

EVALUATION OF FUNGICIDES FOR CONTROL OF *BOTRYTIS ALLII* IN SEED ONIONS

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Abstract

Fungicide trials were conducted on seed onions in central Oregon to evaluate their efficacy against *Botrytis allii*. Materials included Topsin M, TD2350-1, and Ridomil/Bravo applied in separate replicated trials as two pre-layby treatments and as two post-layby treatments. Results indicated significantly greater control than the untreated plots from all three materials applied pre-layby, with Topsin M providing greater control than the other two materials. The only significant post-layby control over the untreated plots was provided by Topsin M.

Introduction

There is a substantial vegetable seed industry in central Oregon. During the 1994 season there were 4,600 acres of vegetable seed worth \$10.5 million, with 400 acres of hybrid and open-pollinated seed onions producing a gross return of \$1.5 million. One of the major pest concerns to onion seed growers is the disease *Botrytis allii*, which attacks the onions on the scape or near the base of the plant.

Methods and Materials

Research was conducted in a seed onion field (Green) on the Agency Plains. Treatments included Topsin M at 1 pound and 2 pounds, TD2350-1 at 1 pound and 2 pounds, Ridomil/Bravo at 1 pound, and an untreated check. Materials were applied with a CO₂ pressurized boom sprayer at 40 psi, using a carrier rate of 40 gal/a and twin-jet 8004 nozzles. Two pre-layby applications and two post-layby applications were made to 15-foot x 18-foot plots, replicated three times. The pre-layby applications were made to one set of plots with a hand-held, 9-foot boom on April 28 and May 12, 1994. A two-man, 18-foot boom was used for post-layby applications to a second set of plots on June 2 and June 16, 1994. Evaluation of plots were made on July 13 and August 12 by counting the number of plants with necrotic areas on the scapes. Evaluation of *Botrytis* at the root plate was not conducted due to the presence of groundsel and difficulty in viewing the base of the plants.

Results and Discussion

1994 was predominantly dry and hot, and general evidence of *Botrytis allii* during the summer was low in commercial fields. This is in contrast to previous years when some rain and greater dew was present, and *Botrytis* scape blight was severe. Results from this trial indicate that significant control was provided by pre-layby applications of all three fungicides, with Topsin M providing greater control than TD2350-1 and Ridomil/Bravo. The only significant control for post-layby applications was Topsin M, with similar but non-significant control provided by TD2350-1 and Ridomil/Bravo (Table 1). It would appear from the limited scope of this project

that spring pre-layby applications are more effective than post-layby applications. Further work is being conducted to evaluate seed treatment and fall fungicide applications, with additional spring and summer applications also planned.

Table 1. Incidence of *Botrytis* symptoms on the scape of seed onions on the Agency Plains near Madras following double applications of fungicides at pre-layby and post-layby, evaluated on June 13 and July 12, 1994

Material	Rate	Pre-layby plots	Post-layby plots
	product/a	---infected plants per plot	
Topsin M 70W	1 lb	0 a X	2 a
Topsin M 70W	2 lbs	0 a	3 a
TD 2350-1 50W	1 lb	6 b	4 ab
TD 2350-1 50W	2 lbs	5 b	6 ab
Ridomil/Bravo 81W	1 lb	6 b	6 ab
Untreated		12 c	8 b

X mean separation at P 5 0.05