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**ORANGE:** *Citrus Citrus sinensis* (L. Osbeck.) 'Valencia'

**SOIL APPLIED INSECTICIDAL CONTROL OF CITRUS PSYLLIDS AND  
LEAFMINERS, 2005**

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

Citrus leafminer (CLM): *Phyllocnistis citrella* (Stainton)

Brown citrus aphid (BCA): *Toxoptera citricida* (Kirkaldy)

The trial was conducted at the University of Florida Southwest Research and Education Center in Immokalee, Florida, on 3 year old 'Valencia' orange trees planted at 15 X 22 ft spacing in double-row beds separated by a swale and running north-south. The block had been previously used for a weed management experiment and there was considerable variation in tree size among

plots. Four adjoining rows were used for a completely randomized block design with 3 treatments replicated 4 times. Each plot consisted of 6 to 8 trees. A suspension of the desired amount of Platinum 2SC and Admire Pro in 8 ounces of water was poured in a circular band around the base of the tree about one foot from the base on 17 Aug. Evaluations were made by examining the youngest new terminal growth, (flush) available at 28, 37, 43, and 59 days after treatment (DAT) for a total of 6 flushes per plot. The number of adult psyllids and leafmines per flush terminal was counted, except on the first evaluation in which the psyllid population was rated on a 0 to 3 scale (0=none and 3=high). All aphids and immature psyllids were rated on the same 0 to 3 scale. The trees were trimmed on 10 Oct in an attempt to encourage growth of new and more uniform flush; however, a hurricane on 24 Oct damaged the new flush and no more evaluations could be made.

Trees were especially small in one of the plots that happened to be selected for treatment with Platinum, and responses were atypical of the remaining 4 plots, probably because the application was made beyond the root zone. However, this variation did not change the overall results much and the analysis represented by the tables includes all plots, although reference will be made in the text to the analysis without the atypical plot. Fewer immature ACP were observed at 28 and 37 DAT on trees treated with Platinum compared to Admire-treated trees which themselves had fewer ACP than the control. At 43 DAT there were no differences between Platinum and Admire, and at 50 DAT, no significant treatment effect except when the atypical plot was removed from the analysis which effectively removed all infested trees from the Platinum treatment. Fewer adults ACP were seen on trees treated with Platinum compared to untreated trees through 43 DAT, but this was true for Admire-treated trees only at 37 DAT. Both treatments resulted in fewer CLM except for Platinum at 37 DAT, although this difference was

significant if the atypical plot was removed from the analysis (data not shown). BCA ratings were not significantly lower on treated trees compared to the control. Thus we observed long term suppression of both ACP and CLM from both Admire Pro and Platinum, with somewhat better activity on ACP exhibited by Platinum.

**Table 1**

Treatment/ formulation	Rate lbs(AI)/acre	Immature Psyllids: Ave Rating per Flush Terminal <sup>1,2</sup>			
		28 DAT	37 DAT	43 DAT	50 DAT
Platinum 2SC	0.16	0.63 c	0.29 c	0.21 b	0.17 a
Admire Pro 4.6FL	0.17	1.25 b	1.13 b	0.50 b	0.58 a
untreated		2.29 a	2.17 a	1.42 a	0.54 a

<sup>1</sup> 0 to 3 rating scale (0=none, 3=high)

<sup>2</sup> Means followed by the same letter in the same column are not significantly different ( $p < 0.05$ , LSD).

**Table 2**

Treatment/ formulation	Rate lbs (AI)/acre	Adult Psyllids: Ave Rating and Count per Flush Terminal <sup>1</sup>			
		28 DAT Rating <sup>2</sup>	37 DAT Count	43 DAT Count	50 DAT Count
Platinum 2SC	0.16	0.13 b	0.21 b	0.63 b	1.00 a
Admire Pro 4.6FL	0.17	0.54ab	1.63 b	1.42ab	1.79 a
untreated		0.79 a	5.00 a	2.79 a	1.88 a

<sup>1</sup> 0 to 3 rating scale (0=none, 3=high)

<sup>2</sup> Means followed by the same letter in the same column are not significantly different ( $p < 0.05$ , LSD).

**Table 3**

Treatment/	Rate	Leafminers: Ave Count per Flush Terminal <sup>1</sup>
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formulation	lbs(AI)/acre	37 DAT	43 DAT	50 DAT
Platinum 2SC	0.16	0.67ab	0.50 b	2.25 b
Admire Pro 4.6FL	0.17	0.08 b	0.67 b	3.00 b
untreated		1.13 a	2.00 a	6.71 a

<sup>1</sup> Means followed by the same letter in the same column are not significantly different ( $p < 0.05$ , LSD).

**Part II: Materials Tested for Arthropod Management**

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Common name	Trade name/ Cultivar	Concentration/ Formulation	Chemical name/resistance	Manufacture/source
imidacloprid	Admire Pro	4.6FL	1_((6-Chloro-3-pyridinyl)methyl)-N-nitro-2-imidazolidinimine	Bayer CropScience LP P.O. Box 12014 1 T.W. Alexander Drive Research Triangle Park, North Carolina 27709
thiamethoxam	Platinum	2SC	4H-1,3,5-Oxadiazin-4-imine,3-((2-chloro-5-thiazolyl)methyl)tetrahydro-5-methyl-N-nitro-	Syngenta Crop Protection P.O. Box 18300 Greensboro, NC 27419