

EVALUATION OF CONSERVATION TILLAGE OPTIONS IN TERRELL COUNTY

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Introduction

The adoption of conservation tillage practices in cotton has increased during the past decade in Terrell County, Georgia. A survey conducted in 1990 showed that 100% of Terrell County cotton acres were planted in a conventional tillage system. By 2002, the same survey showed 47% of the cotton crop was planted in a reduced tillage system. Estimates of the 2004 crop have the reduced tillage acres around 70%.

The increase in conservation tillage can be contributed to several factors. The major factors include time savings, qualified labor shortage, demonstration of comparable on-farm yields between conventional and conservation systems, and positive gains in strip tillage equipment. Additional factors include reducing erosion and increase in soil quality. However, growers are faced with certain challenges. Over 30% of tillable soils are classified in the Greenville series. These soils have a high content of clay and sand which are challenging in establishing a stand.

Materials and Methods

The cotton was planted in an irrigated field in Terrell County during the 2003 and 2004 cotton crop seasons. 'DP 468 B2/RR' was planted in 2003 and 'DP 555 B/RR' was planted in 2004. The 2003 crop followed corn and the 2004 crop followed peanuts. The experimental design was a randomized complete block with treatments replicated three times. Plots were twelve rows by 1100 feet. Tillage treatments included no-till, strip-till, and conventional tillage during the 2003 crop. In 2004 the tillage treatments consisted on no-till and strip-till. The trial was managed following University of Georgia Cooperative Extension Service guidelines. The study was harvested with grower equipment and weights were taken with a 'Crust Buster Boll Buggy'.

Results and Discussion

Studies from 2003 and 2004 show no differences in yield among tillage options. The 2003 study yields were no-till at 1153 lbs/acre, strip-till at 1122 lbs/acre, and conventional tillage at 1152 lbs/acre. The 2004 study yields were no-till at 1282 lbs/acre and strip-till at 1241 lbs/acre (Table 1).

The challenges for 2003 and 2004 were getting satisfactory seed-to-soil contact in the no-tillage plots. Adjustments to the planter were made in order to get proper seed depth in the Greenville soil. Irrigation was applied in both years to establish the stand.

Table 1. Comparison of Cotton Tillage Options in Terrell County, 2003 & 2004

Tillage Treatment	Lint yield (lb/A)	
	2003	2004
No-Till	1153 a	1282 a
Strip-Till	1122 a	1241 a
Conventional Tillage	1152 a	N/A

^aMeans followed by the same letter within a column are not different at P = 0.05