the Maryland breeding program. Early-generation material is being screened at the USDA in Manhattan (Kansas). Segregating populations developed from the crosses described above are being screened under field conditions by using corn infested with Fusarium that is spread in the spring. Conditions favorable for disease development are aided with daily misting before and during wheat flowering.

Additionally, advanced lines are screened as head rows for field scab resistance, by assessing scab under artificial inoculation and misting.

2. What were the most significant accomplishments?

Seventy wheat early segregating populations were advanced for scab screening. Progenies of segregating populations were screened under field conditions (with artificial scab inoculation). Lines with sound grain will be advanced for further testing in 2003/2004.

One advanced wheat line (MD 27-37) was identified as having good field tolerance to scab and will be used in further crosses.

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