

MID AND FULL SEASON COTTON VARIETY TRIAL ON BROWN LOAM SOIL AT THE RAYMOND EXPERIMENT STATION

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ABSTRACT: The 2004 growing season for Raymond was excellent, with temperatures moderate 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 2284 lb lint/ac for DP 488BG/RR to a low of 1660 lb lint/ac for FM 800B2R. Average yield of the test was 1898 lb lint/ac. Five varieties (DP 555BG/RR, ST 5599BR, DP 488BG/RR, DP 491, and PSC 355) had yields significantly higher than 1898 lb lint/ac. Four varieties, (DP 491, DP 555BG/RR, DP 493, and DP 455BG/RR) had gin turnout significantly higher than the test mean of 41.39. DP 543BGII/RR, DP 494RR, DP 5415RR, and DP 555BG/RR had significant higher micronaire reading than the test mean of 4.62.

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KEYWORDS: Cotton, Variety Trial,

MATERIALS AND METHODS: Twenty-four mid and full season cotton varieties were evaluated for lint yield, gin turnout, boll size, staple length, strength, and micronaire in 2004. Test site was located on 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 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 (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 was 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. 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 2284 lb lint/ac for DP 488BG/RR to a low of 1660 lb lint/ac for FM 800B2R. Average of the test was 1898 lb lint/ac. Five varieties (DP 555BG/RR, ST 5599BR, DP 488BG/RR, DP 491, and PSC 355) had yields significantly higher than 1898 lb lint/ac. Four varieties, (DP 491, DP 555BG/RR, DP 493, and DP 455BG/RR) had gin turnout significantly higher than the test mean of 41.39. DP 543BG11/RR, DP 494RR, DP 5415RR, and DP 555BG/RR had significant higher micronaire reading than the test mean of 4.62. 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
DP 488BG/RR	2284	42.33	6.20	1.16	31.73	4.73
ST 5599BR	2064	42.16	6.31	1.10	31.73	4.50
DP 491	2036	44.19	5.95	1.18	33.43	4.70
DP555BG/RR	2010	45.16	4.94	1.09	30.07	4.97
PSC 355	1990	40.55	5.05	1.09	30.23	4.87
SG 747	1970	41.81	5.92	1.12	28.27	4.93
FM 800BR	1963	41.46	6.10	1.18	32.00	4.03
DP 449BG/RR	1955	40.82	4.94	1.12	31.37	4.53
ST 6848R	1947	38.44	5.59	1.14	33.90	4.67
DP 493	1930	44.08	5.33	1.10	30.20	4.80
FM 800RR	1907	41.10	5.97	1.14	34.17	4.33
DP 494RR	1905	43.36	5.77	1.10	32.30	5.03
DP 5415RR	1891	41.98	5.23	1.11	30.83	5.10
ST 6636BR	1863	40.10	5.60	1.17	32.97	4.70
DP 455BG/RR	1858	43.90	4.97	1.13	32.23	4.30
DP 453BGII/RR	1853	42.46	5.03	1.07	30.73	4.93
DP 445BG/RR	1841	41.84	5.50	1.10	29.97	4.60
ST 5454B2R	1812	39.11	5.90	1.09	32.13	5.07
ST 4242BR	1798	40.27	5.96	1.07	27.53	4.13
ST 5303R	1784	41.51	5.36	1.05	32.90	4.63
FM 991B2R	1775	38.92	5.37	1.12	32.87	4.43
FM 832LL	1746	38.91	6.00	1.16	30.83	4.03
DPLX02T57R	1702	39.14	5.80	1.07	29.87	4.63
FM 800B2R	1660	39.95	6.05	1.17	32.30	4.20
Mean	1898	41.39	5.62	1.12	31.44	4.62
LSD (.10)	88	1.54	0.45	0.02	1.80	0.26
CV (%)	3.93	2.72	5.82	1.54	4.18	4.06
R-Square	0.81	0.82	0.73	0.88	0.71	0.82