

Section II
Forage Insects

ALFALFA WEEVIL AND PEA APHID CONTROL IN ALFALFA, 1997

R. L. Stoltz and N. A. Matteson

University of Idaho, Twin Falls R & E Center

P.O. Box 1827, Twin Falls, ID 83303-1827

208/736-3600

bstoltz@uidaho.edu, nmatteson@uidaho.edu

Test plots were established near Kimberly, Idaho. The soil type was Portneuf silt loam and the field was irrigated by surface flow. Three treatments and an untreated check were replicated four times in a RCB design. Each individual test plot was 25 ft by 25 ft. Treatments were applied as a broadcast S using a CO₂ pressurized backpack sprayer using 30 psi and delivering 20 gal finished S per acre (four, 10X hollow cone nozzles). Sampling was accomplished by taking five, 90 degree pendulum sweeps (15 inch diam sweep net) per plot. Counts were made of all alfalfa pest species present as well as all beneficial insects. A pre-treatment count was made and all treatments were applied on 9 Jun. Additional counts were made at 7, 14, 21 and 30 d post treatment. Data were analyzed using ANOVA and Neuman-Keuls multiple means comparison (P = .05).

On most sampling dates, there was significant reduction in densities of alfalfa weevil larvae and lygus from the untreated check with all treatments throughout the study. There was a significant reduction in pea aphid numbers compared with untreated check with all treatments. At 30 d post-application (9 Jul) aphid numbers in the treated plots had increased substantially but still less than in the untreated check. Few beneficial insect species were observed during this study. The beneficial complex included primarily micro-hymenoptera, *Nabis* sp., *Orius* sp. and spiders. There was a significant reduction of beneficial numbers at 7 d post-application (16 Jun) but no significant differences in numbers from the untreated check were observed after this date.

Treatment	Rate (lb AI/acre)	Alfalfa Weevil Larvae				
		9 Jun	16 Jun	23 Jun	30 Jun	9 Jul
Check	-----	51.50 a	38.75 b	32.50 b	12.25 c	11.00 b
Baythroid 2 EC	0.040	63.5 a	4.50 a	2.00 a	0.25 a	0.00 a
Baythroid 2 EC + Dimethoate	0.025 + 0.50	43.75 a	3.00 a	1.75 a	0.25 a	0.00 a
Lorsban	0.50	45.75 a	3.25 a	2.25 a	2.75 b	7.00 ab

Treatment	Rate (lb AI/acre)	Lygus				
		9 Jun	16 Jun	23 Jun	30 Jun	9 Jul
Check	-----	8.25 a	7.25 b	5.25 c	10.00 b	30.75 b
Baythroid 2 EC	0.040	11.00 a	0.25 a	0.25 a	2.25 a	12.50 a
Baythroid 2 EC + Dimethoate	0.025 + 0.50	10.25 a	0.25 a	1.00 ab	1.75 a	11.50 a
Lorsban	0.50	9.75 a	1.75 a	3.75 bc	5.50 ab	22.75 ab

Treatment	Rate (lb AI/acre)	Pea Aphid				
		9 Jun	16 Jun	23 Jun	30 Jun	9 Jul
Check	-----	47.75 b	42.75 b	52.25 b	125.80 b	598.00 c
Baythroid 2 EC	0.040	48.50 b	3.50 a	11.25 a	59.75 a	350.30 b
Baythroid 2 EC + Dimethoate	0.025 + 0.50	35.00 a	0.50 a	1.00 a	13.25 a	146.80 a
Lorsban	0.50	34.25 a	1.50 a	5.25 a	33.25 a	200.80 ab

Treatment	Rate (lb AI/acre)	Beneficial Insects (<i>Nabid</i> , <i>Orius</i> , Spider, Parasitic Wasps)				
		9 Jun	16 Jun	23 Jun	30 Jun	9 Jul
Check	-----	11.75 a	8.25 b	4.50 a	4.00 a	9.50 a
Baythroid 2 EC	0.040	16.75 ab	2.00 a	1.25 a	2.00 a	11.00 a
Baythroid 2 EC + Dimethoate	0.025 + 0.50	20.50 b	4.00 ab	2.50 a	1.50 a	9.75 a
Lorsban	0.50	13.25 a	1.75 a	5.00 a	4.25 a	9.75 a

Means within a column with the same letter are not significantly different ($P = 0.05$; Student-Newman-Keuls).

c:\1997pnw\alfalf.doc