

ORANGE: *Citrus sinensis* (L.) Osbeck 'Pineapple'

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

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EFFICACY OF ACARICIDES ON CITRUS RUST MITE, 2000: Citrus rust mite continues to be the major arthropod pest of citrus in Florida, both in terms of economic damage to fresh fruit and control costs. The objective of this trial was to compare the efficacy and persistence of abamectin-like compounds to the industry standard, Agri-Mek, against CRM populations. The trial was conducted at the Duda Grove in Hendry County, Florida, on 28-year old 'Pineapple' orange trees planted at 17.5 X 21.4 ft. spacing. A RCB design was used to assign 4 replications of 5 treatments including an untreated check to 10 tree plots, separated by a 10 tree buffers in 2 rows. A mean of 2.44 CRM per standard 10X lens field pre-count was observed in a pre-treatment count on 26 Jul of 4 trees per plot with no significant differences among plots. Treatments were applied on 27 Jul using a Durand Wayland 3P100-32 air blast speed sprayer with an array of seven # 3 T-Jet stainless steel cone nozzles per side, at a pressure of 400 psi delivering 100 gpa. All treatments were tank mixed with 1 % v/v FC 435-66 horticultural mineral oil. All plots were sprayed with 3 lb Kocide 2000 and 5 gal HMO/acre on 28 Aug for disease control. Treatments were evaluated for CRM incidence 9 times over a 127 day period starting 3 Aug. Four fruit, 2 per row side, were sampled from 8 trees for a total of 32 fruit per plot. All mobile CRM were counted in two, 1.5 cm diameter fields using a 10X Bauch and Lomb® Triplex lens on each partially shaded side of each fruit. A total of 12.3 inches of rain fell in the grove during the trial period and all but 0.37 inches before the 2nd week in Oct.

CRM pressure in untreated trees was moderate initially but began to rise in Sep to a peak of 15.2 per lens field on 17 Oct, 105 days after treatment (DAT) and were still over 10 per lens field when the trial was terminated on 8 Dec at 128 DAT. Over the first 8 of 9 evaluations, significantly fewer CRM were seen from all treated fruit compared to the control with no differences among treatments. Only on the last date were there not significantly fewer CRM from trees treated with one product (GX644007). Thus, these products provided significant levels of control of CRM for 128 days, through half the summer rainy season and most of the fall.

Treatment/ formulation	Rate amt form/acre	CRM per 1.5 cm diameter lens field								
		7 DAT ^a	12 DAT	26 DAT	43 DAT	57 DAT	71 DAT	85 DAT	105 DAT	128 DAT
GX644004a	10 oz	0.44b	0.39b	0.44b	0.45b	0.97b	0.78b	3.25b	4.97b	3.91b
GX644005	10 0z	0.38b	0.64b	0.24b	0.65b	0.58b	1.22b	1.25b	4.86b	3.70b
GX644007	10 oz	0.24b	0.53b	0.60b	0.35b	1.09b	0.70b	2.36b	7.13b	6.52ab
Agri-Mek 0.15EC	10 oz	0.37b	0.35b	0.43b	0.35b	0.61b	3.02b	2.88b	6.36b	4.38b
Untreated check	—	3.23a	2.16a	2.59a	1.85a	2.77a	7.44a	13.17a	15.23a	10.86a

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

^a Days after treatment