

SURVEY OF INSECT PESTS IN KENTUCKY BLUEGRASS SEED PRODUCTION IN CENTRAL OREGON, 2003-2004

Marvin Butler, Claudia Campbell, and Sujaya Rao

Introduction

An initial survey of insect pests in Kentucky bluegrass (*Poa pratensis*) fields was conducted in central Oregon and the Grande Ronde Valley during 2003-2004. Results indicated the presence of sod webworm and cutworms in central Oregon. The winter grain mite is considered the major insect pest in Kentucky bluegrass seed production in central Oregon, but was not the focus of the project. One billbug was collected in central Oregon, despite being considered a developing new pest in the Grande Ronde Valley. No differences were observed in two fields with multi-acre unburned and open-field burned plots.

Methods and Materials

Four commercial bluegrass seed production fields were included in the 2003-2004 survey. Two of the fields were split into multi-acre unreplicated plots. Two plots had no burning, with the straw removed on one, the other with straw removal and flail mowing and the remainder of the field was burned following straw removal. The fields were burned in August. Sixteen sod samples 1 ft in diameter by 4 inches deep were collected at each location September 8 and October 22, 2003 and April 1-7, 2004. Six pitfall traps were placed at each location to collect insects moving about the field. Insects were collected from the traps more or less weekly from March 10 to May 13, 2004.

Seven commercial bluegrass seed production fields were included in the 2004-2005 survey. One of the fields from the previous year was included to compare the effect of no burn and open-field burn on insect pest populations 1 year later. Five additional fields with potential for insect problems were chosen for the survey. Sixteen sod samples 1 ft in diameter by 4 inches deep were collected at each location October 12 and November 22, 2004. Six pitfall traps were placed at each location to collect insects moving about the field. Insects were collected from the traps more or less weekly from October 18 to December 15, 2004.

Results and Discussion

Comparing results from the fall of 2003 with the fall of 2004, it appears that October may be the best time for taking sod samples. September appears to be early, while November may be too late. In 2003, five sod webworms were collected in September and 26 in October (Table 1). Twice as many cutworms were collected in October 2003 as in September. The sod samples in April 2004 contained 6 sod webworms and 65 cutworms. All of the sod webworms were collected in burned fields, while 80 percent of the cutworms were in burned fields. The lone billbug was collected in an unburned field in October. We collected 163 sod webworms in October and 21 in November 2004 (Table

2). Cutworms were evenly split with 76 in October and 79 in November. Slightly more sod webworms than cutworms were collected from sod samples. The number of winter grain mites increased through the fall. Although only 1 billbug was collected in the fall of 2003, 14 were collected in October and another 3 in November 2004. There was significant variability between fields, with insects often in higher numbers in a few fields rather than spread more evenly across sampling locations.

The number of insect pests collected in pitfall traps was significantly lower across all four species compared to sod samples (Tables 3-5). Use of pitfall traps will be discontinued during the spring of 2005, with the project focusing on sod samples.

Table 1. Insect pests collected from sod samples in Kentucky bluegrass seed fields in central Oregon during the fall of 2003.

Insect	Sampling dates			Totals	
	September 8	October 22	April 1-7		
-----Number of insects/location-----					
Sod webworm					
Loc 1	Burn	1	21	5	27
Loc 2	Burn	3	1	0	4
Loc 2	Bale & Flail	0	0	0	0
Loc 3	Burn	1	1	0	2
Loc 3	Bale & Flail	0	0	0	0
Loc 4	Burn	0	3	1	4
Cutworm					
Loc 1	Burn	4	51	35	90
Loc 2	Burn	1	3	2	6
Loc 2	Bale & Flail	2	2	5	9
Loc 3	Burn	23	12	4	39
Loc 3	Bale & Flail	13	12	6	31
Loc 4	Burn	1	5	13	19
Billbug					
Loc 1	Burn	0	0	0	0
Loc 2	Burn	0	0	0	0
Loc 2	Bale & Flail	0	1	0	1
Loc 3	Burn	0	0	0	0
Loc 3	Bale & Flail	0	0	0	0
Loc 4	Burn	0	0	0	0

Table 2. Insect pests collected from sod samples in Kentucky bluegrass seed fields in central Oregon during the fall of 2004.

Insect	Sampling dates		
	October 12	November 22	Total
Sod webworm	-----Number of insects/location-----		
Loc 1	132	1	133
Loc 2	26	5	29
Loc 3	3	17	20
Loc 4	0	0	0
Loc 5	0	0	0
Loc 6	1	0	1
Loc 7	1	0	1
Cutworm			
Loc 1	1	0	1
Loc 2	8	3	11
Loc 3	9	16	25
Loc 4	1	4	5
Loc 5	16	7	23
Loc 6	25	25	42
Loc 7	23	25	48
Winter grain mite			
Loc 1	0	0	0
Loc 2	0	7	7
Loc 3	0	0	0
Loc 4	0	0	0
Loc 5	0	0	0
Loc 6	2	1	3
Loc 7	1	9	10
Billbug			
Loc 1	4	3	7
Loc 2	9	0	9
Loc 3	0	0	0
Loc 4	0	0	0
Loc 5	1	0	1
Loc 6	0	0	0
Loc 7	0	0	0

Table 3. Insect pests collected from pitfall traps in burned Kentucky bluegrass seed fields in central Oregon during the spring of 2004.

Insect pests	-----Sampling Dates-----									Total
	Mar 10	Mar 17	Mar 24	Mar 30	Apr 7	Apr 15	Apr 23	Apr 28	May 13	
	-----Number of insects/sample date -----									
Cutworm	3	4	13	11	8	12	9	9	11	80
Sod webworm	0	2	0	0	0	0	0	0	0	2
Billbug	0	0	0	0	0	0	0	0	0	0

Table 4. Insect pests collected from pitfall traps in unburned Kentucky bluegrass seed fields in central Oregon during the spring of 2004.

Insect pests	-----Sampling dates-----									Total
	Mar 10	Mar 17	Mar 24	Mar 30	April 7	April 15	April 23	April 28	May 13	
	-----Number of insects/sample date -----									
Cutworm	2	0	0	0	2	0	0	4	0	8
Sod webworm	0	0	0	0	0	0	0	0	0	0
Billbug	0	0	0	0	0	0	0	0	0	0

Table 5. Insect pests collected from pitfall traps in Kentucky bluegrass seed fields in central Oregon during the fall of 2004.

Insect Pests	-----Sampling dates-----						Total
	Oct 18-20	Oct 25-27	Nov 4-8	Nov 15-16	Nov 24	Dec 15	
	-----Number of insects/sample date -----						
Cutworm	3	5	24	16	4	16	68
Sod webworm	9	0	1	0	1	0	11
Winter grain mite	1	2	2	4	2	0	11
Billbug	1	0	0	0	0	0	1

