

EARLY SEASON COTTON VARIETY TRIAL ON BROWN LOAM SOIL AT THE RAYMOND EXPERIMENT STATION

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ABSTRACT: The 2004 growing season at Raymond was excellent, with moderate temperatures at night and in the 90's during the day. Moisture was adequate during the early and mid season with a drought near the end of the growing season. DD 60'S were 2452 for the growing season. Yield ranged from a high of 1991 lb lint/ac for ST 4575BR to a low of 1408 lb lint/ac for DP 436RR. Average yield of the test was 1757 lb lint/ac. Eight varieties, (ST 5599BR, DP 455BG/RR, ST 4575BR, BCG28R, ST 4793R, ST 3636B2R, ST 4686R, and ST 5242BR) had yields significantly higher than the 1757 lb lint/ac. Seven varieties, (DP 445BG/RR, ST 4793R, ST 4892BR, ST 4575BR, DP 455BG/RR, DP 444BG/RR and OAX 303) had gin turnout significantly higher than the test mean of 40.54. ST 4793R, BCG 28R, ST 4892BR, DP393, PSC 355, ST 4646B2R OAX 303 and SG 747 had significant higher micronaire reading than the test mean of 4.71.

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KEYWORDS: Cotton, Variety Trial

MATERIALS AND METHODS: Thirty-two early season cotton varieties were evaluated for lint yield, gin turnout, boll size, staple length, strength, and micronaire in 2004. Test site was located on a Grenada silt loam soil. Cultural practices were conventional tillage. Experimental design was a randomized complete block with 4 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 first week of May at the rate of 4 live seed per ft/ row based on laboratory seed germination test for each variety. Terrachlor Super X 18.8G (pentachloronitrobenzene) 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. Statistical analyses of the collected data were analyzed using analysis of variance procedures. Mean separation was accomplished using least significant difference (LSD) at the 10 % level.

RESULTS AND DISCUSSION: The growing season for 2004 at Raymond was excellent. Temperatures were moderate at night and in the 90's during the day, and moisture was adequate during the early and mid season with a drought near the end of the growing season. DD 60'S were 2452 for the growing season.

Yield range from a high of 1991 lb lint/ac for ST 4575BR to a low of 1408 lb lint/ac for DP 436RR. Average yield was 1757 lb lint/ac. Eight varieties, (ST 5599BR, DP 455BG/RR, ST 4575BR, BCG28R, ST 4793R, ST 3636B2R, ST 4686R, and ST 5242BR) had yields significantly higher than the 1757 lb lint/ac. Seven varieties, (DP 445BG/RR, ST 4793R, ST 4892BR, ST 4575BR, DP 455BG/RR, DP 444BG/RR and OAX 303) had gin turnout significantly higher than the test mean of 40.54. ST 4793R, BCG 28R, ST 4892BR, DP393, PSC 355, ST 4646B2R OAX 303 and SG 747 had significant higher micronaire reading than the test mean of 4.71. Data for test are shown in Table 1.

Table 1. Yield, lint percent, boll size, length, strength, and micronaire of early maturing cotton varieties at Raymond MS of Grenada silt loam soil..

Variety	Lint Yield	Lint Percent	Boll Size	Length	Strength	Micronaire
	lbs.ac	%	gms	inch	g/tex	mic
ST 4575BR	1991	41.72	5.98	1.08	29.50	4.87
ST 5599BR	1942	41.50	7.08	1.10	30.53	4.80
DP 445BG/RR	1881	42.62	6.29	1.09	28.77	4.60
BCG 28R	1880	40.96	5.73	1.11	29.87	5.03
ST 4793R	1879	42.37	5.88	1.05	29.60	5.23
ST 3636B2R	1850	41.46	5.78	1.10	27.67	4.87
ST 4686R	1839	40.50	6.12	1.12	28.03	4.50
ST 5242BR	1834	41.26	6.49	1.06	28.10	4.40
ST 4892BR	1825	43.12	5.50	1.07	29.80	5.23
FM 960BR	1822	40.97	6.52	1.06	35.57	4.47
FM 966LL	1815	39.85	6.80	1.12	35.00	4.47
DP 449BG/RR	1803	38.29	5.93	1.10	30.93	4.73
DP 393	1787	41.47	6.00	1.12	31.10	5.03
DP 455BG/RR	1786	42.86	6.00	1.13	32.53	4.20
PSC 355	1781	40.37	5.27	1.07	29.37	5.07
DES 810	1762	38.24	5.43	1.05	31.17	4.47
FM 960RR	1760	40.17	6.71	1.14	31.10	4.20
SG 521R	1752	40.68	6.21	1.03	28.57	4.83
FM 960B2R	1744	40.38	5.96	1.15	32.67	4.40
PHY 410R	1738	39.32	5.29	1.09	29.27	4.80
DP 432RR	1738	40.47	5.62	1.08	29.20	4.97
FM 958LL	1727	39.41	6.27	1.12	33.20	4.83
ST 4646B2R	1700	40.47	5.84	1.07	29.63	5.07
DP 434RR	1688	41.45	5.93	1.16	27.50	4.00
DP 444BG/RR	1686	41.74	5.42	1.10	28.30	4.13
OAX 303	1676	43.92	5.66	1.10	26.63	5.03
DP 451BG/RR	1663	37.58	6.22	1.12	29.10	4.80
DES 816	1624	38.72	5.78	1.13	30.47	4.43
DP 424BGII/RR	1622	37.69	5.76	1.08	28.53	4.70
PM 1218BG/RR	1611	40.96	6.07	1.06	28.57	4.53
SG 747	1598	40.48	5.98	1.09	27.73	5.07
DP 436RR	1408	36.25	5.69	1.10	27.57	4.80
Mean	1757	40.54	5.98	1.10	29.96	4.71
LSD (.10)	74	1.15	0.68	0.03	1.25	0.32
CV (%)	3.60	2.09	8.37	2.15	3.07	5.02
R-Square	0.82	0.86	0.54	0.73	0.89	0.75