EVALUATION OF INSECTICIDES FOR APHID CONTROL ON COTTON

Darby and Howard Salge Farm, San Patricio County, 2000

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SUMMARY: At one and three days after treatment (DAT), all insecticides significantly reduced aphid numbers compared to the untreated cotton. By 7 DAT, numbers in all plots were low and not different. No yield differences were detected.

OBJECTIVES: Insecticides were compared for effect on cotton aphid and impact of these treatments on lint yield.

MATERIALS/METHODS: Insecticides were applied for control of aphids on cotton in a commercial field farmed by Darby and Howard Salge, located at the intersection of County Roads 26 and 21 in San Patricio County. Stoneville 474 variety cotton was planted 24 Mar with a 12-row John Deere MaxEmerge 7300 air planter. Individual plots were 1 row by 50 ft long and arranged in a randomized complete block design with 4 replications. A CO_2 pressure tank was mounted on a bicycle type sprayer unit and treatments were applied through one 4X hollow cone nozzle directly over the row at 45 psi calibrated to deliver 6.19 gpa total spray volume at a speed of 2 mph. Treatments were applied to 7 true leaf stage cotton on 28 Apr following examination of cotton in which 67 aphids per leaf were detected across the test site. At the time treatments were applied the wind speed was 1-5 mph from the east; plot rows were oriented east to west.

Treatment effects were assessed by (1) counting aphids on undersides of 5 leaves per plot 1, 3 and 7 DAT and (2) harvesting, by hand, 17.4 ft row/plot and processing seed cotton on a 10-saw Eagle laboratory gin.

RESULTS/DISCUSSION: At 1 and 3 DAT all insecticides significantly reduced aphid numbers compared to their numbers in untreated cotton (Table 1). Provado was slower in reducing aphids but by 3 DAT aphid numbers in Provado treated cotton were not different from the other insecticide treatments. By 7 DAT aphid numbers had declined to low numbers in all treatments including the untreated cotton. No yield differences due to aphid treatment were measured, probably due to the unsustained length of the aphid infestation.

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Table 1. Evaluation of insecticides for their effect on cotton aphids, Darby and Howard Salge Farm, San Patricio County, TX 2000.

Treatment & formulation	Rate oz/acre	No. aphids/leaf[a] 1 DAT[b]	3 DAT	7 DAT	Yield lb lint/acre
Furadan 4F	8.00	0.4 c	0.4 b	0.8 a	721 a
Furadan 4F	4.00	0.5 c	0.2 b	1.2 a	737 a
Bidrin 8E	4.00	2.9 c	0.9 b	0.8 a	814 a
Provado 1.6 F	3.75	7.7 b	0.1 b	1.3 a	793 a
Assail 70WP	1.14	1.9 c	0.0 b	0.6 a	840 a
Calypso 4SC	1.50	3.1 bc	0.2 b	2.2 a	869 a
Untreated		39.8 a	17.5 a	1.5 a	858 a
LSD (P = 0.05)		4.67	8.75	NS	NS
P > F		.0001	.0041	.0045	.1603

Means in a column followed by the same letter are not significantly different by ANOVA (LSD).

[a] Pretreatment aphid counts on 28 Apr averaged 67 per leaf.

[b] DAT = days after treatment