

EVALUATION OF COTTON SEED TREATMENTS FOR THRIPS CONTROL IN EARLY COUNTY

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Introduction

Thrips are predictable and annual pests of seedling cotton in Georgia and the use of preventive insecticides for thrips control are recommended. At-plant systemic insecticides have historically provided consistent yield responses. During recent years several cotton seed treatments for thrips control have been commercialized. This trial was established to evaluate two seed treatments, Cruiser and Bracket, against a standard in-furrow treatment with Temik.

Materials and Methods

DP 555 BGRR was planted on May 11, 2005 in an irrigated field in Early County, Georgia in a strip-till system. The plot design was a complete block with 5 replications of each treatment. Plots were six rows wide (36 inch row spacing) by the length of the field (400-800 feet). Cruiser was applied to the seed by Delta and Pineland, and Bracket was applied to the seed by Blakely Farm Supply. Temik 15G was applied in-furrow at a rate of 3.5 lbs. per acre. Seeding rate was 2 seeds hilldropped every 10 inches. Stand counts were taken on May 27 on a 100 row feet of each treatment. Thrips populations were sampled 14 (May 25) and 28 (June 7) days after planting (DAP) by randomly collecting 10 plants per plot and immediately immersing and swirling in a container filled with 70 percent ethyl alcohol to dislodge thrips. Adult and immature thrips were counted in the laboratory using a dissecting microscope. A visual thrips rating was also taken at 28 DAP. The center two rows from each plot were harvested on November 8, 2005. A lint fraction of 0.397 (actual lint fraction for the trial area) was used to determine lint yield per acre.

Results and Discussion

Thrips populations were approximately one per plant at 14 DAP in all treatments which is below the recommended threshold of 2-3 thrips per plant (Table 1). At 28 DAP, immature thrips populations, less than one per plant, were low and similar for all treatments. However Cruiser had significantly greater adult thrips compared with Temik and Brackett treatments. Visual thrips damage ratings were made on a scale of 1-5 where 1=no damage and 5=treatable levels of damage at 28 DAP. Damage ratings were similar, however Temik was slightly better than Brackett and Cruiser with ratings of 3.0, 3.5, and 4.0 respectively. Cruiser yielded significantly greater lint per acre compared with Temik but was not significantly different compared with Brackett. No significant difference in yield was observed between Brackett and Temik treatments.

Based on thrips populations, differences in yield do not appear to be associated with the level of thrips control. Thrips populations were below threshold levels in all treatments at 14 DAP but did exceed thresholds at 28 DAP. As cotton seedlings develop from 14 to 28 DAP, tolerance to thrips increases. It is unusual for thrips to lower cotton yields once seedlings develop 5 leaves per plant and are growing rapidly.

Table 1. Immature and adult thrips per 10 plants and lint yield per acre in cotton treated with selected preventive thrips insecticides, Early Co. GA 2006.

Treatment	Thrips per Ten Plants				Yield (lint/acre)
	14 DAP (May 25)		28 DAP (June 7)		
	immatures	adults	immatures	adults	
Temik 15G 3.5 lb/acre	6.4 a	4.0 a	5.2 a	21.2 a	1077 b
Brackett seed treatment	7.2 a	2.6 a	5.2 a	23.6 a	1180 ab
Cruiser seed treatment	6.6 a	4.6 a	6.6 a	51.8 b	1207 a

Means followed by the same letter do not significantly differ (P=0.05, LSD)