

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

**Cover Page**

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<b>Grant Number:</b>	<b>59-0790-9-072</b>
<b>Grant Title:</b>	<b>Fusarium Head Blight Research</b>
<b>Amount Granted:</b>	<b>\$9,756.00</b>

**Project**

<b>Program Area</b>	<b>Objective</b>	<b>Requested Amount</b>
Chemical & Biological Control	Control Wheat Scab with Improved Fungicide Application Technology	\$10,000
	<b>Requested Total</b>	<b>\$10,000<sup>1</sup></b>

\_\_\_\_\_  
Principal Investigator

\_\_\_\_\_  
Date

<sup>1</sup> Note: The Requested Total and the Amount Granted are not equal.

**Project 1: Evaluate the potential of adapting ULV (ultra low volume), air-assisted, small-droplet, fruit spraying technologies to improve efficacy of fungicides used to control FHB in wheat.**

1. The objective of building the pickup truck mount sprayer was delayed until Fall 2000 because of a 12 week delivery schedule for critical hydraulic drive components. All the necessary components have arrived; design and construction is proceeding toward a December completion date.
2. A tower type ULV orchard sprayer was modified for the 2000 production season field tests. The sprayer was significantly less powerful than the “planned” truck mounted sprayer but it did enable the research team to evaluate the concept of a “horizontal air boom”. The sprayer was used to apply 10 gallons of spray solution per acre at a ground speed of 4.5 miles per hour while spraying a 50 foot wide swath.
3. Two field experiments were conducted during the 2000 production season:
  - A. First was a 20 acre commercial field that was divided into four blocks. Folicur at 4 oz. per acre plus Induce (0.06% v/v) was used as a full rate on two, non-adjacent plots. The other two blocks consisted of a half rate and “unsprayed” control. Due to critical timing of the fungicide application, adverse weather conditions were encountered during the spraying operation. Winds varied from 10 to 15 mph, thus the air boom was operated only in a “downwind” configuration. A rain event followed the application by a few hours. Preliminary observations showed; Unsprayed - 40% incidence 70% severity and Sprayed - 20% incidence 86% severity. Hand harvested samples are being analyzed for vomitoxin data. Shortly there after the contract “harvester” arrived and unexpectedly proceeded to harvest the field in a manor that mixed all the grain from the individual plots.
  - B. Second was a 1 acre study conducted on the MSU Mason Wheat Research Farm. The research plot was a 50 foot wide border between two varietal studies. This study consisted of 4 “full rate” plots and one unsprayed control. On two of the plots, the “50 foot wide air-boom swaths” were sprayed from both sides, while the other two plots were sprayed from one side only. A rain event followed the application by approximately 30 minutes. Field staff unexpectedly destroyed the study before evaluations were made.