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GRAPEFRUIT: *Citrus paradisi* Macfadyen 'Marsh'

ACARICIDAL CONTROL OF CITRUS RUST MITE, 2003

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Citrus rust mite (CRM): *Phyllocoptruta oleivora* (Ashmead)

The trial was conducted at the Duda Grove in Hendry County, Florida, on mature 'Marsh' grapefruit trees planted in a 15 ´ 24 ft spacing. A RCB design was used to assign four replications of three treatments including an untreated check to five-tree plots. Plot rows were separated by a single buffer row. Treatments were applied on 11 Jul 2003 using a Durand Wayland 3P100-32 air blast speed sprayer with an array of seven # 3 T-Jet stainless steel cone nozzles per side operating at a pressure of 400 psi delivering 100 gpa. Horticultural mineral oil (HMO) FC 435-66 was added to each treatment at 5% v/v. Evaluation of Citrus rust mite (CRM) incidence was made 2 days prior to application and at 7, 14, 24, 35, 42, 57, 66, 84, and 91 days after treatment (DAT). Two fruit, one per row side, were sampled from five trees for a total of 10 fruit per plot on each sample date. All mobile CRM were counted in a single 2.5 cm diameter lens field using a 12 ´ hand lens on the partially shaded side of each fruit. Pre-application counts were at 0.58 CRM/cm². A population of 0.4 CRM/cm² is considered a treatment threshold and 0.8 CRM/cm² is considered a re-treatment threshold. Data were analyzed using ANOVA and means were separated by Duncan's New MRT ($P \leq 0.10$).

Fewer CRM were observed on fruit from trees sprayed with NNI-850 compared to the control through 35 DAT whereas Agri-Mek significantly reduce mite densities through 91 DAT. From 66 DAT onward, there were more CRM where NNI-850 was sprayed compared to the control, indicating possible resurgence in response to the miticide. Fewer mites were seen on fruit sprayed with Agri-Mek compared to NNI-850 from 57 DAT through 91 DAT. Therefore, while NNI-850 provided control for 7 weeks, it was less persistent than the grower standard, Agri-Mek.

Table 1.

Treatment/ formulation	Rate amt product/acre	CRM per cm ² leaf surface DAT								
		7	14	24	35	42	57	66	84	91
NNI-850 (5%) 0.417 EC + HMO 5% v/v	61.4 oz + 5 gal	0.17b	0.26b	0.06a	0.04b	0.07ab	0.26a	0.60a	0.84a	0.71a
AgriMek 0.15 EC + HMO 5% v/v	10 oz + 5 gal	0.06b	0.04b	0.00b	0.00b	0.01b	0.02b	0.01c	0.01b	0.08c
Untreated check	---	0.56a	1.29a	0.07a	0.62a	0.20a	0.09ab	0.32b	0.44a	0.29b

Means within a column followed by the same letter are not significantly different (Duncan's New MRT, $P \geq 0.10$).