



Applied Research Report

Insecticidal Control of Red-Banded Stink Bugs (*Piezodorus guildinii*) in Soybeans

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Summary

A trial was conducted with the purpose of evaluating various insecticides and insecticide combinations for the control of stink bugs in soybeans. All treatments reduced the number of red-banded stink bugs per 100 sweeps by 3 DAT. The insecticide treatments continued to have fewer red-banded stink bugs at 7 DAT.

Objectives

The objective of this project was to evaluate insecticides and insecticide combinations for the control of stink bugs in soybeans.

Materials and Methods

A soybean field was scouted for insect pests and when stink bug populations exceeded economic thresholds, insecticide efficacy trials were initiated. The pretreatment stink bug population was 77 stink bugs per 100 sweeps. The field population was primarily red-banded stink bugs (*Piezodorus guildinii*) (49/100 sweeps) but also contained southern green (*Nezara viridula*) (9/100 sweeps), green (*Acrosternum hilare*) (8/100 sweeps) and brown stink bugs (*Euschistus spp.*) (1/100 sweeps).

Insecticide applications were made with a 6-row boom, used with the following parameters:

Operating Pressure:	35 psi
Nozzle type, size:	Hollow cone, TX-6
Nozzle spacing:	20 inches
Spray volume:	6.5 gallons per acre
Ground speed:	3 miles per hour
Propellant:	CO ₂

Means followed by same letter do not significantly differ (P=.05, LSD)

Table 2. Comparison of foliar insecticides for control of green stink bug on soybeans (bugs captured per 100 sweeps), Donald Weimeyer Farm, Calhoun County, TX 2006.

Treatment	Rate	Nymphs			Adults			Total		
		6/28/2006	6/28/2006	6/28/2006	6/30/2006	6/30/2006	6/30/2006	7/6/2006	7/6/2006	7/6/2006
		1 DAT	1 DAT	1 DAT	3 DAT	3 DAT	3 DAT	7 DAT	7 DAT	7 DAT
Untreated		0 a	5 a	5 a	0 a	0 a	0 a	0 a	13.3 a	13.3 a
ORTHENE	0.75 LB/A	0 a	3.3 a	3.3 a	0 a	0 a	0 a	0 a	6.7 a	6.7 a
ORTHENE	1.0 LB/A	0 a	18.3 a	18.3 a	0 a	0 a	0 a	0 a	5 a	5 a
Karate	1.92 OZ/A	0 a	10 a	10 a	0 a	1.7 a	1.7 a	1.7 a	16.7 a	18.3 a
Baythroid XL	2.8 OZ/A	0 a	3.3 a	3.3 a	0 a	1.7 a	1.7 a	0 a	6.7 a	6.7 a
LSD (P=.05)		0	15.33	15.33	0	2.98	2.98	2.43	15.52	15.28
Standard Deviation		0	8.14	8.14	0	1.58	1.58	1.29	8.24	8.11
CV		0	101.74	101.74	0	237.17	237.17	387.3	85.25	81.14
Replicate F		0	0.528	0.528	0	2.667	2.667	1	3.117	3.722
Replicate Prob(F)		1	0.6088	0.6088	1	0.1296	0.1296	0.4096	0.0998	0.072
Treatment F		0	1.849	1.849	0	1	1	1	1.129	1.456
Treatment Prob(F)		1	0.213	0.213	1	0.4609	0.4609	0.4609	0.4079	0.3012

Means followed by same letter do not significantly differ (P=.05, LSD)

Table 3. Comparison of foliar insecticides for control of brown stink bug on soybeans (bugs captured per 100 sweeps), Donald Weimeyer Farm, Calhoun County, TX 2006.

Treatment	Rate	Nymphs			Adults			Total		
		6/28/2006	6/28/2006	6/28/2006	6/30/2006	6/30/2006	6/30/2006	7/6/2006	7/6/2006	7/6/2006
		1 DAT	1 DAT	1 DAT	3 DAT	3 DAT	3 DAT	7 DAT	7 DAT	7 DAT
Untreated		0 a	10 a	10 a	0 a	0 a	0 a	0 a	5 a	5 a
ORTHENE	0.75 LB/A	0 a	0 a	0 a	0 a	0 a	0 a	0 a	3.3 a	3.3 a
ORTHENE	1.0 LB/A	0 a	5 a	5 a	0 a	0 a	0 a	0 a	1.7 a	1.7 a
Karate	1.92 OZ/A	0 a	1.7 a	1.7 a	0 a	1.7 a	1.7 a	1.7 a	8.3 a	10 a
Baythroid XL	2.8 OZ/A	0 a	1.7 a	1.7 a	0 a	0 a	0 a	0 a	5 a	5 a
LSD (P=.05)		0	10.31	10.31	0	2.43	2.43	2.43	8.06	8.76
Standard Deviation		0	5.48	5.48	0	1.29	1.29	1.29	4.28	4.65
CV		0	149.38	149.38	0	387.3	387.3	387.3	91.75	93.09
Replicate F		0	0.722	0.722	0	1	1	1	0.091	0.231
Replicate Prob(F)		1	0.5148	0.5148	1	0.4096	0.4096	0.4096	0.914	0.799
Treatment F		0	1.583	1.583	0	1	1	1	1	1.346
Treatment Prob(F)		1	0.2686	0.2686	1	0.4609	0.4609	0.4609	0.4609	0.333

Means followed by same letter do not significantly differ (P=.05, LSD)

Table 4. Comparison of foliar insecticides for control of red-banded stink bug on soybeans (bugs captured per 100 sweeps), Donald Weimeyer Farm, Calhoun County, TX 2006.

Treatment	Rate	Nymphs			Adults			Total		
		6/28/2006 1 DAT	6/28/2006 1 DAT	6/28/2006 1 DAT	6/30/2006 3 DAT	6/30/2006 3 DAT	6/30/2006 3 DAT	7/6/2006 7 DAT	7/6/2006 7 DAT	7/6/2006 7 DAT
Untreated		0 a	16.7 a	16.7 a	28.3 a	15 a	43.3 a	113.3 a	20 a	133.3 a
ORTHENE	0.75 LB/A	0 a	1.7 b	1.7 a	3.3 a	1.7 b	5 b	3.3 a	6.7 a	10 b
ORTHENE	1.0 LB/A	1.7 a	1.7 b	3.3 a	1.7 a	3.3 b	5 b	13.3 a	6.7 a	20 b
Karate	1.92 OZ/A	5 a	3.3 b	8.3 a	0 a	5 b	5 b	3.3 a	23.3 a	26.7 b
Baythroid XL	2.8 OZ/A	1.7 a	1.7 b	3.3 a	1.7 a	0 b	1.7 b	0 a	25 a	25 b
LSD (P=.05)		8.42	10.8	15.47	20.48	7.09	14.93	82.32	23.41	81.81
Standard Deviation		4.47	5.74	8.22	10.88	3.76	7.93	43.72	12.43	43.45
CV		268.33	114.75	123.24	155.4	75.28	66.1	163.96	76.12	101.05
Replicate F		0.583	1.823	0.321	1.563	2.471	1.033	1.405	1.337	1.557
Replicate Prob(F)		0.5801	0.2227	0.7344	0.2672	0.146	0.3989	0.2999	0.3156	0.2684
Treatment F		0.625	3.924	1.667	3.641	7.353	14.728	3.723	1.574	4.119
Treatment Prob(F)		0.6579	0.0474	0.2495	0.0566	0.0087	0.0009	0.0537	0.2708	0.0421

Means followed by same letter do not significantly differ (P=.05, LSD)

Table 5. Comparison of foliar insecticides for control of all stink bug species on soybeans (bugs captured per 100 sweeps), Donald Weimeyer Farm, Calhoun County, TX 2006.

Treatment	Rate	Nymphs			Adults			Total		
		6/28/2006 1 DAT	6/28/2006 1 DAT	6/28/2006 1 DAT	6/30/2006 3 DAT	6/30/2006 3 DAT	6/30/2006 3 DAT	7/6/2006 7 DAT	7/6/2006 7 DAT	7/6/2006 7 DAT
Untreated		0 a	48.3 a	48.3 a	36.7 a	15 a	51.7 a	118.3 a	38.3 a	156.7 a
ORTHENE	0.75 LB/A	0 a	5 a	5 a	3.3 a	5 a	8.3 b	3.3 b	16.7 a	20 b
ORTHENE	1.0 LB/A	1.7 a	35 a	36.7 a	3.3 a	3.3 a	6.7 b	13.3 b	13.3 a	26.7 b
Karate	1.92 OZ/A	5 a	20 a	25 a	0 a	10 a	10 b	10 b	53.3 a	63.3 b
Baythroid XL	2.8 OZ/A	1.7 a	8.3 a	10 a	1.7 a	1.7 a	3.3 b	0 b	36.7 a	36.7 b
LSD (P=.05)		8.42	47.63	50.27	26.93	11.01	21.84	74.19	33.22	84.71
Standard Deviation		4.47	25.3	26.7	14.3	5.85	11.6	39.4	17.64	44.99
CV		268.33	108.42	106.8	158.93	83.5	72.51	135.87	55.71	74.16
Replicate F		0.583	0.948	0.652	1.784	0.146	2.378	1.781	3.443	2.476
Replicate Prob(F)		0.5801	0.4271	0.5465	0.2287	0.8661	0.1547	0.2292	0.0834	0.1456
Treatment F		0.625	1.563	1.373	3.536	2.61	8.997	4.873	2.651	4.672
Treatment Prob(F)		0.6579	0.2736	0.3247	0.0606	0.1157	0.0047	0.0275	0.1122	0.0307

Means followed by same letter do not significantly differ (P=.05, LSD)

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