(D14)

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

ACARICIDAL CONTROL OF CITRUS RUST MITE, 2007

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

CRM remains a key pest of fresh market citrus in Florida and elsewhere. This trial was conducted at the University of Florida Southwest Research and Education Center in Immokalee, Florida, on 12-yr-old 'Valencia' orange trees planted at 15 X 22 ft spacing on double-row beds running north-south. A RCB design was used to assign 4 replications of each of the 13 treatments and an untreated check. The single-row replicates divided into 6-tree plots were separated by an untreated buffer row. All treatments were applied on 3 Jul 2007 except Portal treatments that were applied on 4 Jul 2007 using a Durand Wayland 3P-10C-32 air blast speed sprayer with an array of five # 5 T-Jet stainless steel cone nozzles per side operating at a pressure of 200 psi delivering 165 gpa at a tractor speed of 1.5 mph. One fruit was sampled from 4 sides of each of the four trees in the center of each plot. A 14X Bausch & Lomb Hastings hand lens was used to view an area of approximately 1.0 cm^2, referred to as the "lens field", on two partially shaded areas of each fruit and the total number of mites recorded. A pre-treatment sampling from 4 fruit per plot prior to the treatment application resulted in an average of 0.56 ± 0.10 (mean ± SE) mites per lens field. Post treatment evaluations were made at 7, 14, 21, 28, 35, 42, 49, 56, and 63 DAT. All data were subjected to ANOVA for treatment effects on CRM and means separated using LSD ($P = 0.05$).

All treatments from 21 DAT through 49 DAT significantly reduced CRM below the untreated check except 435 oil applied alone at 21, 28 and 49 DAT. Trees sprayed with oil alone were not evaluated subsequently but all other treatments continued to control CRM through 56 days. AT 63 days, significantly fewer mites than the untreated check could still be detected with the 20 oz rate of Zoro in spite of a 3 fold decrease in CRM on untreated trees.

Table 1.

Product	Rate amt form/acre or %v/v	CRM/lens field 10 Jul 7 DAT	17 Jul 14 DAT	24 Jul 21 DAT	31 Jul 28 DAT	7 Aug 35 DAT	14 Aug 42 DAT	21 Aug 49 DAT	28 Aug 56 DAT	4 Sep 63 DAT
Untreated check	---	0.3a	1.1a	2.2a	5.3a	5.8a	11.3a	8.1a	8.5a	3.0ab
435 Oil	2% v/v	0.2a	0.4a	1.3ab	3.8a	2.8b	5.5b	8.5a	---	---
Agri-mek + 435 Oil	10 oz + 2% v/v	0.6a	0.3a	0.0c	0.7b	0.1c	0.4d	0.7b	0.7b	2.4abc
Portal	64 oz	0.0a	0.3a	0.5bc	0.2b	0.2c	0.2d	0.4b	2.1b	3.8ab
Portal + 435 Oil	64 oz 2% v/v	0.1a	0.0a	0.1c	0.4b	0.4c	0.3d	0.5b	1.7b	3.3ab
Zoro + 435 Oil	10 oz 2% v/v	0.4a	0.1a	0.9c	0.3b	0.1c	0.2d	0.4b	1.0b	2.3abc
Zoro + 435 Oil	20 oz 2% v/v	0.3a	0.5a	1.0bc	0.1b	0.2c	0.2d	0.2b	0.3b	0.5c
Abba 0.15 EC + 435 Oil	7.5 oz 2% v/v	0.0a	0.1a	0.1c	0.2b	0.2c	0.3d	0.8b	2.0b	1.8bc
Abba 0.15 EC + Mana 305	7.5 oz 384 fl oz	0.3a	0.1a	0.3c	0.2b	0.1c	1.1d	1.4b	1.4b	4.2a
Abba 0.15 EC + Mana 305	10 oz 384 fl oz	0.1a	0.1a	0.1c	0.3b	0.6c	0.8d	1.3b	0.9b	3.0ab
Mana 305	384 fl oz	0.1a	0.1a	0.2c	0.8b	2.1b	3.2c	6.4a	---	---
Agri-mek + Orocit	10 oz + 64 fl oz	0.1a	0.0a	0.1c	0.4b	0.5c	1.0d	2.0b	1.4b	4.3a

Means within each column followed by the same letter are not significantly different (LSD, $P = 0.05$).