

ECONOMIC CONSEQUENCES OF USING INSECTICIDAL SEED TREATMENTS ON SOYBEANS

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Methods and Materials: Tests were conducted at the Auburn University experimental research facilities at Belle Mina, Crossville and Prattville to determine if insecticide seed treatments applied to soybeans would increase yields. Seed treatments were applied at recommended rates. The test at Belle Mina was planted May 1, 2008 using a Fielder's Choice Roundup Ready variety of soybeans. The three seed treatments at Belle Mina were Cruiser + Vitavax, Vitavax and no seed treatment. Seed were planted using a 30 inch row spacing. Plots were 8 rows wide and 80 feet long and treatments were arranged in a randomized complete block (RCB) design with 3 replications per treatment. Soybeans were sampled for insects on June 1 when the 5th trifoliolate leaf was small. The test at Crossville was planted May 7 using Dyna-Gro 3443n RR seed. Seed treatments were Cruiser + Vitavax and Vitavax. Seed treatments were replicated 3 times each and were arranged in a RCB design. A 30 inch row spacing was used and plots were 4 rows wide and 250 feet long. Plots were sampled for insects when plants were in the third trifoliolate stage. The test at Prattville was planted May 13 using Pioneer 94M80 RR seed. Seed treatments were Cruiser and untreated. There were 4 replications of each treatment planted in 36 inch rows and 4 replications of each treatment planted in 20 inch rows with treatments arranged in a RCB design. Plots at Prattville were over-sprayed accidentally with a pyrethroid insecticide on May 30 and this eliminated insects in all the plots. Plot area harvested was 6 ft. X 20 ft. in 36 inch rows and 5 ft. x 20 ft. in 20 inch rows.

Results: Yields obtained in the 3 tests are presented in Tables 1, 2 and 3 below: Yields were numerically greater in the Crusier treated plots at all

locations in comparison to plots that did not receive Cruiser with yield differences ranging from 1.2 to 2.3 bu./acre.

Table 1. Results of soybean insecticide seed treatment test at Belle Mina 2008. Yields in bu/acre at 15.5% moisture. 3 reps per treatment

	<u>Seed Treatment</u>		
	No Trt.	Vitavax	Vitavax+Cruiser
Yield	39.5	40.2	41.8
Differ- Ence	- 2.3 bu	-1.6 bu	

Table 2. Results of soybean insecticide seed treatment test at Crossville 2008. Yields in bu/acre at 15.5% moisture. 3 reps per treatment

	<u>Seed Treatment</u>	
	Vitavax	Vitavax+Cruiser
Yield	26.5	28.3
Differ- Ence	-1.8 bu	

Table 3. Results of soybean insecticide seed treatment test at Prattville 2008. Yields in bu/acre at 15.5% moisture. 8 reps per treatment.

	<u>Seed Treatment</u>	
	No Trt.	Cruiser
Yield	31.8	33.04
Differ- ence	-1.24	

Insect counts indicated there were extremely low numbers of thrips at Crossville and Prattville, but thrips were abundant at Belle Mina.

Surprisingly, thrips were significantly greater ($P < 0.0015$) in the Cruiser + Vitavax treatment (36.6/row ft.) than in the Vitavax (22.6/row ft.) or untreated plots (25.9) (LSD 0.10=5.0) on June 1. Differences in thrips numbers did not result in observable differences in the plants in different plots. Plots were checked for early season damage by three cornered alfalfa hoppers but no damage was detected at any location.