AgriLIFE EXTENSION
Texas A&M System

Applied Research Report

Effect of Thrips (*Caliothrips phasiolii*) on Soybeans at Pod Elongation (R3)

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Summary

A trial was conducted with the purpose of evaluating the effect thrips populations had on drought stressed soybeans. Endigo and Acephate insecticides were applied and thrips population counts, damage ratings, leaf counts and yield data were assessed. The thrips caused significant damage but additional studies should be conducted to further evaluate this effect and determine best management practices.

Materials and Methods

A trial was established on 17 July 2009 for the purpose of determining the effect of thrips on Soybeans. The trial was laid out as a randomized complete block with four replications. Plots were 6 rows wide and 50 feet long.

Treatments were as follows:

1.	Untreated	
2.	Endigo (4 oz/A)	17 July 2009
	Endigo (4 oz/A)	5 August 2009
3.	Acephate (0.5 lb/Acre)	17 July 2009
	Acephate (0.75 lb/Acre)	5 August 2009

The thrips species was determined to be *Caliothrips phasiolii*. Insect counts were made by placing three trifoliates in a jar of soapy water from each plot 3 days after the first application and 7 days after the second application. In the lab, the leaves were rinsed to dislodge thrips into the soapy water solution which was then filtered on coffee filters. Thrips were counted under magnification using a stereoscope.

Leaf counts were made on 12 August and harvest was conducted on 17

September.

Results and Discussion

Thrips control was obtained with the Endigo and acephate treatments (Table 1).

While there was no differences in damage ratings at 11 days after the first application, damage ratings after the second application indicate that insect control provided a benefit. The untreated plots had significantly higher damage than the insecticide treatments.

Leaf counts were not different between treatments.

The drought conditions caused very low yields on this field. While the plots where thrips was controlled had 110 and 130 lbs/A beans more than untreated plots, yield was not statistically different between treatments.

Table 1. Thrips populations at 3 days after application first application and 8 days after second application of insecticides (Calhoun County, 2009).

Rating Date				7/20/2009	8/14/2009
Rating Type				Thrips/leaflet	Thrips/leaflet
Days After First/Last Application				3 / 3	27 / 9
1	Untreated Check			3.3 a	263 a
2	Endigo	4 oz/A	A	0.8 b	1 b
	Endigo	4 oz/A	B		
3	Acephate	0.5 lb/A	A	0.6 b	28 b
	Acephate	0.75 lb/A	B		
LSD (P=.10)				1.17	157.0
CV				25.95	55.26
Treatment Prob(F)				0.0356	0.0651

Means followed by same letter do not significantly differ (P=.10, LSD).

Table 2. Damage ratings at 11 days after application first application and 5 days after second application of insecticides (Calhoun County, 2009).

Rating Date				7/28/2009	8/10/2009
Rating Type				Damage Rating*	Damage Rating
Rating Unit				1-5	1-5
Days After First/Last Applic.				11 11	24 5
Trt-Eval Interval				11 DA-A	24 DA-A
1	Untreated Check			3.1 a	4.4 a
2	Endigo	4 oz/A	A	2.8 a	3.5 b
	Endigo	4 oz/A	B		
3	Acephate	0.5 lb/A	A	2.4 a	3.6 b
	Acephate	0.75 lb/A	B		
LSD (P=.10)				1.55	0.30
CV				19.28	2.66
Treatment Prob(F)				0.5000	0.0227

Means followed by same letter do not significantly differ (P=.10, LSD).
*Damage Rating: 1=good, 5=poor.

Table 3. Leaf counts and yield for insecticide treatments for thrips control (Calhoun County, 2009).

Rating Date				8/12/2009		9/17/2009	
Rating Type				Leaflet/plant		Yield	
Rating Unit						lb/A	
Days After First/Last Applic.				26 7		62 43	
1	Untreated Check			19	a	110.1	a
2	Endigo	4 oz/A	A	24	a	220.1	a
	Endigo	4 oz/A	B				
3	Acephate	0.5 lb/A	A	25	a	240.7	a
	Acephate	0.75 lb/A	B				
LSD (P=.10)				11.8		184.81	
CV				17.8		33.26	
Treatment Prob(F)				0.4395		0.2886	

Means followed by same letter do not significantly differ (P=.10, LSD).