Cotton Cultivar Trials for 2016 Central and South Texas

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Introduction

Official Cultivar Trials (OCT) 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.

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
1.29 – 1.36	Extra long
1.37 and above	Extra long staple upland

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.

Acknowledgments

The authors wish to recognize the contributions of personnel at the Texas A&M AgriLife Research and Extension Centers, graduate students and undergraduate students who contributed to the conduct of these cultivar evaluations.

Table 1. 2016 Cotton Cultivar Tests and Preliminary Cultivar Tests locations, soil types, and irrigated/dryland.

Location	Soil Type	Irrigated
Weslaco	Hildago s.c.l.[1]	yes
Weslaco	Hildago s.c.l.[1]	no
Corpus Christi	Victoria clay	no
San Patricio Co.	Victoria clay	no
College Station	Westwood s.l.[2]	yes
College Station	Westwood s.l.[2]	no
Thrall	Burleson clay	no
Commerce	Houston c.l.[3]	no
Chillicothe	Abilene c.l.[3]	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, 2016 (irrigated).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
DP 1646 B2XF	2012	44.3	4.5	1.31	31.0	85.1	5.9	181
PHY 496 W3RF	1988	44.3	4.4	1.18	35.6	85.3	6.0	211
PHY 499 WRF	1963	43.0	5.1	1.20	36.7	85.4	6.4	233
Croplan 3787 B2RF	1955	43.3	4.8	1.21	33.8	85.4	6.2	210
NG 3406 B2XF	1946	38.9	4.3	1.19	31.6	84.8	7.2	228
PHY 495 W3RF	1946	43.0	4.7	1.16	36.9	85.0	6.1	224
ST4946 GLB2	1945	39.1	4.8	1.19	34.3	84.1	6.5	223
NG 5007 B2XF	1943	42.8	4.4	1.22	30.3	84.5	7.0	210
DP 1614 B2XF	1932	44.8	5.0	1.21	33.4	84.7	7.0	233
DP 1555 B2RF	1852	42.3	4.3	1.23	34.2	84.0	6.2	212
DP 0912 B2RF	1848	39.3	5.3	1.15	32.3	84.3	5.8	188
TAM 13 S-03	1844	38.3	4.7	1.22	33.4	85.6	6.2	205
NG 1511 B2RF	1837	41.2	4.6	1.17	33.3	84.8	7.0	233
DG 3526 B2XF	1814	44.3	4.4	1.19	32.8	84.8	7.4	240
DP 1553 B2XF	1801	43.5	4.6	1.22	31.4	84.5	6.7	210
CA-26	1789	37.2	4.5	1.19	34.4	83.9	6.1	208
Tamcot G11	1777	37.1	4.1	1.35	32.2	85.8	4.8	153
DP 1044 B2RF	1767	39.3	4.4	1.16	33.8	83.8	7.9	265
DP 1518 B2XF	1765	40.2	4.1	1.23	32.3	84.1	4.8	155
All-Tex Nitro 44	1742	38.2	3.9	1.30	36.2	85.4	5.3	190
DG 3544 B2XF	1733	38.1	4.5	1.27	35.5	85.8	4.6	164
TAM Gladdis	1731	37.6	4.4	1.17	34.8	84.6	6.2	216
SSG UA 222	1730	39.5	4.6	1.23	33.5	85.6	6.7	224
TAM 13 Q-18	1716	39.6	4.3	1.33	34.1	86.3	6.5	222
PHY 444 WRF	1715	39.9	4.0	1.24	35.1	83.9	4.5	156
AMX 1601 B2XF	1708	43.3	4.8	1.21	34.0	84.6	5.6	190
DPL 1219 B2RF	1702	41.5	4.6	1.20	36.0	84.6	4.6	166
DP 1522 B2XF	1687	37.4	4.8	1.20	33.6	84.5	7.6	255
PHY 243 WRF	1672	39.3	3.7	1.30	29.1	83.6	5.8	167
PHY 222 WRF	1645	39.6	4.9	1.21	33.8	86.2	6.5	220
FM 2484 B2F	1583	40.0	4.2	1.27	33.8	85.1	5.7	191
TAM 13 Q-51	1568	37.1	4.5	1.27	36.1	85.7	6.6	238

TAM 10 WD-08	1565	37.8	4.1	1.22	34.5	84.9	5.9	206
BRS-286	1502	37.6	4.3	1.21	33.7	83.0	5.8	195
SSG UA 103	1502	38.2	4.6	1.30	34.5	86.5	6.0	204
CA-27	1457	33.3	4.6	1.23	35.4	84.6	5.3	186
TAM 10 WE-61	1440	36.4	4.7	1.31	36.6	84.9	4.3	157
PHY 725 RF	1397	37.4	4.6	1.28	38.4	85.3	6.2	237
BRS-293	1372	39.3	5.0	1.14	33.4	82.8	5.4	176
TAM 12 BB 2139	1342	35.0	3.9	1.50	35.0	86.2	5.6	194
BRS-335	1340	37.7	4.0	1.24	31.6	84.3	5.9	185
LSD (k=100)[1]	171	2.6	0.6	0.08	3.7	2.7	2.5	75
%CV	7.3	3.4	6.2	3.2	4.7	1.1	14.9	14.0
Mean	1733	39.8	4.5	1.23	33.9	84.8	6.0	203

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.

Table 3. Agronomic performance and fiber quality of cotton cultivars evaluated at Corpus Christi, 2016 (dryland).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
PHY 312 WRF	1444	42.1	4.5	1.14	32.1	83.7	6.0	192
PHY 496 W3RF	1440	42.7	4.5	1.10	33.0	83.7	6.6	216
PHY 495 W3RF	1366	44.1	4.8	1.08	33.8	84.4	7.1	238
ST 4946 GLB2	1356	40.1	4.7	1.09	31.5	83.3	6.2	195
DP 1646 B2XF	1313	44.0	4.7	1.17	31.4	82.7	6.7	210
PHY 243 WRF	1271	40.0	4.1	1.19	29.3	82.0	5.8	170
PHY 444 WRF	1260	42.5	4.0	1.22	33.8	85.5	5.9	199
PHY 499 WRF	1241	42.2	4.7	1.10	33.6	84.3	6.1	205
NG 3406 B2XF	1208	41.3	4.6	1.11	29.5	84.1	6.5	192
SSG UA 222	1185	39.4	4.7	1.17	33.2	84.1	5.9	194
NG 5007 B2XF	1185	42.7	4.4	1.12	28.1	81.7	7.1	199
PX16400	1179	43.1	4.8	1.11	35.4	85.2	6.8	239
DP 0912 B2RF	1151	39.1	5.1	1.04	29.4	82.8	5.8	169
PHY 333 WRF	1150	40.5	4.4	1.16	32.5	84.4	4.8	156
Croplan 3787 B2RF	1113	43.1	4.7	1.09	30.5	83.3	7.1	216
PHY 222 WRF	1112	39.5	4.4	1.12	32.3	85.0	6.4	205
All-Tex Nitro 44	1080	38.8	4.0	1.16	34.8	83.7	6.7	233
TAM 13 Q-51	1068	37.2	4.7	1.18	36.5	85.7	6.9	250
TAM Gladdis	1051	38.6	5.0	1.09	32.9	84.6	5.5	181
DG 3544 B2XF	1045	39.0	5.0	1.17	34.3	84.4	4.7	160
SS UA 103	1030	37.6	4.4	1.19	33.0	84.8	6.4	210
DG 3526 B2XF	1015	44.2	4.9	1.09	31.2	84.1	7.6	237
DP 1522 B2XF	1014	43.0	5.1	1.09	32.0	83.6	7.4	236
DPL 1219 B2RF	1002	40.3	4.5	1.10	31.4	82.4	5.1	159
NG 1511 B2RF	993	40.9	4.7	1.09	33.1	84.4	6.7	221
DP 1044 B2RF	991	38.5	4.5	1.06	30.1	82.4	7.2	215
BRS-286	983	38.1	4.7	1.06	30.3	82.4	4.5	135
TAM 13 Q-18	981	39.5	4.6	1.17	33.9	83.6	7.1	238
Tamcot G11	971	36.6	4.2	1.26	32.3	84.0	4.6	149
TAM 10 WD-08	959	37.6	4.3	1.20	36.6	84.1	5.7	208
TAM 13 S-03	955	38.9	4.7	1.12	32.5	84.3	6.2	199
FM 2484 B2F	930	40.3	4.2	1.15	31.4	82.7	4.4	136

DP 1549 B2XF	921	41.9	4.7	1.10	32.3	82.4	4.5	145
BRS-293	915	40.2	5.0	1.05	31.2	82.3	5.5	171
AMX 1601 B2XF	903	42.8	4.8	1.15	35.6	84.1	5.6	200
TAM 10 WE-61	884	36.3	4.8	1.25	36.2	84.7	5.4	194
PHY 725 RF	876	38.2	4.8	1.15	35.1	84.0	5.4	189
TAM 12 BB 2139	837	35.6	4.0	1.42	35.2	86.1	4.2	148
BRS-335	713	37.8	4.5	1.11	30.9	82.6	5.1	156
LSD (k=100)[1]	150	1.8	0.4	0.04	2.5	2.2	0.9	31
%CV	10.4	2.4	4.6	1.9	3.8	1.1	7.7	8.4
Mean	1080	40.1	4.6	1.13	32.5	83.7	5.9	192

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.

Table 4. Agronomic performance and fiber quality of cotton cultivars evaluated at College Station, 2016 (irrigated).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
DP 1646 B2XF	1726	43.3	4.7	1.33	31.9	86.6	8.6	275
PHY 444 WRF	1636	42.7	4.1	1.34	32.3	87.9	6.8	219
PHY 312 WRF	1615	42.2	5.0	1.23	32.7	86.6	7.3	237
PHY 496 W3RF	1589	45.4	4.9	1.16	32.9	85.5	8.1	267
PHY 499 WRF	1570	44.3	5.0	1.19	35.0	86.7	8.5	295
PHY 333 WRF	1541	42.6	4.6	1.26	31.4	86.4	7.8	242
DP 1522 B2XF	1531	42.1	5.2	1.22	32.5	86.6	8.1	261
Croplan 3885 B2XF	1527	42.9	4.7	1.21	30.0	86.3	7.7	229
DPL 1219 B2RF	1514	41.1	4.5	1.25	35.1	85.5	6.3	219
ST 4946GLB2	1507	40.8	5.2	1.20	34.8	87.1	7.5	259
TAM 13 S-03	1473	38.6	4.8	1.23	31.9	86.6	7.9	252
DP 1044 B2RF	1458	40.5	4.9	1.17	30.6	84.7	9.8	299
PHY 495 W3RF	1456	44.0	5.0	1.17	32.1	88.1	8.8	282
DP 1614 B2XF	1454	43.7	5.3	1.28	32.3	87.8	7.8	252
DP 1555 B2RF	1432	45.1	4.7	1.24	32.2	86.5	7.3	234
Tamcot G11	1424	38.4	4.4	1.39	32.6	86.7	7.7	248
DP 0912 B2RF	1419	40.4	5.0	1.20	32.1	85.8	7.5	239
DP 1518 B2XF	1418	40.4	4.3	1.25	31.8	86.4	6.6	210
AMX 1601 B2XF	1400	43.7	5.2	1.24	34.2	86.4	7.2	246
PX16400	1400	42.0	4.8	1.20	35.3	86.4	8.6	302
BRS-286	1391	38.2	4.8	1.21	32.4	83.9	6.3	204
TAM 10 WD-08	1388	37.6	4.5	1.33	33.6	86.7	8.1	270
NG 1511 B2RF	1383	41.8	4.9	1.22	33.6	86.2	8.5	284
NG 5007 B2XF	1380	42.9	4.6	1.22	30.3	84.9	7.7	233
NG 3406 B2XF	1366	40.8	4.9	1.19	30.0	85.2	8.0	238
BRS-335	1366	38.9	4.4	1.26	30.8	85.9	6.4	195
PHY 222 WRF	1338	39.6	5.2	1.20	32.7	86.2	7.6	246
TAM 13 Q-18	1323	42.2	4.8	1.30	32.3	87.0	7.4	239
DG 3757 B2XF	1290	43.9	4.6	1.24	30.9	86.3	7.8	240
PHY 243 WRF	1289	39.5	4.4	1.27	30.5	84.9	7.4	224
FM 2484 B2F	1276	39.6	4.4	1.31	33.4	87.3	5.5	184
TAM 13 Q-51	1268	35.8	4.9	1.35	35.1	88.9	7.6	266

All-Tex Nitro 44	1263	37.6	4.1	1.31	34.1	85.7	7.7	261
TAM Gladdis	1249	39.6	5.0	1.24	31.9	86.9	7.3	231
DP 1553 B2XF	1231	42.8	4.3	1.26	31.2	86.8	7.7	238
Croplan 3475 B2XF	1210	38.9	4.9	1.23	32.7	86.2	9.4	305
DG 3526 B2XF	1139	43.1	4.2	1.21	31.0	85.9	8.3	256
BRS-293	1128	39.6	5.1	1.26	36.2	87.3	7.4	268
Croplan 3787 B2RF	1108	42.9	4.5	1.25	31.3	86.6	8.0	249
TAM 12 BB 2139	1090	37.7	4.5	1.41	35.5	87.4	5.3	188
BRS-269	1021	38.4	4.9	1.26	34.0	85.5	6.4	216
PHY 725 RF	1017	37.8	4.6	1.29	35.5	86.2	6.9	243
TAM 10 WE-61	985	35.6	4.6	1.38	36.9	86.8	7.2	263
LSD (k=100)[1]	233	1.9	0.5	0.05	2.8	ns	1.7	59.4
%CV	11.5	2.5	4.9	2.1	4	1.3	10.0	10.2
Mean	1368	40.9	4.7	1.25	32.8	86.4	7.5	247

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.

Table 5. Agronomic performance and fiber quality of cotton cultivars evaluated at College Station, 2016, (dryland).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
PHY 312 WRF	1171	40.6	4.4	1.15	27.9	85.4	7.6	211
PHY 495 W3RF	1170	44.1	4.3	1.09	33.0	84.7	7.3	239
ST 4946 GLB2	1131	38.7	4.4	1.16	33.0	85.2	7.6	250
PHY 333 WRF	1105	41.1	4.1	1.18	29.6	85.4	5.9	173
AMX1601 B2XF	1096	41.8	4.2	1.14	30.7	84.2	6.6	203
BRS-286	1080	39.3	4.8	1.10	32.0	83.9	5.7	182
DP 1646 B2XF	1073	42.7	4.1	1.21	31.4	83.5	8.0	250
Tamcot G11	1064	37.1	4.3	1.30	33.1	84.8	4.9	161
DP 1549 B2XF	1057	42.8	4.5	1.12	28.9	81.9	6.5	186
DP 0912 B2RF	1051	39.0	4.6	1.14	31.2	85.1	7.8	243
TAM 10 WD-08	1026	36.0	4.2	1.24	37.3	86.4	7.7	285
NG 5007 B2XF	998	42.0	4.4	1.15	29.0	83.8	7.8	225
NG 3406 B2XF	995	42.7	4.5	1.10	29.8	83.8	7.5	222
PHY 496 W3RF	991	45.3	4.6	1.10	31.7	83.9	8.5	268
PX16400	985	43.1	4.8	1.13	35.6	85.5	7.3	258
PHY 499 WRF	980	43.6	4.8	1.12	32.0	85.8	7.2	228
BRS-335	973	38.2	4.3	1.17	31.4	84.6	6.1	190
DP 1522 B2XF	969	41.4	4.7	1.17	32.9	85.5	8.0	260
TAM 10 WE-61	965	35.8	4.7	1.28	37.8	86.3	6.4	240
TAM 13 Q-18	952	41.0	4.6	1.20	36.1	86.0	7.0	252
TAM 13 Q-51	950	36.7	4.7	1.25	37.6	86.9	6.9	257
Croplan 3885 B2XF	908	43.1	4.4	1.13	31.8	84.3	7.9	250
PHY 725 RF	902	37.6	4.5	1.20	39.6	85.1	7.2	283
FM 2484 B2F	900	38.9	4.0	1.22	31.8	84.8	7.0	223
TAM 13 S-03	862	38.3	4.5	1.16	33.6	84.5	7.7	257
PHY 243 WRF	842	39.7	3.8	1.21	30.0	83.4	7.5	225
PHY 222 WRF	829	39.7	4.4	1.13	30.4	85.8	9.0	271
PHY 444 WRF	790	42.5	3.9	1.25	31.8	85.2	6.4	203
TAM Gladdis	759	37.2	5.0	1.14	34.4	84.2	7.3	251
BRS-293	754	38.7	5.3	1.14	33.6	83.6	6.7	223
TAM 12 BB 2139	748	34.7	3.8	1.42	35.4	86.4	4.3	152
BRS-269	550	36.4	4.9	1.17	32.8	84.1	5.5	180

LSD (k=100)[1]	180	1.6	0.4	0.04	1.9	1.6	2.5	77.1
LSD (k=50)[2]	155	1.4	.	.	.	.	.	.
%CV	12.5	2.2	4.7	1.8	3.1	0.9	13.8	13.8
Mean	955	40.0	4.4	1.18	32.7	85.0	7.0	228

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.

Table 6. Agronomic performance and fiber quality of cotton cultivars evaluated at Thrall, 2016 (dryland).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
BRS-293	573	40.7	5.3	1.14	34.8	83.8	6.6	229
TAM 13 Q-18	546	39.1	4.1	1.22	35.0	85.7	6.2	216
PHY 444 WRF	509	44.3	3.9	1.26	32.2	85.2	6.0	193
BRS-335	499	40.0	3.8	1.19	32.6	83.5	5.7	185
BRS-286	474	40.3	4.5	1.11	29.8	83.0	5.0	148
BRS-269	462	37.3	4.0	1.14	34.1	83.3	4.4	148
PHY 725 RF	431	39.5	4.0	1.21	34.8	83.1	6.3	219
TAM Gladdis	421	39.4	4.2	1.17	31.7	84.0	5.1	162
PX16400	418	43.7	3.9	1.11	31.1	82.5	7.5	233
PHY 499 WRF	411	45.5	4.3	1.11	32.3	82.9	7.8	252
PHY 495 W3RF	407	42.7	3.6	1.12	33.2	84.6	6.8	224
Croplan 3885 B2XF	398	43.4	4.4	1.16	31.5	83.7	6.5	203
TAM 13 Q-45	398	41.4	4.2	1.17	35.9	84.7	5.5	198
PHY 243 WRF	397	42.9	3.3	1.19	29.2	81.0	6.1	178
NG 5007 B2XF	391	40.7	4.0	1.16	30.9	83.0	6.7	205
TAM 13 S-20	386	40.5	4.1	1.20	34.0	85.4	5.6	189
Tamcot G11	377	38.3	4.0	1.22	31.9	84.0	6.1	191
NG 3522 B2XF	372	40.5	4.1	1.11	27.6	82.8	5.5	152
PHY 312 WRF	366	45.2	4.5	1.17	31.6	82.6	6.1	191
PHY 333 WRF	360	43.3	3.2	1.15	29.4	81.9	5.4	157
DP 1549 B2XF	336	45.3	4.0	1.22	31.1	83.0	5.1	158
TAM 10 WE-61	332	37.1	4.1	1.28	37.4	85.6	5.4	200
DP 1522 B2XF	312	44.9	3.7	1.12	30.7	83.6	6.8	209
NG 3405 B2XF	310	40.9	3.4	1.09	27.6	82.0	6.1	167
AMX 1601 B2XF	305	43.3	4.2	1.18	34.8	83.6	6.3	219
TAM 10 WD-08	303	38.8	4.1	1.25	37.2	85.4	5.6	208
TAM 12 BB 2139	293	36.8	3.5	1.44	33.4	85.4	4.6	153
ST 4946GLB2	266	43.2	3.9	1.11	31.4	82.7	6.5	203
NG 3406 B2XF	249	43.5	3.7	1.09	26.3	81.8	6.7	175
DP 1646 B2XF	245	43.4	3.6	1.17	29.0	81.2	5.7	164
DP 0912 B2RF	235	39.4	4.0	1.09	30.8	82.4	6.0	184
FM 2484 B2F	235	41.7	4.3	1.19	31.5	83.3	5.4	168

PHY 496 W3RF	229	44.3	3.2	1.07	27.4	80.3	6.0	164
PHY 222 WRF	216	43.2	3.7	1.08	29.4	81.8	6.1	178
LSD (k=100)[1]	161	2.7	ns	0.09	5.0	4.0	1.0	43
%CV	26.9	3.2	11.8	4.0	6.9	1.7	8.0	10.5
Mean	370	41.6	3.9	1.17	31.8	83.3	6.0	189

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.

Table 7. Agronomic performance and fiber quality of cotton cultivars evaluated at Commerce, 2016 (dryland).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
PHY 333 WRF	1076	47.3	5.2	1.09	30.2	82.4	8.6	259
PHY 499 WRF	1062	45.0	5.4	1.11	32.3	83.8	9.0	290
PHY 444 WRF	1056	45.4	4.4	1.18	33.0	84.8	7.8	255
PHY 496 W3RF	1056	47.8	5.1	1.02	31.3	82.0	9.4	292
PHY 312 WRF	1050	44.7	5.1	1.12	32.6	84.4	8.3	269
Tamcot G11	1049	39.6	4.6	1.34	34.2	85.3	6.4	217
BRS-293	1037	38.5	5.2	1.14	34.7	84.1	7.4	255
PX16400	1034	44.5	5.0	1.11	33.2	83.8	9.5	316
BRS-335	1033	41.1	4.6	1.09	29.6	83.0	7.4	219
ST 4946 GLB2	1031	43.4	5.4	1.09	32.1	83.9	9.0	289
TAM Gladdis	1008	40.4	5.0	1.15	32.8	84.9	7.6	249
PHY 495 W3RF	960	45.1	4.9	1.07	33.1	83.7	8.1	267
Croplan 3885 B2XF	930	43.3	4.9	1.13	29.6	83.0	9.1	270
TAM 13 Q-18	918	38.2	4.8	1.14	33.1	84.2	8.5	281
TAM 13 S-03	899	41.2	4.8	1.13	32.4	82.7	8.5	274
Croplan 3475 B2XF	886	44.3	5.1	1.06	31.0	82.2	9.4	291
FM 2484 B2F	885	41.9	4.8	1.20	31.8	83.2	6.2	196
TAM 13 Q-51	875	39.6	5.4	1.21	35.2	84.0	8.2	287
DP 1522 B2XF	874	43.5	5.3	1.12	33.9	83.4	9.1	306
DP 1646 B2XF	866	44.6	5.1	1.24	31.0	83.2	7.9	243
TAM 10 WE-61	865	37.6	4.6	1.22	36.4	83.5	7.1	258
DP 1549 B2XF	859	44.3	4.9	1.09	31.0	82.5	7.5	232
BRS-286	856	40.8	4.9	1.03	28.6	79.9	7.7	217
PHY 222 WRF	850	45.4	5.4	1.08	30.3	83.6	9.3	282
DP 0912 B2RF	844	42.1	5.6	1.03	28.8	81.0	8.2	235
TAM 10 WD-08	826	39.1	4.6	1.20	35.0	84.6	7.5	261
BRS-269	825	37.0	4.2	1.22	34.5	84.6	6.4	219
PHY 243 WRF	797	44.1	4.5	1.13	28.2	81.1	8.0	224
TAM 12 BB 2139	796	37.8	4.2	1.40	33.5	86.2	5.7	191
PHY 725 RF	757	40.0	4.8	1.16	36.8	83.8	8.2	301
LSD (k=100)[1]	224	1.6	0.3	0.07	2.4	2.6	1.6	58.0
%CV	14.1	2.0	3.1	3.0	3.7	1.3	9.1	9.9
Mean	929	42.3	4.9	1.14	32.3	83.4	8.0	258

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.

Table 8. Agronomic performance and fiber quality of cotton cultivars evaluated at Chillicothe, 2016 (irrigated).

Cultivar	Lint Yield (lb/ac)	Gin Turnout (%)	Micro-naire (units)	Length (in)	Strength (g/tex)	UI (ratio)	Elong-ation (%)	Work to Break
DP 1646 B2XF	1391	32.2	4.2	1.33	31.5	86.6	8.7	273
NG 3405 B2XF	1356	30.0	4.4	1.17	28.6	84.0	6.6	187
NG 3406 B2XF	1347	30.9	4.4	1.19	31.7	84.4	8.5	267
TAM Gladdis	1328	29.8	4.6	1.21	32.7	84.9	7.0	229
PHY 243 WRF	1318	31.9	4.2	1.28	29.9	84.1	7.2	214
PHY 444 WRF	1308	31.8	3.8	1.30	31.6	85.2	6.1	193
BRS-286	1306	29.1	4.4	1.15	30.1	83.8	6.7	201
DP 1044 B2RF	1304	29.7	4.7	1.22	32.5	84.3	8.7	283
PHY 496 W3RF	1287	30.7	4.0	1.17	32.1	85.0	7.3	234
PHY 222 WRF	1277	30.8	4.8	1.18	30.2	83.9	8.3	249
ST 4946 GLB2	1272	30.1	4.5	1.19	33.2	84.4	6.9	229
Tamcot G11	1271	30.3	4.1	1.36	31.4	84.6	5.8	182
AMX 1601 B2XF	1252	32.8	4.6	1.23	34.0	84.6	6.9	232
NG 1511 B2RF	1232	33.3	4.7	1.20	32.8	84.1	8.0	262
DP 1612 B2XF	1231	29.8	4.5	1.21	32.5	84.9	8.5	274
DG 3544 B2XF	1221	29.1	4.7	1.24	34.3	85.6	5.6	191
NG 3522 B2XF	1209	29.6	4.4	1.17	28.7	84.4	6.2	176
All-Tex Nitro 44	1205	30.0	4.0	1.29	34.5	86.0	7.7	265
Croplan 3475B2XF	1198	29.5	4.4	1.18	31.5	82.8	8.0	250
BRS-335	1184	29.4	4.4	1.24	31.8	84.7	6.2	195
FM 2011 GT	1172	30.4	4.4	1.21	32.6	84.6	5.9	192
Croplan 3885 B2XF	1152	30.1	4.3	1.21	29.5	85.0	7.9	233
DP 0912 B2RF	1133	28.2	4.9	1.15	29.9	84.3	7.5	224
TAM 12 BB 2139	1107	27.1	3.8	1.40	30.7	85.5	5.3	163
DP 1522 B2XF	1105	28.6	4.4	1.20	31.8	84.3	8.0	253
FM 2484 B2F	1103	30.4	3.8	1.25	32.6	85.8	6.0	195
BRS-269	1084	27.6	4.4	1.21	33.8	83.5	4.9	164
TAM 13 S-03	1060	28.9	4.0	1.21	31.4	84.0	8.0	251
PHY 495 W3RF	1035	29.7	4.3	1.15	32.7	85.8	7.8	253
TAM 13 Q-18	986	28.0	4.1	1.21	32.4	84.6	7.2	233

TAM 10 WE-61	981	25.5	4.5	1.32	32.8	87.3	6.7	219
TAM 13 Q-51	979	26.5	4.4	1.29	33.9	85.4	7.2	245
NG 5007 B2XF	971	27.5	4.2	1.22	30.5	85.3	7.4	224
PHY 499 WRF	955	27.8	4.1	1.20	32.8	86.4	7.9	259
TAM 10 WD-08	939	26.3	4.0	1.27	35.7	85.0	7.6	270
DP 1549 B2XF	911	28.3	4.0	1.21	33.4	84.0	6.1	203
BRS-293	878	26.8	4.3	1.20	34.4	85.6	7.1	242
PHY 725 RF	628	24.1	4.2	1.27	35.4	85.0	7.7	273
LSD (k=100)[1]	181	3.8	0.4	0.05	2.2	ns	0.9	35
%CV	11.3	5.6	4.5	2.2	3.4	1.4	6.6	7.7
Mean	1163	29.4	4.3	1.23	32.2	84.9	7.1	230

1. Values within columns are different at p=0.05 (k=100) if they differ by more than the LSD value.