

TITLE: Control of grey mold and white mold of snap beans

PROJECT LEADERS: Dan M. McGrath, OSU Extension, Vegetable Crops  
in Marion, Polk and Yamhill Counties

Mary L. Powelson, Department of Botany and  
Plant Pathology

PROJECT STATUS: Continuing

PROJECT FUNDING: \$5,000

OBJECTIVES:

1. To evaluate timing, rate, and number of applications of foliar fungicides for control of grey mold and white mold of snap beans.
2. To evaluate the efficacy of two biocontrol agents for control of grey mold of snap beans.

RESULTS:

Four fungicides, which have activity against Botrytis cinerea and Sclerotinia sclerotiorum, and two biocontrol agents, which have activity against B. cinerea, were applied to snap bean foliage at seven locations during the 1988 growing season. Plots were established in grower fields and at the Agripac site in Woodburn. Cooperators included Warren Grey, Bob Konig, Richard Haener and Chuck Irvine.

One experiment was designed to evaluate rate and number of applications of fungicides for control of both mold diseases. This experiment was initiated on 17 July at the Agripac site and was repeated in a grower's field beginning on 16 August (Table 1). A second experiment was designed to compare different rates of fungicides for disease control. This experiment, which was conducted at the Agripac site, was begun on 31 August (Table 2). Different formulations of Rovral and Ronilan (Table 3) and two biological control agents (Table 4) were applied to snap bean foliage in two growers' fields. Field plots were established at the end of July and again in the middle of August.

Disease pressure was slight to nil for all experiments. In none of the experiments did disease develop to a level that significant differences among treatments could be detected. During the period that these experiments were conducted, environmental conditions were not conducive for disease development: temperatures were warm to very warm, the relative humidity was low and skies were clear. Despite an extra side dressing of nitrogen and frequent applications of water at the Agripac (Woodburn) site, disease did not develop.

*Good. Data developed to get Ronilan to seek full registration for Ronilan  
Continuity of research*

Three snap bean lines, which are reported to have some genetic resistance to grey mold, were sent to us from the New York Agricultural Experiment Station, Geneva, NY for evaluation under our growing conditions. These lines were planted at the Apripac site (Woodburn). Because of unfavorable conditions, disease did not develop.

Table 1. Evaluation of fungicide rate and time of application for control of grey mold and white mold of snap beans: 1988.

location:	Apripac	Grower's field
cultivar:	OR 91	OR 91
treated rows:	one row	one row
plot length:	20 ft	20 ft
water rate:	40 gal/acre	40 gal/acre
first application:	12 July	16 August
second application:	20 July	23 August

<u>TREATMENT</u>	<u>RATE/ACRE</u>	<u>TIME OF APPLICATION</u>
Ronilan 4F	1 pt	early
Ronilan 4F	1 pt	early and full
Ronilan 4F	1.5 pts	early
Ronilan 4F	1.5 pts	early and full
Ronilan 4F	2 pts	early
Ronilan 4F	2 pts	early and full
Rovral 4F	1.5 pts	early
Rovral 4F	1.5 pts	early and full
Rovral 4F	2 pts	early
Rovral 4F	2 pts	early and full
Benlate WP	1 lb	early
Benlate WP	1 lb	early and full
Benlate WP and Rovral 4F	1 pt & 1 lb	early
Benlate WP and Rovral 4F	1 pt & 1 lb	early and full
SDS-66627	2 pts	early
SDS-66627	2 pts	early and full
SDS-66627	3 pts	early
SDS-66627	3 pts	early and full
Nontreated control		

a refers to early and full bloom

Table 2. Evaluation of different fungicide rates for control of grey mold and white mold of snap beans: 1988.

location: Agripac  
 cultivar: Romano  
 rows treated: one row  
 plot length: 20 ft  
 water rate: 40 gal/acre  
 first application: 31 August  
 second application: 6 September

<u>TREATMENT</u>	<u>RATE/ACRE</u>	<u>TIME OF APPLICATION<sup>a</sup></u>
Ronilan 4F	1.0 pt	early and full
Ronilan 4F	2.0 pts	early and full
Rovral 4F	1.5 pts	early and full
Rovral 4F	2.0 pts	early and full
Benlate WP	1.0 lb	early and full
Benlate WP & Rovral 4F	1.0 lb & 1.0 pt	early and full
SDS-66627	3.0 pts	early and full
Nontreated control		

<sup>a</sup> refers to early and full bloom

Table 3. Evaluation of different fungicide formulations for control of grey mold and white mold of snap beans: 1988.

location:	Grower field	Grower field
cultivar:	OR 91	OR 91
rows treated:	one row	one row
plot length:	20 ft	15 ft
water rate:	40 gal/acre	40 gal/acre
first application:	29 July	16 August
second application:	5 August	23 August

<u>TREATMENT</u>	<u>RATE/ACRE</u>	<u>TIME OF APPLICATION<sup>a</sup></u>
Ronilan WP	1.5 lbs	early and full
Ronilan DF	1.5 lbs	early and full
Ronilan Fl	1.5 pts	early and full
Rovral WP	1.5 lbs	early and full
Rovral Fl	2.0 pts	early and full
Nontreated control		

<sup>a</sup> refers to early and full bloom

Table 4. Evaluation of two biocontrol agents for control of grey mold and white mold of snap beans: 1988.

location:	Grower field	Grower field
cultivar:	OR 91	OR 91
rows treated:	one row	one row
plot length:	20 ft	15 ft
water rate:	40 gal/acre	40 gal/acre
first application:	29 July	16 August
second application:	5 August	23 August

TREATMENT

RATE

<u>Trichoderma hamatum</u>	4 x 10 <sup>9</sup> cells/3.7 liters
SDS 66570	1 gm/3.7 liters
SDS 66570	10 gm/3.7 liters
Ronilan WP	454 gm/3.7 liters
Nontreated control	