EVALUATION OF INSECTICIDES AGAINST WOOLLY APPLE APHID

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- WAA overwinters underground on apple tree roots as immature nymph or egg
- Feeding damage to roots causes galls and can be severe enough to girdle tree
- Above ground stage emerge in early summer and feed on new growth or wounds in tree
- Can cause some fruit finish problems from honeydew and problematic for pickers
- Can transmit apple canker
- Established colonies covered in white waxy fibers giving ‘woolly’ appearance
- Also a pest of elm, hawthorn, mountain ash and pear

- WAA unaffected by pyrethroids and carbamates
- Newer insecticides have may also have flaring effect
  - Delegate WG – Aphelinus mali
- Mesurol 75W (carbamate) used in research orchard to flare for trial
- Disruption of Bio-Control
- Method used to evaluate WAA resistant rootstocks at NYSAES

Mesurol® 75-W

Insecticide - Miticide - Molluscicide

For control of certain insects and mollusks on ornamentals

ACTIVE INGREDIENTS:	% By Wt.
Methiocarb: 4-methylthio-3,5-xylylmethylcarbamate	75.0%
OTHER INGREDIENTS:	25.0%
TOTAL	100.0%

STOP - READ THE LABEL BEFORE USE

- Four reps of 2-tree blocks in MacIntosh
- 2 applications of Mesurol applied to flare (6 Jun, 5 Jul)
- Weekly counts taken from 18 Jun – 27 Aug
- Presence or absence of live colonies / terminal
- First application for control applied 25 Jul
- All applications were applied with hi pressure handgun 300dgpa
- Two follow up sprays in 2 different treatments
  - Closer 3.0 oz +2 weeks on 7 Aug, Movento 9.0 oz + 3 weeks on 13 Aug
- No established threshold for WAA in any recommends
- Used 30.0% infestation threshold for trial purposes – not commercially acceptable

Treatment	Rate	Timing
Closer 240SC*	3.0 oz (1 app)	25 Jul
Closer 240SC*	3.0 oz (2 apps)	25 Jul, 7 Aug
Closer 240SC*	4.0 oz (1 app)	25 Jul
Movento 240SC*	9.0 oz (2 apps)	25 Jul, 13 Aug
Diazinon 50W	2.0 lb (1 app)	25 Jul

* Applied with LI-700 @32.0 oz

% WAA INFESTED TERMINALS

	18 Jun	25 Jun	2 Jul	11 Jul	18 Jul	24 Jul	30 Jul	7 Aug	13 Aug	21 Aug	27 Aug
Closer 3.0 oz 1 app	5.25 A	11.0 A	7.25 AB	11.8 B	21.8 B	40.8 B	9.25 B	2.0 B	0.0 B	0.2 B	0.0 B
Closer 3.0 oz 2 app	11.25 AB	9.0 A	7.0 AB	18.5 AB	33.0 AB	47.5 AB	11.5 B	2.0 B	0.0 B	0.0 B	0.0 B
Closer 4.0 oz 1 app	7.25 AB	12.3 A	4.75 B	10.0 B	23.3 B	31.8 B	6.25 B	0.8 B	0.0 B	0.0 B	0.75 B
Movento 9.0 oz 2 apps	8.75 AB	9.8 A	12.8 A	25.0 AB	38.5 AB	57.5 AB	17.8 B	8.8 B	3.25 B	3.0 B	1.0 B
Diazinon 2.0 lb 1 app	8.25 AB	7.0 A	7.0 AB	23.8 AB	45.0 AB	52.0 AB	1.5 B	0.5 B	0.0 B	0.0 B	0.0 B
UTC	13.75 A	13.8 A	11.5 AB	29.5 A	54.0 A	72.5 A	58.8 A	30.5 A	9.75 A	29.0 A	7.25 A

Means followed by the same letters are not significantly different ($P > 0.05$) according to Student's t-test.

% CONTROL AS COMPARED TO UTC

Treatment	Rate	% Control
Closer 240SC	3.0 oz (1 app)	75.0 AB
Closer 240SC	3.0 oz (2 apps)	74.6 AB
Closer 240SC	4.0 oz (1 app)	79.2 A
Movento 240SC	9.0 oz (2 apps)	59.0 B
Diazinon 50W	2.0 lb (1 app)	86.1 A
Untreated Control		0.0

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

- All treatments separated from UTC on every sample date after initial application
- Excellent initial knock down in all treatments
- 2nd app of Closer @ 3.0 oz not needed
- One app of Closer 3.0 oz/A rate worked as well as one 4.0 oz/A app
- Too late in the season for good uptake in tree for Movento
- Past research has shown similar results with late season Movento apps
- Still provided significant control
- Diazinon – industry standard with great efficacy but harsh broad spectrum


"That's all Folks!"