

Cotton Variety Trial Results | 2017



UT Cotton Agronomy

Department of Plant Sciences
University of Tennessee



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Introduction



The University of Tennessee Cotton Agronomy Program provides an unbiased evaluation of experimental and commercial varieties available for production in Tennessee each year. The 2017 program consisted of three types of trials: Official Variety Trials (OVTs), large replicated on-farm variety trials, and the County Standard Trials (CSTs). The OVTs are small plot, replicated variety trials located on producer farms or on AgResearch and Education Centers and are composed of experimental and commercial varieties. The large replicated on-farm trials and CSTs are large plot variety trials located throughout the Western and Central regions of Tennessee and are only composed of major commercial cultivars. Six OVTs, three large replicated trials, and fourteen CSTs were conducted during the 2017 season (Fig.1). Information reported from these trials within this report includes yield, fiber quality, and Commodity Credit Corporation (CCC) Loan values. Additionally, selected in-season measurements of growth and development are also reported from the OVTs. A glossary is included at the end of this report to define technical terms and abbreviations used.

This publication is intended to help cotton producers identify varieties that are high yielding, are stable in yield performance across years, and produce high quality fiber; therein, included information should provide those in the seed industry, crop consultants, and the UT Extension service insight into varietal adaptation of all tested varieties to Tennessee field environments.

General Procedures

Official Variety Trials

Six OVTs were planted in the 2017 growing season. These included four locations on University of Tennessee Research and Education Centers and two locations on producer farms. Seed of commercial cultivars and experimental lines was provided by respective companies. In all, 42 varieties were evaluated. Each variety was randomly assigned to four plots at each location and each plot was arranged in a randomized complete block design. Individual plots consisted of two 30 ft rows. Soil samples were collected prior to planting and fertilizer and lime were applied according to test results and UT recommendations. At planting, a systemic insecticide and fungicide were applied in-furrow.

Between 120 and 130 days after planting (DAP), plant height, node of first fruiting branch, total nodes, and a rating of percent open was collected in each plot. Weed and pest control measures were uniformly applied to all plots per UT-recommendations. Seed cotton was harvested from each plot by either a two row picker outfitted with an in-basket, catch-and-weigh system or a catch-system. Each plot was subsequently harvested, weighed, and subsampled for turnout and fiber quality. Subsamples from each location were then air-dried, bulked by varietal entry and weighed prior to ginning.

Large Plot Variety Trials

Three large replicated trails and fourteen CSTs were conducted in the 2017 growing season. These included one location on the West Tennessee Research and Education Center, one location on the Ames Plantation Research and Education Center, one location at the Milan Research and Education Center and 11 locations on production fields. Seed of commercial varieties was provided by each respective company. In all, 14 varieties were submitted. Each variety was planted in a single plot at each location and was maintained per the individual producer's production practices. Plot size ranged from two to eight rows wide and 125 to 2500 ft+ in length, depending on producer equipment and field size.

At harvest, plots were picked with the producer's equipment. If using a basket-style picker, weights were collected by catching harvested plots from the picker with a weighing boll buggy prior to dumping into the module builder. If using an on-board round module picker, modules were wrapped at the end of each plot and weighed on a set of transportable scales. Regardless of picker type, an 8-12 lb sub-sample was collected after the picked plot weight was determined. These samples were then air dried and weighed prior to ginning.

Ginning

Samples were ginned at the University of Tennessee Cotton MicroGin located at the West Tennessee Research and Education Center in Jackson, TN. This is a 20-saw gin equipped with a stick machine, incline cleaners, and two lint cleaners. No heat was applied at ginning. Lint yields on a per-plot basis were then calculated from gin turnouts and harvested plot areas. A subsample of lint from each ginned sample was submitted to the USDA Cotton Classing Office in Memphis, TN for HVI analysis.

Statistical analysis

For OVT locations, mean separation of fiber quality was calculated for the combined dataset including all analyzed locations by considering location as replication. Mean separation of OVT variety yield by location was calculated by a PROC MIXED model (SAS Institute, Inc., Cary, NC) considering replication to be random. Combined analysis was also calculated by a PROC GLM model, with location and replication nested in location considered to be random. Mean separation of fiber quality and lint yield for the CST combined dataset was calculated by considering location as replication. This analysis was calculated by a PROC GLM model considering replication as a random factor and variety as a fixed factor. Similarly, the replicated CI trials were analyzed considering location and replication nested in location to be random.

Seed Sources

Companies which participated in the 2017 University of Tennessee Cotton Variety Testing Program and their subsequent entries are listed below:

- American Cotton Breeders, Inc. 5210 88th Street, Lubbock, TX 79424
NG 3406 B2XF NG 3522 B2XF NG 3699 B2XF NG 4601 B2XF
- Bayer CropScience, 311 Poplar View Lane West, Collierville, TN 38017
ST 4848 GLT ST 4946 GLB2 ST 4949 GLT ST 5020 GLT
ST 5517 GLTP

Seed Source Genetics (continued)

- Croplan Genetics, 8700 Trail Lake Dr., Suite 100, Memphis, TN 38125
CP 3475 B2XF CP 9608 B3XF
- Crop Production Services, 3005 Rocky Mountain Ave., Loveland, CO 80538
CPS 16214 B2XF CPS 17228 DG 3385 B2XF DG 3526 B2XF
- International Seed Technology, 7950 NW 53rd St. Suite 337, Miami, FL 33166
BRS 286 BRS 335 BRS 293
- Monsanto, P.O. Box 157, Scott, MS 38772
DP 1518 B2XF DP 1522 B2XF DP 1614 B2XF DP 1646 B2XF
DP 1725 B2XF DP 1820 B3XF DP 1823NR B2XF
- PhytoGen Seed Co., P.O. Box 27, Leland, MS 38756
PHY 312 WRF PHY 444 WRF PHY 300 W3FE PHY 330 W3FE
PHY 340 W3FE PHY 450 W3FE PHY 490 W3FE PX2A28W3FE
PX3A82W3FE PX3A96W3FE PX3A99W3FE PHY 480 W3FE
PHY 430 W3FE PHY 440 W3FE
- Seed Source Genetics, 5159 FM 3354, Bishop, TX 78343
SSG UA 222 SSG HQ 210 CT

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Finally, we would like to recognize the USDA-AMS Cotton Division Classing Office in Memphis, TN which provided the fiber quality data reported herein and all who were involved in plot establishment, maintenance and harvest. Thank you.

2017 Official Variety Trial Results



Table 1. 2017 Official Variety Trial details.

Location	Planting Date	Soil Type	Tillage	Fertility	Irrigation	Harvest Date
Ames Plantation ¹	05/08/2017	Memphis Silt Loam	No-Till	80-var P&K	None	10/06/2017
Maury City	05/08/2017	Grenada Silt Loam	Minimal Till	90 var P&K	None	11/09/2017
MREC ²	05/17/2017	Collins Silt Loam	Raised Bed	80-0-90-10	None	11/15/2017
Ridgely	05/18/2017	Reelfoot Silt Loam	No-Till	90- var P&K	None	11/10/2017
WTREC ³	05/10/2017	Collins Silt Loam	Minimal-Till	107-40-90-12.5	None	10/09/2017
WTREC ³	06/02/2017	Collins Silt Loam	Minimal-Till	107-40-90-12.5	None	10/30/2017

¹Ames Plantation, Grand Junction, TN

²Milan Research and Education Center, Milan, TN

³West Tennessee Research and Education Center, Jackson, TN.

Table OVT1. Average lint yield, turnout, and fiber quality of 42 entries in the 2017 Official Variety Trials conducted at the Ames Plantation, Crockett Co, Lake Co, Milan, and Jackson (early and late planted) locations, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	ST 5517 GLTP	1531 a ^y	35.8	4.2	1.21	32.9	82.4	4	31
2	PHY 444 WRF	1525 ab	38.5	3.9	1.28	31.8	84.6	4	31
3	DP 1820 B3XF	1516 a-c	40.5	4.7	1.24	34.0	83.8	4	31
4	DP 1518 B2XF	1512 a-d	37.7	4.4	1.20	30.5	83.3	4	41
5	PHY 430 W3FE	1508 a-e	39.0	4.5	1.18	32.5	84.4	4	41
6	CP 9608 B3XF	1508 a-e	41.5	4.4	1.19	30.3	82.5	4	41
7	PHY 430 W3FE	1484 a-f	39.7	4.4	1.13	31.3	83.1	4	31
8	PHY 330 W3FE	1483 a-f	39.0	4.4	1.19	32.4	83.9	5	41
9	DG 3385 B2XF	1482 a-f	38.1	4.8	1.18	30.2	84.1	3	31
10	PX3A99W3FE	1481 a-f	38.1	4.4	1.20	31.5	83.5	4	31
11	DP 1646 B2XF	1477 a-g	39.3	4.3	1.26	30.4	83.4	4	31
12	CPS 17228	1463 a-h	39.3	4.3	1.22	31.8	83.6	5	41
13	NG 3406 B2XF	1456 a-h	37.8	4.5	1.17	30.2	83.2	4	31
14	DP 1614 B2XF	1450 a-h	40.0	4.9	1.22	30.3	83.8	5	41
15	DP 1522 B2XF	1445 b-h	38.2	4.8	1.17	30.6	83.5	4	41
16	ST 4946 GLB2	1439 c-i	36.1	4.5	1.18	32.8	83.8	5	41
17	NG 4601 B2XF	1433 c-j	40.1	4.7	1.20	32.8	83.5	4	31
18	PHY 312 WRF	1431 d-j	37.5	4.4	1.21	31.3	84.0	5	41
19	DG 3526 B2XF	1426 e-j	39.3	4.6	1.16	29.5	83.6	4	31
20	PHY 480 W3FE	1422 f-k	37.5	4.3	1.18	31.4	84.4	4	31
21	PX3A82W3FE	1411 f-k	36.6	4.3	1.16	32.9	84.2	5	41
22	ST 4848 GLT	1407 f-k	38.6	4.6	1.18	31.5	83.3	4	41
23	DP 1725 B2XF	1406 f-k	40.1	4.4	1.18	31.0	82.5	3	31
24	PHY 440 W3FE	1406 f-k	38.6	4.1	1.24	34.5	83.6	4	31
25	ST 4949 GLT	1404 f-k	39.9	4.4	1.15	30.3	83.1	5	41
26	PHY 340 W3FE	1393 g-k	38.8	4.5	1.19	31.8	83.7	5	41
27	ST 5020 GLT	1391 h-k	36.2	4.4	1.23	33.2	83.8	5	41
28	PX3A96W3FE	1361 i-l	35.7	4.3	1.20	31.3	83.9	4	31
29	DP 1823NR B2XF	1360 i-l	38.8	4.3	1.22	31.7	84.1	6	41
30	PHY 300 W3FE	1351 j-l	38.5	4.5	1.18	31.8	83.7	4	31
31	NG 3699 B2XF	1337 k-m	36.0	4.5	1.23	33.0	83.1	4	41
32	BRS 335	1332 k-n	36.6	4.3	1.21	32.0	83.4	5	41
33	CPS 16214 B2XF	1331 k-n	37.6	4.8	1.20	30.9	83.8	5	41
34	NG 3522 B2XF	1303 l-n	37.4	4.4	1.15	29.3	82.6	3	31
35	SSG UA 222	1301 l-n	35.3	4.3	1.25	31.6	83.9	5	41
36	PHY 450 W3FE	1267 m-o	36.5	4.7	1.16	33.5	84.1	5	31
37	PHY 490 W3FE	1265 m-o	36.9	4.4	1.18	33.7	84.0	5	31
38	BRS 286	1251 no	34.9	4.5	1.18	34.0	83.3	4	41
39	SSG HQ 210	1183 op	34.4	4.7	1.16	32.9	82.9	3	31
40	PX2A28W3FE	1160 p	36.1	4.1	1.22	33.5	83.3	5	41
41	Red Leaf	1071 q	33.0	4.3	1.22	32.3	83.9	5	41
42	BRS 293	578 r	34.7	4.6	1.18	33.2	83.3	3	31
Average		1375	37.7	4.4	1.20	31.9	83.6	4	41
LSD(p≤0.05)		84	0.7	0.1	0.01	0.6	0.5	0.6	
CV(%)		10.7	2.8	3.9	1.6	2.9	0.9	20.8	

^yMeans followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT2. Lint yield, turnout, and fiber quality of 42 entries in the 2017 Ames Plantation Official Variety Trial near Grand Junction, TN, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	PHY 444 WRF	1975 a ^y	41.1	4.1	1.30	32.5	86.4	4	31
2	PHY 440 W3FE	1784 ab	39.5	4.2	1.23	34.2	85.4	5	31
3	ST 5517 GLTP	1773 a-c	37.5	4.4	1.19	32.0	83.2	3	31
4	ST 4949 GLT	1773 a-c	41.7	4.7	1.17	32.1	83.7	5	31
5	PX3A82W3FE	1761 a-c	38.0	4.8	1.17	32.6	85.3	4	31
6	PHY 430 W3FE	1756 a-c	40.5	4.7	1.12	32.0	84.0	5	31
7	PHY 430 W3FE	1737 b-d	39.1	4.7	1.18	33.0	85.1	3	31
8	PHY 330 W3FE	1729 b-e	38.9	4.7	1.22	33.5	85.8	6	31
9	DP 1646 B2XF	1688 b-f	38.4	4.7	1.28	31.1	85.5	5	31
10	PHY 312 WRF	1684 b-g	37.3	4.6	1.22	32.4	85.5	5	31
11	CP 9608 B3XF	1675 b-h	42.1	4.6	1.20	30.6	84.2	6	41
12	ST 4848 GLT	1667 b-h	39.2	4.9	1.17	31.5	84.1	4	31
13	ST 5020 GLT	1640 b-i	35.2	4.8	1.21	34.8	86.3	3	31
14	DG 3526 B2XF	1630 b-j	39.5	4.8	1.13	30.7	83.6	5	31
15	DG 3385 B2XF	1627 b-j	38.5	4.9	1.18	31.9	85.2	4	21
16	PHY 480 W3FE	1625 b-j	37.0	4.6	1.16	33.2	84.8	5	31
17	PX3A96W3FE	1623 b-j	36.8	4.3	1.21	30.0	84.5	4	31
18	DP 1820 B3XF	1604 b-j	39.4	4.9	1.26	34.8	85.0	6	31
19	DP 1614 B2XF	1598 b-k	41.1	5.2	1.21	31.0	84.0	4	31
20	PHY 340 W3FE	1586 b-l	39.8	4.7	1.17	30.7	82.4	6	31
21	SSG UA 222	1581 b-l	36.6	4.7	1.27	33.4	85.6	6	31
22	CPS 17228	1568 b-l	38.3	4.4	1.22	32.4	85.4	5	31
23	ST 4946 GLB2	1540 c-l	34.7	4.8	1.20	33.6	84.7	6	41
24	PHY 300 W3FE	1511 d-m	38.9	4.9	1.15	31.4	83.2	4	31
25	PHY 450 W3FE	1502 d-m	36.2	5.0	1.16	34.1	84.5	6	31
26	PX3A99W3FE	1501 e-m	38.6	4.6	1.24	32.2	86.1	5	31
27	NG 4601 B2XF	1489 f-m	39.2	4.9	1.22	34.1	84.5	3	21
28	DP 1522 B2XF	1481 f-m	36.5	5.0	1.16	30.6	83.0	5	31
29	NG 3522 B2XF	1478 f-m	38.2	4.6	1.16	30.9	84.5	4	31
30	DP 1823NR B2XF	1467 f-m	38.7	4.3	1.21	31.5	84.2	6	31
31	SSG HQ 210	1457 f-m	34.7	5.1	1.13	32.1	82.1	2	31
32	CPS 16214 B2XF	1448 g-m	38.7	5.2	1.18	31.7	84.8	6	31
33	DP 1725 B2XF	1441 h-m	38.7	4.7	1.19	31.8	83.7	4	31
34	NG 3699 B2XF	1405 i-m	36.9	4.8	1.23	32.1	83.5	3	31
35	BRS 286	1401 j-m	36.5	4.7	1.17	35.0	83.9	5	31
36	BRS 335	1396 j-m	35.0	4.8	1.17	32.5	83.0	3	31
37	DP 1518 B2XF	1395 j-m	36.7	4.6	1.18	30.4	83.6	4	31
38	NG 3406 B2XF	1368 k-m	36.2	5.1	1.15	31.0	83.1	1	21
39	PHY 490 W3FE	1361 lm	36.9	4.7	1.16	36.0	85.0	4	31
40	PX2A28W3FE	1296 mn	35.4	4.5	1.22	34.8	85.4	4	31
41	Red Leaf	1086 n	32.3	4.3	1.21	32.7	83.6	6	41
42	BRS 293	756 o	35.7	5.2	1.17	36.6	83.3	4	31
Average		1544	37.9	4.7	1.19	32.5	84.4	4	31
LSD(p<0.05)		235							
CV(%)		10.8							

^yMeans followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT3. Lint yield, turnout, and fiber quality of 42 entries in the 2017 Crockett Co Official Variety Trial conducted in Maury City, TN, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	DG 3385 B2XF	1664 a ^y	39.2	5.0	1.20	29.6	84.1	3	41
2	CPS 17228	1517 ab	41.9	4.5	1.24	32.0	83.8	4	41
3	ST 5517 GLTP	1516 ab	37.2	4.5	1.22	33.5	82.0	3	41
4	DP 1725 B2XF	1482 a-c	42.9	4.8	1.20	31.6	82.2	3	41
5	NG 3406 B2XF	1477 a-c	39.6	4.8	1.18	30.4	83.9	3	41
6	DP 1518 B2XF	1476 a-c	39.3	4.6	1.20	30.3	82.8	4	41
7	DP 1614 B2XF	1474 a-c	42.3	5.1	1.22	30.3	83.9	4	41
8	PHY 312 WRF	1472 a-d	39.5	4.6	1.22	31.2	84.5	4	51
9	PHY 430 W3FE	1469 a-d	42.0	4.7	1.14	32.0	83.4	4	41
10	DP 1646 B2XF	1456 a-d	42.0	4.2	1.27	30.5	83.0	4	41
11	CPS 16214 B2XF	1446 a-e	39.7	4.9	1.21	31.8	84.2	3	51
12	CP 9608 B3XF	1422 b-f	43.1	4.5	1.21	30.8	83.0	3	41
13	PHY 330 W3FE	1408 b-g	41.8	4.8	1.18	32.2	83.4	4	41
14	PX3A82W3FE	1408 b-g	39.0	4.5	1.18	34.2	84.9	4	41
15	PHY 444 WRF	1395 b-g	41.0	4.2	1.29	32.0	84.3	3	41
16	ST 4946 GLB2	1381 b-g	38.2	4.7	1.19	33.6	84.0	4	41
17	ST 4949 GLT	1379 b-g	41.2	4.6	1.17	30.6	83.4	4	51
18	ST 4848 GLT	1371 b-h	41.1	4.9	1.19	31.5	83.2	4	41
19	ST 5020 GLT	1358 b-h	38.3	4.5	1.23	34.1	83.8	5	51
20	PX3A99W3FE	1354 b-h	40.9	4.7	1.21	32.0	83.9	3	41
21	SSG HQ 210	1348 b-h	36.7	5.0	1.17	33.4	83.4	3	41
22	NG 3522 B2XF	1344 b-h	39.7	4.6	1.16	29.2	82.8	3	41
23	PX3A96W3FE	1337 b-h	38.3	4.7	1.23	31.7	84.4	3	41
24	NG 4601 B2XF	1322 b-h	42.1	4.9	1.21	32.7	83.8	3	51
25	PHY 340 W3FE	1320 b-h	40.9	4.8	1.20	32.4	83.8	4	51
26	DP 1820 B3XF	1319 b-h	42.4	4.8	1.24	33.7	83.4	4	41
27	DG 3526 B2XF	1299 b-h	41.2	4.8	1.18	29.9	83.8	4	41
28	BRS 335	1296 b-h	38.1	4.3	1.22	32.3	83.5	4	41
29	PHY 430 W3FE	1296 b-h	41.1	4.7	1.19	32.4	84.3	4	41
30	PHY 440 W3FE	1260 c-i	40.6	4.4	1.24	34.8	82.8	4	41
31	DP 1522 B2XF	1258 c-i	39.9	5.0	1.20	30.2	83.9	3	41
32	DP 1823NR B2XF	1246 d-i	41.2	4.3	1.22	31.8	83.7	4	41
33	PHY 300 W3FE	1229 e-i	40.3	4.9	1.19	32.0	83.9	3	41
34	PHY 480 W3FE	1198 f-j	41.1	4.6	1.19	30.7	84.2	4	41
35	NG 3699 B2XF	1197 f-j	37.7	4.6	1.24	33.3	82.8	4	41
36	PHY 450 W3FE	1186 g-j	38.6	5.0	1.19	34.5	84.5	4	41
37	PHY 490 W3FE	1151 h-j	39.2	4.8	1.18	35.1	84.1	4	41
38	BRS 286	1055 ij	36.9	4.7	1.18	34.0	82.9	4	41
39	Red Leaf	1047 ij	32.8	4.2	1.24	32.3	84.1	4	51
40	SSG UA 222	1046 ij	37.4	4.5	1.25	32.0	83.9	4	41
41	PX2A28W3FE	996 j	39.4	4.4	1.22	32.8	83.1	4	41
42	BRS 293	167 k	34.8	4.9	1.18	31.9	83.1	3	41
Average		1306	39.8	4.7	1.21	32.1	83.6	4	41
LSD(p<0.05)		226	1.6	0.2	0.02	1.4	1.0	0.7	
CV(%)		12.3	2.8	3.2	1.5	3.1	0.9	14.1	

^yMeans followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT4. Lint yield, turnout, and fiber quality of 42 entries in the 2017 Lake Co Official Variety Trial conducted in Ridgely, TN, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	PX3A99W3FE	1931 a ^y	37.9	4.5	1.23	31.5	83.3	4	41
2	NG 3406 B2XF	1847 ab	38.0	4.5	1.18	30.1	82.2	3	41
3	DP 1820 B3XF	1832 a-c	40.4	4.9	1.27	34.8	83.5	4	41
4	PHY 480 W3FE	1813 a-d	38.6	4.4	1.21	32.7	84.5	4	41
5	PHY 430 W3FE	1807 a-d	39.4	4.6	1.19	33.0	84.2	4	41
6	ST 5517 GLTP	1761 a-e	36.4	4.0	1.21	33.2	81.6	4	41
7	DG 3385 B2XF	1757 a-e	38.4	4.9	1.21	31.1	84.2	3	41
8	PHY 330 W3FE	1757 a-e	38.6	4.6	1.23	33.3	84.1	4	41
9	CP 9608 B3XF	1755 a-e	41.1	4.6	1.19	30.8	81.7	3	41
10	PHY 430 W3FE	1755 a-e	40.2	4.4	1.15	32.1	83.3	4	41
11	DP 1522 B2XF	1755 a-e	39.0	4.9	1.20	31.5	83.4	3	41
12	PHY 340 W3FE	1751 a-f	39.7	4.8	1.21	32.7	83.9	5	41
13	PHY 300 W3FE	1744 a-f	38.4	4.7	1.20	32.3	83.4	3	41
14	PX3A82W3FE	1742 a-f	37.7	4.3	1.19	34.7	84.9	4	41
15	PHY 444 WRF	1734 a-f	39.6	4.1	1.30	33.1	84.2	3	41
16	PX3A96W3FE	1727 b-g	36.5	4.5	1.23	32.1	83.3	4	41
17	DP 1646 B2XF	1725 b-g	39.3	4.4	1.28	31.0	82.9	3	41
18	DP 1518 B2XF	1724 b-g	37.4	4.4	1.23	30.8	83.0	5	41
19	PHY 440 W3FE	1720 b-g	39.2	4.4	1.24	35.0	83.8	4	41
20	ST 4949 GLT	1709 b-h	41.2	4.6	1.19	30.9	83.1	4	41
21	DP 1614 B2XF	1708 b-h	40.1	4.9	1.25	30.7	83.7	4	41
22	DP 1725 B2XF	1692 b-h	41.9	4.5	1.20	31.0	82.3	3	41
23	PHY 312 WRF	1689 b-h	37.3	4.5	1.25	32.1	84.7	4	41
24	NG 3522 B2XF	1680 b-h	39.4	4.4	1.15	29.6	81.9	3	41
25	CPS 17228	1646 b-i	39.2	4.2	1.25	31.8	83.6	4	41
26	SSG UA 222	1641 c-i	35.1	4.3	1.27	31.6	83.5	4	41
27	ST 4848 GLT	1635 c-j	39.7	4.5	1.21	33.0	83.6	3	41
28	NG 4601 B2XF	1629 d-j	40.0	4.7	1.21	33.9	83.5	3	41
29	DG 3526 B2XF	1613 d-j	40.1	4.6	1.18	29.8	83.7	3	41
30	ST 4946 GLB2	1611 d-j	36.9	4.5	1.20	32.9	84.0	4	41
31	PX2A28W3FE	1604 e-k	37.3	4.3	1.26	35.1	83.2	4	41
32	NG 3699 B2XF	1591 e-k	35.6	4.5	1.25	33.6	82.6	4	41
33	ST 5020 GLT	1584 e-k	35.9	4.4	1.28	33.9	84.1	5	41
34	BRS 335	1568 e-k	35.7	4.2	1.23	32.9	83.8	4	41
35	DP 1823NR B2XF	1552 f-k	38.3	4.5	1.25	32.0	84.0	5	41
36	PHY 450 W3FE	1530 g-k	37.4	4.8	1.17	34.2	84.5	4	41
37	PHY 490 W3FE	1509 h-k	38.0	4.6	1.22	33.2	84.2	4	41
38	Red Leaf	1474 i-k	33.7	4.3	1.24	33.0	84.1	4	41
39	CPS 16214 B2XF	1455 i-k	37.1	4.8	1.22	31.2	83.9	4	41
40	BRS 286	1433 jk	33.9	4.6	1.20	33.5	83.5	4	41
41	SSG HQ 210	1409 k	33.8	4.6	1.19	34.3	82.8	3	41
42	BRS 293	784 l	35.4	4.8	1.20	34.3	83.7	3	41
	Average	1652	38.1	4.5	1.22	32.5	83.5	4	41
	LSD(p≤0.05)	202	1.2	0.2	0.03	1.5	1.0	0.8	
	CV(%)	8.7	2.2	3.9	1.7	3.4	0.9	15.2	

^yMeans followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT5. Lint yield, turnout, and fiber quality of 42 entries in the 2017 Milan Research and Education Center Official Variety Trial in Milan, TN, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)
1	DP 1820 B3XF	1824 A
2	DG 3526 B2XF	1604 B
3	DP 1522 B2XF	1572 bc
4	ST 4946 GLB2	1557 b-d
5	PX3A99W3FE	1549 b-d
6	DP 1518 B2XF	1541 b-e
7	ST 5517 GLTP	1539 b-f
8	CP 9608 B3XF	1506 b-g
9	NG 3406 B2XF	1483 b-h
10	PHY 430 W3FE	1479 b-h
11	ST 4949 GLT	1457 b-i
12	PHY 330 W3FE	1457 b-i
13	NG 4601 B2XF	1454 b-j
14	DP 1823NR B2XF	1449 b-j
15	PHY 444 WRF	1444 b-j
16	CPS 17228	1420 b-k
17	PHY 340 W3FE	1403 c-l
18	PHY 490 W3FE	1394 c-m
19	PHY 480 W3FE	1379 d-m
20	DP 1725 B2XF	1354 e-n
21	PHY 430 W3FE	1352 e-n
22	DP 1646 B2XF	1350 f-n
23	ST 5020 GLT	1343 g-n
24	PHY 312 WRF	1336 g-o
25	NG 3699 B2XF	1328 g-o
26	PHY 440 W3FE	1324 g-o
27	PHY 300 W3FE	1318 g-o
28	DG 3385 B2XF	1304 h-o
29	ST 4848 GLT	1300 h-p
30	DP 1614 B2XF	1289 i-p
31	PX3A82W3FE	1266 j-p
32	CPS 16214 B2XF	1253 k-p
33	PHY 450 W3FE	1240 k-p
34	NG 3522 B2XF	1222 l-p
35	SSG UA 222	1212 m-q
36	BRS 335	1210 m-q
37	BRS 286	1181 n-q
38	PX3A96W3FE	1153 o-q
39	PX2A28W3FE	1113 pq
40	Red Leaf	1033 Q
41	SSG HQ 210	1025 Q
42	BRS 293	720 R
Average		1350
LSD(p<0.05)		189
CV(%)		10.0

*Means followed by the same letter are not significantly different (p=0.05). Tennessee AgResearch data of Raper et al. (2017).

Table OVT6. Lint yield, turnout, and fiber quality of 42 entries in the 2017 early-planted Official Variety Trial at the West Tennessee Research and Education Center in Jackson, TN, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	CPS 17228	1655 a	39.9	4.2	1.24	31.9	84.4	6	31
2	DP 1518 B2XF	1649 a	38.3	4.3	1.19	31.1	85.0	6	41
3	DP 1522 B2XF	1517 ab	38.2	4.7	1.16	31.3	84.4	6	31
4	ST 5517 GLTP	1489 a-c	34.7	4.0	1.22	32.5	83.4	4	31
5	DP 1820 B3XF	1487 a-c	40.6	4.5	1.25	33.6	85.9	5	31
6	NG 4601 B2XF	1480 a-d	40.1	4.4	1.20	32.0	83.2	5	31
7	DP 1823NR B2XF	1471 a-d	38.7	4.0	1.23	31.6	85.8	7	41
8	DG 3385 B2XF	1427 a-e	37.3	4.7	1.16	30.2	84.5	4	31
9	PHY 430 W3FE	1420 b-e	38.2	4.2	1.19	32.8	85.5	6	31
10	NG 3406 B2XF	1419 b-e	37.5	4.4	1.17	30.4	83.9	5	31
11	DP 1646 B2XF	1417 b-e	38.3	4.2	1.27	30.5	84.7	5	31
12	CP 9608 B3XF	1410 b-f	40.7	3.9	1.20	30.5	83.3	5	31
13	ST 4946 GLB2	1385 b-g	35.0	4.2	1.19	32.7	84.0	6	41
14	DP 1614 B2XF	1384 b-g	39.3	4.7	1.21	30.5	84.3	6	31
15	ST 4848 GLT	1376 b-g	37.4	4.3	1.18	31.8	84.7	6	41
16	DG 3526 B2XF	1376 b-g	38.7	4.4	1.16	29.7	84.3	5	31
17	DP 1725 B2XF	1375 b-g	38.2	4.0	1.19	31.1	83.4	4	31
18	PHY 444 WRF	1363 b-h	36.3	3.5	1.27	31.6	85.4	5	31
19	PHY 330 W3FE	1354 b-h	38.3	4.1	1.20	33.1	84.8	7	41
20	ST 5020 GLT	1348 b-h	36.7	4.2	1.22	33.5	84.7	6	41
21	CPS 16214 B2XF	1328 b-h	37.5	4.6	1.21	30.8	84.5	5	31
22	BRS 335	1326 b-h	36.8	4.0	1.21	31.5	83.5	7	41
23	SSG UA 222	1321 b-h	34.4	3.9	1.24	31.9	84.6	7	41
24	PHY 430 W3FE	1309 b-h	38.9	4.0	1.13	31.6	83.6	5	31
25	PHY 312 WRF	1302 b-i	36.3	3.8	1.21	31.0	83.8	5	31
26	PHY 480 W3FE	1292 b-i	36.1	4.1	1.18	31.4	85.3	5	31
27	PX3A99W3FE	1287 c-i	36.8	3.7	1.20	31.6	84.0	4	31
28	BRS 286	1286 c-i	33.8	4.4	1.16	33.9	83.7	6	41
29	NG 3522 B2XF	1273 c-j	35.5	4.3	1.15	29.5	83.5	5	31
30	PHY 300 W3FE	1263 c-j	38.8	4.1	1.19	32.4	85.1	6	31
31	NG 3699 B2XF	1255 d-j	35.5	4.2	1.23	33.4	84.5	6	31
32	PX3A96W3FE	1212 e-k	34.2	3.8	1.21	31.8	85.1	5	31
33	PHY 340 W3FE	1187 f-k	38.2	4.2	1.21	32.1	85.3	6	31
34	PHY 450 W3FE	1174 g-k	35.3	4.0	1.16	33.1	84.3	6	31
35	SSG HQ 210	1165 g-k	34.3	4.3	1.17	32.7	83.8	5	31
36	PX3A82W3FE	1162 g-k	35.0	3.8	1.17	32.1	84.5	6	31
37	PHY 440 W3FE	1160 g-k	37.6	3.8	1.24	34.9	85.1	5	31
38	PHY 490 W3FE	1135 h-k	35.5	3.8	1.18	33.2	84.5	6	31
39	PX2A28W3FE	1077 i-k	34.8	3.7	1.23	33.5	84.2	6	41
40	ST 4949 GLT	1054 jk	38.7	4.1	1.14	29.6	83.5	6	31
41	Red Leaf	989 k	33.8	4.3	1.21	32.5	83.8	5	41
42	BRS 293	554 l	33.8	3.7	1.20	32.5	84.0	5	31
Average		1307	37.0	4.1	1.20	31.9	84.4	5	31
LSD(p<0.05)		229	1.6	0.3	0.02	1.1	1.0	1.5	
CV(%)		12.5	3	5.2	1.5	2.4	0.9	20	

*Means followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT7. Lint yield, turnout, and fiber quality of 42 entries in the 2017 late-planted Official Variety Trial at the West Tennessee Research and Education Center in Jackson, TN, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	PHY 430 W3FE	1309 a	37.3	4.4	1.16	31.8	83.5	4	31
2	DP 1518 B2XF	1288 ab	35.9	4.3	1.17	29.7	82.3	5	31
3	CP 9608 B3XF	1277 a-c	40.9	4.4	1.15	29.1	81.5	5	31
4	PX3A99W3FE	1266 a-c	36.4	4.5	1.15	30.7	82.1	4	31
5	PHY 430 W3FE	1265 a-d	37.4	4.3	1.09	29.6	82.0	4	31
6	NG 3699 B2XF	1249 a-e	34.9	4.6	1.21	32.1	82.3	5	41
7	DP 1614 B2XF	1244 a-f	38.0	4.7	1.22	29.4	83.2	6	31
8	PHY 444 WRF	1238 a-g	36.5	3.9	1.27	30.2	83.9	4	31
9	PHY 480 W3FE	1226 a-g	34.3	4.2	1.16	30.2	83.4	4	31
10	DP 1646 B2XF	1225 a-g	37.8	4.4	1.24	29.3	82.6	4	31
11	NG 4601 B2XF	1224 a-g	38.5	4.8	1.18	32.1	83.3	3	31
12	BRS 335	1199 a-h	36.2	4.5	1.18	31.2	82.8	6	41
13	PHY 330 W3FE	1192 a-i	37.3	4.2	1.17	30.8	82.9	6	41
14	PHY 440 W3FE	1187 a-i	36.8	4.0	1.23	33.5	82.5	4	31
15	ST 4946 GLB2	1159 a-j	34.8	4.7	1.15	31.7	83.2	5	41
16	BRS 286	1151 b-j	34.5	4.5	1.18	34.2	83.2	4	31
17	NG 3406 B2XF	1143 b-j	36.5	4.3	1.15	29.5	82.9	5	31
18	PX3A82W3FE	1130 c-j	34.4	4.5	1.11	30.7	82.4	5	31
19	PHY 340 W3FE	1113 d-k	36.0	4.2	1.15	30.4	82.0	5	31
20	PX3A96W3FE	1112 e-k	33.6	4.3	1.15	30.2	82.8	4	31
21	DG 3385 B2XF	1111 e-k	37.3	4.7	1.16	29.6	83.4	4	31
22	ST 5517 GLTP	1106 e-k	34.6	4.4	1.19	32.4	82.4	5	31
23	PHY 312 WRF	1104 e-k	37.2	4.4	1.16	30.6	82.7	6	41
24	ST 4848 GLT	1096 f-k	36.2	4.4	1.13	29.8	81.6	5	31
25	DP 1725 B2XF	1093 f-k	37.7	4.4	1.15	30.0	82.0	3	31
26	DP 1522 B2XF	1090 g-k	36.2	4.7	1.14	29.6	82.5	5	41
27	ST 5020 GLT	1071 h-k	34.2	4.3	1.19	31.0	82.1	6	41
28	CPS 16214 B2XF	1055 h-k	35.7	4.8	1.17	29.4	82.5	5	31
29	ST 4949 GLT	1048 h-k	37.9	4.4	1.12	29.6	82.3	5	31
30	PHY 300 W3FE	1043 i-k	36.5	4.3	1.15	30.4	82.5	5	31
31	PHY 490 W3FE	1040 i-k	34.9	4.4	1.16	32.6	82.9	5	31
32	DP 1820 B3XF	1033 jk	38.9	4.6	1.21	33.7	82.0	5	31
33	DG 3526 B2XF	1032 jk	37.2	4.4	1.13	28.4	82.7	5	31
34	SSG UA 222	1008 j-l	34.2	4.5	1.22	30.3	83.2	5	41
35	DP 1823NR B2XF	977 kl	37.1	4.3	1.19	31.5	83.1	7	41
36	CPS 17228	975 kl	36.5	4.3	1.17	31.2	82.3	5	31
37	PHY 450 W3FE	970 l-m	34.8	4.7	1.11	32.0	83.0	5	31
38	PX2A28W3FE	871 l-n	33.2	4.0	1.19	32.4	82.1	5	31
39	NG 3522 B2XF	822 m-o	34.7	4.4	1.13	28.6	81.8	3	31
40	Red Leaf	800 no	31.8	4.2	1.22	31.4	83.8	6	41
41	SSG HQ 210	696 o	32.5	4.8	1.12	31.3	81.7	3	31
42	BRS 293	486 p	34.6	4.8	1.16	33.3	82.6	2	31
Average		1089	36.0	4.4	1.16	30.8	82.6	5	31
LSD(p<0.05)		152	1.6	0.2	0.03	1.2	1.1	1.7	
CV(%)		10.0	3.2	3.3	1.7	2.7	0.9	26.9	

*Means followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT8. Percent open boll, plant height (cm), total number of nodes, height (in), height to node ratio, and node of first fruiting branch (NFFB), and node above white flower (NAWF) of 42 entries in the 2017 Tennessee Official Variety Trials. †

Variety	Percent Open Boll ¹		Height (in)		Total Nodes		Height:Node Ratio		NFFB		NAWF ²	
DG 3385 B2XF	53.3	a	32.5	e-k	14.7	f-i	2.23	c-j	5.8	c-g	3.3	o
NG 3699 B2XF	51.1	ab	33.9	b-f	16.3	b-f	2.12	f-m	6.2	b-e	3.6	l-o
CPS 16214 B2XF	51.1	ab	33.0	c-j	14.6	ghi	2.28	c-g	5.5	fg	4.2	d-k
ST 4949 GLT	44.4	abc	35.0	bcd	14.7	e-i	2.39	bcd	5.7	c-g	4.1	f-m
ST 5020 GLT	44.4	abc	36.2	b	15.1	d-i	2.41	abc	5.7	c-g	3.8	j-o
NG 3406 B2XF	44.4	abc	31.8	f-l	15.0	d-i	2.13	f-k	5.7	c-g	3.5	mn
Red Leaf	44.4	abc	33.7	b-h	15.3	c-i	2.63	a	5.9	b-g	4.0	f-o
NG 4601 B2XF	43.3	a-d	33.2	c-i	14.8	e-i	2.28	c-f	5.9	c-g	4.1	f-m
ST 4848 GLT	42.2	a-e	32.8	d-j	14.1	i	2.37	b-e	5.4	g	3.4	no
PX3A82W3FE	42.2	a-e	33.0	c-j	15.7	c-i	2.13	f-l	6.0	b-f	4.1	f-l
DP 1518 B2XF	42.2	a-e	39.4	a	15.7	b-h	2.51	ab	5.7	d-g	4.5	c-h
DP 1522 B2XF	40.0	b-f	33.0	c-i	15.1	d-i	2.21	d-j	5.6	efg	3.9	g-n
DP 1614 B2XF	38.9	b-g	32.9	c-j	14.8	e-i	2.26	c-h	5.8	c-g	4.2	f-k
BRS 335	38.9	b-g	33.4	c-h	15.9	b-h	2.11	f-m	7.2	a	5.6	ab
CPS 17228	38.9	b-g	32.9	c-j	15.9	b-h	2.09	f-m	6.2	b-e	4.4	d-j
DP 1725 B2XF	37.9	c-h	30.7	jkl	14.7	f-i	2.1	f-m	5.9	c-g	3.5	l-o
BRS 286	36.7	c-i	33.9	c-f	18.6	a	2.09	f-m	6.0	b-f	4.6	c-f
DG 3526 B2XF	36.7	c-i	31.9	f-l	14.4	hi	2.24	c-i	5.7	c-g	3.9	h-n
PHY 330 W3FE	35.6	c-i	33.6	c-g	15.4	d-i	2.2	d-j	6.2	b-e	4.5	c-i
PHY 430 W3FE	35.6	c-i	31.1	h-l	15.4	d-i	2.03	j-m	5.9	c-g	3.9	i-n
DP 1823NR B2XF	35.6	c-i	31.7	f-l	16.6	bcd	1.92	mn	6.1	b-f	4.5	c-g
ST 4946 GLB2	34.4	c-i	33.9	b-f	15.0	d-i	2.28	c-f	6.2	b-e	3.6	l-o
DP 1820 B3XF	34.4	c-i	31.3	g-l	16.3	b-e	1.93	lmn	6.3	bc	4.4	d-i
PHY 312 WRF	33.3	c-j	33.4	c-h	15.5	d-i	2.17	f-k	5.8	c-g	4.6	c-f
PHY 340 W3FE	32.2	c-k	34.6	b-e	15.4	d-i	2.25	c-h	5.8	c-g	4.3	d-k
SSG HQ 210	32.2	c-k	30.2	kl	15.8	b-h	1.93	lmn	6.2	bcd	3.7	k-o
PX3A96W3FE	31.1	d-k	32.8	c-j	15.1	d-i	2.2	d-k	5.9	c-g	4.3	d-j
PX3A99W3FE	30.0	e-l	33.7	c-g	14.6	ghi	2.38	bcd	5.9	c-g	4.8	Cd
DP 1646 B2XF	30.0	e-l	34.3	b-e	16.1	b-g	2.15	f-k	6.0	b-f	4.1	f-l
PHY 430 W3FE	28.9	f-m	32.9	c-j	15.8	b-h	2.08	g-m	5.9	c-g	5.1	bc
SSG UA 222	27.8	f-n	32.5	e-k	15.8	b-h	2.06	h-m	5.9	c-g	3.9	i-n
NG 3522 B2XF	27.8	f-n	29.9	l	16.6	bcd	2.04	i-m	5.9	c-g	3.7	k-o
PHY 450 W3FE	26.7	g-n	34.7	b-e	17.3	ab	2.24	c-i	6.0	c-g	4.8	cde
ST 5517 GLTP	25.6	h-n	35.2	bc	15.7	b-h	2.25	c-h	6.1	b-e	4.3	d-j
PX2A28W3FE	24.4	i-n	29.8	l	15.0	d-i	2	klm	5.9	c-g	3.9	i-n
PHY 300 W3FE	21.1	j-n	32.5	e-k	15.1	d-i	2.18	e-k	5.9	c-g	4.1	f-m
CP 9608 B3XF	20.0	k-n	31.6	f-l	14.9	e-i	2.14	f-k	5.9	c-g	4.2	e-k
PHY 444 WRF	17.8	lmn	35.0	bcd	15.5	d-i	2.28	c-f	6.2	b-e	4.4	d-j
PHY 490 W3FE	17.8	lmn	33.2	c-i	15.4	d-i	2.17	f-k	6.1	b-f	4.6	c-f
PHY 480 W3FE	16.7	mn	32.9	c-j	15.6	c-i	2.12	f-m	6.6	b	4.4	d-j
PHY 440 W3FE	15.6	n	30.9	i-l	14.9	e-i	2.1	f-m	5.8	c-g	3.9	g-n
BRS 293	1.0	o	29.6	l	17.2	abc	1.73	n	6.2	b-e	6.1	a
Average	33.8		33.0		15.5		2.18		6.0		4.2	
LSD (p<0.05)	13.1		2.4		1.6		0.20		0.6		0.6	

†Data collected from three replications of the Ames, Jackson (Early), and Jackson (Late) locations of the 2017 Official Variety Trial.

¹Percent Open Boll determined by visually rating of plots when the average plot within the trial nears 60% open.

²Node above white flower determined was measured after cutout at each location.

‡Means followed by the same letter are not significantly different (p=0.05).

Tennessee AgResearch data of Raper et al. (2017).

Table OVT9: Lint yield, gin turnout, and fiber quality of 6 like-entries in the 2016 and 2017 Tennessee County Standard Trial Programs.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade
1	PHY 444 WRF	1495	39.0	4.2	1.26	32.5	83.7	3
2	PHY 312 WRF	1482	38.2	4.5	1.19	31.8	83.4	4
3	ST 5517 GLTP	1465	36.8	4.6	1.17	33.3	82.6	3
4	DP 1518 B2XF	1459	37.7	4.5	1.18	30.4	82.2	4
5	DG 3385 B2XF	1449	38.4	4.9	1.16	29.9	83.2	3
6	DP 1725 B2XF	1449	40.7	4.7	1.17	30.8	81.9	3
7	DP 1522 B2XF	1449	38.7	5.1	1.15	30.5	82.8	4
8	DP 1614 B2XF	1437	40.5	5.1	1.21	30.8	83.2	4
9	ST 4946 GLB2	1427	36.6	4.7	1.16	33.1	82.8	4
10	DG 3526 B2XF	1423	40.0	4.7	1.15	29.6	83.0	4
11	NG 4601 B2XF	1415	40.1	4.9	1.19	33.4	83.0	3
12	DP 1823NR B2XF	1404	39.0	4.7	1.16	31.1	82.5	4
13	CPS 16214 B2XF	1398	38.6	4.6	1.21	30.9	82.7	4
14	NG 3406 B2XF	1397	38.0	4.7	1.15	29.8	82.9	3
15	ST 4848 GLT	1393	38.8	4.8	1.17	31.5	82.6	4
16	NG 3522 B2XF	1349	38.3	4.6	1.12	28.6	81.7	3
17	SSG UA 222	1321	36.2	4.7	1.22	31.9	82.7	4
18	BRS 335	1250	36.3	4.4	1.18	31.7	82.3	5
19	BRS 286	1198	35.0	4.7	1.14	32.8	82.6	4
20	SSG HQ 210	1189	35.4	5.0	1.14	32.5	82.4	3
21	BRS 293	847	34.7	4.9	1.16	33.6	82.8	3
Average		1366	38.0	4.7	1.17	31.5	82.7	4

2017 Large Plot Replicated Variety Trial Results



Large strip trials placed in production fields provide valuable information across variable environments. If properly placed, results will match randomized and replicated small plots within the same environment. However, the variable nature of production fields in the Mid-South and Southeast has raised concerns over the consistency of strip trials across the cotton belt. The trials included below were supported in part by Cotton Inc Core Project No. 15-929 as a means of producing statistically sound, reliable variety data in a production environment. General information on these trials can be found in Table 2. Averages across all of these trials are included below in Table LVAR1.

Table 2. General plot information for the 2017 Tennessee Large Plot Replicated Trials.

Location	County	Planting Date	Harvest Date	Soil Type	Tillage	Irrigation
Mason	Fayette	05/16/2017	10/26/2017	Falaya/Grenada Silt Loam	No-Till	None
Woodland	Haywood	05/15/2017	10/18/2017	Memphis/Calloway Silt Loam	No-Till	Pivot
Huntersville	Madison	05/08/2017	10/02/2017	Memphis Silt Loam	No-Till	None

Table LVAR1. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across all three of the 2017 locations of the Tennessee Large Plot Replicated Variety Trials.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	NG 3522 B2XF	1231 a [‡]	39.0	4.6	1.14	28.7	82.7	31	3	54.65
2	DG 3385 B2XF	1216 ab	38.8	4.8	1.17	29.4	83.9	31	4	54.85
3	DP 1725 B2XF	1193 ab	41.5	4.5	1.20	31.1	83.1	31	3	55.35
4	DP 1614 B2XF	1192 ab	40.7	4.9	1.23	30.7	84.5	41	5	54.70
5	ST 4949 GLT	1192 ab	41.1	4.5	1.15	30.5	83.3	31	5	55.05
6	PHY 340 W3FE	1141 bc	40.0	4.6	1.21	32.7	84.8	41	6	54.90
7	PHY 330 W3FE	1103 bc	39.8	4.6	1.21	33.7	85.2	41	6	55.10
8	CP 3475 B2XF	1088 bc	36.9	4.8	1.16	31.7	84.0	31	5	55.35
	Mean	1169	39.7	4.7	1.18	31.1	83.9	31.0	6	54.99
	LSD (p≤0.05)	77	1.0	0.2	0.02	0.7	0.6		1	
	CV (%)	7.0	2.7	3.8	1.4	2.4	0.7		18.8	

[‡]Means followed by the same letter are not significantly different (p=0.05).

*Loan value calculated assuming leaf value of 4.

Table LVAR2. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Fayette Co location of the 2017 Tennessee Large Plot Replicated Variety Trials.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	ST 4949 GLT	1021 a [‡]	39.6	4.4	1.15	30.9	83.0	41	5	54.50*
2	DP 1725 B2XF	983 a	40.4	4.3	1.20	31.7	82.8	41	4	54.70
3	PHY 340 W3FE	981 ab	40.3	4.4	1.19	32.5	84.8	41	6	54.90
4	DP 1614 B2XF	980 ab	39.9	4.8	1.22	30.3	84.2	41	6	54.70
5	NG 3522 B2XF	957 ab	37.1	4.4	1.15	28.9	83.3	31	4	54.75
6	PHY 330 W3FE	898 bc	38.8	4.4	1.20	33.7	84.6	41	6	55.00
7	CP 3475 B2XF	861 c	35.6	4.5	1.16	31.8	83.8	41	6	54.70
8	DG 3385 B2XF	837 c	36.2	4.5	1.16	28.4	83.8	31	4	54.75
	Mean	940	38.5	4.5	1.18	31.0	83.8	41	5	54.75
	LSD (p<0.05)	85	2.0	0.2	0.03	1.3	1.2		1	
	CV (%)	5.2	3.0	3.0	1.5	2.5	0.8		13.2	

[‡]Means followed by the same letter are not significantly different (p=0.05).

*Loan value calculated assuming leaf value of 4.

Table LVAR3. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Haywood Co location of the 2017 Tennessee Large Plot Replicated Variety Trials.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DG 3385 B2XF	1562 a	40.7	4.8	1.18	29.1	83.6	31	4	54.95
2	DP 1614 B2XF	1470 b	41.1	4.9	1.24	29.8	83.9	41	5	54.40
3	NG 3522 B2XF	1442 bc	39.8	4.5	1.15	28.1	82.4	31	3	54.65
4	DP 1725 B2XF	1430 bc	42.5	4.3	1.20	30.6	83.0	31	3	55.05
5	PHY 340 W3FE	1368 cd	40.5	4.6	1.22	31.7	84.4	41	6	54.90
6	ST 4949 GLT	1351 cd	41.6	4.5	1.17	30.2	83.2	31	5	55.05
7	CP 3475 B2XF	1310 d	37.8	4.8	1.17	30.7	83.9	31	5	55.05
8	PHY 330 W3FE	1298 d	40.6	4.6	1.22	33.3	84.9	41	6	55.00
	Mean	1403	40.6	4.6	1.19	30.4	83.7	31	5	54.88
	LSD (p<0.05)	91	1.2	0.3	0.03	0.9	0.9		2	
	CV (%)	3.7	1.7	3.7	1.4	1.7	0.6		20.4	

Table LVAR4. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Madison Co location of the 2017 Tennessee Large Plot Replicated Variety Trials

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	NG 3522 B2XF	1293 a	40.1	4.8	1.13	29.0	82.5	21	3	55.25
2	DG 3385 B2XF	1248 ab	39.5	5.0	1.17	30.6	84.2	21	3	53.65
3	ST 4949 GLT	1203 a-c	42.0	4.8	1.14	30.5	83.6	21	4	55.85
4	DP 1725 B2XF	1165 a-c	41.7	4.8	1.19	31.1	83.4	21	2	56.05
5	DP 1614 B2XF	1126 bc	41.1	5.1	1.23	32.1	85.5	31	5	53.25
6	PHY 330 W3FE	1112 bc	40.1	4.8	1.22	34.2	86.0	31	4	55.75
7	CP 3475 B2XF	1094 c	37.4	5.1	1.16	32.6	84.4	31	4	53.05
8	PHY 340 W3FE	1073 c	39.3	4.8	1.21	33.8	85.1	31	5	55.65
	Mean	1164	40.1	4.9	1.18	31.7	84.3	21	4	54.81
	LSD (p<0.05)	142	1.5	0.4	0.03	1.2	0.9		2	
	CV (%)	6.9	2.1	5.2	1.6	2.2	0.6		26.8	

2017 County Standard Trial Results



Table CST1. Average lint yield, gin turnout, fiber quality and CCC loan value of 14 entries calculated from 12 locations of the 2017 Tennessee County Standard Trials.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1646 B2XF	1415 a	39.6	4.3	1.28	30.3	84.0	31	5	55.25
2	DG 3385 B2XF	1401 ab	39.3	4.8	1.18	30.1	84.3	31	4	55.25
3	DP 1614 B2XF	1382 a-c	41.0	4.9	1.21	30.8	84.2	41	5	54.70
4	DP 1518 B2XF	1378 a-d	38.8	4.3	1.21	30.5	83.9	41	6	54.60
5	NG 3522 B2XF	1363 a-d	38.9	4.4	1.16	29.2	83.2	31	4	54.85
6	DP 1522 B2XF	1352 a-e	38.7	4.8	1.18	31.2	83.4	41	6	54.80
7	ST 4949 GLT	1349 a-e	41.3	4.5	1.16	30.7	83.6	41	5	54.50
8	PHY 330 W3FE	1342 a-e	40.3	4.5	1.21	33.7	84.8	41	6	55.00
9	PHY 340 W3FE	1340 a-e	40.1	4.5	1.20	32.7	84.3	41	6	54.90
10	DP 1725 B2XF	1328 b-e	40.7	4.4	1.20	31.0	82.9	31	4	55.25
11	ST 4848 GLT	1305 c-f	39.6	4.5	1.18	30.9	83.4	41	5	54.60
12	CP 3475 B2XF	1301 d-f	37.5	4.8	1.17	32.0	84.0	41	5	54.70
13	PHY 300 W3FE	1282 e-f	39.2	4.6	1.20	32.4	84.3	41	5	54.90
14	ST 4946 GLB2	1248 f	36.8	4.6	1.19	33.2	83.9	31	5	55.45
	Mean	1342	39.4	4.6	1.19	31.3	83.9	41	5	54.91
	LSD (p<0.05)	79	0.8	0.2	0.01	0.7	0.6		0.7	
	CV (%)	7.3	2.5	4.2	1.5	2.7	0.9		17.5	

*Means followed by the same letter are not significantly different (p=0.05).

Mean and LSD values for lint yield and turnout were calculated from 14 varieties planted and harvested in 12 independent 2017 Tennessee County Standard Trials. Mean and LSD values for fiber quality parameters were calculated from 8 independent Tennessee County Standard Trials. Loan value calculated assuming a leaf vale of 4.

Table CST2. Results from the 2017 Ames Plantation (Hardeman/Fayette Co.) County Standard Trial near Grand Junction, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	PHY 330 W3FE	1871	40.5	4.6	1.21	84.0	35.2	31	4	55.55
2	PHY 340 W3FE	1837	39.1	4.6	1.17	81.9	32.0	31	4	55.10
3	DP 1522 B2XF	1833	36.7	4.5	1.16	81.5	32.8	31	4	55.10
4	DP 1614 B2XF	1764	40.5	4.8	1.10	82.9	32.6	31	4	53.95
5	NG 3522 B2XF	1754	38.9	4.6	1.17	83.0	29.1	21	3	55.65
6	DG 3385 B2XF	1753	38.2	4.8	1.17	83.7	29.9	11	3	55.65
7	CP 3475 B2XF	1742	37.5	4.9	1.15	84.3	33.6	31	4	55.45
8	ST 4949 GLT	1724	39.8	4.6	1.13	83.0	31.6	31	4	55.00
9	PHY 300 W3FE	1717	38.5	4.6	1.17	84.5	32.6	31	4	55.35
10	DP 1646 B2XF	1695	38.1	4.6	1.25	83.8	30.6	31	4	55.15
11	ST 4848 GLT	1695	40.3	4.6	1.14	82.3	31.7	31	4	54.90
12	DP 1518 B2XF	1583	38.9	4.7	1.19	83.2	31.5	31	4	55.35
13	ST 4946 GLB2	1570	36.6	4.9	1.17	83.6	32.9	21	3	56.05
14	DP 1725 B2XF	1553	39.8	4.7	1.15	81.4	30.9	21	3	55.70
Mean		1721	38.8	4.7	1.17	83.1	31.9	21	4	55.28

Planted: 05/08/2017

Harvested: 10/07/2017

Grower: Ames Plantation, Grand Junction, TN; Mr. Ryan Braddock

Table CST3. Results from the 2017 County Standard Trial in Carroll County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	ST 4949 GLT	1381	40.6	4.3	1.15	31.8	83.8	41	6	54.80
2	DP 1646 B2XF	1371	39.6	4.3	1.28	29.8	85.3	31	6	55.25
3	DP 1522 B2XF	1309	38.9	4.9	1.17	30.5	84.5	41	7	54.60
4	DP 1518 B2XF	1274	36.9	4.3	1.25	29.6	85.8	41	8	54.60
5	DP 1614 B2XF	1258	39.3	5.0	1.21	30.3	84.6	41	4	52.40
6	ST 4848 GLT	1229	38.3	4.5	1.18	30.4	83.8	41	7	54.60
7	ST 4946 GLB2	1221	35.9	4.8	1.17	32.1	84.1	41	7	54.80
8	CP 3475 B2XF	1213	34.9	4.7	1.19	31.9	84.4	41	6	54.90
9	DP 1725 B2XF	1191	39.3	4.1	1.22	32.1	84.6	31	7	55.55
10	NG 3522 B2XF	1165	37.8	4.5	1.15	28.6	84.2	31	4	54.85
11	PHY 330 W3FE	1162	38.5	4.4	1.22	33.0	86.4	51	8	51.60
12	PHY 340 W3FE	1146	38.9	4.6	1.24	32.2	87.6	51	8	51.50
13	DG 3385 B2XF	1120	37.7	4.7	1.16	30.0	84.7	41	5	54.60
14	PHY 300 W3FE	1100	37.4	4.7	1.21	31.8	85.3	41	6	55.00
Mean		1224	38.2	4.6	1.20	31.0	84.9	41	6	54.22

Planted: 05/09/2017

Harvested: 10/12/2017

Grower: Johnny and Will Robinson

Agent: Jake Mallard/Kenny Herndon

Table CST4. Results from the 2017 County Standard Trial in Fayette County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1725 B2XF	996	40.0	4.3	1.18	30.9	82.3	41	4	54.50
2	DP 1614 B2XF	967	40.2	4.8	1.21	29.7	84.6	41	6	54.50
3	ST 4949 GLT	965	39.5	4.6	1.17	30.3	83.5	41	5	54.50
4	PHY 340 W3FE	941	39.4	4.4	1.17	33.2	84.3	41	6	54.90
5	NG 3522 B2XF	924	37.1	4.3	1.17	28.3	83.7	31	4	54.75
6	DP 1518 B2XF	918	36.3	3.9	1.21	31.0	84.0	41	7	55.00
7	PHY 330 W3FE	898	38.7	4.3	1.19	34.3	84.9	51	7	51.40
8	DP 1646 B2XF	891	36.7	3.7	1.27	30.8	82.7	41	6	54.60
9	ST 4848 GLT	885	36.1	4.6	1.17	32.4	83.2	41	6	54.70
10	DP 1522 B2XF	862	36.6	4.0	1.20	30.6	83.9	41	7	54.70
11	DG 3385 B2XF	847	36.8	4.5	1.16	29.8	84.2	31	4	54.95
12	ST 4946 GLB2	835	34.2	4.7	1.18	34.2	83.4	31	4	55.45
13	CP 3475 B2XF	811	33.6	4.5	1.15	31.5	83.6	41	6	54.70
14	PHY 300 W3FE	796	37.5	4.2	1.19	33.0	83.8	41	5	55.00
Mean		895	37.3	4.3	1.19	31.4	83.7	41	6	54.55

Planted: 05/16/2017

Harvested: 10/26/2017

Grower: Bradley Moore

Agent: Jeff Via

Table CST5. Results from the 2017 County Standard Trial in Gibson County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1646 B2XF	1034	40.0	4.0	1.27	30.1	82.6	41	4	54.60
2	DP 1614 B2XF	1022	41.1	5.1	1.23	30.2	83.6	51	5	48.70
3	DP 1522 B2XF	985	38.1	5.0	1.16	31.0	82.5	51	5	48.80
4	DP 1518 B2XF	980	37.6	4.3	1.22	29.9	83.3	51	6	50.80
5	DG 3385 B2XF	958	37.9	4.7	1.19	29.6	84.4	41	3	54.50
6	PHY 330 W3FE	958	38.7	4.6	1.21	34.1	84.3	51	5	51.40
7	NG 3522 B2XF	952	36.4	4.2	1.16	28.8	82.6	41	4	54.20
8	ST 4848 GLT	947	38.4	4.5	1.18	31.6	82.1	51	4	51.10
9	ST 4949 GLT	912	40.5	4.4	1.17	32.1	83.8	41	4	54.70
10	CP 3475 B2XF	902	36.4	4.9	1.16	31.6	83.4	51	4	51.20
11	PHY 340 W3FE	901	39.2	4.5	1.20	32.8	84.2	51	5	51.30
12	DP 1725 B2XF	885	41.8	4.2	1.19	30.5	80.6	41	4	54.55
13	PHY 300 W3FE	874	37.1	4.6	1.20	32.4	84.5	51	5	51.30
14	ST 4946 GLB2	781	36.5	4.5	1.19	31.8	83.4	41	5	54.80
Mean		935	38.6	4.5	1.20	31.2	83.2	51	5	52.28

Planted: 05/10/2017

Harvested: 11/10/2017

Grower: Randy Boals

Agent: Philip Shelby

Table CST6. Results from the first of two 2017 County Standard Trials in Haywood County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1646 B2XF	1645	40.9	4.4	1.29	29.7	83.3	4	31	54.95
2	DG 3385 B2XF	1601	40.1	4.7	1.20	29.7	83.9	5	31	54.95
3	DP 1518 B2XF	1568	39.6	4.6	1.22	29.2	83.6	6	41	54.40
4	NG 3522 B2XF	1493	40.8	4.5	1.13	28.8	81.2	3	31	54.35
5	DP 1614 B2XF	1479	40.9	4.9	1.24	29.1	83.4	4	41	54.40
6	DP 1725 B2XF	1464	42.3	4.5	1.20	30.7	83.1	3	31	55.15
7	DP 1522 B2XF	1459	38.5	4.9	1.17	29.9	82.9	5	31	54.75
8	ST 4848 GLT	1440	40.7	4.7	1.18	28.6	83.6	6	41	54.30
9	ST 4946 GLB2	1433	37.7	5.0	1.21	34.1	84.7	4	31	55.55
10	ST 4949 GLT	1391	42.5	4.2	1.17	30.0	82.7	7	41	54.50
11	PHY 340 W3FE	1366	39.9	4.6	1.18	32.1	84.3	6	41	54.90
12	PHY 330 W3FE	1342	41.3	4.6	1.22	33.0	85.2	6	41	55.10
13	PHY 300 W3FE	1330	39.4	4.5	1.23	31.0	84.0	5	41	54.90
14	CP 3475 B2XF	1205	37.4	5.0	1.17	30.8	84.0	5	31	52.85
Mean		1444	40.1	4.7	1.20	30.5	83.6	5	41	54.65

Planted: 05/15/2017

Harvested: 10/18/2017

Grower: Keith Sullivan

Agent: Lindsay Griffin

Table CST7. Results from the second of two 2017 County Standard Trials in Haywood County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1725 B2XF	1263	42.6	5.0	1.19	31.3	83.3	4	41	52.50
2	NG 3522 B2XF	1241	40.5	4.9	1.17	29.9	83.5	3	31	54.85
3	DG 3385 B2XF	1227	41.5	5.2	1.14	30.2	83.9	4	31	52.50
4	ST 4949 GLT	1219	43.7	5.2	1.14	29.9	84.2	5	41	51.90
5	DP 1646 B2XF	1196	39.3	4.7	1.27	29.4	84.1	5	41	54.50
6	ST 4848 GLT	1172	40.7	5.1	1.17	29.4	83.4	4	41	52.00
7	DP 1518 B2XF	1131	39.3	4.9	1.18	31.1	83.4	5	41	54.80
8	ST 4946 GLB2	1117	37.4	5.4	1.16	31.9	84.0	5	41	51.00
9	DP 1614 B2XF	1115	41.6	5.3	1.18	30.5	84.5	6	41	50.90
10	DP 1522 B2XF	1103	40.3	5.4	1.18	32.0	83.6	5	41	51.00
11	CP 3475 B2XF	1103	39.6	5.4	1.17	31.9	84.4	6	41	51.00
12	PHY 340 W3FE	1077	41.5	5.0	1.19	32.0	84.5	5	41	52.60
13	PHY 300 W3FE	959	40.8	5.2	1.19	31.7	83.6	4	41	52.50
14	PHY 330 W3FE	956	40.4	5.0	1.20	34.4	84.9	5	41	52.70
Mean		1134	40.7	5.1	1.18	31.1	84.0	5	41	52.48

Planted: 05/11/2017

Harvested: 10/18/2017

Grower: Link Carlton

Agent: Lindsay Griffin

Table CST8. Results from the 2017 County Standard Trial in Lake County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	PHY 330 W3FE	1837	42.1	4.7	1.21	32.8	84.0	5	41	54.90
2	PHY 300 W3FE	1749	41.0	4.8	1.21	31.4	83.5	4	41	54.80
3	DG 3385 B2XF	1669	40.6	4.7	1.20	30.4	84.1	3	41	54.70
4	ST 4949 GLT	1624	41.8	4.8	1.19	30.0	82.6	5	41	54.50
5	PHY 340 W3FE	1574	40.0	4.7	1.23	32.0	83.4	4	41	54.80
6	DP 1725 B2XF	1557	40.9	4.6	1.22	31.1	82.2	4	41	54.70
7	NG 3522 B2XF	1529	38.2	4.4	1.18	29.4	84.3	3	41	54.50
8	DP 1518 B2XF	1509	38.6	4.4	1.20	30.0	82.7	4	41	54.50
9	DP 1614 B2XF	1496	39.3	4.6	1.24	29.8	83.2	5	41	54.40
10	DP 1646 B2XF	1478	40.4	4.5	1.30	29.6	82.6	4	41	54.30
11	ST 4946 GLB2	1448	37.1	4.3	1.24	36.3	84.9	5	41	55.00
12	ST 4848 GLT	1431	40.7	4.7	1.21	31.7	84.2	4	41	54.90
13	CP 3475 B2XF	1422	36.8	4.7	1.19	33.4	83.4	4	41	54.90
14	DP 1522 B2XF	1348	38.6	4.9	1.19	29.7	82.3	5	41	54.30
Mean		1548	39.7	4.6	1.22	31.3	83.4	4	41	54.66

Planted: 05/17/2017

Harvested: 11/22/2017

Grower: Tony Bargery

Agent: Greg Allen

Table CST9. Results from the 2017 County Standard Trial in Lauderdale County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1518 B2XF	1343	40.1	4.2	1.20	29.9	82.8	6	41	54.40
2	DP 1646 B2XF	1284	40.9	4.2	1.25	29.5	83.3	5	31	55.05
3	DP 1614 B2XF	1256	42.7	5.0	1.20	30.3	83.3	6	41	52.30
4	NG 3522 B2XF	1211	38.5	4.1	1.20	29.0	82.1	5	31	54.95
5	DG 3385 B2XF	1202	39.9	5.0	1.18	29.5	84.0	4	31	55.05
6	CP 3475 B2XF	1193	39.9	4.9	1.17	31.3	83.6	5	41	54.70
7	DP 1522 B2XF	1169	40.5	4.9	1.15	30.4	83.0	5	41	54.50
8	ST 4949 GLT	1163	42.9	4.7	1.15	30.6	83.1	4	41	54.50
9	PHY 340 W3FE	1097	41.6	4.5	1.19	33.0	83.7	7	41	54.90
10	ST 4946 GLB2	1063	38.8	4.9	1.15	31.4	81.8	4	31	55.10
11	PHY 300 W3FE	1059	39.3	4.5	1.20	31.2	84.9	4	41	54.90
12	PHY 330 W3FE	1054	41.1	4.2	1.21	32.4	83.4	8	41	54.90
13	DP 1725 B2XF	969	40.8	4.5	1.20	31.5	83.0	3	31	55.35
14	ST 4848 GLT	953	37.7	4.3	1.16	29.8	82.2	5	41	54.20
Mean		1144	40.3	4.6	1.19	30.7	83.2	5	41	54.63

Planted: 05/18/2017

Harvested: 10/19/2017

Grower: Leslie Crook

Agent: JC Dupree

Table CST10. Results from the 2017 County Standard Trial in Lincoln County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	PHY 340 W3FE	1646	44.0	4.0	1.19	31.5	82.4	6	31	55.35
2	DP 1518 B2XF	1631	42.2	3.8	1.24	30.7	85.1	7	31	55.45
3	DG 3385 B2XF	1594	41.6	4.1	1.22	30.1	84.2	4	31	55.35
4	DP 1522 B2XF	1561	40.7	4.4	1.21	31.0	84.4	7	41	54.90
5	CP 3475 B2XF	1498	39.1	4.3	1.20	31.0	83.6	4	31	55.45
6	DP 1725 B2XF	1469	41.3	3.8	1.24	29.5	83.3	4	31	55.05
7	ST 4949 GLT	1454	42.2	3.9	1.16	28.3	83.6	6	31	54.85
8	DP 1614 B2XF	1447	42.2	4.4	1.25	30.6	83.9	5	31	55.15
9	DP 1646 B2XF	1446	40.5	3.6	1.30	31.3	84.6	5	31	55.45
10	NG 3522 B2XF	1422	40.7	4.1	1.17	28.5	83.5	4	31	54.85
11	PHY 330 W3FE	1379	40.2	3.9	1.22	31.3	84.1	7	41	55
12	PHY 300 W3FE	1360	40.0	4.0	1.21	32.2	83.8	5	31	55.45
13	ST 4848 GLT	1358	42.0	3.8	1.19	30.5	83.3	5	31	55.25
14	ST 4946 GLB2	1343	37.4	3.8	1.22	32.6	83.6	5	31	55.45
Mean		1472	41.0	4.0	1.22	30.7	83.8	5	31	55.21

Planted: 05/11/2017

Harvested: 10/24/2017

Grower: Jared Bradley

Agent: David Qualls

Table CST11. Results from the first of three 2017 County Standard Trials in Madison County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DG 3385 B2XF	1269	40.1	5.5	1.14	31.1	83.9	2	31	51.20
2	DP 1518 B2XF	1235	40.4	4.8	1.21	30.8	85.0	6	31	55.35
3	DP 1522 B2XF	1229	39.5	5.5	1.16	31.3	82.5	4	31	51.35
4	DP 1646 B2XF	1214	40.0	4.9	1.26	30.7	83.7	4	31	55.15
5	ST 4848 GLT	1206	41.8	5.1	1.15	32.0	84.3	5	31	53.05
6	ST 4946 GLB2	1203	38.0	4.8	1.17	32.9	84.1	5	31	55.35
7	NG 3522 B2XF	1189	41.1	4.8	1.14	28.8	82.7	3	31	54.40
8	DP 1614 B2XF	1182	41.7	5.0	1.24	31.8	85.7	6	31	55.55
9	PHY 330 W3FE	1181	41.2	4.9	1.23	34.0	85.2	5	31	55.65
10	ST 4949 GLT	1165	41.4	4.8	1.14	30.3	84.3	4	21	55.65
11	DP 1725 B2XF	1160	42.4	4.9	1.19	31.1	83.4	3	21	56.05
12	CP 3475 B2XF	1076	37.9	5.2	1.14	33.3	84.3	5	31	52.90
13	PHY 300 W3FE	1060	39.7	5.0	1.22	34.4	84.8	5	31	55.55
14	PHY 340 W3FE	1043	39.2	5.0	1.21	34.3	84.7	5	31	55.55
Mean		1172	40.3	5.0	1.19	31.9	84.2	4	31	54.48

Planted: 05/08/2017

Harvested: 10/05/2017

Grower: Chris Couch

Agent: Jake Mallard

Table CST12. Results from the second of three 2017 County Standard Trials in Madison County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DG 3385 B2XF	1713	39.5	4.8	1.17	30.3	85.7	3	31	55.25
2	DP 1518 B2XF	1631	38.7	4.0	1.21	30.6	83.5	6	41	54.70
3	DP 1646 B2XF	1625	40.5	4.2	1.29	30.8	86.0	5	31	55.55
4	DP 1614 B2XF	1592	42.2	4.9	1.20	31.5	85.1	4	31	55.55
5	CP 3475 B2XF	1549	39.1	4.8	1.16	31.9	85.1	6	31	55.45
6	NG 3522 B2XF	1538	39.6	4.2	1.16	30.7	84.9	5	31	55.25
7	ST 4949 GLT	1496	40.2	4.5	1.14	30.9	84.0	5	31	54.90
8	DP 1522 B2XF	1491	39.9	4.9	1.19	32.2	84.8	6	41	54.90
9	PHY 340 W3FE	1488	38.9	4.1	1.22	33.5	86.5	5	31	55.85
10	PHY 330 W3FE	1487	40.4	4.6	1.21	35.6	86.9	7	41	55.20
11	ST 4848 GLT	1453	39.8	4.4	1.20	32.8	84.5	6	31	55.45
12	ST 4946 GLB2	1410	36.2	4.4	1.20	33.6	85.4	6	31	55.65
13	PHY 300 W3FE	1396	39.9	4.2	1.17	33.3	84.4	4	31	55.55
14	DP 1725 B2XF	1295	37.8	4.0	1.21	30.8	83.7	8	41	54.70
Mean		1512	39.5	4.4	1.20	32.0	85.0	5	31	55.28

Planted: 05/16/2017

Harvested: 10/22/2017

Grower: Matt Griggs

Agent: Jake Mallard

Table CST13. Results from the third of three 2017 County Standard Trials in Madison County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1725 B2XF	2133	39.7	4.4	1.18	31.7	83.4	3	41	54.8
2	DP 1646 B2XF	2103	38.7	4.7	1.27	31.1	86.0	4	41	55.1
3	DP 1614 B2XF	2010	40.3	5.0	1.22	32.7	85.2	8	41	52.7
4	PHY 300 W3FE	1982	40.2	4.8	1.17	34.1	84.1	4	41	54.9
5	PHY 330 W3FE	1975	39.9	4.5	1.21	33.7	84.8	7	41	55
6	PHY 340 W3FE	1969	40.0	4.4	1.18	33.3	83.9	7	41	54.9
7	NG 3522 B2XF	1942	37.7	4.5	1.14	30.0	82.9	5	41	54.2
8	ST 4848 GLT	1897	39.2	4.2	1.18	29.8	84.1	6	41	54.6
9	CP 3475 B2XF	1894	38.1	4.7	1.16	31.9	83.6	7	41	54.7
10	DP 1522 B2XF	1878	35.9	4.8	1.18	33.4	84.8	8	41	55
11	DG 3385 B2XF	1858	37.5	4.5	1.18	30.5	84.3	4	41	54.70
12	DP 1518 B2XF	1738	36.9	4.1	1.15	31.1	84.0	8	41	54.90
13	ST 4949 GLT	1692	40.1	3.9	1.16	32.5	84.4	6	41	54.90
14	ST 4946 GLB2	1551	36.0	4.1	1.18	34.5	83.9	7	41	55.00
Mean		1902	38.6	4.5	1.18	32.2	84.2	6	41	54.67

Planted: 05/10/2017

Harvested: 10/16/2017

Grower: Shawn Butler/Dalton McCurley

Agent: Jake Mallard

Table CST14. Lint yield, gin turnout, and fiber quality of 6 like-entries in the 2016 and 2017 Tennessee County Standard Trial Programs.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade
1	DG 3385 B2XF	1330	39.5	4.9	1.16	30.1	83.5	31	3
2	DP 1518 B2XF	1312	38.7	4.5	1.19	30.5	83.1	41	5
3	DP 1522 B2XF	1277	38.6	5.0	1.17	31.2	83.0	41	5
4	DP 1614 B2XF	1332	40.5	5.0	1.21	31.1	83.6	41	5
5	ST 4848 GLT	1263	40.3	4.7	1.17	31.2	83.1	31	5
6	ST 4946 GLB2	1253	37.3	4.9	1.18	33.1	83.4	31	5
Mean		1294	39.2	4.8	1.18	31.2	83.3	31	4

Tennessee AgResearch data of Raper et al. (2016).

Tennessee AgResearch data of Raper et al. (2017).

Glossary

Bollgard: A single-gene trait which expresses the Cry1Ac protein from *Bacillus thuringiensis* (*Bt*) and provides resistance to certain lepidopteran pests such as tobacco budworm. Abbreviated **B** or **BG** in variety names.

Bollgard II: A two-gene trait which expresses the Cry1Ac and Cry2Ab proteins from *Bacillus thuringiensis* (*Bt*) and provides resistance to certain lepidopteran pests such as tobacco budworm. Abbreviated **BII** or **B2** in variety names.

Bollgard III: A three-gene trait which expresses the Cry1Ac, Cry2Ab and Vip3A proteins from *Bacillus thuringiensis* (*Bt*) and provides resistance to certain lepidopteran pests such as tobacco budworm. Abbreviated **BII** or **B2** in variety names.

Commodity Credit Corporation: An entity administered by the Farm Services Agency of the United States Department of Agriculture. Commonly abbreviated as CCC.

Color: See *HVI Color Grade*.

Conventional tillage: Systems in which the entire surface layer of soil is mixed or inverted by plowing, power tilling, or multiple disking before planting. Conventional tillage systems may also involve inter-row cultivation after planting.

County Standard Test: A large plot variety trial consisting of no-replications and only commercially available cotton varieties. Abbreviated as CST.

Coefficient of variation: A statistical estimate of experimental variability, calculated as the standard deviation divided by the mean, and expressed as a percentage. A relatively low CV indicates greater experimental precision. Abbreviated as CV.

Earliness: A measure of how rapidly a cotton crop reaches maturity. Relative earliness of varieties can be measured by the heat units needed to mature the highest harvestable boll. Earliness is under genetic control but is strongly influenced by crop management.

Gin turnout: Weight of lint as a percent of seedcotton weight, which is composed of lint, seed, trash, and excess moisture.

Glytol: A trait which provides tolerance to the herbicide glyphosate. Abbreviated **G** in variety names.

Heat Units: A measure of thermal time used to describe crop growth and development. Commonly abbreviated as *GDD* (growing degree days) or *DD60s* (degree-days above a threshold of 60° F).

High Volume Instrument: A classing instrument providing accurate measurements of fiber length, strength, micronaire, length uniformity, trash, and color. Abbreviated as HVI.

HVI Color Grade: Cotton color grade is a function of white reflectance (Rd) and yellowness (+b) of the lint sample. The HVI color code identifies the quadrant of the Nickerson-Hunter cotton colorimeter diagram in which Rd and +b values intersect (USDA, 1999). Color may be affected by moisture and temperature after boll

opening, during harvest, ginning or storage.

Height to Node Ratio: A ratio of the main stem height divided by the total number of nodes. This measurement can provide insight into vegetative vigor.

Leaf Grade: The classer’s leaf grade is a visual estimate of the amount of cotton plant leaf particles in a sample of lint. There are seven leaf grades represented by physical standards, plus a below grade designation. See **Trash**.

Length: Average fiber length of the longer one-half of the fibers sampled, in hundredths of an inch. Fiber length is under strong genetic control but may be reduced by environmental stress, nutrient deficiency, or fiber breakage. Staple expresses fiber length in 32nds of an inch.

<u>Length (32nds)</u>	<u>Length (Inches)</u>	<u>Length (32nds)</u>	<u>Length (Inches)</u>
24	0.79 & shorter	36	1.11 – 1.13
26	0.80 – 0.85	37	1.14 – 1.17
28	0.86 – 0.89	38	1.18 – 1.20
29	0.90 – 0.92	39	1.21 – 1.23
30	0.93 – 0.95	40	1.24 – 1.26
31	0.96 – 0.98	41	1.27 – 1.29
32	0.99 – 1.01	42	1.30 – 1.32
33	1.02 – 1.04	43	1.33 – 1.35
34	1.05 – 1.07	44 & +	1.36 & +
35	1.08 – 1.10		

Source: USDA (1999)

Lint yield: Weight of lint harvested per unit ground area (typically reported as pounds per acre).

Liberty Link: A trait which provides tolerance to the herbicide glufosinate. Abbreviated **LL** in variety names.

Least significant Difference: Least significant difference is the statistical estimate of the smallest difference between two means that are significantly different at a fixed p-value (usually 0.05).

Micronaire: A measure of fiber fineness or maturity. An airflow instrument measures the air permeability of a given mass of cotton lint compressed to a fixed volume. Low "mike" values indicate finer or less mature fibers. Mike is strongly influenced by boll load, leaf retention and environmental conditions (especially moisture supply) during boll maturation. Abbreviated as mike or mic. No decimal point is used by the USDA (1999) in reporting micronaire values, while others report values in tenths of units.

<u>Market Value</u>	<u>HVI Micronaire</u>
Low discount range	34 and below
Base range	35 – 36
Premium range	37 – 42
Base range	43 – 49
High discount range	50 and above

Source: USDA (1999)

Nodes above cracked boll: A measure of plant maturity measured by the number of nodes from the highest first-

position cracked boll to the node of the highest harvestable boll. Abbreviated as NACB.

Nodes above white flower: A measure of the number of main-stem nodes above the uppermost white flower at first position, indicating relative crop maturity. An average NAWF count of 5 is used as a reference point of physiological cutout or last effective boll population. Abbreviated as NAWF.

No-till: A system in which a crop is planted directly into a seedbed not tilled since the previous crop and only the immediate seed zone is disturbed during planting. Other surface residues are not moved, and weed control is accomplished primarily with herbicides.

Official Variety Trail: A replicated small-plot test conducted at several locations to evaluate the adaptation of the most promising commercial cultivars for Tennessee. Abbreviated as OVT.

P-value: Observed significance level in an analysis of variance. It estimates the probability of error in concluding that differences truly exist among treatments (varieties).

Randomized Complete Block Design: An experimental design in which all treatments are randomly assigned to plots in separate within-field blocks (replications). This design increases the power of the trial to isolate treatment differences from inherent field variability.

Rd and +b: Measures of white reflectance (%) and of yellow pigmentation (Hunter's scale), respectively, in a sample of lint. Lower Rd values indicate grayer samples, while higher +b values indicate yellower samples. Field weathering can decrease reflectance, while excess moisture in storage can cause yellowing.

Roundup Ready: A trait which provides tolerance to a broadcast application of the herbicide glyphosate until the fifth true leaf reaches the size of a quarter. Subsequent glyphosate applications must be directed towards the base of the plant. Abbreviated **R** or **RR** in variety names.

Roundup Ready Flex: A trait which provides tolerance to a broadcast application of the herbicide glyphosate beyond the fifth true leaf stage. Abbreviated **F** or **RF** in variety names.

Seedcotton: Lint plus seed, trash and excess moisture.

Staple: A traditional term applied to lengths of fiber that require spinning or twisting in the manufacture of yarn. Staple also refers to the average length of the bulk fibers measured in 32nds of one inch. Cotton fiber considered with regard to its length.

Strength: Force required to break a bundle of fibers one tex unit in size. A tex is the weight in grams of 1,000 meters of fiber. HVI clamp jaw spacing is 1/8 inch. Fiber strength is under strong genetic control, but may be reduced by nutrient deficiency or stress.

Strength category	HVI Strength (grams per tex)
Very strong	31 and above
Strong	29 – 30
Intermediate	26 – 28
Weak	24 – 25
Very weak	23 and below

Source: USDA (1999)

Transgenic variety: A variety containing genes from dissimilar species or other foreign sources that confer

desirable traits such as insect or herbicide resistance.

Trash: Percentage of the sample surface area covered by non-lint materials, as determined by a video scanner. Typical sources of trash include leaf fragments and bark. HVI trash measurement is correlated to a hand classer's leaf grade:

Twinlink: A two-gene trait which expresses the Cry1Ab and Cry2Ae proteins from *Bacillus thuringiensis (Bt)* and provides resistance to certain lepidopteran pests such as tobacco budworm. Abbreviated **T** in variety names.

TwinlinkPlus: A three-gene trait which expresses the Cry1Ab, Cry2Ae, and Vip3Aa19 proteins from *Bacillus thuringiensis (Bt)* and provides resistance to certain lepidopteran pests such as tobacco budworm. Abbreviated **TP** in variety names.

Uniformity: Length uniformity is the ratio between the mean length and the upper-half mean length of the fibers, expressed as a percentage. Also referred to as the length uniformity index.

Uniformity Group	Length Uniformity Index
Very high	86 and above
High	83- 85
Intermediate	80- 82
Low	77- 79
Very low	76 and below

Source: USDA (1999)

Widestrike: A two-gene trait which expresses the Cry1Ac and Cry1F proteins from *Bacillus thuringiensis (Bt)* and provides resistance to certain lepidopteran pests such as tobacco budworm. Abbreviated **W** in variety names.

Widestrike 3: A three-gene trait which expresses the Cry1Ac, Cry1F, and Vip3A proteins from *Bacillus thuringiensis (Bt)* and provides resistance to certain lepidopteran pests such as tobacco budworm and improved resistance management. Abbreviated **W3** in variety names.

XtendFlex: A trait which provides tolerance (in cotton) to the herbicides dicamba, glyphosate, and glufosinate. Abbreviated **XF** in variety names.

References

- USDA. 1997. Cotton Classification Results -- Understanding the Data. Agricultural Marketing Service, Cotton Div. Rev. 5/97. 12 pp.
- USDA. 1999. The Classification of Cotton. Agricultural Marketing Service, Agric. Handbook 566. Rev. 1/99. Washington, DC. 23 pp.



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