(E47)

EGGPLANT: *Solanum melongena* L. 'Zebra'

INSECTICIDAL CONTROL OF BROAD MITE, TWO SPOTTED SPIDER MITE AND WHITEFLY ON EGGPLANT, VAR 'Zebra' 2007

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
E-mail: pstansly@ufl.edu

Barry Kostyk
Robert Reifer

Broad mite: *Polyphagotarsonemus latus* (Banks)
Silverleaf whitefly (SLW): *Bemisia argentifolii* Bellows & Perring
Twospotted spider mite: *Tetranychus urticae* Koch

Broad mites, spider mites and whiteflies are the principal pests of eggplant in Florida, with at least one or both of the mites requiring chemical intervention for optimal yield. Greenhouse-raised eggplant seedlings were transplanted on 21 Feb at 18 inch spacing in single rows on a set of 3 beds, and covered with polyethylene film mulch. Approximately 25 % of the fertilizer was preplant soil incorporated (granular 15-0-15) with the remainder applied as liquid 8-0-8 delivered by drip irrigation. A 120 ft length section of each row was used in this experiment. Plots were 20 ft long assigned across the 3 beds, 4 times in a randomized complete block design. The first application was made on 11 Apr using an EZ-Dose sprayer with a pressure of 45 psi and a flow rate of 3.7 gpm. Treatments were applied at 20 gpa. A high clearance sprayer was used on 11 May for the second application operating at 200 psi and 2.3 mph with the spray delivered through two vertical booms using yellow Albuz® hollow cone nozzles that applied 10 gpa each for a total of 80 gpa. All stages of mites and whitefly preimaginal stages were monitored on 23-Apr, 1, 10, 18, 23, 31-May, and 7-Jun by collecting a young leaf from 5 plants in each plot and examining under a stereoscopic microscope. Eggplants were harvested on 16 and 30 May and total number of fruit and weight were recorded. Broad mite damage to fruit was rated as: 0 = no damage, 1 = slight tarnishing of calyx, 2 = moderate browning of calyx, 3 = severe browning and pitting of calyx, 4 = fruit with damage. Data were analyzed with ANOVA and means separated with Fisher's Protected LSD P = 0.05.

All products tested provided significant control of broad mite compared to the untreated control over all sample dates, with no differences among treatments. Fewest whitefly eggs and nymphs were seen on plants treated with Oberon, followed by Courier with the remaining treatments not significantly different from the control. All treatments except Courier significantly reduced spider mites compared to untreated check with no differences among treatments. Yield did not differ among all treatments including the untreated check (data not shown). All treatments reduced broad mite damage to fruit compared to untreated check. Least broad mite damage was seen on fruit from plants treated with Agrimek, though not significantly different from Oberon or either rate of Portal, both latter not different from Courier. All the four products suppressed broad mite and spider mite; however, only Oberon and Courier were effective against whitefly.

Table 1.

		No. Individuals per leaf over all sample dates			Broad mite damaged fruit (0-4) (no. severe)
Treatment	Rate fl oz/acre	Broad mite	Whitefly	Spider mite	
Untreated check		3.5a	3.8a	43.3a	4.0a
Agri-mek	10.5	1.4b	4.2a	13.2b	0.8c
Oberon	8.5	1.1b	0.8c	4.9b	2.0bc
Portal	16	1.7b	3.9a	4.5b	1.3bc
Portal	32	1.1b	4.1a	2.2b	2.0bc
Courier	13.6	1.6b	2.5b	57.4a	3.0b

Means within a column followed by the same letter are not significantly different (LSD, P < 0.05)