

EVALUATION OF FUNGICIDES FOR CONTROL OF POWDERY MILDEW IN KENTUCKY BLUEGRASS SEED PRODUCTION IN CENTRAL OREGON, 2001

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Abstract

Fungicides were evaluated for control of powdery mildew in a commercial Kentucky bluegrass seed field near Madras, Oregon. Fungicide applications were made early in disease development and disease pressure remained low throughout the evaluation period. All fungicides significantly reduced powdery mildew compared to untreated plots, and generally provided similar disease control. However, the trend was for styletoil to provide less control than the other treatments.

Introduction

Fungicides have been evaluated yearly for control of powdery mildew in Kentucky bluegrass seed production fields since 1998. The new fungicides Quadris[®], Folicur[®], and Laredo[®] were compared to industry standards and other registered fungicides. During 2001 the objective was to apply fungicides at the first sign of disease infection, and include alternative products that may provide a more cost effective method of control early in the season.

Methods and Materials

Fungicides were evaluated for control of powdery mildew in a commercial field of Kentucky bluegrass ('Crest') grown for seed near Madras, Oregon. The fungicides Laredo, Tilt[®], Folicur, Bayleton[®], Microthiol[®], and styletoil were applied alone. Bayleton was also applied in combination with Microthiol and styletoil. Treatments were made to 10-ft x 25-ft plots replicated four times in a randomized complete block design.

Plots were treated at the first sign of disease on April 16. Fungicides were applied with TeeJet 8002 nozzles on a 9-ft, CO₂-pressurized, hand-held boom sprayer at 40 psi and 20 gal of water/acre. Sylgard 309 was included in all treatments at 1 qt/100 gal except styletoil.

Plots were evaluated using a rating scale from 0 to 5, with 0 being no mildew present and 5 indicating total foliar coverage. Pretreatment evaluations were made on untreated plots. Due to inadequate disease development in the plot area, the only evaluation date was May 23.

Results and Discussion

On May 23 powdery mildew levels were minimal for evaluation. Under this light disease pressure all fungicides significantly reduced powdery mildew compared to untreated plots, and generally provided similar disease control (Table 1). However, the trend was for styletoil to provide less control than the other treatments, and Tilt was somewhat less effective than Folicur, Laredo, Microthiol, or Bayleton alone or in combination with Microthiol or styletoil.

Table 1. Severity of powdery mildew on Kentucky bluegrass near Madras, Oregon following fungicide application on April 16, 2001 and evaluated May 23, 2001.

Treatment ¹	Application rate product/acre	Severity of powdery mildew ² 0-5 rating scale
Bayleton + Microthiol	4 oz + 3 lb	0.00 b ³
Bayleton + Styletoil	4 oz + 1 qt	0.00 b
Bayleton	4 oz	0.02 b
Microthiol	5 lb	0.02 b
Laredo	8 oz	0.03 b
Folicur	4 fl oz	0.04 b
Tilt	4 fl oz	0.15 b
Styletoil	2 qt	0.23 b
Untreated	----	0.50 a

¹All treatments except Styletoil were applied with Sylgard 309 at 1 qt/100 gal.

²Rating scale was 0 (no mildew) to 5 (total leaf coverage).

³Mean separation with Student-Newman-Kuels (SNK) Test at $P \leq 0.05$.