(D13)

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

EFFECTS OF COPPER ON CITRUS RUST MITE POPULATIONS, 2000

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

Citrus rust mite continues to be the major arthropod pest of citrus in Florida. Copper is part of most spray programs for disease control but it has been suspected that copper sprays may flare CRM populations. The objective of this trial was to examine the impact of multiple copper sprays on the CRM population. The trial was conducted at the Duda Grove in Hendry County, FL, on 28-yr-old 'Pineapple' orange trees planted at 17.5 x 21.4 ft spacing. An RCB design was used to assign four treatments including an untreated check to 10 tree plots with a 10-tree buffer between each plot in two single rows with two replications each separated by a buffer row. A pretreatment count made 30 Jun on three trees per replication produced an average of 2.3 CRM per standard 10x lens field. Treatments were applied on 30 Jun 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 400 psi in 100 gpa. Treatments were evaluated for CRM incidence 7 times over a 114-day period starting 7 Jul. Four fruit, two per side, were sampled from eight trees for a total of 32 fruit per plot. All mobile CRM were counted in two, 1.5-cm-diameter fields using a 10x Bausch and Lomb Triplex lens on each partially shaded side of each fruit.

Significantly larger numbers of CRM were observed in one of the copper treatments (GX-435 @ 6 lb/acre) compared with the untreated check on two sampling dates, 49 and 63 DAT. There were never any significant differences between the other copper treatments (GX-306 @ 4 lb/acre and the check. Both are WP formulations of copper hydroxide, 61 and 54%, respectively. Thus, we saw a positive response of CRM populations to 3.7 lb (AI)/acre of copper hydroxide, but not to 2.2 lb (AI)/acre

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Treatment/ formulation	Rate lb/acre	No. CRM/lens field (1.5 cm diam)						
		7 DAT	20 DAT	35 DAT	49 DAT	63 DAT	83 DAT	114 DAT
GX-306	4.0	4.07 a	2.58 a	2.67 a	7.04 ab	4.97 a	6.83 a	19.16 a
GX-435	6.0	5.78 a	4.60 a	2.73 a	10.51 a	4.70 a	5.22 a	9.08 b
Untreated check		2.98 a	4.75 a	1.87 a	6.40 b	2.73 b	4.72 a	14.34 ab

Means in a column followed by the same letter(s) are not significantly different (LSD, $P < 0.05$).
All treatments were sprayed with 3 lb Kocide 2000 and 5 gal/acre oil on 28 Aug, 59 DAT.