

ALFALFA: *Medicago* L. 'Pioneer' variety

POTATO LEAFHOPPER CONTROL IN ALFALFA, 2005

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Potato leafhopper (PLH): *Empoasca fabae* (Harris)

Two insecticides and/or adjuvants were tested against PLH in 2 separate trials following either a first or second counting near Wooster, OH. Five of the treatments were Pounce at 2 rates with or without different adjuvants; the other two treatments were Warrior. Tests were designed as a RCB with seven treatments and an untreated check plot, and 4 replications. Plot size was 20 ft x 20 ft. Alfalfa was approximately 6-7 inches tall at the beginning of both trials. Insecticides were applied using a bicycle sprayer with a 10 ft boom on 16 June and 13 July, respectively. Spray nozzles were TeeJet 80015 spaced at 20 in, spray pressure at 30 psi, and spray output at 26.7 gpa. Twenty 10-sweep samples were taken across the field the day before insecticide application to obtain a pre-treatment count. Post-treatment samples were taken approximately 3, 7, and 14 DAT by taking a single sample (10 sweeps per sample) from each plot. Observations were taken each time on plant height and PLH injury, i.e., hopperburn. Yield data were taken approximately 28 DAT by harvesting approximately 5 × 20 ft (weights given are wet weight). Potato leafhopper data were transformed prior to analyses by square root of (x + 0.5). All data were analyzed with ANOVA and means separated using LSD.

The pre-treatment PLH count was 9 and 6 adult leafhoppers per sample, respectively for the 2 trials. All treatments provided immediately control of adult PLH; significant differences were obtained at the 3 DAT sample in both trials. Only Trial 2 had a significant difference at 7 DAT; none was obtained in Trial 1. Neither trial had significant differences among treatments in the number of adults at the 14 DAT sample. PLH nymphs were only sufficient to count and analyze in the last sample in Trial 2. There was a significant difference among treatments in the number of nymphs; the 2 Warrior treatments and Pounce at 6 oz/A reduced nymphal numbers from the check. Hopperburn was not observed in either trial. In Trial 2, there was a slight noticeable difference in plant height in the check plots which were about 3-4 inches lower in height. There was no difference in yield in Trial 1, although a statistical difference was obtained in yield in Trial 2.

Trial 1

Treatment/ formulation	Rate oz/A	PLH adults per 10 sweeps			Yield lbs/205 ft ²
		3 DAT	7 DAT	14 DAT	
Warrior	1.92	0.3 b	4.0 a	11.3 a	21.3 a
Warrior	2.56	1.0 b	1.8 a	12.3 a	22.8 a
Pounce 3.2	4.0	2.0 b	2.8 a	9.5 a	21.8 a
Pounce+AG5017	4.0 + 2.0	0.0 b	3.0 a	9.8 a	22.3 a
Pounce+AG5017 + Preference	4.0 + 2.0 + 0.25% v/v	0.8 b	3.5 a	9.5 a	23.4 a
Pounce+AG5017 + Max-In	4.0 + 2.0 + 1 qt/A	0.0 b	5.0 a	12.3 a	22.5 a
Pounce 3.2	6.0	1.0 b	2.3 a	8.0 a	23.3 a
Untreated check	--	3.8 a	7.3 a	11.0 a	23.3 a

Means in a column followed by the same letter are not significantly different (LSD, P = 0.05).

Trial 2

Treatment/ formulation	Rate oz/A	PLH adults per 10 sweeps			Nymphs 14 DAT	Yield lbs/205 ft ²
		3 DAT	7 DAT	14 DAT		
Warrior	1.92	0.0 b	0.5 d	7.0 a	0.3 c	21.3 abc
Warrior	2.56	0.0 b	0.3 d	8.8 a	0.3 c	22.3 ab
Pounce 3.2	4.0	0.3 b	1.8 cd	10.0 a	0.8 abc	21.0 abc
Pounce+AG5017	4.0 + 2.0	0.0 b	2.5 c	8.5 a	0.8 bc	23.5 a
Pounce+AG5017 + Preference	4.0 + 2.0 + 0.25% v/v	0.0 b	6.8 ab	13.3 a	0.8 bc	18.3 c
Pounce+AG5017 + Max-In	4.0 + 2.0 + 1 qt/A	0.0 b	5.8 b	10.3 a	2.3 a	20.3 abc
Pounce 3.2	6.0	0.5 b	1.0 cd	5.8 a	0.5 c	21.8 abc
Untreated check	--	5.3 a	10.5 a	9.3 a	2.0 ab	19.0 bc

Means in a column followed by the same letter are not significantly different (LSD, P = 0.05).