EVALUATION OF THREE TILLAGE SYSTEMS IN SOYBEANS

Cooperators: Producer: Bruce Whitley, Larry Whitley
Extension: Wes Alexander, Southampton; Cyndi Estienne, Greensville; Wade Thomason, CSES
Agribusiness: Clifton Dixon, Owner/Developer of PATS

Variety: MFS591
Soil Type: Slagle fine, sandy, loam

Cropping system: cotton, 2005; wheat, 2005-6; double crop soybeans, 2006
Planting Date: June 19, 2006 into wheat stubble-7 inch rows
Seeding Rate: 180,000 seed per acre
Equipment: PATS subsoiler; John Deere 30 ft 1990 drill; John Deere 9600 20 ft. combine
Fertilization: Nov 8 2005: 25-25lb P 80lb K; March 2006: 60 lb N; April 2006, 60 lb N
Seed Treatment: Apron
Crop Protection: Touchdown burndown; Flexstar + Fusilade, postemergence; Karate Z
Harvest Date: December 8, 2006
Replications: Four

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (bu/A)</th>
<th>Moisture (%)</th>
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</thead>
<tbody>
<tr>
<td>1) Mow cotton stalks, disk, drill wheat, no-till soybeans</td>
<td>44.0</td>
<td>11.5</td>
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<tr>
<td>2) Mow cotton stalks, no-till wheat, no-till soybeans</td>
<td>42.8</td>
<td>11.6</td>
</tr>
<tr>
<td>3) Mow cotton stalks, rip 36 inch centered between old cotton rows, no-till wheat, no-till soybeans</td>
<td>44.5</td>
<td>11.6</td>
</tr>
</tbody>
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LSD (0.05) 1.5 NS

Discussion: Treatment 3, which included deep tillage, yielded significantly more than treatment 2, which is the same treatment with the exception of the deep tillage. No difference in grain moisture was found between the three treatments. The objective of this trial was to compare traditional disking, no-till and deep tillage effects on wheat and soybean yields following cotton. Slagle soil series are prone to developing hardpans. Rainfall during this growing season was above average, and therefore the difference in soybean yields between deep ripping and disking may have been minimized. These data also show that there is no significant soybean yield advantage to disking cotton stubble before planting wheat.