Cotton Cultivar Trials for 2013 Central and South Texas

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Introduction

Official Variety Trials (OVT) in cotton are conducted each year by Texas A&M AgriLife Research to determine the relative performance of 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 OVT results are reported separately for Central and South Texas, and the Rolling and High Plains. This report concentrates on the cotton production regions of Central and South Texas.

Most production regions in Central and South Texas received less than normal rainfall during the winter of 2012/13 with some increase in spring rainfall but followed by another rainfall deficient summer season. Test locations, soil types, planting dates, and harvest dates given in Table 1 and yield and fiber characteristics for individual locations are presented in Tables 2 - 10.

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 Volumn 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
	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	
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.

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Table 1. 2011 Cotton Variety Test and Official Preliminary Test locations, soil type, planting date, harvest date, and irrigated/dryland.

Location	Soil Type	Planting Date	Harvest Date	Irrigated
Weslaco	Hildago s.c.l.[1]	3/9/13	8/14/13	yes
Weslaco	Hildago s.c.l.[1]	3/9/13	8/14/13	no
Corpus Christi	Victoria clay	3/20/13	8/8/13	no
San Patricio Co.	Victoria clay	5/14/13	9/23/13	no
College Station	Westwood s.l.[2]	4/25/13	12/03/13	yes
College Station	Westwood s.l.[2]	4/22/13	9/13/13	no
Thrall	Burleson clay	5/3/13	9/5/13	no
Commerce	Houston c.l.[3]	5/2/13	10/3/13	no
Chillicothe	Abilene c.l.[3]	5/3/13	11/2/13	yes

1. s.c.l.=sandy clay loam
2. s.l.=silt loam
3. c.l.=clay loam

Table 2. Agronomic performance and fiber quality of cotton cultivars evaluated at Weslaco under irrigated culture during 2013.

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
PHY 499 WRF	2511	45.3	5.6	1.13	31.1	85.5	7.0	216
PHY 339 WRF	2255	41.6	4.9	1.17	32.0	85.8	6.2	197
MON 12R242B2R2	2237	45.0	5.2	1.13	30.6	84.6	7.5	229
All-Tex Nitro 44 B2R	2216	40.7	4.5	1.22	34.2	85.1	6.2	212
PHY 575 WRF	2164	40.7	4.7	1.21	30.8	84.8	6.8	210
TAM 07 V-45	2123	40.5	4.8	1.15	31.3	84.3	6.2	194
DP 1219 B2RF	2092	43.4	4.9	1.20	32.7	83.6	5.4	177
DP 1252 B2RF	2083	44.0	5.2	1.15	30.5	84.4	6.6	199
MON 12R224B2R2	2081	41.5	4.8	1.17	29.9	85.9	5.8	172
TAM 08 WZ-78	2045	43.6	4.9	1.20	31.4	84.4	5.4	168
SSG HQ 210 CT	2023	40.5	5.5	1.11	31.8	83.3	5.5	173
DP 1359 B2RF	2009	44.8	5.2	1.18	32.3	84.1	5.6	181
Preliminary Variety	1987	43.3	4.6	1.19	31.2	85.6	5.9	182
DP 0912B2RF	1970	41.4	5.3	1.11	30.9	84.6	6.5	201
All-Tex CT13125 B2RF	1962	43.6	4.9	1.18	31.5	84.6	6.8	214
MON 12R249B2R2	1962	43.8	4.8	1.18	32.0	83.5	5.5	176
DP 1044 B2RF	1949	40.4	4.5	1.15	30.8	84.0	7.4	228
TAM 08 WZ-83	1937	42.0	5.1	1.23	33.4	85.5	4.9	163
SSG UA 222	1914	40.7	4.6	1.24	32.6	85.8	7.1	231
PHY 367 WRF	1902	41.4	4.9	1.14	31.9	84.1	6.8	215
PHY 725RF	1862	37.8	4.6	1.22	36.2	85.1	6.8	247
PHY 375WRF	1847	43.0	4.7	1.13	28.9	85.5	6.0	172
MON 13R341B2R2	1840	43.7	5.5	1.18	33.4	85.3	5.9	197
DP 1032 B2RF	1829	42.7	5.1	1.17	31.3	84.7	6.1	191
FM 9058RF	1769	39.9	4.6	1.16	29.9	84.2	5.0	148
FM 1740B2F	1762	42.0	5.0	1.10	30.8	83.5	6.3	192
TAM 11 T-08	1742	36.6	4.4	1.38	36.2	86.6	5.9	214
NG 1511 B2RF	1716	43.7	4.9	1.14	33.1	84.5	7.5	247
AM 1550 B2RF	1699	42.2	5.0	1.11	29.2	84.0	6.6	191
SSG UA 103	1658	39.9	5.0	1.23	33.5	85.0	6.2	208
NG 5315 B2RF	1651	44.5	4.9	1.16	30.9	84.5	7.1	219
TAM 11 L-24	1648	36.4	4.4	1.30	33.7	86.3	5.7	190
TAM 11 K-13	1638	36.0	4.2	1.45	35.3	86.4	5.0	175
DP 1454*NR* B2RF	1589	44.9	4.8	1.16	29.9	84.0	6.2	185
All-Tex Epic RF	1529	43.5	4.8	1.13	31.3	84.3	7.4	230
TAM 07 WA-18	1501	36.5	4.4	1.27	34.0	85.2	5.8	195

LSD (k=100)[1]	ns	1.7	0.4	0.03	1.7	1.7	0.8	29.7
%CV	20.1	2.1	4.0	1.50	2.7	0.9	6.3	7.4
Mean	1906	41.7	4.8	1.18	31.9	84.8	6.2	198

1. Values within a column are different at approximately $p<0.05$ (k=100) if they differ by more than the LSD at the base of the column.
2. Lint yield values are different at approximately $p<0.10$ (k=50) if they differ by more than the at the LSD at the base of the column.

Table 3. Agronomic performance and fiber quality of cotton cultivars evaluated at Weslaco under dryland culture during 2013.

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
TAM 08 WZ-78	2357	46.1	4.9	1.12	28.6	81.8	5.2	149
PHY 339 WRF	2263	44.3	4.8	1.13	31.1	84.6	6.7	207
MON 12R249B2R2	2179	45.6	4.9	1.10	29.7	82.2	5.8	172
MON 12R224B2R2	2172	43.8	5.0	1.12	28.8	84.6	6.3	181
PHY 499 WRF	2132	45.3	5.3	1.07	31.8	83.9	7.3	230
TAM 07 V-45	2113	40.9	4.7	1.12	31.2	82.6	6.5	201
TAM 08 WZ-83	2099	43.8	5.1	1.18	33.8	84.8	4.9	164
DP 1359 B2RF	2052	46.2	4.9	1.16	30.7	83.2	5.2	158
DP 1219 B2RF	2008	44.3	4.9	1.14	31.6	82.5	5.6	175
PHY 575 WRF	1913	41.7	4.7	1.16	28.7	84.1	6.4	182
TAM 11 T-08	1888	37.5	4.3	1.35	37.8	86.4	5.6	210
SSG UA 222	1870	42.3	4.9	1.17	32.2	84.7	6.9	222
DP 1044 B2RF	1861	43.0	4.9	1.07	29.8	83.6	7.9	234
DP 0912B2RF	1845	42.8	5.3	1.05	28.7	82.7	6.4	182
PHY 375WRF	1815	44.3	4.9	1.11	29.9	84.8	6.1	182
TAM 11 K-13	1813	36.8	4.2	1.42	33.8	86.7	4.8	162
TAM 07 WA-18	1802	38.7	4.5	1.24	34.9	85.4	5.4	187
SSG UA 103	1798	41.1	4.9	1.17	33.5	84.8	6.3	209
FM 9058RF	1796	41.9	4.6	1.14	29.1	83.4	4.7	135
NG 5315 B2RF	1726	45.9	5.0	1.12	29.4	84.6	7.3	213
NG 1511 B2RF	1719	44.1	5.0	1.08	32.6	84.2	7.8	252
SSG HQ 210 CT	1713	40.6	5.3	1.06	30.0	82.0	5.9	175
TAM 11 L-24	1663	34.6	4.2	1.27	34.2	85.8	5.7	195
PHY 367 WRF	1637	42.7	5.2	1.07	30.0	82.6	6.8	202
PHY 725RF	1520	39.2	4.8	1.19	35.9	84.6	6.4	228
LSD (k=100)[1]	ns	2.5	0.5	0.04	1.4	1.5	0.6	21.2
%CV	17.6	3.0	4.3	1.60	2.4	0.9	5.2	5.7
Mean	1916	42.3	4.8	1.15	31.5	84.0	6.1	192

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. Lint yield values are different at approximately $p<0.10$ (k=50) if they differ by more than the at the LSD base of the lint yield column.

Table 4. Agronomic performance and fiber quality of cotton cultivars evaluated at Corpus Christi under dryland culture during 2013.

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
TAM 08 WZ-83	163	37.4	5.1	0.96	28.6	78.0	5.5	156
SSG UA 103	162	36.5	4.6	1.02	33.6	80.8	7.0	235
MON 12R249B2R2	156	41.2	5.7	0.86	25.8	76.0	5.7	147
All-Tex Epic RF	152	40.4	5.1	0.91	28.3	79.8	8.0	226
NG 5315 B2RF	146	40.1	5.3	0.92	28.5	79.4	7.5	214
TAM 11 K-13	143	34.6	4.6	1.12	32.6	79.4	5.6	182
FM 1740B2F	140	38.2	5.2	0.89	26.5	76.4	6.6	174
FM 9058RF	139	38.2	4.6	0.92	26.9	78.3	5.2	140
PHY 575 WRF	137	36.7	4.6	1.01	27.8	78.8	7.4	204
TAM 11 L-24	137	35.7	4.6	1.05	32.3	79.4	5.9	189
AM 1550 B2RF	130	39.2	5.1	0.86	24.9	78.3	6.9	170
PHY 375WRF	130	39.5	5.3	0.88	26.5	77.9	6.4	170
PHY 339 WRF	129	38.1	4.6	0.90	30.2	77.6	8.0	240
All-Tex CT13125 B2RF	127	40.4	5.3	0.95	29.4	76.4	8.0	235
PHY 499 WRF	126	40.8	5.3	0.89	29.9	76.6	8.6	257
All-Tex Nitro 44 B2R	124	35.8	4.2	0.96	32.1	80.6	7.6	243
TAM 11 T-08	123	36.1	4.5	1.06	37.8	80.1	6.8	257
DP 1044 B2RF	123	36.5	5.1	0.87	27.3	76.6	7.8	212
NG 1511 B2RF	123	37.7	4.8	0.90	29.8	76.8	9.0	268
DP 0912B2RF	121	36.1	5.1	0.85	26.2	77.4	6.9	181
TAM 07 V-45	121	35.0	4.8	0.93	29.4	77.7	7.0	205
DP 1359 B2RF	121	38.5	5.2	0.96	28.5	77.3	6.1	172
MON 12R224B2R2	120	37.7	4.7	0.98	28.9	78.5	6.6	189
TAM 08 WZ-78	117	41.5	5.1	0.89	25.8	77.1	6.2	160
TAM 11 Q-56	116	33.1	4.0	1.11	35.3	80.9	6.8	238
PHY 725RF	116	36.4	4.5	0.99	32.9	79.0	7.6	248
SSG HQ 210 CT	113	34.7	5.3	0.87	28.8	76.5	7.5	216
DP 1219 B2RF	113	37.6	5.3	0.90	27.9	75.6	6.2	171
PHY 367 WRF	112	34.5	4.4	0.91	27.9	78.1	7.2	201
TAM 07 WA-18	109	34.6	4.4	1.02	31.5	79.9	6.2	193
SSG UA 222	107	34.2	5.2	0.93	30.5	77.9	7.6	230
LSD (k=100)[1]	ns	6.6	0.5	0.09	2.9	2.4	0.6	28.3
%CV	20.2	6.1	5.1	4.70	4.9	1.4	4.8	7.0
Mean	128	37.2	4.9	0.94	29.4	78.2	6.9	203

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. Lint yield values are different at approximately p<0.10 (k=50) if they differ by more than the at the LSD base of the lint yield column.

Table 5. Agronomic performance and fiber quality of cotton cultivars evaluated in near West Sinton in San Patricio County under dryland culture during 2013.

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
PHY 499 WRF	503	42.0	4.3	1.06	31.5	82.4	8.7	272
PHY 339 WRF	431	42.3	3.5	1.12	30.9	81.1	8.0	246
NG 1511 B2RF	431	40.9	4.0	1.05	28.9	80.4	8.6	248
All-Tex Nitro 44 B2R	407	39.3	3.4	1.11	29.3	82.2	7.5	220
PHY 375WRF	401	40.2	3.8	1.07	26.9	80.0	6.9	185
MON 12R224B2R2	397	38.7	3.4	1.08	27.5	81.8	7.0	192
FM 9058RF	393	38.9	3.4	1.11	25.6	79.4	6.7	170
All-Tex CT13125 B2RF	382	41.3	3.7	1.07	28.0	79.1	8.4	234
Croplan 3428 B2RF	380	42.5	4.4	1.18	29.9	82.9	8.1	242
DP 1359 B2RF	360	40.6	4.2	1.09	29.2	81.6	7.1	208
MON 12R249B2R2	355	40.3	3.9	1.08	27.2	81.1	6.7	180
Croplan 3787 B2RF	354	43.0	4.3	1.07	29.2	81.4	8.2	237
DP 0912B2RF	349	39.1	3.9	1.03	28.1	81.8	8.1	226
PHY 367 WRF	339	40.9	3.9	1.10	30.3	81.2	8.4	255
NG 5315 B2RF	336	44.2	4.8	1.04	29.0	81.8	8.7	251
DP 1219 B2RF	325	40.3	4.1	1.08	29.2	80.3	7.0	203
PHY 575 WRF	312	39.0	4.0	1.08	27.4	80.4	8.0	217
DP 1044 B2RF	290	40.4	3.9	1.04	27.4	78.7	8.5	232
PHY 725RF	273	37.4	3.8	1.14	31.3	81.4	7.9	247
LSD (k=100)[1]	ns	4.0	0.4	0.06	4.1	ns	0.5	27.9
%CV	20.8	3.8	5.0	2.50	5.3	1.6	3.0	6.1
Mean	369	10.6	3.9	1.08	28.8	81.0	7.8	224

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 Thrall under dryland culture during 2013

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
DP 0912B2RF	636	42.4	5.2	1.01	28.7	81.1	7.1	204
AM 1550 B2RF	538	40.9	4.4	1.02	27.6	80.4	6.0	166
NG 1511 B2RF	512	44.4	4.7	1.04	30.9	81.9	7.5	230
NG 3306 B2RF	498	39.9	4.6	1.09	32.9	82.9	7.5	245
DP 1359 B2RF	491	41.9	4.5	1.10	29.2	82.3	5.3	155
PHY 339 WRF	475	43.9	4.6	1.10	30.8	82.4	6.5	198
Preliminary Variety	469	38.0	4.1	1.08	30.9	82.3	6.6	204
DP 1044 B2RF	464	40.5	4.4	1.11	30.6	81.7	7.1	216
Preliminary Variety	446	41.1	4.4	1.09	29.7	82.7	6.5	191
PHY 499 WRF	433	42.4	4.4	1.04	31.7	82.0	7.6	241
TAM 08 WZ-78	429	42.0	4.7	1.08	30.5	80.7	5.2	157
TAM 07 WA-18	427	39.3	4.3	1.16	31.7	83.0	5.5	173
FM 1740B2F	402	41.8	4.8	1.02	27.9	81.6	5.9	163
MON 12R224B2R2	400	41.6	4.7	1.03	26.8	81.3	6.3	169
TAM 11 L-24	397	36.7	4.3	1.24	34.2	84.5	5.5	188
All-Tex Epic RF	395	42.0	4.7	1.04	29.1	81.9	7.0	204
MON 12R249B2R2	374	41.5	4.3	1.07	28.7	81.1	5.3	150
AT CT13125 B2RF	372	43.2	4.5	1.09	30.8	82.1	7.3	225
SSG HQ 210 CT	369	38.3	4.4	1.05	28.7	80.4	5.6	159
SSG UA 222	365	40.7	4.6	1.11	30.9	82.8	7.0	214
TAM 07 V-45	364	40.6	4.1	1.05	29.1	81.1	6.3	183
PHY 367 WRF	362	41.2	4.3	1.11	29.0	82.4	6.6	191
TAM 11 Q-56	362	36.5	4.0	1.26	34.5	83.5	6.0	207
DP 1219 B2RF	345	40.0	4.5	1.11	32.6	82.7	5.1	165
PHY 575 WRF	335	39.8	4.1	1.12	30.0	83.7	6.6	198
WK11/RED	319	39.6	4.6	1.09	30.1	80.5	5.7	169
PHY 375WRF	317	42.8	4.4	1.01	27.7	81.4	6.2	171
PHY 725RF	305	40.5	4.7	1.07	33.5	82.2	6.9	230
TAM 08 WZ-83	295	41.0	4.8	1.08	30.8	80.4	5.2	160
TAM 11 K-13	286	35.5	3.7	1.37	35.0	84.6	5.1	176
TAM 11 T-08	284	35.6	4.3	1.25	37.9	83.7	6.0	225
FM 9058RF	283	41.3	4.9	1.04	27.4	80.7	5.1	140
LSD (k=100)[1]	150	2.0	0.5	0.05	1.5	2.8	0.6	19.1
%CV	24.1	2.6	4.8	2.50	2.6	1.3	4.8	5.4
Mean	398	40.5	4.4	1.09	31.0	82.0	6.2	190

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 7. Agronomic performance and fiber quality of cotton cultivars evaluated at College Station under irrigated culture during 2013.

Cultivar	Lint Yield	Gin Turnout	Micro-naire	Length	Strength	UI	Elong-ation	Work to Break
	(lb/ac)	(%)	(units)	(in)	(g/tex)	(ratio)	(%)	
MON 12R242B2R2	2093	44.7	5.2	1.15	31.5	84.8	8.8	277
DP 1454*NR* B2RF	2001	44.4	5.0	1.17	32.2	85.0	7.8	250
DP 1048 B2RF	1857	44.9	4.9	1.18	31.5	85.6	8.3	261
SSG HQ 210 CT	1801	39.7	5.5	1.15	33.7	84.9	7.0	234
Cropland 3787 B2RF	1788	45.9	4.9	1.20	33.1	85.4	8.6	283
Cropland 3428 B2RF	1714	43.3	5.1	1.22	31.3	85.1	7.7	241
DP 1032 B2RF	1708	43.4	4.7	1.15	32.4	84.2	6.9	223
PHY 339 WRF	1636	43.5	4.7	1.15	34.3	84.8	7.7	262
NG 1511 B2RF	1623	45.0	5.2	1.14	33.9	84.1	8.6	289
DP 1219 B2RF	1594	42.5	4.8	1.22	35.3	84.9	6.9	241
PHY 375WRF	1569	43.0	5.0	1.14	30.5	83.7	6.9	210
DP 1044 B2RF	1561	39.9	4.8	1.18	32.2	85.1	8.6	275
NG 5315 B2RF	1537	45.3	5.1	1.16	32.1	85.1	8.9	285
AM 1550 B2RF	1502	42.9	5.2	1.12	30.6	83.8	7.4	225
All-Tex Epic RF	1476	43.7	5.1	1.12	31.7	83.9	8.5	268
All-Tex CT13125 B2RF	1458	43.8	4.9	1.16	33.7	85.3	8.6	289
PHY 575 WRF	1439	40.3	4.8	1.22	32.5	85.5	7.8	254
TAM 08 WZ-78	1438	41.4	4.9	1.18	35.1	85.4	6.3	221
FM 9058RF	1419	40.6	5.0	1.21	31.7	84.6	5.6	178
DP 0912B2RF	1417	41.3	5.6	1.13	33.1	84.5	7.8	256
MON 12R224B2R2	1409	42.7	4.7	1.15	31.4	84.7	7.4	232
DP 1359 B2RF	1394	44.2	5.2	1.20	33.9	85.2	6.9	232
FM 1740B2F	1380	41.8	4.9	1.18	32.2	84.3	6.6	212
TAM 08 WZ-83	1373	41.1	5.1	1.19	34.4	84.8	6.2	212
SSG UA 222	1352	40.7	5.2	1.24	33.9	84.5	8.1	273
DP 1252 B2RF	1345	45.4	4.9	1.16	31.6	85.2	8.3	262
PHY 499 WRF	1334	43.9	5.1	1.15	36.0	85.5	8.1	292
MON 13R341B2R2	1305	45.0	5.6	1.22	35.9	85.4	7.3	260
MON 12R249B2R2	1302	44.4	5.1	1.19	33.6	84.7	6.9	232
TAM 07 V-45	1211	40.6	5.0	1.17	33.4	84.7	7.0	234
PHY 367 WRF	1086	42.5	5.0	1.14	34.7	84.8	8.8	303
TAM 11 L-24	1077	36.9	4.5	1.34	36.6	86.4	6.8	247
TAM 07 WA-18	1032	38.0	4.5	1.26	35.1	86.1	6.8	239
PHY 725RF	989	38.6	4.5	1.25	37.3	85.1	7.7	287
TAM 11 Q-56	968	34.3	4.0	1.44	34.5	87.8	7.2	247
TAM 11 T-08	947	35.9	4.4	1.43	41.1	87.4	6.9	284

TAM 11 K-13	942	35.0	4.2	1.50	38.6	87.5	6.2	237
LSD (k=100)[1]	465	2.0	0.4	0.06	2.1	2.5	0.5	21.8
%CV	21.6	2.5	3.7	2.50	3.3	1.1	3.7	4.6
Mean	1433	41.9	4.9	1.20	33.7	85.1	7.5	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 8. Agronomic performance and fiber quality of cotton cultivars evaluated at College Station under dryland culture during 2013.

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
NG 1511 B2RF	910	43.6	4.4	1.07	30.9	82.9	7.3	223
MON 12R249B2R2	892	42.0	4.3	1.05	26.0	81.2	5.3	138
DP 1044 B2RF	871	40.1	4.0	1.07	28.5	81.5	7.3	206
PHY 499 WRF	868	44.0	4.4	1.05	31.6	83.4	7.5	237
SSG HQ 210 CT	868	38.5	5.0	0.99	27.8	79.3	6.1	169
Cropland 3428 B2RF	852	42.8	4.6	1.14	29.6	83.0	6.8	201
DP 1359 B2RF	757	42.9	4.3	1.11	29.0	83.8	5.5	160
PHY 375WRF	749	42.3	4.4	0.97	25.2	80.9	6.0	151
NG 5315 B2RF	733	43.6	4.3	1.10	30.6	82.8	7.4	225
PHY 339 WRF	725	42.7	4.2	1.08	31.0	81.4	6.9	212
TAM 08 WZ-78	674	41.3	4.3	1.08	30.5	82.0	5.3	160
DP 1219 B2RF	660	40.5	4.1	1.09	28.8	81.8	5.2	150
PHY 575 WRF	651	39.9	4.3	1.09	29.4	82.2	6.7	197
MON 12R224B2R2	642	39.8	4.1	1.07	27.2	82.8	6.3	171
TAM 07 WA-18	625	38.3	4.1	1.17	35.4	83.9	6.1	216
TAM 07 V-45	606	39.9	4.3	1.08	31.1	82.2	6.1	189
TAM 11 K-13	603	36.4	4.0	1.29	35.8	82.9	5.1	182
TAM 11 Q-56	598	35.1	3.7	1.31	33.6	85.1	6.2	207
TAM 08 WZ-83	567	40.0	4.4	1.09	32.5	82.7	5.6	180
TAM 11 L-24	566	35.8	4.2	1.14	33.7	82.0	5.5	185
Cropland 3787 B2RF	533	44.0	4.6	1.03	29.8	82.3	7.1	211
PHY 367 WRF	526	41.6	4.4	1.08	30.5	81.9	6.8	206
SSG UA 222	513	40.2	4.4	1.13	31.6	82.5	7.1	222
TAM 11 T-08	489	35.6	3.8	1.33	38.1	86.1	5.6	211
LSD (k=100)[1]	209	1.6	0.5	0.08	2.9	2.4	0.7	31.4
%CV	20.4	2.1	4.8	3.50	4.6	1.2	5.3	7.8
Mean	686	40.5	4.2	1.11	31.0	82.5	6.3	193

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. Agronomic performance and fiber quality of cotton cultivars evaluated at Commerce under dryland culture during 2013.

Cultivar	Lint Yield	Gin Turnout	Micro-naire	Length	Strength	UI	Elong-ation	Work to Break
	(lb/ac)	(%)	(units)	(in)	(g/tex)	(ratio)	(%)	
NG 3306 B2RF	353	38.6	4.1	1.04	27.5	80.3	8.6	235
DP 0912B2RF	348	39.5	4.1	0.98	25.6	79.6	8.2	209
Preliminary Variety	333	37.5	4.4	0.96	26.0	80.8	7.5	195
DP 1044 B2RF	322	38.2	3.9	1.02	28.7	80.9	8.5	242
PHY 339 WRF	301	40.7	4.0	1.02	28.4	79.0	8.1	229
PHY 499 WRF	295	42.0	4.0	1.04	29.2	81.6	8.6	251
PHY 575 WRF	268	38.2	4.1	1.03	26.0	79.9	7.6	198
Preliminary Variety	254	38.2	3.9	1.00	25.7	80.1	7.1	182
All-Tex Epic RF	252	40.4	4.1	1.01	26.6	80.7	8.1	215
PHY 375WRF	239	39.7	4.1	0.98	23.6	79.8	6.6	156
FM 9058RF	227	35.8	3.8	1.00	23.1	79.8	5.8	132
AM 1550 B2RF	225	39.8	4.1	0.95	22.3	78.9	7.0	155
SSG HQ 210 CT	217	36.5	4.2	1.03	28.6	81.5	7.8	224
FM 1740B2F	210	39.4	3.8	0.95	25.8	80.2	7.0	179
SSG UA 222	203	38.0	3.8	1.05	29.7	81.1	8.3	244
TAM 07 V-45	203	37.3	4.0	1.03	28.0	81.0	6.9	192
TAM 07 WA-18	200	35.1	3.5	1.09	27.8	80.6	6.5	180
TAM 11 Q-56	193	33.7	3.2	1.17	31.6	80.7	7.5	237
TAM 08 WZ-83	183	38.9	4.4	1.01	27.5	79.9	7.0	192
TAM 11 K-13	179	35.2	3.4	1.25	33.9	82.2	6.1	207
PHY 367 WRF	179	38.3	3.8	1.00	25.3	81.0	7.4	186
NG 1511 B2RF	179	39.0	4.1	0.98	27.6	80.0	8.5	235
TAM 08 WZ-78	171	40.5	4.2	1.01	25.2	78.9	6.3	158
PHY 725RF	165	36.2	3.8	1.08	32.6	81.3	8.4	274
All-Tex CT13125 B2RF	152	45.3	3.8	1.06	28.4	80.8	8.8	250
TAM 11 L-24	104	34.5	3.8	1.14	28.7	82.0	6.5	186
TAM 11 T-08	89	33.1	3.4	1.20	33.3	81.5	7.2	239
LSD (k=100)[1]	84	4.1	0.3	0.07	3.2	ns	0.8	37
%CV	23.4	4.9	3.7	3.50	5.8	1.5	5.6	9.0
Mean	220	38.1	3.9	1.04	27.6	80.5	7.5	207

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. Agronomic performance and fiber quality of cotton cultivars evaluated at Chillicothe under irrigated culture during 2013.

Cultivar	Lint Yield	Gin Turnout	Micro-naire	Length	Strength	UI	Elong-ation	Work to Break
	(lb/ac)	(%)	(units)	(in)	(g/tex)	(ratio)	(%)	
ST 5488 B2F	1923	40.5	4.7	1.11	33.6	82.2	7.9	265
SSG UA 222	1838	42.6	4.7	1.18	34.1	82.4	10.0	347
PHY 339 WRF	1791	45.2	4.1	1.16	34.3	82.0	9.6	329
MON 12R249B2R2	1780	40.3	4.3	1.11	33.9	81.2	8.6	291
TAM 11 L-24	1768	42.4	4.8	1.30	37.8	83.4	8.1	303
Croplan 3156 B2RF	1747	47.4	4.5	1.11	30.6	81.9	8.3	252
DP 1044 B2RF	1739	42.7	4.6	1.12	31.7	81.5	11.0	342
FM 9180 B2RF	1723	40.1	4.4	1.14	34.1	81.9	8.3	282
PHY 575 WRF	1720	39.8	4.0	1.15	31.7	83.1	9.5	301
NG 3306 B2RF	1696	45.7	4.6	1.18	35.5	81.8	9.4	332
PHY 375WRF	1668	40.4	4.2	1.12	31.0	82.6	8.8	271
DP 1359 B2RF	1662	41.6	4.4	1.17	36.1	82.9	8.3	298
Croplan 3428 B2RF	1657	45.0	4.5	1.20	32.4	84.2	9.2	297
NG 4111 RF	1647	41.3	4.2	1.12	34.9	82.6	9.1	315
MON 12R224B2R2	1635	41.8	4.4	1.12	32.6	81.0	8.6	279
TAM 08 WZ-83	1589	40.0	4.7	1.14	36.0	82.3	8.4	300
PHY 499 WRF	1583	45.4	4.6	1.06	34.0	80.4	11.0	358
NG 1511 B2RF	1578	44.1	4.9	1.10	31.8	81.0	11.0	348
TAM 11 K-13	1576	37.6	4.0	1.37	39.4	84.0	7.1	279
FM 9058RF	1573	43.4	4.1	1.15	30.5	80.7	7.7	232
Croplan 3787 B2RF	1539	44.0	4.4	1.14	32.5	82.8	9.5	307
NG 3348 B2RF	1524	40.5	4.2	1.12	31.2	82.5	8.7	271
TAM 07 WA-18	1515	35.8	3.9	1.23	37.5	83.1	8.0	300
PHY 367 WRF	1514	41.5	4.2	1.11	33.7	80.3	10.0	343
All-Tex Epic RF	1511	42.3	4.8	1.08	32.2	82.6	10.0	331
TAM 07 V-45	1444	38.3	3.8	1.10	34.0	81.8	8.4	282
DP 0912B2RF	1443	39.9	4.9	1.08	33.7	81.6	9.4	316
All-Tex CT13125 B2RF	1442	44.0	4.3	1.13	33.9	82.4	10.0	342
DP 1219 B2RF	1424	37.7	3.8	1.16	35.7	82.5	8.8	313
Preliminary Variety	1413	40.5	4.5	1.17	34.3	83.0	8.4	288
TAM 08 WZ-78	1405	43.9	4.6	1.14	36.4	82.7	7.1	258
SSG HQ 210 CT	1398	38.9	4.7	1.09	35.1	81.4	8.6	300
TAM 11 T-08	1378	37.6	4.0	1.29	42.7	83.0	8.4	356
TAM 11 Q-56	1294	36.2	3.9	1.34	37.8	82.5	8.5	319
Preliminary Variety	1243	35.8	4.5	1.15	33.8	83.4	8.4	284
PHY 725RF	1064	41.7	4.4	1.18	38.0	81.7	9.7	368
LSD (k=100)[1]	635	5.9	ns	0.06	2.2	ns	1.3	46.5

%CV	18.5	6.1	7.9	2.50	3.3	1.4	6.9	7.3
Mean	1567	41.3	4.4	1.15	34.4	82.2	8.9	306

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.