

GAUCHO COTTON SEED TREATMENT EVALUATION TRIAL: VERONA

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ABSTRACT: Insecticides used as seed treatments for control of thrips in seedling cotton were evaluated in comparison with a standard, in-furrow insecticide. Tests were planted at the North Mississippi Research and Extension Center, Verona, MS. Insect pressure was relatively light, however the Gaucho and Temik treatments significantly reduced stunting and all insecticides reduced plant damage. There were no statistically significant differences in yield. Treatments included in the trial were: Gaucho 4FS, 8 fl oz/cwt; Adage 5FS, 7.65 fl oz/cwt; and Temik 15G, 3.5 lb/ac;

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MATERIALS AND METHODS: The statistical design was randomized complete block with 4 replicates. Cotton, variety PM 1812BR, was planted at the North Mississippi Research and Extension Center on 5/09/01 at a seed rate of 3 per ft. Plots were four rows wide and 50 (15.2 m) ft long arranged with 10 ft buffer at the end of each plot. Row spacing was 38 in. A John Deere 7100 planter equipped with Almaco® plot applicators for seed and granule insecticides was used for planting. Sampling for thrips consisted of cutting five plants from two center rows of each plot and transferring them into a plastic bag for transport to the lab. The samples were then washed in a Clorox-detergent solution to remove thrips from the plants. Thrips and other arthropods were then transferred onto a filter paper for identification and counting by use of a dissection microscope. Yield was estimated by mechanically harvesting the center two rows of each plot and converting the yield to pounds of seed cotton per acre. Because of poor stand in one replicate, only 3 replicates were used to compute yield.

RESULTS AND DISCUSSION: Results from the trial are presented on Table 1 and 2. Because of the lack of rain the first couple weeks, immature thrips were lower than normal at that time of year. The average number of immature thrips on untreated plants was 8.7 thrips per five plants throughout the sampling period of the study. The number of thrips in treated plots did not differ from that of the untreated seed on 5/18/01. There was significantly differences numbers of immature thrips on 6/06/01. Cotton plants were shorter in the untreated plots than in the plots treated with insecticide, but there were no differences in plant height between insecticide treatments. Thrips damage ratings of plants indicate little damage was done by the thrips, but that the plots treated with Temik sustained no damage. There were differences in yield between treatments, however the plots treated with Temik had the highest yield compared with all other treatments. The plots treated with Gaucho yielded significantly less in this trial than all other treatments including the untreated check.

COOPERATOR: Normie Buehring, North Mississippi Research and Experiment Station, Verona, MS.

Table 1. Mean insects per five plants, Verona location.

Treatment	Lb (ai)/acre	Immature Thrips	Tobacco Thrips	Eastern Flower Thrips	Western Flower Thrips	Soybean Thrips
		May-18-01	May-18-01	May-18-01	May-18-01	May-18-01
Check		0.0 a	0.3 a	0.0 a	0.0 a	0.3 a
Gaucho 4FS	8 fl oz/cwt	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a
Adage 5FS	7.65 fl oz/cwt	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a
Temik 15G	3.5 lb/ac	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a
LSD (P=.05)		0.00	0.60	0.00	0.00	0.49
Treatment Prob(F)		1.0000	0.4609	1.0000	1.0000	0.4609
		Jun-01-01	Jun-01-01	Jun-01-01	Jun-01-01	Jun-01-01
Check		22.3 a	7.3 a	0.5 a	0.3 a	0.0 a
Gaucho 4FS	8 fl oz/cwt	0.5 b	1.8 b	0.3 a	0.0 a	0.0 a
Adage 5FS	7.65 fl oz/cwt	0.0 b	0.8 b	0.3 a	0.0 a	0.3 a
Temik 15G	3.5 lb/ac	0.3 b	1.8 b	0.8 a	0.0 a	0.0 a
LSD (P=.05)		19.75	2.14	0.97	0.34	0.34
Treatment Prob(F)		0.1187	0.0002	0.7365	0.4449	0.4449
		Jun-06-01	Jun-06-01	Jun-06-01	Jun-06-01	Jun-06-01
Check		12.5 a	3.0 a	0.5 a	0.0 a	0.0 a
Gaucho 4FS	8 fl oz/cwt	0.3 b	1.8 a	0.0 b	0.0 a	0.0 a
Adage 5FS	7.65 fl oz/cwt	0.0 b	4.0 a	0.0 b	0.0 a	0.0 a
Temik 15G	3.5 lb/ac	1.0 b	4.5 a	0.0 b	0.0 a	0.0 a
LSD (P=.05)		6.79	4.37	0.42	0.36	0.00
Treatment Prob(F)		0.0089	0.6956	0.0829	0.4881	1.0000

Means within a column and date not sharing common letters differ significantly (P=0.05,LSD).

Table 2. Mean treatment effects on plant parameters affected by thrips, Verona location.

Treatment	Rate	Thrips Damage *Rating	Plant Height (cm)	Node to First Square 10 Plants	Yield lb seed cotton/ac
		May-25-01	Jun-01-01	Jun-25-01	Oct-04-01
Check		0.8 a	3.7 bc	4.9 a	2177 a
Gaucho 4FS	8 fl oz/cwt	0.3 ab	4.5 a	5.5 a	1787 b
Adage 5FS	7.65 fl oz/cwt	0.0 b	3.8 abc	5.0 a	2181 a
Temik 15G	3.5 lb/ac	0.0 b	5.0 a	4.9 a	2356 a
LSD (P=.05)		0.54	0.858	0.97	325
Treatment Prob(F)		0.0444	0.0244	0.5251	0.098

Means within a column and date following by the same letter do not significantly differ (p=0.05,LSD)

*Rating: 0=None, 4=severe