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

ACARICIDAL CONTROL OF CITRUS RUST MITE, 2011

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

Citrus rust mite (CRM) is an important pest of fresh market citrus due to feeding damage resulting in the characteristic "russeting" that can reduce fruit yield and quality. The trial was conducted at the University of Florida Southwest Research and Education Center in Immokalee, Florida, on 16-yr-old 'Navel' orange trees planted at 15 X 22 ft spacing on double-row beds running north-south. An RCB design was used to assign 4 replications of each of the 6 treatments and an untreated check to 5-tree plots separated by one tree within the row with treated rows separated by an untreated buffer row. Applications to both sides of the tree were made 20 Jun 2011 using a Durand Wayland AF100-32 air blast speed sprayer operating at 1.9 mph and 400 psi with four nozzles (John Beane Ceramics 4,4,3,3) delivering 120 gpa. Four fruit were sampled from each of three centrally located trees in a 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 sampled fruit. Total number of mites per 2 lensfields per fruit were recorded. All data were subjected to ANOVA for treatment effect on CRM with means separated using LSD (P = 0.05).

A pre-treatment sample of 4 fruit per plot prior to the treatment application resulted in an average of 12.0 ± 1.5 (mean ± SE) mites per lens field which was quite high for that early in the year. Post treatment evaluations were made at 3, 11, 17, 24 days after treatment (DAT). Populations on untreated trees had collapsed at that point and the trial was terminated. All tested products reduced significantly the number of mites observed compared to the untreated control from 3 to 17 DAT. At 11 DAT, only the Agri-flex treatment resulted in significantly fewer mites than Portal plus potassium Nitrate (KNO_3), with the remaining treatments intermediate. At 17 DAT, Portal plus (KNO_3) had significantly more CRM than the remaining treatments though still less than the check.

TABLE 1

Treatment/ Formulation	Rate Product /acre or % vol/vol	Mites per lens field 23-Jun (3 DAT)	1-Jul (11 DAT)	7-Jul (17 DAT)	14-Jul (24 DAT)
Untreated		16.71a	20.17a	7.35a	1.85a
Movento MPC 14.5% Citrus 435 3%	16.0 oz	2.27b	3.09bc	1.17c	0.81a
Agriflex 3% Citrus 435 3%	8.5 oz	1.30b	0.84c	0.79c	0.59a
Tolfenpyrad Citrus 435 3%	21.0 oz	2.76b	2.89bc	2.20c	1.5a
Tolfenpyrad 15SC Citrus 435 3%	27.0 oz	1.99b	1.62bc	2.40c	1.17a
Portal 5% Citrus 435 3%	64.0 oz	1.48b	2.26bc	1.86c	1.67a
Portal 5% Citrus 435 3% KNO_3	64.0 oz 17.4 lbs	2.39b	3.77b	4.39b	1.92a

Means followed by same letter within a column are not statistically different (LSD, P>0.05)