

EFFECTIVENESS OF DIFFERENT INSECTICIDES IN CONTROLLING SPIDER MITES AND APHIDS INFESTING COTTON

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A strip trial to assess the efficacy of acaricides in suppressing spider mites was conducted at Greenbrier near the Limestone and Madison county line. Acaricides were applied on June 19, 2008 between 7 p.m. and 8:15 p.m. using a CO₂ back-pack sprayer, 10X nozzles, 29 psi and 14 gallons water per acre. Individual plots were 64 feet long and 4 rows wide. Plots were arranged in the order treatments are listed. There was one untreated row between each plot. Mites were counted June 23 (4 days post-treatment) using a microscope. Fifteen leaves were collected from the two middle rows of each plot, placed in a zip-lock bag, transported to the lab in a cooler with ice and inspected immediately. Mites were counted at the base of each leaf in an area between the leaf veins that was shaped like an equilateral triangle with 1 inch sides. Test results are shown below.

Treatment	Rate lbs a.i./acre	Average No. Mites ¹	Per Cent Reduction ²
Curacron 8E	0.75	1.53	78
Brigade 2EC	0.08	1.87	73
Untreated		6.87	
Lorsban 4E	0.5	4.13	40
Oberon 2SC	0.5	2.07	52
Untreated		4.33	
Curacron 8E	0.75	3.40	21

Mites¹ = Number of mites per 0.36 square inch. Average for 15 leaf sample.

² = Per cent reduction relative to nearest untreated plot.

Aphid chemicals were applied to cotton using a CO₂ back pack sprayer that delivered 11.34 GPA at 26 psi using TX 10 nozzles. Treatments were applied Tuesday, July 8 from 5.45 pm to 7.15 pm. No wind was occurring at time of application. A total of 0.9 inches of rain fell the next afternoon. Plots were 20 feet long with 2 rows per plot. Walking speed was 20 feet every 4 seconds. One row was used as an untreated buffer between each plot. Cotton was planted using a 38 inch row spacing. Aphids were counted on the third uppermost leaf from each of 10 plants per plot. There were 4 reps/treatment with plots arranged in a RCB design. Fungal disease significantly reduced aphid numbers at 6 days post-application. Ten row feet of cotton was harvested in each plot (20 plots total) and weighed on 10/22/2008. Test results are shown below.

Treatment	Rate- lbs. a.i. per acre	Mean # aphids per leaf 3 days post applic.	Mean # aphids per leaf 6 days post applic.	yield (lbs seed cotton/acre)
check		165 A	32	4428 AB
Carbine	0.088	122 B	12	4181 AB
Trimax Pro	0.047	115 B	7	4062 B
Leverage	0.079	108 B	14	4987 A
acetamiprid	0.05	98 B	14	4637 AB

The mean number of aphids counted in each of the 4 insecticide treatments was significantly less than that in the untreated check 3 days post-application ($Pr > F = 0.10$, $LSD = 36.4$). Differences in yield should be attributed to a skippy stand in one of the Carbine plots and one of the Trimax Pro plots and not due to efficacy in controlling aphids.