

## MID AND FULL SEASON COTTON VARIETY TRIAL IN DESOTO COUNTY ON BOTTOM LAND SOILS

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**ABSTRACT:** The 2004 growing season had adequate moisture early and mid season with a drought at the end of the season. DD 60'S were below 2100 for Desoto County during the growing season. Yield range from a high of 1462 lb lint/ac for DP 445BG/RR to a low of 1152 lb lint/ac for ST 6848R. Average yield of the test was 1340 lb lint/ac. Two varieties (DP 455BG/RR, and FM 800BR) had yields significantly higher than 1340 lb lint/ac. Eleven varieties (DP 445BG/RR, DP 493, DP 488BG/RR, DP 455BG/RR, ST 5599BR, DP 494RR, DP 555BG/RR, DP 491, FM 800RR, DP 543BGII/RR, and DP 5415RR) had gin turnout significantly higher than the test mean of 39.39. ST 6848R, PSC 355, DP 449BG/RR and SG 747 had significant higher micronaire reading than the test mean of 4.50.

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**KEYWORDS:** Cotton, Variety Trial

**MATERIALS AND METHODS:** Twenty-four mid and full season cotton varieties were evaluated for lint yield, lint percent, boll size, staple length, strength, and micronaire in 2004. Test site was located on a Collins silt loam soil. Cultural practices were conventional tillage. Experimental design was a randomized complete block with 6 replications. Plot size was two 38-inch rows, 50 ft long.

The plot area was hipped in early March and rehipped in early April. Fertilizer (N, P, and K) was broadcast over the plot area according to soil test recommendations in April before the plots were rehipped. Cottonseeds were planted using a plot planter adapted for planting plots. Plots were planted the last week of April at the rate of 4 live seed per ft/ row based on laboratory seed germination test for each variety. Terrachlor Super X 18.8G (pentachlornitrobenzene) 1.5 lb ai/ac plus Temik 15G (aldicarb) 0.75 lb ai/ac were applied in furrow at planting. Plots were broadcast sprayed with Roundup (glyphosate) 1.0 lb ai/ac + Cotoran (fluometuron) 0.5 lb ai/ac + Staple (pyrithiobac) 0.06 oz ai/ac after planting. Cotoran 1.0 lb ai/ac + Staple 1.2 oz ai/ac were directed sprayed on the plots the first week of June. A layby treatment of MSMA at 1.0 lb ai/ac + Caparol 4L (prometryn) at 1.0 lb ai/ac was sprayed as a directed sprayed in late June. Cotton plots were defoliated in mid-September using Superboll (ethephon) 1.5 lb. ai/ac + Def 6 (tribufos) 1.5 lb. ai/ac. Harvest was completed the last week of October. Collected data were analyzed using analysis of variance procedures. Mean separation was accomplished by least significant difference (LSD) at the 10% significance level.

**RESULTS AND DISCUSSION:** The growing season for 2004 in Desoto County was marginal. Temperatures were moderate, rarely exceeding 90 degrees, and moisture was adequate during the early and mid season with a drought near the end of the growing season. DD 60'S were less than 2100 for the entire growing season.

Yield range from a high of 1462 lb lint/ac for DP 445BG/RR to a low of 1152 lb lint/ac for ST 6848R. Average yield was 1340 lb lint/ac. Two varieties (DP 455BG/RR, and FM 800BR) had yields significantly higher than 1340 lb lint/ac. Eleven varieties (DP 445BG/RR, DP 493, DP 488BG/RR, DP 455BG/RR, ST 5599BR, DP 494RR, DP 555BG/RR, DP 491, FM 800RR, DP 543BGII/RR, and DP 5415RR) had gin turnout significantly higher than the test mean of 39.39. ST 6848R, PSC 355, DP 449BG/RR and SG 747 had significant higher micronaire reading than the test mean of 4.50. Data for test are shown in Table 1.

Table 1. Yield, lint percent, boll size, length, strength, and micronaire of mid and full season cotton varieties in Desoto County on Bottom Land Soils.

<b>Variety</b>	<b>Lint Yield</b>	<b>Lint Percent</b>	<b>Boll Size</b>	<b>Length</b>	<b>Strength</b>	<b>Micronaire</b>
	lbs.ac	%	gms	inch	g/tex	mic
DP 455BG/RR	1462	41.84	6.24	1.16	30.63	4.73
FM 800BR	1459	41.46	6.12	1.19	32.17	3.97
DP 493	1425	44.08	5.88	1.16	31.10	4.50
ST 5242BR	1422	40.27	7.11	1.09	28.77	4.50
ST 5303R	1416	41.51	6.55	1.07	34.07	4.70
SG 747	1411	41.81	6.22	1.14	28.30	4.93
DP 488BG/RR	1406	42.33	6.71	1.17	32.10	4.70
DP 455BG/RR	1391	43.90	5.28	1.17	31.60	3.87
ST 5599BR	1391	42.16	6.44	1.14	31.60	4.50
DPLX02T57R	1380	39.14	6.33	1.10	29.63	4.53
FM 832LL	1358	38.91	6.75	1.21	32.10	3.97
DP 494RR	1355	43.36	6.14	1.14	33.07	4.73
PSC 355	1351	40.55	5.58	1.13	31.17	4.90
DP 555BG/RR	1341	45.16	6.08	1.14	30.50	4.57
DP 491	1330	44.19	5.92	1.22	33.57	4.33
FM 800RR	1306	41.10	6.12	1.15	35.03	4.10
FM 800B2R	1303	39.95	3.36	1.19	33.23	3.97
DP 543BGII/RR	1300	42.46	5.91	1.12	30.67	4.63
DP 449BG/RR	1276	40.82	5.93	1.12	33.40	4.83
DP 5415RR	1248	41.98	6.04	1.14	29.90	4.70
ST 6636BR	1246	40.01	6.36	1.18	31.87	4.43
ST 5454B2R	1232	39.11	6.05	1.12	31.23	4.63
FM 991B2R	1207	38.92	6.46	1.20	35.33	4.37
ST 6848R	1152	38.44	6.51	1.17	35.70	5.00
<b>Mean</b>	<b>1340</b>	<b>39.39</b>	<b>6.21</b>	<b>1.15</b>	<b>31.95</b>	<b>4.50</b>
<b>LSD (.10)</b>	<b>91</b>	<b>1.50</b>	<b>0.53</b>	<b>0.04</b>	<b>1.65</b>	<b>.030</b>
<b>CV (%)</b>	<b>7.06</b>	<b>2.78</b>	<b>6.23</b>	<b>2.45</b>	<b>3.78</b>	<b>4.82</b>
<b>R-Square</b>	<b>0.52</b>	<b>0.79</b>	<b>0.60</b>	<b>0.72</b>	<b>0.80</b>	<b>0.77</b>