



Applied Research &
Result Demonstrations

Result Demonstration Report

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Evaluation of Insecticides for Brown Stink Bug Control on Soybeans

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Summary: Total (nymphs and adults) number of Brown stink bugs (BSB) were significantly reduced 3 days after treatment (DAT) in all the insecticide treatments with the exception of the low rate of Steward. At 7 days after treatment (DAT), all the insecticide treatments significantly reduced total numbers of BSB. Season average numbers were significantly less for all the insecticides on total BSB.

Objective: To compare the effectiveness of foliar insecticide products for Brown stink bug (BSB) control on soybeans.

Materials/Methods: NK 452 soybeans were planted March 21 into a Laewest clay soil at a rate of 47 lbs./acre with a John Deere 4250 tractor and a John Deere 7100 planter. Efficacy of standard and possible future labeled insecticides were evaluated in a small-plot trial conducted on the Pat and Cheryl Hickl farm near Buckeye on county road 411. Treatments were applied June 22 at the R6 growth stage with a hand-held CO₂ backpack sprayer calibrated to deliver 11.4 gpa through TeeJet TXVS-6 hollow-cone nozzles (2/row) at 35 psi. Ground speed was kept constant at 2.5 mph by using a portable metronome. Plots were 4 rows (39-inch centers) x 40 feet and treatments were arranged in a randomized complete block design with four replications. One 20-sweep sample/plot was taken with a standard 15-inch diameter sweep net before insecticides were applied and at 3 and 7 DAT. Stink bug pretreatment densities were very close to the Texas action threshold (36 SB/100 sweeps).

Results/Discussion: BSB nymph numbers were significantly reduced 3 DAT in all insecticide treatments with the exception of the low rate of Steward. At 7 DAT, all the insecticide treatments significantly reduced numbers of BSB nymphs (Table 1).

No differences in number of adult BSB were observed 3 and 7 DAT when insecticide treatments were compared to the untreated check. This was probably due to low numbers (Table 2).

Total number of BSB were significantly less 3 DAT in all the insecticide treatments with the exception of the low rate of Steward. At 7 DAT, all the insecticide treatments significantly reduced total numbers of BSB. Season average numbers were significantly less for all the insecticides on total BSB numbers (Table 3).

For the *Euschistus quadrator* stink bug, numbers were significantly reduced 3 and 7 DAT by the Vydate, Orthene and Bidrin treatments compared to the untreated check. For the season average comparisons, significant less numbers were found in the Vydate, Orthene, Bidrin and Karate treatments compared to the untreated check (Table 4).

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Table 3. Comparison of insecticides on the Brown stink bug (*Euschistus servus*) in soybeans, total number of nymphs and adults per 20 sweeps, Pat and Cheryl Hickl farm, Matagorda County, Texas, 2001.

Treatment	Rate (lb/ai/a)	Pre-Count	3 DAT	7 DAT	Season Avg.
Centric 40G	0.047	4.75 a	1.25 bc	0.75 de	1.00 c
Centric 40G	0.062	5.75 a	0.50 c	1.75 bcd	1.13 c
Orthene 97S	0.80	6.75 a	0.00 c	0.00 e	0.00 c
Assail 70WP	0.075	11.00 a	4.00 ab	3.00 b	3.50 b
Bidrin 8E	0.50	5.25 a	0.25 c	0.00 e	0.13 c
Steward 125EC ¹	0.089	8.00 a	4.50 a	2.50 bc	3.50 b
Centric 40G Karate Z 2.08	0.023 0.020	3.00 a	0.25 c	0.00 e	0.13 c

Karate Z 2.08	0.034	3.75 a	0.50 c	0.25 de	0.38 c
Steward 125EC ¹	0.104	7.5 a	0.75 c	1.75 bcd	1.25 c
Vydate C-LV	0.33	4.5 a	0.25 c	0.00 e	0.13 c
Asana EC	0.04	8.75 a	0.25 c	1.25 cde	0.75 c
Check	----	6.25 a	5.25 a	5.50 a	5.38 a
LSD(P=0.05)		NS	2.941	1.733	1.776
P>F		.0766	.0003	.0000	.0001

Means in a column followed by the same letter are not significantly different by ANOVA (P=0.05;LSD).

¹ Dynamic at 4 oz/acre was added to this treatment.

Table 2. Comparison of insecticides on the Brown stink bug (*Euschistus servus*) in soybeans, total number of adults per 20 sweeps, Pat and Cheryl Hickl farm, Matagorda County, Texas, 2001.

Treatment	Rate (lb/ai/a)	Pre-Count	3 DAT	7 DAT
Centric 40G	0.047	1.00 ab	0.00 a	0.50 ab
Centric 40G	0.062	0.50 b	0.25 a	0.75 ab
Orthene 97S	0.80	1.00 ab	0.00 a	0.00 b
Assail 70WP	0.075	1.00 ab	0.00 a	0.50 ab
Bidrin 8E	0.50	0.75 b	0.00 a	0.00 b
Steward 125EC ¹	0.089	2.00 a	0.25 a	1.00 a
Centric 40G	0.023	0.75 b	0.00 a	0.00 b

Karate Z 2.08	0.020			
Karate Z 2.08	0.034	0.25 b	0.25 a	0.25 ab
Steward 125EC ¹	0.104	0.75 b	0.25 a	0.75 ab
Vydate C-LV	0.33	0.25 b	0.25 a	0.00 b
Asana EC	0.04	0.50 b	0.00 a	0.25 ab
Check	----	0.50 b	0.50 a	0.50 ab
LSD (P=0.05)		1.241	NS	0.915
P>F		.0464	.0919	.0473

Means in a column followed by the same letter are not significantly different by ANOVA (P = 0.05; LSD).

¹ Dynamic at 4 oz/acre was added to this treatment.

Table 1. Comparison of insecticides on the Brown stink bug (*Euschistus servus*) in soybeans, total number of nymphs per 20 sweeps, Pat and Cheryl Hickl farm, Matagorda County, Texas, 2001.

Treatment	Rate (lb/ai/a)	Pre-Count	3 DAT	7 DAT
Centric 40G	0.047	3.75 a	1.25 bc	0.25 d
Centric 40G	0.062	5.25 a	0.25 c	1.00 cd
Orthene 97S	0.80	5.75 a	0.00 c	0.00 d
Assail 70WP	0.075	10.00 a	4.00 ab	2.50 b
Bidrin 8E	0.50	4.50 a	0.25 c	0.00 d
Steward 125EC ¹	0.089	6.00 a	4.50 a	1.50 bc
Centric 40G Karate Z 2.08	0.023 0.020	12.25 a	0.25 c	0.00 d
Karate Z 2.08	0.034	3.50 a	0.25 c	0.00 d

Steward 125EC ¹	0.104	6.75 a	0.50 c	1.00 cd
Vydate C-LV	0.33	4.25 a	0.00 c	0.00 d
Asana EC	0.04	8.25 a	0.25 c	1.00 cd
Check	----	5.75 a	4.75 a	5.00 a
LSD (P = 0.05)		NS	2.944	1.249
P>F		.0846	.0004	.0000

Means in column followed by the same letter are not significantly different by ANOVA (P = 0.05; LSD).

¹ Dynamic at 4 oz/acre was added to this treatment.

Table 4. Comparison of insecticides on the (*Euschistus quadrator*)¹ stink bug in soybeans, total number of adults per 20 sweeps, Pat and Cheryl Hickl farm, Matagorda County, Texas, 2001.

Treatment	Rate (lb/ai/a)	Pre-Count	3 DAT	7 DAT	Season Avg.
Centric 40G	0.047	2.00 a	1.25 bc	1.50 abc	1.38 abcd
Centric 40G	0.062	2.25 a	0.75 bc	1.25 abc	1.00 bcd
Orthene 97S	0.80	1.25 a	0.25 c	0.25 c	0.25 d
Assail 70WP	0.075	0.75 a	1.25 bc	2.75 a	2.00 ab
Bidrin 8E	0.50	1.25 a	0.00 c	0.25 c	0.13 d
Steward 125EC ²	0.089	2.50 a	3.00 a	2.75 a	2.44 a
Centric 40G Karate Z 2.08	0.023 0.020	2.25 a	0.50 bc	1.50 abc	1.00 bcd
Karate Z 2.08	0.020	1.25 a	0.50 bc	0.75 bc	0.63 cd
Steward 125EC ²	0.034	2.00 a	1.25 bc	2.00 ab	1.63 abc
Vydate C-LV	0.104	2.00 a	0.25 c	0.50 bc	0.38 cd

Asana EC	0.33	2.00 a	0.75 bc	1.50 abc	1.13 abcd
Check	0.04	2.50 a	2.00 ab	2.00 ab	2.00 ab
LSD (P=0.05; LSD)		NS	1.705	1.717	1.359
P>F		.1504	.0074	.0065	.0027

Means in a column followed by the same letter are not significantly different by ANOVA (P = 0.05; LSD).

¹ No common name for this stink bug.

² dynamic at 4 oz/acre was added to this treatment.