

(D)

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

ACARICIDAL CONTROL OF CITRUS RUST MITE, 2005

Philip A. Stansly

University of Florida/ IFAS

Southwest Florida Res. and Ed. Center

2686 State Road 29 North

Immokalee, FL 34142-9515

Phone: (239) 658-3427

Fax: (239) 658-3469

Email: pstansly@ufl.edu

Keith A. Jackson

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

The trial was conducted at the University of Florida Southwest Research and Education Center in Immokalee, Florida, on 10-year old 'Valencia' orange trees planted at 15 X 22 ft spacing on double-row beds running north-south. Plot rows were separated by an untreated buffer row. A RCB design was used to assign 4 replications of 8 treatments including an untreated check to 5-tree plots. Treatments were applied on 11 July 2005 using a Durand Wayland 3P-10C-32 air blast speed sprayer with an array of seven # 5 T-Jet stainless steel cone nozzles per side operating at a pressure of 225 psi delivering 175 GPA at a tractor speed

of 1.5 mph. Three trees from the center of each 5 tree plot were sampled. Each of the three trees was divided into four compass quadrants as northeast, southeast, northwest, and southwest, and 2 fruit were sampled from each quadrant to make a total of 24 fruit per plot. A 10X hand lens was used to view an area of 2.0 cm², referred to as the “lens field”, on two partially shaded areas on each fruit. Counts were recorded as the number of mites per 2 lens fields per fruit, except for the second sampling date from which the counts were recorded as the number per 4 lens field per 2 fruit. The counts were later standardized to number of mites per lens field. A pre-treatment sampling from 48 fruit within the trial area 12 days prior to treatment showed an average of 1.4 mites per lens field. Post treatment evaluations were made weekly at 7, 14, 21, 28, 35, 42, 49 days after treatment (DAT) and then bi-weekly at 63, and 77 DAT. After 49 DAT, treatments whose average counts exceeded the untreated check were no longer evaluated. Evaluations were terminated after 77 DAT when the population of mites sharply decreased in the untreated check.

All treatments provided control of CRM through 35 DAT except for EOS oil alone at 21 DAT. CRM density was greater at 42 and 49 DAT on trees sprayed with 1 lb Dicofol +1.5% EOS oil than the control. Significant reduction of CRM was still seen at 49 DAT from AgriMek, A8612, and the high rate of Dicofol, although the latter had dropped out by 63 DAT. At 77 DAT control held only on trees sprayed with AgriMec and oil. Thus the longest residual control was seen with this grower standard, although the 7 weeks control observed from 3 lb of Dicofol demonstrated the value of this product as an alternative.

Mean number of CRM per lens field at Days After Harvest (DAT)

Treatment		7	14	21	28	35	42	49	63	77
/formulation	Rate	DAT	DAT	DAT	DAT	DAT	DAT	DAT	DAT	DAT
Agrimek .15EC	0.0117 lb(AI)/acre	0.50b	0.21b	0.03d	0.03d	0.07d	0.07e	0.37d	0.44b	1.01b
+ 435 oil	1 % by vol									
A8612 .15EC	0.0117 lb(AI)/acre	0.55b	0.14b	0.21d	0.09d	0.28d	1.4de	0.68cd	2.09b	4.16a
+ 435 oil	1 % by vol									
Dicofol 4E	1 lb(AI)/acre	0.23b	0.28b	0.83cd	1.53bcd	1.86bcd	2.73cde	7.23b		
Dicofol 4E	3 lb(AI)/acre	0.27b	0.49b	0.12d	0.57cd	0.43cd	1.27de	2.59cd	11.79a	
EOS oil	1.5 % by vol	0.70b	1.01b	2.76b	1.61bcd	2.09bcd	3.53bcd	4.39bc		
Dicofol 4E	1 lb(AI)/acre	0.67b	0.89b	1.21cd	2.16bc	3.35b	9.34a	13.43a		
+ EOS oil	.75 % by vol									
435 oil	1.5 % by vol	0.79b	0.82b	1.61bc	3.11ab	2.69bc	5.81bc	7.43b	12.16a	
Untreated		2.15a	3.14a	3.21a	4.51a	7.19a	5.94b	6.77b	14.69a	6.47a

Means in the same column followed by the same letter are not significantly different (LSD,P< 0)

Part II: Materials Tested for Arthropod Management

Orange: *Citrus sinensis* (L. Osbeck.) 'Valencia'

ACARICIDAL CONTROL OF CITRUS RUST MITE, 2005

Philip A. Stansly

University of Florida/ IFAS
Southwest Florida Res. and Ed. Center
2686 State Road 29 North
Immokalee, FL 34142-9515
Phone: (239) 658-3427
Fax: (239) 658-3469
Email: pstansly@ufl.edu

Common name	Trade name/ Cultivar	Concentration/ Formulation	Chemical name/resistance	Manufacture/source
abamectin	Agrimek	0.15EC	(Butyl)-7-((2,6-dideoxy-40-2,6-dideoxy-3-0-methyl-x-L-arabinohexopyran osyl)-3-0-methyl-x-L-arabino-hexopyranosyl)oxy)-5'c6,6",7,10,11,14,15,17a,20,20a,20b-dodecanydro-20b-dihydroxy-5'6,8,19-tetramethylsprio (11,16-methano-2H,13H,17H-furo (4,3,2-pg)(2,6) benzodioxacycloclootadecin	Syngenta Crop Protection P.O. Box 18300 Greensboro, NC 27419
abamectin	A8612	0.15EC	unknown	Syngenta Crop Protection P.O. Box 18300 Greensboro, NC 27419
dicofol	Dicofol	4E	1,1-bis(chlorophenyl)-2,2,2-trichloroethanol	Makhteshim Agan of North America

				551 Fifth Ave., Suite 1100 New York, NY 10176
horticultural spray oil	435 oil 98.8	98.8%L	Refined petroleum distillate	Drexel Chemical Company P.O. Box 13327 Memphis, TN 38113- 0327
unknown	EOS oil	liquid	unknown	Makhteshim Agan of North America 551 Fifth Ave., Suite 1100 New York, NY 10176