

Winter Grain Mite Control in Kentucky Bluegrass Grown for Seed in Central Oregon, 2008

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Abstract

The winter grain mite (*Penthaleus major*) is considered the major insect pest in Kentucky bluegrass (*Poa pratensis*) seed production in central Oregon. Several insecticides were compared to dimethoate, the industry standard. None of these products provided significantly greater control of winter grain mites than the current product of choice, dimethoate.

Introduction

The winter grain mite has long been considered the major insect pest in Kentucky bluegrass seed production in central Oregon. Other pests include sod webworm (*Chrysoteuchia topiaria*), cutworm (*Protagrotis obscura*), and most recently billbugs (*Sphenophorus venatus confluens*). The product of choice for control of winter grain mites has been dimethoate. The objective of this project is to evaluate new and alternative materials for efficacy compared to this industry standard.

Methods and Materials

The trial was conducted in cooperation with S & L Farms in a commercial Kentucky bluegrass seed field on the Agency Plains north of Madras, Oregon. Insecticides that were compared with the industry standard dimethoate included Lorsban[®] (chlorpyrifos), Baythroid[®] (beta-cyfluthrin), and Oberon[®] (spiromesifen). Plots were 10 ft by 25 ft replicated 4 times in a randomized complete block design. Treatments were applied November 7, 2008 using a CO₂-pressurized hand-held boom sprayer outfitted with TeeJet 8002 nozzles on a 9-ft boom operated at 40 psi and applying 20 gal/acre water.

Mite counts were made using 8 2-inch crown and soil core samples per plot. Samples were stored under refrigeration while waiting processing in Berlese funnels. Insects were collected into jars and identified using a dissecting microscope. Precounts were taken prior to application on November 3 and following application on November 12, 17, 24, and December 1, 2008. Dimethoate was applied to clean up the entire plot area on January 2, 2009.

Results and Discussion

None of the insecticides provided significantly greater control of winter grain mites than the industry standard, dimethoate (Table 1). Although the winter grain mite population was relatively modest at the time of insecticide application, the performance of Oberon was not significantly different from the untreated plots.

Table 1. Winter grain mite control following insecticide applications on November 7, 2008 in Kentucky bluegrass grown for seed near Madras, Oregon.

Treatment	Product /acre	Mites per plot									
		Pre-count		Nov 12		Nov 17		Nov 24		Dec 1	
Dimethoate ¹	0.67 pint	3.50	ns ²	1.50	ns	1.00	ns	0.25	a	1.25	ab
Lorsban	0.5 pint	6.25	ns	0.50	ns	0.50	ns	0.25	a	0.25	ab
Baythroid	28 fl oz	2.50	ns	2.00	ns	0.75	ns	0.00	a	0.00	a
Oberon	8 fl oz	5.00	ns	8.75	ns	3.50	ns	8.75	c	4.00	ab
Oberon	12 fl oz	6.25	ns	3.25	ns	5.75	ns	3.25	bc	3.25	ab
Untreated	-----	5.25	ns	6.75	ns	5.50	ns	4.75	ab	5.00	b

¹Dimethoate = dimethoate, Lorsban = chlorpyrifos, Baythroid = beta-cyfluthrin, Oberon = spiromesifen.

²Mean separation with LSD at $P \leq 0.05$.