

(D15)

ORANGE: *Citrus sinensis* (L.) Osbeck

'Midsweet', 'Roble', 'Hamlin', 'Cara-cara'

Asian cockroach; *Blattella asahinae* Mizukoba

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INSECTICIDAL CONTROL OF ASIAN COCKROACH IN ORANGE GROVES, 1998: Asian cockroach is a new pest of citrus in Florida that feeds on tender young foliage and can present a sanitary problem in packing and processing facilities when brought in with fruit. The objectives of this trial were to test residual suppression of Asian cockroaches of insecticides applied to the ground under the canopy of citrus trees. The trial was conducted in the Budwood Foundation Grove located at Southwest Florida Research and Education Center in Immokalee, Florida on early and late varieties of orange planted in 1989 at 15 x 22 ft. spacing. A RCB design was used with four replications and three treatments plus one check. Blocks consisted of single rows of trees separated by an untreated row. Plots consisted of 8 mature trees separated from adjacent plots by one guard tree on each end. Prior to treatment on 20 Apr, 8 Lo-LineTM sticky cockroach traps with pheromone attractant (AgriSense, Fresno, CA,) were placed, one each under the canopy of each tree near the drip line in each plot. After a 24 h sampling period, the average number of nymphs per trap was 12.9 and of adults 1.8. Treatments were applied to the ground beneath tree canopies on 21 Apr using a gasoline engine powered Spray Coup traveling at 2.93 mph with a side-mounted herbicide boom supplied by a centrifugal pump operating at 50 psi. The boom sprayed a spray swath of 7.5 ft using 6 yellow Albuz® ceramic APM flooding spray tips (Carbone USA Corp., Boonton, N.J., 201-334-0700) spaced 12 inches apart, and one off-set nozzle at the end of the boom and delivered 40.5 gpa. Heavy rains fell during application of last treatment which was the low rate of Brigade 10WS. Rains continued after all treatments were applied for a total of 0.85 inches that afternoon. Traps were placed under the drip line of all 8 trees in each plot on 2, 7, 14, 28, 42, and 56 DAT, picked up and evaluated for numbers of nymphs and adults the day following placement. Traps were cleaned and reused until the 28 DAT evaluation because old traps had degraded. These traps were then reused for the remainder of the study. Some degradation of traps was evident from rain and winds when picked up on 56 DAT. Data were analyzed using GLM, and LSD.

Approximately 10 times more nymphs were captured over the trial than adults. Significantly fewer nymphs were captured through 28 DAT under trees receiving any of the ground treatments compared to the check. However, numbers were down after 28 days, even in the check. Differences among captures of adults were observed only through 7 DAT. Significant differences in nymph captures among chemical treatments were observed only at 14 DAT and 28 DAT, when fewest were found with the high rate of Brigade and most with Lorsban 4E. There were about twice as many roaches captured in Lorsban-treated plots compared to Brigade over the whole trial, although differences were not significant. We can conclude that all treatments reduced Asian cockroach populations for at least a month, with possibly more activity seen with Brigade compared to Lorsban at the tested rates.

Treatment/ formulation	Rate db (AI)/acre	No. roaches recovered (DAT)				
		2	7	14	28	56
Brigade 10WS	0.25	2.53b	1.88b	1.13c	3.13c	0.31a
Brigade 10WS	0.5	3.00b	1.31b	1.63bc	4.38bc	0.41a
Lorsban 4E	1.0	5.28b	5.56b	2.75b	6.91b	0.22a
Untreated check		21.56a	25.47a	7.19a	10.94a	0.31a

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