

# 2011 Cotton Cultivar Trials in Central and South Texas

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## Introduction

Cotton cultivar tests (CCT) are conducted each year by Texas AgriLife Research to determine the relative performance of cultivars (varieties) available to producers in Texas. These tests are conducted statewide to evaluate commercial cultivars in every cotton growing region. Since Texas is a large state with diverse climates and growing seasons, the CCT results are reported separately for Central and South Texas, the Rolling and High Plains, and Far West Texas. This report concentrates on the cotton production regions of Central and South Texas.

Monthly rainfall totals are given in Table 1, with test locations, soil types, planting dates, and harvest dates given in Table 2 and yield and fiber characteristics presented in Tables 3 - 9.

Yield and other characteristics were analyzed as randomized complete block designs. Least significant differences (LSD) are used to determine if two cultivars are different at  $k=100$ , which approximates the 5% probability level. Values reported for any two cultivars at each location that differ by more than the LSD value are expected to be different in 95 of every 100 comparisons. The test average (mean) and the coefficient of variation (CV) also are reported for each characteristic measured at each location. The coefficient of variation is a measure of the uniformity of the test site (e.g. soil uniformity, drainage, disease, etc.). Lower coefficients of variation are desirable.

### Agronomic Determinations

**Lint yield:** Lint yield per acre is determined as (lbs. seed cotton/plot) x (appropriate gin turnout) x (area conversion factor).

**Gin turnout:** Amount of lint in a random sample of machine harvested seed cotton expressed as a percent of seed cotton in the sample.

### Fiber Quality Determinations

Fiber quality parameters were determined by high volume instrument (HVI) testing at the Texas Tech University Fiber and Biopolymer Research Institute at Lubbock, TX.

**Fiber Fineness:** Fiber fineness, micronaire, is a measure of the maturity and/or the fineness of cotton fibers and is reported in micronaire units. Micronaire is a relative measure of the development, or maturity, of the secondary wall of the cotton fiber throughout its entire length. Processing rates, fabric dyeing, and yarn and fabric appearance are adversely affected by immature fibers. Fine fibers, although mature, weigh less per unit length and may require reduced processing speeds compared to thicker fibers, yet these finer fibers may produce stronger yarns. Thick or coarse fibers result in fewer fibers in a cross section of yarn, and therefore, may produce weaker yarns.

Fiber fineness is determined by forcing air through a specified weight of lint. The rate of air flow is related to fiber thickness. Finer fibers result in more fibers per specified weight and, therefore, have greater resistance to air flow. Micronaire values of 3.4 or below indicate fine and

perhaps immature fibers and values of 5.0 or higher indicate coarse fibers. Values of 3.5 to 4.9 are desirable and indicate mature, well-developed fibers.

**Fiber Length:** Fiber length is reported in hundredths of an inch as measured by High Volume instrument and is the average of the longest 50 percent of the fibers in the sample, usually referred to as the upper half mean (UHM). Long fibers are desirable because they produce greater yarn strength, aid in spinning finer yarns, and can be processed at higher speeds.

**HVI fiber lengths (in.)  
and descriptive designation**

Below 0.97	Short
0.97 - 1.10	Medium
1.11 -1.28	Long
Above 1.28	Extra long

**Fiber Uniformity:** Fiber uniformity index (UI) provides a relative measure of the length uniformity of cotton fibers. Uniformity is calculated as the ratio of the average length of all fibers to the average length of the longest 50 percent of the fibers in the sample. High uniformity values indicate uniform fiber length distribution and are associated with a high-quality product and with low manufacturing waste.

**Uniformity ratios  
and descriptive designation**

Below 77	Very low
77-79	Low
80-82	Average
83-85	High
Above 85	Very high

**Fiber Strength:** Yarn strength and ease of processing are positively correlated with strong fibers. Strength values are reported in grams of force required to break a bundle of cotton fibers with the holding jaws separated by 1/8 inch. The size of the bundle of fibers is described in tex units. Fiber strength is described from very low to very high within UHM classifications.

HVI 1/8-inch gauge strength (g/tex)	Fiber length group and descriptive designation
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Short  
(0.96 inch or less)

18-19	Very low
20-21	Low
22-23	Average
24-25	High
26-27	Very high

Medium  
(0.97-1.10 inch)

17-19	Very low
20-22	Low
23-25	Average
26-28	High
29-31	Very high

Long  
(1.11-1.28 inch)

18-20	Very low
21-23	Low
24-26	Average
27-29	High
30-32	Very high

**Fiber Elongation:** Elongation is the degree of extension of the fibers before break occurs when measuring strength. Fiber bundle elongation is correlated with yarn elongation but has an insignificant effect on yarn strength. Its value and importance in yarn manufacture has not been fully established.

Fiber elongation  
and descriptive designation

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4.9 and below	Very low
5.0-5.8	Low
5.9-6.7	Average
6.8-7.6	High
7.7 and above	Very high

**Work to break:** An estimate of the amount of work required to completely break the bundle of fibers during HVI determination of fiber bundle strength. Work to break is estimated by multiplying HVI fiber bundle strength by elongation. This value provides an additional estimate of the yarn performance derived from each variety.

### 2011 Seasonal Condition

Central and South Texas growing conditions were characterized by record or near record moisture deficit and high temperatures. Dryland trials at College Station, Thrall, and Commerce were abandoned due to the severe drought. The irrigated trial at Chillicothe also was abandoned as the severe drought affected the groundwater level and irrigation pumps at that location could not extract water by mid summer. The dryland trials at Weslaco were preplant irrigated and thus the full soil profile followed by significant rainfall in June resulted in good yields. At Corpus, a



Table 2. 2011 Cotton Variety Test and Official Preliminary Test locations, soil type, planting date, harvest date, and irrigated/dryland.

<b>Location</b>	<b>Soil Type</b>	<b>Planting Date</b>	<b>Harvest Date</b>	<b>Irrigated</b>
Weslaco	Hildago s.c.l. <sup>1</sup>	3/9/2011	7/26/2011	yes
Weslaco	Hildago s.c.l. <sup>1</sup>	3/9/2011	7/25/2011	no
Corpus Christi	Victoria clay	3/12/2011	7/23/2011	no
San Patricio Co.	Victoria clay	3/11/2011	7/22/2011	yes
San Patricio Co.	Victoria clay	3/11/2011	7/29/2011	no
College Station	Westwood s.l. <sup>2</sup>	4/5/2011	8/16/2011	yes
College Station	Westwood s.l. <sup>2</sup>	5/17/2011	no harvest <sup>4</sup>	no
Thrall	Burleson clay	5/16/2011	no harvest	no
Commerce	Houston c.l. <sup>3</sup>	6/3/2011	no harvest	no
Chillicothe	Abilene c.l. <sup>3</sup>	5/23/2011	no harvest	yes/no

1. s.c.l.=sandy clay loam

2. s.l.=silt loam

3. c.l.=clay loam

4. Tests were not harvested due to severe drought.

Table 3. Agronomic performance and fiber quality of cotton cultivars evaluated at Weslaco during 2011 (Irrigated).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
PHY 499 WRF	1968	45.2	4.5	1.14	32.7	84.3	8.8	286
TAM 06 C-79	1937	40.6	3.9	1.17	32.9	82.3	7.8	257
TAM 06 WE-39	1905	44.1	4.4	1.08	28.0	81.8	7.9	221
Ark 0222-12	1887	43.3	3.5	1.16	31.2	83.4	9.5	295
Ark 0114-53	1866	44.8	4.2	1.13	30.1	84.6	9.1	272
All-Tex 255 (cv)	1857	42.9	4.1	1.18	31.4	82.9	6.9	217
Ark 9803-23-04	1836	40.9	4.1	1.20	31.4	83.8	8.4	262
FM 9058	1829	44.5	4.6	1.19	29.8	83.7	6.6	196
FM 835LLB2	1828	39.8	4.0	1.15	32.0	84.0	7.5	240
BX 1254LLB2	1825	42.9	4.1	1.12	29.7	81.9	8.1	239
UA48	1822	39.0	4.4	1.24	35.3	84.4	6.8	238
SSG HQ210 CT	1822	41.3	5.1	1.10	28.7	82.2	7.6	218
BX 1252LLB2	1818	42.2	3.6	1.11	30.3	82.4	8.6	259
DP 1050 B2RF	1798	45.7	4.1	1.16	27.9	83.4	8.8	243
Tamcot 73	1780	39.5	4.1	1.17	34.4	84.7	7.7	263
TAM 06 WE-14	1780	43.7	4.0	1.16	30.2	82.3	8.0	240
DP 0912B2RF	1780	41.5	4.3	1.11	29.5	82.8	8.4	248
PHY 375WRF	1751	43.4	3.5	1.09	28.2	82.3	8.0	225
FM 9170B2F	1750	41.6	3.8	1.17	33.2	83.2	7.0	232
AM 1550 B2RF	1741	43.6	3.9	1.12	30.4	82.8	8.4	254
All-Tex 91332 B2RF	1725	42.2	4.3	1.19	31.5	84.3	8.1	254
DP 1212 B2RF	1717	41.5	4.4	1.21	32.3	84.4	9.4	301
FM 9160B2F	1714	40.9	3.9	1.14	30.0	82.7	6.5	193
All-Tex Epic RF	1701	43.6	3.7	1.13	30.4	82.9	8.7	264
All-Tex 81144 B2RF	1692	41.1	3.8	1.19	32.4	83.4	8.5	275
DP 1044 B2RF	1682	40.7	3.8	1.15	29.8	83.1	9.0	267
DP 1048 B2RF	1658	45.1	4.2	1.16	30.2	83.4	8.8	266
All-Tex 91226 B2RF	1648	42.3	4.3	1.15	29.8	84.1	8.4	250
AM 1511 B2RF	1642	43.7	3.8	1.12	29.8	82.7	9.3	277
All-Tex 91132 B2RF	1629	40.3	3.6	1.21	29.8	82.2	7.8	232
ST 4145LLB2	1614	42.1	3.8	1.06	28.3	82.2	8.0	224
FM 1845LLB2	1610	40.4	3.9	1.21	33.2	84.2	7.5	247
TAM 06 B-69	1606	43.5	4.4	1.18	32.7	82.7	7.0	228
PHY 569 WRF	1597	40.6	3.6	1.09	30.6	82.5	9.2	281
FM 1773LLB2	1591	40.1	4.3	1.17	30.2	82.5	6.9	206



Table 3. Continued: Agronomic performance and fiber quality of cotton cultivars evaluated at Weslaco during 2011 (Irrigated).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
SSG HQ212 CT	1575	41.6	3.9	1.06	28.1	81.0	7.9	222
All-Tex 91239 B2RF	1555	43.1	3.9	1.15	29.3	81.9	7.8	229
DP 0935 B2RF	1551	43.7	3.8	1.12	29.1	82.3	8.4	243
ST 4288B2F	1544	37.3	4.0	1.16	30.1	82.5	8.2	245
CG 3787 B2RF	1534	42.4	3.9	1.13	28.6	82.7	9.1	260
DP 1133 B2RF	1527	45.1	3.8	1.11	32.1	83.7	9.0	289
PHY 367 WRF	1521	43.2	4.0	1.12	30.9	83.0	9.0	278
TAM 06 E-37	1514	38.5	4.5	1.17	33.5	84.6	7.7	258
NG 4010 B2RF	1512	40.1	4.0	1.12	30.8	81.9	8.1	249
DP 1032 B2RF	1506	45.6	3.8	1.13	29.9	81.8	7.9	235
TAM 06 A-61	1502	39.1	3.4	1.26	35.3	84.6	7.6	267
TAM 06 A-71	1475	41.8	3.9	1.26	33.2	83.2	7.1	234
PHY 725RF	1475	39.0	4.0	1.18	33.3	83.4	8.3	276
LSD (k=100) <sup>1</sup>	341	2.2	0.7	0.04	2.1	1.8	1.8	22.7
%CV	11.5	2.7	7.5	1.80	3.5	0.9	0.9	4.8
Mean	1686	42.1	4.0	1.15	30.8	83.0	8.1	249

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.
2. Field was defoliated early due to pilot error.

Table 4. Agronomic performance and fiber quality of cotton cultivars evaluated at Weslaco during 2011 (Dryland).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
Ark 0222-12	1951	42.5	4.3	1.12	31.0	82.6	9.5	292
DP 1044 B2RF	1667	42.0	4.3	1.07	30.8	82.5	9.1	278
Tamcot 73	1643	39.2	4.8	1.12	32.2	83.3	7.7	248
TAM 06 WE-39	1626	44.2	4.8	1.03	27.0	80.3	7.8	210
TAM 06 A-71	1606	42.3	4.1	1.18	34.1	82.3	7.1	241
CG 3787 B2RF	1591	44.4	4.2	1.06	27.3	82.3	9.4	255
DP 0912B2RF	1582	42.7	5.0	1.05	29.3	82.6	8.3	242
Ark 0114-53	1575	43.1	4.9	1.10	29.7	83.9	8.3	245
DP 1048 B2RF	1555	46.5	4.5	1.09	29.1	83.0	9.1	263
PHY 375WRF	1539	43.9	4.4	1.04	27.4	82.1	8.3	227
TAM 06 WE-14	1498	44.1	4.5	1.12	29.5	81.8	7.6	223
TAM 06 B-69	1495	44.1	4.6	1.10	30.8	82.3	7.2	221
PHY 499 WRF	1492	45.5	5.0	1.07	30.9	83.0	9.2	282
TAM 06 A-61	1487	41.1	3.7	1.15	33.8	82.6	7.5	252
AM 1511 B2RF	1472	46.0	5.0	1.08	30.2	82.8	9.2	278
DP 0935 B2RF	1453	44.4	4.7	1.05	28.4	81.4	8.4	239
DP 1050 B2RF	1451	45.0	4.4	1.07	27.2	82.1	9.1	247
NG 4012 B2RF	1442	43.1	4.6	1.08	29.3	82.9	7.1	206
AM 1550 B2RF	1438	43.9	4.7	1.06	27.0	81.4	8.0	215
TAM 06 C-79	1430	41.7	4.5	1.08	29.7	80.7	8.3	246
NG 4010 B2RF	1418	40.9	4.7	1.08	30.4	82.4	8.0	243
PHY 569 WRF	1392	41.8	4.7	1.03	29.6	81.6	9.8	290
PHY 367 WRF	1370	43.0	4.6	1.08	29.3	82.2	8.8	258
DP 1133 B2RF	1369	46.4	4.7	1.06	31.1	82.3	8.9	275
DP 0920 B2RF	1362	43.3	4.9	1.07	28.4	82.8	8.5	241
UA48	1272	38.6	4.9	1.21	35.2	85.1	6.7	235
TAM 06 E-37	1200	38.2	4.7	1.11	32.0	83.8	7.5	238
Ark 9803-23-04	1358	41.3	4.8	1.13	31.3	83.3	8.7	272
DP 1212 B2RF	1273	42.9	4.8	1.11	30.8	81.3	9.5	292
LSD (k=100) <sup>1</sup>	231	2.1	0.6	0.05	1.8	1.5	0.9	22.7
%CV	10.4	2.5	5.3	2.40	3.1	0.8	5.2	4.6
Mean	1478	43.0	4.6	1.09	30.0	82.4	8.2	251

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

Table 5. Agronomic performance and fiber quality of cotton cultivars evaluated at Corpus Christi during 2011 (Dryland).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
PHY 499 WRF	1173	43.5	4.6	1.06	32.4	83.3	9.7	314
AM 1511 B2RF	1099	42.6	4.5	1.07	31.5	81.0	9.5	298
AM 1550 B2RF	1052	40.9	4.4	1.02	25.3	80.1	7.9	200
TAM 06 WE-14	1004	41.2	4.2	1.07	28.5	80.8	8.3	235
BX 1252 LLB2	995	43.1	4.7	1.06	29.5	79.9	8.1	237
PHY 375WRF	994	41.9	4.3	1.05	28.3	80.5	8.0	226
TAM 06 WE-39	990	45.9	4.6	0.99	26.9	79.8	8.2	221
All-Tex OL 220	988	39.4	4.6	1.08	33.0	83.6	7.6	249
FM 9058	981	40.4	4.0	1.08	27.3	80.2	7.0	190
Tamcot 73	964	38.6	4.2	1.09	33.0	82.6	7.9	259
TAM 06 C-79	963	39.7	4.2	1.09	31.9	81.2	8.1	258
DP 0912B2RF	960	41.8	4.9	1.03	28.5	81.2	8.4	238
Ark 0222-12	960	40.3	4.4	1.08	31.6	82.6	9.1	287
NG 4010 B2RF	953	40.6	4.3	1.06	29.2	81.5	8.4	244
TAM 06 A-71	946	40.6	3.8	1.19	34.3	83.1	7.1	243
All-Tex 81144 B2RF	946	40.4	3.8	1.10	31.1	81.4	8.4	261
BX 1254LLB2	946	43.8	4.5	1.06	27.8	81.4	7.4	206
DP 1050 B2RF	932	45.2	4.6	1.07	28.8	82.0	9.7	279
SSG HQ210 CT	926	39.1	4.7	1.00	28.1	80.5	8.0	223
Ark 114-53	921	42.2	4.6	1.06	29.1	82.0	8.2	239
FM 9160B2F	921	41.9	3.9	1.09	27.0	82.9	6.3	169
DP 0935 B2RF	918	43.3	4.5	1.00	28.2	79.8	8.1	227
NG 4012 B2RF	908	41.6	4.2	1.06	28.7	81.4	6.8	194
DP 0920 B2RF	903	42.4	4.8	1.08	28.2	82.7	8.9	249
DP 1048 B2RF	895	45.5	4.4	1.07	29.1	81.3	8.7	253
ST 4288B2F	892	39.0	4.5	1.08	28.2	81.1	7.9	222
FM 1845LLB2	890	39.0	4.5	1.13	29.7	82.9	7.1	211
UA48	882	39.3	4.6	1.16	33.3	83.4	6.6	220
TAM 06 B-69	877	41.1	4.4	1.09	30.4	82.1	7.2	217
TAM 04 WD-9	866	40.0	4.5	1.07	29.6	81.1	6.7	196
DP 1044 B2RF	866	39.9	4.4	1.05	28.9	80.7	9.5	273
PHY 565 WRF	860	39.0	4.4	1.07	32.0	82.4	9.2	295
Tam 04 WA-24	851	38.3	4.1	1.09	28.3	80.9	7.2	202
CG 3787 B2RF	849	43.4	4.5	1.08	30.7	82.4	9.5	291
FM 9170B2F	831	39.6	3.8	1.12	29.6	82.2	7.2	212

Table 5. Continued: Agronomic performance and fiber quality of cotton cultivars evaluated at Corpus Christi during 2011 (Dryland).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
PHY 367 WRF	818	41.9	4.2	1.05	28.2	81.5	8.6	242
FM 835LLB2	814	37.6	4.1	1.10	30.3	82.1	7.1	215
All-Tex Epic RF	807	42.6	4.5	1.08	31.3	82.7	9.0	281
DP 1212 B2RF	804	41.2	4.9	1.12	33.3	83.6	9.0	299
SSG HQ212 CT	801	37.0	4.5	1.03	29.0	80.2	8.5	246
DP 1133 B2RF	799	45.0	4.8	1.06	30.2	82.4	8.8	264
TAM 06 A-61	795	40.2	4.1	1.13	33.9	83.0	7.9	268
DP 1032 B2RF	793	43.7	4.7	1.08	27.8	82.0	7.6	210
FM 1773LLB2	757	38.7	4.4	1.09	28.9	80.7	6.4	184
ST 4145LLB2	753	35.7	4.2	1.05	26.0	81.2	7.1	185
Ark 9803-23-04	753	41.2	4.4	1.13	31.9	83.4	8.6	272
TAM 06 E-37	750	35.2	4.0	1.11	32.7	84.1	7.5	245
PHY 725RF	690	36.0	4.5	1.13	35.6	83.3	8.6	304
LSD (k=100) <sup>1</sup>	192	4.0	0.3	0.06	2.6	1.9	0.6	26.7
%CV	12.5	4.5	3.8	2.70	4.4	1.1	3.8	5.9
Mean	890	41.0	4.4	1.07	29.9	81.7	8.1	241

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

Table 6. Agronomic performance and fiber quality of cotton cultivars evaluated at San Patricio County during 2011 (Irrigated).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elongation (%)	Work to break (cN/cm)
All-Tex 91226 B2RF	1478	42.8	5.4	1.11	28.5	81.9	8.2	232
Ark 0222-12	1478	42.6	4.8	1.16	32.4	82.8	8.8	284
DP 1212 B2RF	1382	41.4	4.9	1.14	32.6	83.4	8.9	290
DP 1048 B2RF	1348	43.9	4.6	1.13	30.5	83.4	8.9	270
All-Tex 255	1346	41.1	5.0	1.15	31.8	83.8	6.2	195
NG 4010 B2RF	1339	40.5	4.8	1.09	30.9	82.6	8.1	249
PHY 499 WRF	1339	44.3	4.9	1.11	32.0	84.6	9.5	304
TAM 06 WE-14	1337	42.8	4.9	1.14	30.6	82.9	7.7	235
FM 1845LLB2	1314	42.2	5.0	1.15	32.3	82.8	7.2	233
All-Tex 91132 B2RF	1289	40.3	4.9	1.17	31.6	83.5	8.1	254
AM 1511 B2RF	1285	43.1	4.8	1.08	30.5	82.0	9.7	295
TAM 06 WE-39	1285	44.3	5.0	1.11	31.2	82.0	7.6	235
PHY 375WRF	1275	41.5	4.8	1.08	29.4	83.0	8.3	244
TAM 06 B-69	1268	42.3	4.9	1.13	33.1	82.7	7.5	246
All-Tex 91239 B2RF	1260	43.1	4.7	1.10	30.5	81.7	7.4	224
DP 1050 B2RF	1258	45.2	4.9	1.13	29.9	82.4	8.8	262
PHY 565 WRF	1250	41.7	4.9	1.13	32.8	83.5	9.1	299
All-Tex 81144 B2RF	1248	41.8	4.4	1.18	34.0	84.5	7.7	260
TAM 06 A-71	1244	40.1	3.9	1.23	35.4	84.1	7.0	246
AM 1550 B2RF	1242	41.4	5.0	1.05	27.6	81.7	8.4	230
Tam 04 WA-24	1234	40.0	4.8	1.15	30.5	82.8	6.9	210
DP 0935 B2RF	1230	42.6	4.9	1.07	28.5	81.1	8.1	231
All-Tex 91332 B2RF	1229	41.7	4.7	1.11	30.3	83.2	7.6	230
Ark 0114-53	1221	41.8	5.0	1.08	29.7	82.7	8.0	236
DP 1032 B2RF	1211	42.6	4.8	1.11	29.3	82.5	7.4	215
Tamcot 73	1201	39.8	4.7	1.12	31.9	83.5	7.8	247
All-Tex OL 220	1178	41.7	5.0	1.10	35.0	83.5	7.6	264
BX 1254LLB2	1167	41.7	5.1	1.08	29.2	81.8	7.7	223
ST 4288B2F	1161	39.4	4.9	1.13	29.4	83.3	7.9	231
DP 1133 B2RF	1144	45.3	4.9	1.10	32.1	83.7	8.7	279

Table 6. Continued: Agronomic performance and fiber quality of cotton cultivars evaluated at San Patricio County during 2011 (Irrigated).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
Ark 9803-23-04	1139	41.7	5.0	1.15	32.6	83.8	8.0	259
FM 9160B2F	1136	41.1	4.7	1.12	30.5	83.9	6.3	192
BX 1252LLB2	1123	40.8	5.1	1.12	32.6	83.5	8.3	271
UA48	1094	39.4	5.2	1.23	35.0	85.6	7.1	248
TAM 04 WD-9	1076	40.8	5.1	1.10	29.6	82.6	6.2	184
FM 835LLB2	1062	38.6	4.6	1.15	31.4	83.0	7.5	234
NG 4012 B2RF	1056	41.6	4.6	1.09	29.0	81.8	6.6	190
FM 9170B2F	1048	39.8	4.4	1.15	31.7	83.1	7.1	225
PHY 367 WRF	1045	40.5	4.6	1.10	30.4	83.4	9.5	287
DP 1044 B2RF	1040	38.7	4.7	1.12	31.4	83.0	9.3	290
CG 3787 B2RF	1021	43.4	4.8	1.13	29.8	83.8	8.8	262
FM 1773LLB2	1007	38.4	4.9	1.13	30.3	81.9	6.7	202
TAM 06 C-79	1005	41.1	4.7	1.10	31.7	81.4	8.3	262
ST 4145LLB2	987	38.6	4.9	1.10	29.5	83.4	7.4	216
TAM 06 A-61	979	39.6	4.1	1.22	37.0	85.4	7.2	266
TAM 06 E-37	924	36.0	4.8	1.12	33.8	84.3	7.3	246
LSD (k=100) <sup>1</sup>	345	2.9	0.3	0.04	2.0	2.4	0.5	22.7
%CV	14.4 <sup>2</sup>	3.3	3.1	1.80	3.3	1.1	3.6	5.0
Mean	1186	14.4	4.8	1.12	31.2	83.0	7.9	246

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

2. Some signs of herbicide drift at mid-season.

Table 7. Agronomic performance and fiber quality of cotton cultivars evaluated at San Patricio County during 2011 (Dryland).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
AM 1511 B2RF	1130	44.9	5.0	1.04	29.7	81.0	9.8	290
Tamcot 73	1081	38.8	4.4	1.12	35.3	83.1	7.8	275
ST 4288B2F	1059	40.6	4.7	1.06	27.5	80.8	7.7	211
All-Tex 91226 B2RF	1050	42.4	5.1	1.06	28.1	81.3	8.2	230
All-Tex 91332 B2RF	1046	41.6	4.8	1.07	29.5	81.6	7.8	229
FM 9160B2F	1026	41.8	4.1	1.06	27.3	81.5	6.8	184
TAM 06 WE-39	1008	42.8	5.0	1.04	27.8	79.3	7.7	214
ST 4145LLB2	972	40.4	4.8	1.03	26.7	81.7	7.0	186
Ark 0222-12	965	42.7	4.4	1.07	29.7	81.5	9.2	272
DP 0935 B2RF	965	43.2	4.9	1.04	27.3	80.9	8.0	218
DP 1212 B2RF	949	43.4	4.7	1.08	30.6	82.1	9.1	278
TAM 06 C-79	941	42.5	4.6	1.03	27.3	79.8	7.8	213
PHY 367 WRF	936	42.7	4.7	1.01	27.8	80.1	8.9	247
PHY 499 WRF	922	44.0	4.6	1.05	31.1	82.0	9.4	293
All-Tex 81144 B2RF	915	41.9	4.1	1.10	31.7	81.9	8.8	278
FM 9170B2F	915	42.3	3.9	1.11	30.2	81.7	7.1	214
TAM 06 A-61	914	40.2	4.2	1.16	34.8	83.2	7.4	257
Ark 014-53	909	42.6	5.0	1.04	27.4	81.8	7.8	213
BX 1254LLB2	905	41.4	4.8	1.05	27.1	80.5	7.4	201
DP 0920 B2RF	890	44.0	5.1	1.03	26.8	80.9	8.7	231
CG 3787 B2RF	886	44.6	4.8	1.05	26.9	80.1	8.6	230
TAM 06 A-71	875	41.5	4.1	1.16	33.2	82.0	7.4	245
NG 4010 B2RF	874	40.3	4.7	1.06	28.8	81.8	8.2	235
FM 1845LLB2	872	39.5	4.7	1.12	30.0	82.1	7.5	223
TAM 06 B-69	857	41.4	4.7	1.10	30.6	82.2	7.0	214
DP 1044 B2RF	854	42.6	4.6	1.02	27.9	80.4	9.2	255
Ark 9803-23-04	852	40.7	4.4	1.13	32.1	82.9	8.1	260
NG 4012 B2RF	850	41.5	4.5	1.05	27.9	81.8	7.0	194
All-Tex 220 OL	846	41.7	4.6	1.08	33.1	82.9	7.5	247
BX 1252LLB2	844	41.3	4.6	1.05	28.7	80.9	8.6	247

Table 7. Continued: Agronomic performance and fiber quality of cotton cultivars evaluated at San Patricio County during 2011 (Dryland).

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
DP 1133 B2RF	839	46.5	5.2	1.06	29.8	82.6	8.8	260
DP 1050 B2RF	834	45.2	4.7	1.06	26.6	82.3	8.7	232
AM 1550 B2RF	821	42.1	4.7	1.04	26.1	80.6	8.3	215
PHY 565 WRF	819	41.4	4.9	1.06	29.4	81.8	9.4	274
FM 1773LLB2	813	38.2	4.7	1.10	28.5	81.8	6.4	181
TAM 04 WA-24	813	40.4	4.5	1.10	27.6	81.3	7.2	197
All-Tex 91132 B2RF	807	40.3	4.8	1.09	26.8	80.6	7.7	206
UA48	786	39.6	4.7	1.19	33.7	84.3	6.8	229
FM 835LLB2	782	39.4	4.1	1.10	29.1	81.4	7.5	218
TAM 04 WD-9	741	41.1	4.8	1.06	27.4	81.5	6.5	178
DP 1048 B2RF	730	43.1	4.7	1.07	27.9	81.2	9.1	253
TAM 06 E-37	719	37.7	4.9	1.10	31.6	82.7	7.4	234
All-Tex 10781 RF	711	43.6	4.1	1.06	27.0	81.2	7.7	208
All-Tex 91239 B2RF	.	42.4	4.5	1.08	27.3	80.4	6.9	188
DP 1032 B2RF	.	43.0	5.0	1.09	29.4	81.9	7.3	213
PHY 375WRF	.	42.0	4.5	1.01	27.0	80.6	7.8	211
TAM 06 WE-14	.	42.2	4.7	1.09	28.1	81.4	7.6	213
LSD (k=100) <sup>1</sup>	ns	2.9	0.4	0.06	2.5	2.0	0.6	28.3
%CV	12.1	3.2	4.0	2.60	4.3	1.0	4.1	6.4
Mean	892	42.0	4.6	1.07	28.9	81.5	7.9	229

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

2. Lost yield data to drought conditions.



Table 8. Agronomic performance and fiber quality of cotton cultivars evaluated at College Station during 2011. (Irrigated)

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
PHY 499 WRF	1985	44.3	4.8	1.15	34.4	85.1	8.2	280
AM 1511 B2RF	1963	42.9	4.9	1.14	32.9	84.1	8.9	291
DP 0912B2RF	1893	41.1	5.0	1.11	30.4	84.4	7.6	231
10R020B2R2	1859	41.9	4.5	1.16	30.9	83.7	7.2	221
CG 3220 B2RF	1823	41.5	4.8	1.13	30.9	84.2	8.0	246
Ark 0114-53	1818	43.3	5.3	1.13	31.0	84.6	7.5	231
DP 1044 B2RF	1808	41.3	4.3	1.13	30.3	82.8	8.9	269
DP 1032 B2RF	1783	42.2	4.5	1.21	33.8	84.2	6.7	226
DP 0935 B2RF	1764	42.8	4.5	1.11	29.7	81.6	8.2	244
DP 1212 B2RF	1760	40.6	5.0	1.18	33.5	84.9	8.3	276
PHY 375WRF	1754	41.3	4.5	1.14	30.3	84.2	7.0	210
ST 5288B2F	1747	40.0	4.7	1.13	29.8	83.2	7.3	216
AM 1550 B2RF	1732	41.2	4.8	1.11	28.4	83.1	7.5	211
BX 1252LLB2	1727	40.6	4.8	1.13	31.0	83.1	7.7	238
SSG HQ210 CT	1698	37.9	5.0	1.15	32.5	83.3	6.9	224
Tam 04 WA-24	1696	37.6	4.7	1.23	31.6	83.6	6.5	205
DP 1219 B2RF	1696	40.2	4.3	1.18	31.8	83.9	7.2	229
Ark 0222-12	1693	40.5	4.7	1.19	31.8	83.3	8.1	258
ST 5458B2RF	1683	39.5	5.0	1.15	30.5	82.3	8.0	244
ST 4145LLB2	1679	39.8	4.4	1.16	31.1	84.5	7.1	221
BX 1262B2F	1665	42.8	4.7	1.12	32.4	82.7	8.1	260
DP 1133 B2RF	1660	44.2	5.0	1.14	33.1	83.6	7.9	261
FM 1740B2F	1658	41.4	4.8	1.14	31.8	83.0	7.3	230
BCSX 1150B2F	1644	38.5	4.7	1.18	33.6	84.3	7.9	263
PHY 367 WRF	1632	40.7	4.4	1.13	31.7	83.0	7.7	244
PHY 569 WRF	1628	40.2	4.4	1.15	32.9	84.5	8.3	273
All-Tex Epic RF	1620	42.1	4.6	1.15	31.9	83.8	8.4	268
Tamcot 73	1619	37.0	4.9	1.18	35.3	83.9	6.9	242
TAM 06 C-79	1618	40.2	4.6	1.19	33.2	82.6	7.8	259
TAM 06 B-69	1617	40.2	4.7	1.22	32.8	84.1	6.6	217

Table 8. Continued: Agronomic performance and fiber quality of cotton cultivars evaluated at College Station during 2011. (Irrigated)

Cultivar	Lint yield (lb/ac)	Gin turnout (%)	Micro- naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong- ation (%)	Work to break (cN/cm)
DP 1048 B2RF	1616	42.9	4.5	1.16	30.4	84.3	8.3	250
FM 9058	1615	39.5	4.6	1.20	32.2	84.1	6.2	198
NG 4012 B2RF	1582	41.1	4.2	1.10	30.9	82.0	6.5	199
Ark 9803-23-04	1554	40.7	4.9	1.14	31.2	82.9	7.2	226
BX 1254 LLB2	1544	40.2	4.7	1.16	33.0	83.1	7.1	232
UA48	1535	38.6	5.1	1.27	36.1	85.5	6.6	236
SSG HQ212 CT	1524	37.2	4.8	1.16	32.0	82.9	7.1	227
BX 1261B2F	1523	38.4	4.3	1.15	29.8	83.1	7.8	231
NG 4010 B2RF	1522	39.1	4.7	1.14	33.3	83.7	7.5	248
FM 9170B2F	1520	39.9	4.3	1.22	32.7	84.1	6.9	224
FM 835LLB2	1516	36.5	4.6	1.22	33.9	85.0	6.7	225
FM 2484B2F	1496	41.2	4.4	1.21	32.6	84.0	6.4	207
CG 3787 B2RF	1484	44.5	4.6	1.18	31.6	84.9	8.2	259
TAM 06 A-71	1474	38.6	3.9	1.30	36.0	84.2	6.6	235
ST 4288B2F	1469	37.1	4.5	1.17	31.4	83.8	7.5	235
DP 1050 B2RF	1457	44.9	4.8	1.15	29.7	83.6	8.5	252
FM 1845LLB2	1453	37.8	4.9	1.21	33.6	85.3	6.8	228
DP 1252 B2RF	1450	46.4	4.7	1.15	31.2	84.2	8.1	251
FM 9160B2F	1443	39.0	4.4	1.18	31.1	85.1	5.9	182
FM 1773LLB2	1441	36.9	5.0	1.23	34.4	84.5	5.7	196
TAM 04 WD-9	1429	38.7	5.0	1.17	31.1	84.2	5.7	177
10R051B2R2	1422	44.5	4.8	1.16	30.7	84.6	8.4	258
PHY 565 WRF	1420	38.4	4.2	1.18	34.0	84.3	8.1	275
TAM 06 WE-14	1393	40.6	4.5	1.17	31.7	82.6	6.8	215
BX 1264B2F	1385	37.8	4.4	1.16	31.7	83.9	6.8	215
TAM 06 WE-39	1384	40.6	4.8	1.18	31.0	83.8	7.4	228
All-Tex 81144 B2RF	1278	38.9	4.3	1.21	34.3	85.3	8.0	274
All-Tex 9W2863	1238	37.4	4.8	1.25	34.2	85.5	7.8	265
TAM 04 WB-33-1s	1222	35.7	4.3	1.21	35.2	86.0	7.2	253
TAM 06 E-37	1199	37.4	5.1	1.17	34.0	85.2	7.2	243
PHY 725RF	1156	37.4	4.2	1.23	36.0	84.6	7.4	266
TAM 06 A-61	1142	37.0	3.6	1.30	36.1	85.7	7.2	258
TAM 04 WB-33-2s	1012	35.8	4.3	1.28	35.6	85.7	6.9	244
LSD (k=100) <sup>1</sup>	257	2.1	0.5	0.05	2.3	1.3	0.5	24.2
%CV	11.4	2.8	4.9	2.10	3.5	0.8	4.0	5.3
Mean	1572	40.2	4.6	1.17	32.3	84.0	7.4	238

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

Table 9. Average agronomic performance and fiber quality of cotton cultivars evaluated at all locations during 2011, Weslaco (2), Corpus Christi, San Patricio County (2), and College Station.

Cultivar	Lint Yield	Gin Turnout	Micron- aire	Length	Strength	UI	Elong- ation	Work to Break
	(lb/ac)	(%)	(units)	(in)	(g/tex)	(ratio)	(%)	(cN/cm)
Ark0222-12	1489	42.0	4.4	1.13	31.3	82.7	9.0	281
PHY499WRF	1480	44.5	4.7	1.10	32.3	83.7	9.1	293
AM1511B2RF	1432	43.9	4.7	1.09	30.8	82.3	9.4	288
Ark0114-53	1385	43.0	4.8	1.09	29.5	83.3	8.2	239
Tamcot73	1381	38.8	4.5	1.13	33.7	83.5	7.6	256
TAM 06WE-39	1366	43.7	4.8	1.07	28.7	81.2	7.8	222
AM1550B2RF	1338	42.2	4.6	1.07	27.5	81.6	8.1	221
DP1044B2RF	1320	40.9	4.4	1.09	29.9	82.1	9.2	272
TAM 06C-79	1316	41.0	4.4	1.11	31.1	81.3	8.0	249
DP1212B2RF	1314	41.8	4.8	1.14	32.2	83.3	9.0	289
DP0935B2RF	1314	43.3	4.6	1.07	28.5	81.2	8.2	234
DP1048B2RF	1300	44.5	4.5	1.11	29.5	82.8	8.8	259
DP1050B2RF	1288	45.2	4.6	1.11	28.4	82.6	8.9	253
TAM 06B-69	1287	42.1	4.6	1.14	31.7	82.7	7.1	224
TAM 06A-71	1270	40.8	4.0	1.22	34.4	83.2	7.1	241
NG4010B2RF	1270	40.3	4.5	1.09	30.6	82.3	8.1	245
Ark9803-23-04	1249	41.1	4.6	1.15	31.8	83.4	8.2	259
UA48	1232	39.1	4.8	1.22	34.8	84.7	6.8	234
CG3787B2RF	1228	43.8	4.5	1.11	29.2	82.7	8.9	260
DP1133B2RF	1223	45.4	4.7	1.09	31.4	83.1	8.7	271
PHY367WRF	1220	42.0	4.4	1.08	29.7	82.2	8.8	259
TAM 06A-61	1137	39.5	3.9	1.20	35.2	84.1	7.5	261
TAM 06E-37	1051	37.2	4.7	1.13	32.9	84.1	7.4	244
LSD (k=100)	170	1	0.2	0.02	1.1	0.8	0.3	13
% CV	11.3	2.1	4.3	1.87	3.1	0.8	3.5	4.5
Mean	1308	42	4.5	1.12	30.9	82.7	8.2	252

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

Table 10. Conventional preliminary variety trial averaged across Weslaco (irrigated) and Corpus Christi (dryland) in 2011.

Strain	Lint yield (lb/ac)	Gin turnout (%)	Micron- aire (unit)	Length (in.)	Strength (g/tex)	UI (index)	Elong- ation (%)	Work to Break (cN/cm)
Tamcot 22	1278	39.2	4.4	1.12	29.6	81.8	7.7	224
DPL 491	1237	40.0	4.5	1.15	30.4	82.7	7.1	215
07TAM V-45	1235	40.7	4.6	1.10	30.9	82.3	8.2	251
07TAM WD-57	1232	38.5	3.9	1.15	28.8	81.4	7.8	222
07TAM X-14	1218	38.3	4.0	1.16	33.4	83.6	7.3	240
PSC 355	1211	38.7	5.0	1.09	31.3	82.2	8.8	272
07TAM WD-54	1181	39.2	4.3	1.12	29.5	81.8	7.4	215
07TAM X-8	1160	37.0	4.6	1.18	33.0	84.2	7.4	241
07TAM WA-18	1157	37.4	4.3	1.25	34.9	85.1	7.3	251
07TAM U-8	1153	38.2	4.5	1.15	35.3	84.1	8.6	301
07TAM V-3	1145	36.3	4.2	1.19	30.7	83.1	6.1	186
07TAM WC-18	1132	38.3	4.6	1.16	31.8	83.1	7.0	219
07TAM Y-33	1110	36.3	4.2	1.18	31.3	83.2	7.3	225
07TAM WB-29	1108	36.3	4.1	1.20	31.4	82.7	6.5	201
07TAM W-51	1101	37.6	4.4	1.16	31.8	83.0	7.4	234
07TAM WD-32	1099	37.5	4.2	1.15	31.3	82.8	7.2	225
FM 832	1078	37.3	4.4	1.19	32.7	84.2	6.6	214
07TAM S-46	1077	37.1	4.0	1.23	31.3	82.8	7.2	224
07TAM WC-13	1068	36.4	4.3	1.15	31.0	83.2	7.2	220
07TAM S-1	1054	35.9	4.3	1.16	33.9	83.9	7.3	245
07TAM WE-13	1045	37.2	4.0	1.19	30.7	81.6	7.3	222
07TAM WG-1	978	35.9	4.5	1.26	35.2	85.4	7.3	257
LSD (k=100) <sup>1</sup>	182	1.5	0.3	0.5	2.1	1.4	0.4	56
Mean	1138	37.7	4.3	1.17	31.8	83.1	7.4	232

1. Values within columns are different at approximately  $p=0.05$  ( $k=100$ ) if they differ by more than the LSD at the base of the column.

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