

(D13)**ORANGE:** *Citrus sinensis* (L.) Osbeck, 'Murcott'**SPRAY VOLUME AND ACTIVE INGREDIENT EFFECTS ON EFFICACY OF INSECTICIDES FOR CONTROL OF CITRUS LEAFMINER ON ORANGES: 2011****Philip A. Stansly**

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Citrus leafminer (CLM): *Phyllocnistis citrella* Stainton

CLM is an economically important pest of Florida citrus, damaging new shoots and increasing spread and severity of citrus canker disease. Effects on efficacy of spray method, spray volume and active ingredient were evaluated in this trial. The experimental block at Pringle Farm (26° 16' N, 81° 19' W), Immokalee Florida consisted of 22 -yr-old 'Murcott' trees planted on double-row raised beds at a density of 151 trees/acre. Trees were irrigated by micro-sprinklers, subjected to conventional cultural practices, and had been hedged to a height of 8 ft. Nine treatment plots of 24 trees were randomly distributed across each of 4 replicates, each plot consisting of a single bed next to an untreated buffer bed. A Proptec rotary atomizer sprayer was used to apply Intrepid 2F at 5 gpa and a Durand Wayland AF100-32 air blast speed sprayer operating at 1.9 mph and 400 psi three #4, and one #3 John Beane Ceramics nozzles per side was used to apply the remaining treatments at 100 gpa. Applications were made to both sides of the trees on 18 Jul 2011. Evaluations of CLM larvae were made at 3, 10, 17 days after treatment (DAT) from 10 randomly selected new shoots on centrally located trees in each plot. Live leafminer larvae were counted under a stereoscopic microscope from 5 leaves per shoot. On 5 Aug, damage was rated on each of the five leaves per shoot according to the following protocol: 0= no damage, 1 < 10% of leaf surface damaged by mines, 2- 11-25%, 3- 26-50% and 4 >51% surface damaged. Data were subjected to ANOVA and means separated using LSD (P = 0.05).

Significantly fewer larvae were observed with all treatments compared to the untreated control at 3 and 10 DAT, while only the two Delegate treatments and the Intrepid sprayed with Latron B1956 at 5 gpa had significantly fewer larvae at 17 DAT. All treatments reduced leaf damage caused by CLM, with the least damage observed on trees treated with Delegate followed by Intrepid applied at 100 gpa with or without Latron or at 5 gpa with Latron although not significantly different from Intrepid applied at 100 gpa with 435 Oil. No phytotoxic effects were seen.

Table 1.

Sprayer	Product/ Formulation	Rate Product/acre or % vol/vol	Leafminer Larvae/ Five Leaves /Shoot			Damage Rating
			21-Jul 3 DAT	28-Jul 10 DAT	4-Aug 17 DAT	5-Aug 17 DAT
	UNTREATED		5.65a	9.38a	4.55ab	3.45a
Airblast	Delegate 25 WG 435 Oil	4.0 oz 2%	0.35de	0.05f	0.75d	0.41e
Airblast	Delegate 25 WG 435 OIL	4.0 oz 1%	0.25de	0.28ef	0.95d	0.29e
Airblast	Intrepid 2F	8.0 oz	0.03e	1.90de	3.95abc	2.00d
Airblast	Intrepid 2F 435 Oil	8.0 oz 2%	0.21e	3.58cd	4.33abc	2.34cd
Airblast	Intrepid 2F Latron B 1956	8.0 oz 8.0z/100gal	0.18e	3.45cd	3.25bc	2.07d
Proptec	Intrepid 2F	8.0 oz	1.80b	5.63b	5.20a	2.84b
Proptec	Intrepid 2F 435 Oil	8.0 oz 2%	0.95cd	4.75bc	4.68ab	2.62bc
Proptec	Intrepid 2F Latron B 1956	8.0 oz 8.0z/100gal	1.08c	4.70bc	2.83c	2.06d

Mean followed by the same letter are not significantly different (LSD, $p < 0.05$)