

Section VIII Mites & Sap-Sucking Pests

2007 RESULTS FROM GREEN PEACH APHID TRIALS ON POTATOES IN WASHINGTON

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This trial was established at ADG research station in Eltopia, WA in order to evaluate the efficacy of various insecticides on green peach aphid populations in potatoes. The variety of potato was russet Burbank with plot sizes of 4 (34" centers) rows by 20 feet and four replications for each treatment.

All treatments were applied using CO₂ on a spider sprayer with 24 ft booms. Applications were made with 8003VS nozzles at 40 psi and 20 gallons/acre. Equipment speed was 3.2 mph. Two applications were made, the first was on July 5, the second application on July 12.

Aphid evaluations were made by sampling 2 plants per plot, twice a week during the course of the trial. A 17" X 17" beat sheet was used for each evaluation date and the number of winged and wingless aphid were counted.

Ultor (spirotetramat) is a new systemic foliar insecticide registered by Bayer Cropscience. Ultor inhibits lipid synthesis, which causes incomplete molting. Plant leaves absorb Ultor, and once inside the plant tissue the active ingredient is hydrolyzed into the weak acid spirotetramat-enol. This acid moves in the phloem as well as the xylem, although on a more limited basis.

In this trial, all insecticides were statistically better than the untreated check. All insecticides reduced wingless aphid numbers by 50% or more over a 28 day period. All insecticides in this study were statistically similar although some numerical differences existed. Battalion/Dimethoate was the least effective treatment in the trial with over 60% control as opposed to the untreated check. Ultor applied alone, at both rates, was numerically similar to Ultor/Baythroid and Battalion/Provado, all exhibiting better than 75% control compared to the untreated check. Industry standards, Monitor, Fulfill (high rate), and Leverage controlled aphid populations by 80% or better. The trend held true for Provado, also. Interestingly, Nufarm imidacloprid and Etigra imidacloprid were among the better treatments numerically at 88% and 94% control, respectively and were similar to Fulfill (low rate) and Battalion/Provado. The best treatment, in this trial, was Ultor/Provado, which had nearly 100% control as compared to the untreated check.

**Efficacy of Foliarly Applied Insecticides on GPA in Potatoes
Ranked by number of wingless aphids**

Trt. No.	Treatment	Rate	28 day cumulative aphid totals (DAT)	
			wingless	winged
1	UNTREATED CHECK		88.8 a	134 a
11	BATTALION/DIMETHOATE	12 1 fl oz/pt/a	34.5 b	143 a
6	BAYTHROID XL	2.8 fl oz/a	25.0 b	106 a
15	LEVERAGE	3.75 fl oz/a	21.3 b	119 a
4	ULTOR	8 fl oz/a	20.8 b	105 a
2	ULTOR	6 fl oz/a	20.5 b	154 a
16	BATTALION - PROVADO	2.8 - 3.8 fl oz/a	19.0 b	69 a
8	ULTOR/BAYTHROID XL	6/2.8 fl oz/a	16.5 b	132 a
3	MONITOR	2 pt/a	13.8 b	61.3 a
10	FULFILL	5.5 oz/a	10.3 b	97.5 a
14	BATTALION/DIMETHOATE	12.8 - 1 fl oz/a	10.3 b	94.8 a
5	PROVADO	3.8 fl oz/a	9.8 b	97.8 a
12	LEVERAGE	3.75 fl oz/a	9.0 b	104 a
17	NUFARM IMIDACLOPRID	3.8 fl oz/a	7.8 b	58.5 a
13	BATTALION/PROVADO	12 - 3.8 fl oz/a	7.3 b	79.8 a
9	FULFILL	2.75 oz/a	5.5 b	75.3 a
18	ETIGRA IMIDACLOPRID	3.8 fl oz/a	5.3 b	68.3 a
7	ULTOR/PROVADO	6/3.8 fl oz/a	3.8 b	65.5 a

LSD (P=.10)

Means followed by same letter do not significantly differ (P=.10, Student-Newman-Keuls)