

(D16)**ORANGE:** *Citrus sinensis* (L.) Osbeck, ‘Hamlin’**INSECTICIDAL CONTROL OF ASIAN CITRUS PSYLLID WITH TOLFENPYRAD PYRIFLUQUINAZON, AND SPIROTETRAMAT, 2011****Philip A. Stansly**

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Asian citrus psyllid (ACP): *Diaphorina citri* Kuwayama

ACP is a key pest of Florida citrus mainly due its role in spreading “huanglongbing” or citrus greening. Insecticides with new modes of action are needed as rotation partners for older materials in order to slow selection for resistance. The trial was conducted at the University of Florida Southwest Research and Education Center in Immokalee, Florida, on young ‘Hamlin’ orange trees budded to ‘US-802’ pummalo x trifoliolate rootstock and planted in May 2010 at 8 ft within rows spaced 18 ft apart to give 303 trees/ac. Ten treatments were assigned to 8-tree plots in an RCB design with 4 replicates. Applications were made 11 Jul 2011 using a 12 volt battery powered 25 gal Northstar sprayer operating at 40 psi delivering 150 gpa spraying to runoff. Trees were evaluated weekly throughout the trial. Five young shoots were removed per plot and psyllid eggs and nymphs counted under a stereoscopic microscope. Density of ACP adults was assessed weekly starting at 2 DAT from the 5 center trees in each plot. A randomly chosen branch was struck 3 times with a piece of PVC pipe, dislodging insects that fell onto a white plastic clipboard to be counted for one “tap” sample. All data were subjected to ANOVA for treatment effect on ACP with means separated using LSD ($P = 0.05$).

Tolfenpyrad in either formulation resulted in significant reduction of adults through 58 DAT, with no significant differences among rates or between formulations (Table 1). Movento MPC reduced adults beginning at 9 DAT through 51 DAT although not as much as either formulation of tolfenpyrad at 16 and 23 DAT. More adults were seen on trees treated with pyrifluquinazon compared to other sprayed treatments and were significantly less than the control only at 37 and 44 DAT. All products at all rates, except for pyrifluquinazon, significantly reduced nymphs through 30 DAT, the only time that pyrifluquinazon provided any control. A subsequent flush was sampled at 58 DAT, but no significant treatment effects on nymphs were observed. No phytotoxic effects were seen.

Table 1

Treatment/ Formulation	Rate Product /acre or % vol/vol	Adults per tap								
		2 DAT	9 DAT	16 DAT	23 DAT	30 DAT	37 DAT	44 DAT	51 DAT	58 DAT
Untreated		2.40a	2.10ab	2.45a	2.00a	1.25a	1.75a	2.90a	3.70a	2.70a
Movento MPC	16.0 oz	1.60a	1.40b	1.40b	1.05b	0.10b	0.40c	0.25c	1.05b	1.58ab
435 Oil	3%									
Apta 15SC	21.0 oz	0.25b	0.05c	0.20c	0.00c	0.15b	0.35c	0.10c	0.50b	0.30b
435 Oil	3%									
Apta 15SC	17.0 oz	0.10b	0.10c	0.00c	0.00c	0.25b	0.20c	0.15c	0.30b	0.40b
435 Oil	3%									
Apta 15SC	14.0 oz	0.25b	0.00c	0.10c	0.05c	0.15b	0.25c	0.00c	0.20b	0.55b
435 Oil	3%									
Tolfenpyrad ME	17.0 oz	0.00b	0.20c	0.05c	0.00c	0.00b	0.20c	0.15c	0.20b	0.40b
435 Oil	3%									
Pyrifluquinazon	6.4 oz	1.90a	2.50a	2.15ab	1.95ab	1.25a	1.15b	0.95b	2.05ab	2.45a

Means followed by the same letter within a column not statistically different (LSD, $P > 0.05$)

Table 2

Treatment/ formulation	Rate (Product/acre or % vol/vol)	Nymphs per flush					
		2 DAT	9 DAT	16 DAT	23 DAT	30 DAT	58 DAT
Untreated		22.40a	55.05a	57.67a	29.55a	35.20a	24.65a
Movento MPC 435 Oil	16.0 oz 3%	1.21c	1.93b	3.14b	2.00b	4.28c	23.53a
Apta 15SC 435 Oil	21.0 oz 3%	0.85c	0.05b	0.06b	2.45b	3.22c	11.5a
Apta 15SC 435 Oil	17.0 oz 3%	0.25c	1.40b	0.00b	0.15c	1.28c	13.9a
Apta 15SC 435 Oil	14.0 oz 3%	0.68c	0.50b	3.60b	6.35b	3.39c	24.7a
Tolfenpyrad ME 435 Oil	17.0 oz 3%	5.25bc	0.15b	2.06b	1.00b	4.93c	19.63a
Pyriproxyfen 435 Oil	6.4 oz	13.10ab	51.35a	48.95a	25.50a	19.15b	23.16a

Means followed by the same letter within a column not statistically different (LSD, P>0.05)