

(D7)

ORANGE: *Citrus sinensis* L., 'Valencia'

CONTROL OF CITRUS LEAFMINER IN ORANGE, 2002

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

Citrus leafminer (CLM) damage to the summer flushes of citrus can become very intense and there is a concern that the foliage damage increases the entry sites for disease particularly citrus canker. This trial examined the efficacy of various insecticides in controlling this pest in bearing trees. The trial was conducted at the South West Florida Research and Education Center (SWFREC) in Collier County, FL, on 10-yr-old 'Valencia' orange trees planted on 15 x 22 ft spacing. Eight treatments including a water only control were assigned in an RCB design to nine-tree plots, separated by a buffer tree. There were four replications, each in single row separated by a buffer row. Application of the spray was timed so that the majority of the new flush was 4-6 inches in length and had 6-8 leaves, which were 1/2 to 1/3 expanded. This condition occurred on 24 Jun when a precount was made. A sample of flush was tagged in randomly chosen plots to follow the same age of leaves through the sampling period. Treatments were applied on 24 Jun using a Durand Wayland 3P100-32 air blast speed sprayer with an array of seven no. 3 T-Jet stainless steel cone nozzles per side, at a pressure of 400 psi delivering 125 gpa. Spraying both sides of the trees, the untreated trees were sprayed with water only, all other treatments were tank mixed with 3% horticultural mineral oil. The 24 Jun precount showed that 60% of 30 randomly selected terminals were infested with CLM. Evaluations were made by collecting 20 flush samples from each plot at 7, 14, and 21 days post treatment and counting the number of leaves having, small, large, and pupal mines for each piece of flush.

The best control was achieved with Agri-Mek but was not significantly better than both formulations of DPX-02 at all tested rates (Table 1.). Avaunt gave significantly better control than HMO and the untreated check and was not significantly less than all the DPX-02 treatments. This new chemistry used in this trial does show some potential in controlling this pest.

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Table 1.

Treatment/ formulation	Rate lb (AI)/acre	No. leaves per flush	No. CLMper /leaf (over all dates)			
			Small mines	Large mines	Pupal cases	Total
DPX-02 1.67SC ^a	0.0088	10.1ab	0.015b	0.015bc	0.012b	0.042bc
DPX-02 1.67SC ^a	0.0264	10.1ab	0.020b	0.007c	0.010b	0.036bc
DPX-02 1.67SC ^a	0.0660	10.0bc	0.013b	0.013bc	0.008b	0.035bc
DPX-02 20WP ^a	0.0264	10.5a	0.019b	0.019b	0.004b	0.041bc
Avaunt 30 WP ^a	0.1100	9.9bc	0.015b	0.023b	0.013b	0.051b
Agri-Mek 0.15 EC ^a	0.0059	9.8bcd	0.010b	0.007c	0.007b	0.025c
HMO	3 % v/v	9.4d	0.032a	0.042a	0.036a	0.111a
Untreated check ^b	---	9.6cd	0.032a	0.052a	0.040a	0.123a

Means in columns followed by the same letter are not significantly different (LSD, $P < 0.05$).

^a Horticultural mineral oil (HMO, 470°F mean boiling point) FL 435-66 was mixed at 3% v/v with all treatments.

^b Water only.