Orange: *Citrus sinensis* (L.) 'Hamlin' and 'Valencia'
Citrus leafminer (CLM) *Phyllocnistis citrella* (Stainton)
Asian citrus psylla (ACP) *Diaphorina citri* (Kuwayama)

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CONTROL OF CITRUS LEAFMINER (CLM) AND ASIAN CITRUS PSYLLA (ACP) IN SWEET ORANGE, **2001**: Damage to young foliage caused by CLM feeding is a concern in its own right as well as providing sites for disease entry, in particular citrus canker. ACP is an even more recent arrival in Florida which also damages developing leaves and could vector greening disease should that also appear. This study included both pests since they are often present together on young flush. The trees were 2- year old nursery stock of sweet orange trees budded to 'Smooth Flat Seville' planted in the ground at 7 inch spacing in two rows 36 inches apart, one 'Valencia' and the other 'Hamlin'. The rows were divided into 25-foot plots to make 4 replications, 2 per row and the treatments assigned in an RCB design. New flush was induced by trimming the trees 40 days prior to the spray application. A precount on July 2 showed that all of 40 randomly selected terminals were infested with CLM and ACP. Treatments were applied next day by using a Black and Decker battery powered hand sprayer at a rate of 145 GPA. Evaluations were make by collecting from each plot 10 pieces of flush approximately 6 inches long with the lower leaf about 1/3 expanded, 6, 13 and 27 days after treatment (DAT). Number of leaves, live CLM, live and dead psyllid eggs, nymphs and pupa were recorded for each piece of flush collected 6 and 13 DAT. The mean number of leaves on each piece of flush was 14.7 and 13.3 for (DATs 6 and 13 DAT) respectively with no significant treatment effect.

All treatments reduced the number of CLM larvae at 6 and 13 DAT compared to the untreated check. However, none reduced numbers below what was obtained with 3% v/v HMO alone. There were significantly more larvae on leaves from trees sprayed with Avaunt and Micromite compared to other treatments after 6 days, but these differences were no longer apparent after 13 days, possibly because of fewer larvae in the untreated check at that time. On 27 DAT the flush was fully expanded and no live CLM was found on any treated flush. At 6 DAT all treatments had reduced the number of psyllid nymphs and pupae compared to the few on untreated trees. Most dead nymphs were found on trees treated with Provado, SpinTor or Acetamiprid. At 13 DAT there were too few psyllids on untreated trees to make meaningful comparisons.

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Treatment/ formulation[a]	Rate (lb AI /acre)	Live CLM Larvae		ACP at 6 DAT					
		6 DAT	13 DAT	Live egg	Dead egg	Live nym	Dead nym	Live pupa	Dead pupa
Acetamiprid 70 WP	0.075	0.00d [c]	0.04bc	0.11	0.01ab	0.00b	0.24ab	0.00b	0.00b
Actara 25 WG	0.086	0.02cd	0.03bc	0.12	0.00b	0.00b	0.17bc	0.00b	0.01ab
Avaunt 30 WP[b]	0.110	0.10b	0.05b	0.10	0.00b	0.01b	0.20bc	0.01b	0.02a
SpinTor 2 SC	0.094	0.00d	0.00c	0.04	0.01ab	0.02b	0.25ab	0.00b	0.01ab
Provado 1.6 F	0.044	0.00d	0.00c	0.01	0.01ab	0.00b	0.32a	0.00b	0.01ab
Confirm 2F	0.125	0.02cd	0.02bc	0.12	0.00b	0.00b	0.18bc	0.00b	0.01ab
MicroMite 80WDG	0.320	0.06bc	0.02bc	0.09	0.05ab	0.01b	0.22b	0.01b	0.01ab
HMO	3 % v/v	0.04cd	0.03bc	0.10	0.00b	0.00b	0.18bc	0.00b	0.01ab
Agri-Mek 0.15 EC	0.060	0.00d	0.00c	0.13	0.03a	0.02b	0.11dc	0.00b	0.01ab
Untreated check	—	0.91a	0.19a	0.10	0.00b	0.07a	0.07d	0.06a	0.00b

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

[b] Kinetic a 99 % silicone nonionic surfactant blend tank mixed at 0.06 % v/v

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