

## EARLY 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 2000 for Desoto County during the growing season. Yield ranged from a high of 1932 lb lint/ac for ST 3636B2R to a low of 1281 lb lint/ac for DP 424BG11/RR. Average yield of the test was 1636 lb lint/ac. Ten varieties (ST 3636B2R, ST 4557BR, DP 455BG/RR, DP 444BG/RR, ST 5599BR, ST 4793R, ST 4686R, ST 4892BR, BCG 28R, ST 4646B2R) had yields significantly higher than 1636 lb lint/ac. Four varieties (DP 445BG/RR, DP 444BG/RR, ST 4793R, and ST 4892BR) had gin turnout significantly higher than the test mean of 39.39. ST 4793R, ST 4892BR, and SG 747 had significant higher micronaire reading than the test mean of 4.61.

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**KEYWORDS:** Cotton, Variety Trial

**MATERIALS AND METHODS:** Thirty-two early 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 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 1932 lb lint/ac for ST 3636B2R to a low of 1281 lb lint/ac for DP 424BGII/RR. Test mean was 1636 lb lint/ac. Ten varieties (ST 3636B2R, ST 4557BR, DP 455BG/RR, DP 444BG/RR, ST 5599BR, ST 4793R, ST 4686R, ST 4892BR, BCG 28R, ST 4646B2R) had yields significantly higher than 1636 lb lint/ac. Four varieties (DP 445BG/RR, DP 444BG/RR, ST 4793R, and ST 4892BR) had gin turnout significantly higher than the test mean of 39.39. ST 4793R, ST 4892BR, and SG 747 had significant higher micronaire reading than the test mean of 4.61. Data for test are shown in Table 1.

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

Variety	Lint Yield	Lint Percent	Boll Size	Length	Strength	Micronaire
	lbs.ac	%	gms	inch	g/tex	mic
ST 3636B2R	1932	39.59	6.72	1.12	29.83	4.80
ST 4575BR	1866	40.00	6.57	1.14	29.87	4.70
DP 445BG/RR	1804	41.43	6.51	1.17	30.43	4.47
DP 444BG/RR	1800	42.24	5.78	1.12	28.27	4.07
ST 5599BR	1791	40.27	6.86	1.15	30.37	4.53
ST 4793R	1790	41.53	5.99	1.09	30.30	4.90
ST 4686R	1786	40.03	6.65	1.15	28.80	4.50
ST 4892BR	1757	41.28	5.92	1.09	29.13	4.90
BCG 28R	1746	40.59	5.62	1.15	28.30	4.73
ST 4646B2R	1727	38.75	5.93	1.12	28.73	4.67
DES 810	1702	38.26	5.41	1.12	30.67	4.53
DP 393	1691	40.54	6.50	1.16	30.97	4.83
PHY 410R	1690	39.02	5.48	1.14	29.20	4.73
DP 434RR	1686	40.71	6.40	1.17	29.03	4.40
DES 816	1658	38.68	6.11	1.15	31.97	4.50
FM 960RR	1655	38.94	6.90	1.16	32.47	4.17
PSC 355	1645	38.69	5.37	1.15	30.63	4.87
FM 958LL	1629	40.11	6.40	1.18	34.30	4.63
PM 1218BG/RR	1624	39.37	6.95	1.10	28.83	4.70
DP 432RR	1617	38.41	5.81	1.12	29.97	4.70
SG 747	1599	39.67	6.33	1.14	28.00	5.17
DP 455BG/RR	1588	40.55	5.93	1.18	32.53	4.10
FM 960BR	1550	39.01	7.30	1.14	33.73	4.47
ST 5242BR	1529	40.39	6.78	1.09	28.00	4.40
SG 521R	1528	40.58	5.81	1.10	28.17	4.67
FM 966LL	1513	38.20	7.11	1.14	35.20	4.33
DP 449BG/RR	1510	39.12	6.35	1.15	32.00	4.70
OAX 303	1469	39.10	5.97	1.14	29.27	4.93
FM 960B2R	1450	38.65	6.56	1.18	31.80	4.53
DP 451BG/RR	1415	35.98	6.54	1.16	27.70	4.63
DP 436RR	1309	35.16	6.66	1.16	27.00	4.63
DP424BG11/RR	1281	35.50	6.34	1.13	29.00	4.70
<b>Mean</b>	<b>1636</b>	<b>39.39</b>	<b>6.30</b>	<b>1.14</b>	<b>30.14</b>	<b>4.61</b>
<b>LSD (.10)</b>	<b>86</b>	<b>1.75</b>	<b>0.71</b>	<b>0.03</b>	<b>1.38</b>	<b>0.26</b>
<b>CV (%)</b>	<b>5.51</b>	<b>3.27</b>	<b>8.29</b>	<b>1.63</b>	<b>3.36</b>	<b>4.19</b>
<b>R-Square</b>	<b>0.78</b>	<b>0.72</b>	<b>0.59</b>	<b>0.76</b>	<b>0.86</b>	<b>0.71</b>