

COTTON VARIETY TEST RESULTS FOR LOUISIANA, 2005

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Abstract

The selection of a variety or varieties for maximum economic return is the first and most critical decision a cotton producer makes each season. To ensure that Louisiana cotton growers remain competitive in the U.S. and global textile markets, cotton varieties are tested and evaluated annually at test locations that represent the soil and climatic conditions of the state. These locations are: Dean Lee Research Station, Alexandria; Red River Research Station, Bossier City; Northeast Research Station, St. Joseph; and Northeast Research Station (Macon Ridge), Winnsboro. In 2005, a total of 41 varieties from private seed companies were evaluated for lint yield, and agronomic and fiber traits. Varieties submitted for testing were divided into two groups based on maturity classification (early or medium) determined by the company submitting the variety. Deltapine DP 444 BG/RR, Stoneville 5242 BR, Deltapine DP 555 BG/RR, and Stoneville ST 5599 BR were used as check varieties in both maturity groups.

Materials and Methods

Experimental procedures were similar for all locations. Plots were arranged in a randomized complete block design with four replications. Plots were four rows wide on 40-inch beds and 40 or 45 feet in length depending on location. All transgenic varieties received the same recommended cultural practices as the non-transgenic varieties. Yield was determined after defoliation by harvesting the center two rows with a two-row mechanical harvester. Grab samples were collected at harvest time from 4 replications to determine lint percentage and fiber quality.

Results

The results for all locations are listed below in tables 1-8. Additional data for the 2005 Cotton Variety Trials can be found online at www.lsuagcenter.com.

TABLE 1. One-year performance of early maturing cotton varieties on a Norwood silt loam at Alexandria, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Syngenta DX25105N	1510	40.4	4.5	1.16	29.8	83.2
*Deltapine DP 555 BG/RR	1326	41.3	4.4	1.14	26.7	82.7
Phytogen PHY 440W	1277	38.3	4.3	1.13	31.2	83.5
Deltapine DPLX04Y170BR	1266	39.7	4.3	1.14	27.7	82.9
Phytogen PHY 310R	1233	39.6	4.4	1.11	31.1	82.9
Deltapine DP 454 BG/RR	1226	40.1	3.9	1.13	27.9	83.3
Phytogen PHY 370WR	1218	38.5	4.5	1.11	30.8	83.1
*Stoneville ST 5599BR	1186	38.8	4.5	1.14	30.1	83.2
Deltapine DP 432 RR	1169	36.8	4.3	1.12	30	83
Deltapine DP 444 BG/RR	1168	37.5	3.9	1.11	28.4	82.7
Phytogen PHY 480WR	1162	37.1	4.4	1.16	32	84.2
Stoneville ST 4575BR	1153	38.2	4.1	1.12	31.6	82.8
Phytogen PHY 410R	1150	37.2	4.6	1.14	31.3	84.2
Deltapine DP 424 BGII/RR	1128	35.1	4.2	1.12	28	83
FiberMax FM 960 RR	1123	38.5	3.8	1.14	29.8	83.2
FiberMax FM 958 LL	1096	37.4	4.3	1.17	31	83.4
Phytogen PHY 470WR	1083	37.8	4.5	1.12	31	83.7
FiberMax FM 960 BR	1074	37.2	3.9	1.12	31.1	82.4
Stoneville ST 4686R	1072	37.5	4.2	1.11	32.1	82.8
Deltapine DP 434 RR	1052	37.4	3.8	1.15	28	82.6
Stoneville ST 5242BR	1051	36.9	4.3	1.12	28.4	82.9
FiberMax FM 960 B2R	1046	37	4.1	1.18	30.5	83.2
Deltapine DP 455 BG/RR	1019	38.3	3.9	1.14	29.2	82.4
FiberMax FM 966 LL	1012	35.8	4.1	1.12	31.6	83.8
Deltapine DP 445 BG/RR	945	37.1	4.3	1.13	32	82.6
Deltapine DP 449 BG/RR	905	35.4	4.4	1.11	29.3	82.3
Syngenta DX2410420	893	36.5	3.9	1.15	30.7	83
Mean	1131	37.8	4.2	1.13	30	83.1
LSD0.05	230	1.8	0.3	0.03	1.4	0.8
CV (%)	14.4	3.4	4.2	1.6	3.4	0.7

*Medium maturity variety included for comparison purposes only.

TABLE 2. One-year performance of medium maturing cotton varieties on a Norwood silt loam at Alexandria, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Deltapine DPLX05X648DR	1540	40.7	4.5	1.14	28.8	82.5
Deltapine DP 555 BG/RR	1538	40.9	4.4	1.15	28.3	82.3
Deltapine DPLX03X179R	1434	41.1	4.4	1.17	32.3	84.6
Stoneville ST 5599BR	1363	40.2	4.5	1.13	29.5	82.8
Deltapine DP 543 BGII/RR	1347	38.8	4.5	1.13	29.2	82.4
Deltapine DP 494 RR	1345	39.7	4.4	1.17	32.2	83.8
Deltapine DP 488 BG/RR	1300	38.4	4.2	1.17	29.5	82.5
Stoneville ST 6636BR	1279	35.6	4.3	1.16	31.3	83.3
*Stoneville ST 5242BR	1254	39.1	4.5	1.12	28.7	83.6
FiberMax FM 800 B2R	1245	37.8	3.9	1.21	32.5	84.4
*Deltapine DP 444 BG/RR	1220	39.1	4	1.11	28.5	82.4
FiberMax FM 991 BR	1163	36	4.3	1.15	33.2	82.9
Stoneville ST 5303R	1133	37	4.3	1.09	32.2	83.6
FiberMax FM 832 LL	1128	37.6	3.9	1.21	30.5	83.8
Stoneville ST 6848R	1090	35.3	4.3	1.14	32.4	83.8
FiberMax FM 991 B2R	1057	35.7	4.3	1.17	32.6	83.5
FiberMax 9166 B2LL	998	38.2	4.5	1.12	30.8	83.2
Mean	1261	38.3	4.3	1.15	30.7	83.2
LSD0.05	196	1.3	0.3	0.03	1.4	0.9
CV (%)	10.9	2.4	4.4	1.6	3.1	0.8

*Early maturity variety included for comparison purposes only.

TABLE 3. One-year performance of early maturing cotton varieties on a Norwood silt loam at Bossier City, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
*Deltapine DP 555 BG/RR	1711	39	4.6	1.08	26.5	81.7
Deltapine DP 449 BG/RR	1669	36.5	4.3	1.09	28.5	82.5
Deltapine DPLX04Y170BR	1667	38.1	4.6	1.08	27.3	82.2
*Stoneville ST 5599BR	1667	37.9	5	1.09	27.6	82.5
Deltapine DP 424 BG/RR	1630	35.8	4.4	1.08	27.7	83
Phytogen PHY 470WR	1575	37	4.7	1.09	29.7	83.5
Deltapine DP 454 BG/RR	1571	40.5	4.3	1.05	26.8	82
Deltapine DP 444 BG/RR	1569	37.4	4.2	1.09	27.3	83
Stoneville ST 5242BR	1565	38	4.6	1.08	26.7	82.4
Phytogen PHY 310R	1557	38.8	4.6	1.06	28.8	82.1
Phytogen PHY 480WR	1553	35.1	4.6	1.11	30.8	83.7
FiberMax FM 960 RR	1548	37.6	4.2	1.09	28.4	82.5
Deltapine DP 432 RR	1531	37.1	4.4	1.08	29.2	83.2
Phytogen PHY 370WR	1530	38	4.6	1.06	28.4	82.6
Stoneville ST 4575BR	1523	38.2	4.4	1.09	29.9	82.5
Stoneville ST 4686R	1520	38	4.4	1.08	30.2	82.4
Deltapine DP 434 RR	1511	38.7	4.3	1.13	28.1	82.6
Deltapine DP 445 BG/RR	1508	38.5	4.3	1.11	30.4	82.6
Phytogen PHY 410R	1500	36.5	4.8	1.1	29.8	83.1
Deltapine DP 455 BG/RR	1497	38.3	4	1.1	27.9	81.5
FiberMax FM 960 BR	1477	36.2	4.4	1.1	30.6	82.8
FiberMax FM 960 B2R	1462	36.7	4.5	1.12	28.6	82.4
Mean	1560	37.6	4.4	1.09	28.6	82.6
LSD0.05	239	1.7	0.2	0.02	0.9	0.8
CV (%)	7.8	3.1	2.7	1.5	2.6	0.6

*Medium maturity variety included for comparison purposes only.

NOTE: Due to early-season glyphosate drift injury, non-RR varieties have been excluded from the analysis at this location. Please refer to other Louisiana locations for information on these varieties.

TABLE 4. One-year performance of medium maturing cotton varieties on a Norwood silt loam at Bossier City, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Deltapine DPLX03X179R	1575	40.4	4.9	1.14	31	83.3
Stoneville ST 5599BR	1402	38.6	4.9	1.09	27.2	82
FiberMax FM 800 B2R	1339	37.3	4.2	1.16	29.9	82.6
FiberMax 9166 B2LL	1296	36.6	4.7	1.09	30.9	82.6
Deltapine DP 494 RR	1283	38.1	4.8	1.13	29.5	82.3
Deltapine DP 488 BG/RR	1263	37.6	4.7	1.15	29.1	82.3
*Stoneville ST 5242BR	1263	38.4	4.5	1.1	27.3	82.5
*Deltapine DP 444 BG/RR	1237	38.4	4.2	1.1	26.8	82.4
Deltapine DPLX05X648DR	1208	39.2	4.9	1.07	26.2	81.4
Stoneville ST 5303R	1201	36.1	4.7	1.09	30.7	82.9
Deltapine DP 555 BG/RR	1184	40.2	4.7	1.08	26.3	81.6
Stoneville ST 6636BR	1169	35.4	4.6	1.14	29	82.8
FiberMax FM 991 BR	1147	36.1	4.4	1.11	31.5	82.1
FiberMax FM 832 LL	1131	35.2	4.2	1.16	30.3	83.5
FiberMax FM 991 B2R	1099	36.1	4.1	1.13	28.7	82.2
Deltapine DP 543 BGII/RR	1067	36.4	4.7	1.11	27.5	81.9
Stoneville ST 6848R	999	34.2	4.6	1.13	30.5	83.3
Beltwide XBCG 1504	974	35.5	4.2	1.15	30	82.3
Mean	1213	37.2	4.5	1.12	29	82.4
LSD0.05	151	1.3	0.2	0.02	1.1	0.8
CV (%)	10.3	2.6	3.2	1.2	2.8	0.7

*Early maturity variety included for comparison purposes only.

TABLE 5. One-year performance of early maturing cotton varieties on a Commerce silt loam at St. Joseph, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Syngenta DX25105N	1355	40.1	4.7	1.11	28.1	82.8
Deltapine DP 432 RR	1304	38.4	4.8	1.09	30.1	82.6
Phytogen PHY 440W	1303	38.5	4.5	1.11	29.5	83.2
Deltapine DPLX04Y170BR	1273	38.9	4.5	1.1	28.4	82.2
Stoneville ST 4892BR	1263	38.9	4.8	1.09	29.2	83.1
Deltapine DP 424 BG/RR	1245	36.3	4.8	1.08	27.7	82.7
*Stoneville ST 5599BR	1237	38.9	4.7	1.11	28.7	82.2
Deltapine DP 455 BG/RR	1216	38.7	4.3	1.12	29.4	82.5
Stoneville ST 5242BR	1214	38.1	4.6	1.07	28.3	83.2
Deltapine DP 434 RR	1200	40	4.3	1.12	26.9	82
*Deltapine DP 555 BG/RR	1178	40.2	4.6	1.08	26.9	81.8
FiberMax FM 960 B2R	1171	37.8	4.6	1.14	30.3	83.4
Deltapine DP 445 BG/RR	1165	38.6	4.5	1.12	31.7	83.9
Phytogen PHY 480WR	1127	36.5	4.6	1.12	30.9	83.5
Phytogen PHY 370WR	1100	38.4	4.7	1.08	29.5	82.7
Deltapine DP 393	1096	39.2	4.6	1.12	31.1	83.4
FiberMax FM 960 BR	1008	36.7	4.6	1.1	31.5	83.2
Phytogen PHY 310R	1003	39.5	4.7	1.08	29.3	82.6
Deltapine DP 444 BG/RR	998	38.8	4.2	1.1	28.3	82.5
Phytogen PHY 470WR	997	36.3	4.6	1.09	30.3	83.4
FiberMax FM 966 LL	994	35.9	4.5	1.1	31.5	83.2
Deltapine DP 449 BG/RR	993	37.5	4.7	1.1	29.4	82.6
Syngenta DX2410420	977	36.5	4.3	1.13	29.9	82.6
FiberMax FM 960 RR	947	38.2	4.3	1.12	29.5	82.8
Phytogen PHY 410R	937	36.7	4.6	1.1	30.7	83.9
Syngenta DX 24706	919	37.8	4.8	1.08	28	82.5
Stoneville ST 4575BR	905	38.6	4.7	1.07	30.4	82.5
Paymaster PM 1267 RR	873	35.2	4.8	1.02	27.4	82.4
FiberMax FM 958 LL	798	36.3	4.6	1.14	29.4	82.4
Stoneville ST 4686R	791	38.2	4.5	1.1	31.3	82.4
Phytogen PHY 72	652	35.9	4.6	1.18	33.8	83
Deltapine DP 454 BG/RR	635	40.4	4.1	1.07	27.7	82.3
Mean	1065	38	4.6	1.1	29.5	82.8
LSD0.05	235	1.3	0.2	0.02	1	0.8
CV (%)	15.1	2.5	3.1	1.5	2.7	0.7

*Medium maturity variety included for comparison purposes only.

TABLE 6. One-year performance of medium maturing cotton varieties on a Commerce silt loam at St. Joseph, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Deltapine DP 555 BG/RR	1047	41.7	4.7	1.06	25.7	80.8
Deltapine DPLX05X648DR	1005	40.5	4.7	1.07	25.6	80.9
Deltapine DP 543 BGII/RR	996	38.3	4.8	1.1	27.2	81.3
Stoneville ST 5303R	992	38.3	4.8	1.08	30.9	83.2
FiberMax FM 991 BR	963	36.6	4.9	1.1	31.2	82.2
Deltapine DP 488 BG/RR	902	38	4.7	1.14	28.5	82.3
Stoneville ST 5599BR	889	38.8	4.7	1.09	27.8	82
FiberMax FM 991 B2R	882	36	4.4	1.12	29.8	81.6
Deltapine DP 494 RR	847	39	4.8	1.15	30.5	82.6
FiberMax FM 832 LL	846	36.2	4.2	1.18	29.4	83.1
FiberMax 9166 B2LL	831	38.1	4.9	1.08	29.4	82
FiberMax FM 800 B2R	817	37.9	4.2	1.15	29.8	82.8
Beltwide XBCG 1504	805	36.7	4.3	1.12	28	81.2
*Stoneville ST 5242BR	804	38.2	4.6	1.06	26.2	82
*Deltapine DP 444 BG/RR	751	39.3	4.2	1.09	27.5	82.2
Stoneville ST 6636BR	736	36.5	4.8	1.13	29.2	82.7
Stoneville ST 6848R	671	36	4.9	1.13	31.3	83.2
Deltapine DPLX03X179R	**	40.3	4.8	1.12	30.1	83.2
Mean	868	38.1	4.6	1.11	28.8	82.2
LSD0.05	112	1.2	0.2	0.02	1	0.7
CV (%)	8.6	2.2	2.7	1.4	2.7	0.7

*Early maturity variety included for comparison purposes only.

**Data missing.

TABLE 7. One-year performance of early maturing cotton varieties on an irrigated Gigger silt loam at Winnsboro, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Deltapine DP 445 BG/RR	2011	43.4	4.4	1.11	30.4	82.9
Syngenta DX25105N	1948	42.8	4.5	1.11	28.9	82.4
Deltapine DP 454 BG/RR	1927	42.8	4.1	1.07	28.3	82.6
Phytogen PHY 440W	1914	40.8	4.4	1.12	29.8	83.6
Deltapine DP 434 RR	1909	40.9	4.3	1.15	27.2	83.2
*Deltapine DP 555 BG/RR	1831	42.3	4.5	1.11	27.4	81.5
Deltapine DPLX04Y170BR	1796	41.5	4.6	1.1	27.9	82.4
Phytogen PHY 370WR	1783	40.5	4.6	1.08	29.7	82.9
Syngenta DX24706	1773	39.9	4.8	1.1	28.9	82.6
FiberMax FM 960 BR	1771	38.5	4.4	1.1	30.9	82.4
Phytogen PHY 310R	1771	39.4	4.5	1.08	29.7	82.3
FiberMax FM 960 RR	1766	39.3	3.9	1.12	29.8	83
Deltapine DP 432 RR	1756	39.1	4.7	1.09	30	82.9
Deltapine DP 449 BG/RR	1718	38.8	4.5	1.11	30	82.9
*Stoneville ST 5599BR	1699	38.5	4.4	1.12	29.2	82.7
FiberMax FM 966 LL	1684	38.4	4.3	1.11	31.3	83.1
Stoneville ST 4575BR	1664	39	4.6	1.07	30	82
Syngenta DX2410420	1646	38.8	4.2	1.13	29.3	82.6
Stoneville ST 4686R	1639	39.4	4.5	1.07	30.2	82.3
Deltapine DP 444 BG/RR	1635	40.9	4.2	1.11	28.4	83.2
Stoneville ST 5242BR	1619	39.2	4.6	1.07	28	83
FiberMax FM 960 B2R	1615	39.2	4.5	1.15	30.4	82.9
Phytogen PHY 410R	1582	38.4	4.5	1.12	30.3	83.8
Deltapine DP 455 BG/RR	1577	40.2	4.1	1.11	28.8	81.4
Phytogen PHY 470WR	1571	39.3	4.5	1.08	29.4	82.7
Phytogen PHY 480WR	1561	37.4	4.7	1.12	30.2	83
Deltapine DP 424 BGII/RR	1549	37.4	4.4	1.09	28.1	82.9
FiberMax FM 958 LL	1494	39.5	4.6	1.14	30.9	82.5
Mean	1722	39.9	4.4	1.1	29.4	82.7
LSD0.05	211	0.1	0.3	0.02	0.8	0.8
CV (%)	8.3	0.1	4.5	1.6	2.1	0.7

*Medium maturity variety included for comparison purposes only.

TABLE 8. One-year performance of medium maturing cotton varieties on an irrigated Gigger silt loam at Winnsboro, LA (2005).

Variety	Lint lb/acre	Lint percent	Mike	UHM inches	Strength g/tex	UI percent
Stoneville ST 5599BR	1920	38.9	4.4	1.1	28.6	82.2
FiberMax FM 800 B2R	1887	39.4	4	1.16	30.3	83
Deltapine DP 488 BG/RR	1878	40	4.5	1.13	28.8	82.3
Deltapine DP 494 RR	1867	40.7	4.6	1.14	31.1	82.6
Deltapine DPLX03X179R	1835	42.3	4.6	1.13	30.7	83.3
Stoneville ST 5303R	1800	39.3	4.5	1.07	30.6	82.9
*Stoneville ST 5242BR	1789	39.8	4.4	1.08	27.3	82.3
*Deltapine DP 444 BG/RR	1750	40.8	4.3	1.09	28	82.5
FiberMax 9166 B2LL	1746	38.4	4.5	1.1	31	82
Deltapine DP 555 BG/RR	1707	41.9	4.6	1.09	27.3	80.9
Deltapine DPLX05X648DR	1706	41.2	4.6	1.08	27.2	81.4
Stoneville ST 6636BR	1684	38.4	4.7	1.13	30.3	82.7
Deltapine DP 543 BGII/RR	1646	39.2	4.6	1.11	28.2	82.2
FiberMax FM 832 LL	1644	37.7	3.8	1.17	30.4	83.4
Beltwide XBCG 1504	1622	37.4	4	1.13	29.3	82.3
FiberMax FM 991 BR	1575	37.7	4.4	1.11	31.1	82.2
Stoneville ST 6848R	1564	36	4.4	1.13	31.8	83.5
FiberMax FM 991 B2R	1562	37.4	4.2	1.14	30.5	82.3
Mean	1732	39.3	4.4	1.11	29.6	82.4
LSD0.05	238	0.1	0.2	0.02	0.9	1
CV (%)	8.3	0.1	3.4	1.5	2.4	0.8

*Early maturity variety included for comparison purposes only.