

Cotton Variety Trial Results | 2016



UT Cotton Agronomy
Department of Plant Sciences
University of Tennessee



Tennessee Cotton Variety Trial Results | 2016

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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 2016 program consisted of three major types of trials: the Official Variety Trials (OVTs), large replicated on-farm variety trials, and the County Standard Trials (CSTs). The OVTs are small plot, replicated variety trials typically located 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, four large replicated trials, and 15 CSTs were conducted during the 2016 season (Fig.1). Information reported from these trials includes yield, fiber quality data, 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, 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 2016 growing season and five were harvested. These included three locations on University of Tennessee Research and Education Centers and three locations on production fields. Seed of commercial cultivars and experimental strains was provided by the respective companies. In all, 33 varieties were submitted. Each variety was randomly assigned to four plots at each location 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. Relative maturity of the entries was estimated by assuming 50 DD60s (degree-days, base 60 F) per main-stem node to open successive first-position bolls, up to the highest harvestable boll. Weed and pest control measures were uniformly applied to all plots per UT-recommendations. Seed cotton was harvested from each plot by a two row picker outfitted with an in-basket,

catch-and-weigh system. Each plot was subsequently harvested, weighed, sub-sampled and dumped into the basket during picking. Subsamples from each location were then air-dried, bulked by varietal entry and weighed prior to ginning.

Large Plot Variety Trials

Four large replicated CI trails and fifteen CSTs were conducted in the 2016 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 Extension Center and twelve locations on production fields. Seed of commercial varieties was provided by each respective company. In all, 15 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

Due to by-location bulking of the OVT samples prior to ginning, calculation of mean separation of fiber quality parameters between varieties at each OVT location was not possible. Mean separation of fiber quality was calculated, however, 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 2016 University of Tennessee Cotton Variety Testing Program and their subsequent entries are listed below:

- American Cotton Breeders, Inc. 5210 88th Street, Lubbock, TX 79424
AMX1601 B2XF NG 3405 B2XF
AMX1604 B2XF NG 3406 B2XF
AMX1606 B2XF

(Continued on next page)

Seed Sources (continued)

- Bayer CropScience, 311 Poplar View Lane West, Collierville, TN 38017
ST 4747 GLB2 BX 1737 GLT
ST 4848 GLT BX 1771 GLTP
ST 4946 GLB2 BX 1775 GLTP
ST 5032 GLT BX 1776 GLTP
ST 5115 GLT
- Croplan Genetics, 8700 Trail Lake Dr., Suite 100, Memphis, TN 38125
CG 3475 B2XF
- Crop Production Services, 3005 Rocky Mountain Ave., Loveland, CO 80538
DG 3385 B2XF DG 3544 B2XF
DG 3526 B2XF CPS16214 B2RF
- 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 1614 B2XF
DP 1522 B2XF DP 1725 B2XF
DP 1612 B2XF MON 16R229 B2XF
- Phytogen Seed Co., P.O. Box 27, Leland, MS 38756
PHY 312 WRF PHY 444 WRF
PHY 333 WRF
- Seed Source Genetics, 5159 FM 3354, Bishop, TX 78343
SSG UA 222 SSG HQ 210 CT

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This program was partially funded by Cotton Incorporated State Support Project No. 15-917TN and Cotton Incorporated Core Project No. 15-929. Additionally, all entrant companies provided technical and financial support to the TN Cotton Research Program during the 2016 season. Their contributions are vital to covering costs of conducting this research and are greatly appreciated. We also gratefully acknowledge donations of other inputs used in conducting this research from AMVAC Chemical, Bayer CropScience, Cannon Packing Company, Dow AgroSciences, DuPont, FMC Corp., Monsanto Co., Sanders Inc., Syngenta Crop Protection, Inc., and Valent USA Corp.

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.

2016 Official Variety Trial Results



Table 1. 2016 Official Variety Trial details.

Location	Planting Date	Soil Type	Tillage	Fertility	Irrigation	Harvest Date
Ames Plantation ¹	05/06/2016	Memphis Silt Loam	No-Till	80-var P&K	None	11/04/2016
Huntersville	05/31/2016	Calloway Silt Loam	No-Till	80-var P&K	None	10/26/2016
Halls	05/09/2016	Arkabutla Silt Loam	Raised Bed		None	10/21/2016
MREC ²	05/18/2016	Collins Silt Loam	Raised Bed	80-0-90-10	None	11/02/2016
Ridgely	05/09/2016	Reelfoot Silt Loam	No-Till	90- var P&K	None	10/17/2016
WTREC ³	04/26/2016	Collins Silt Loam	No-Till	107-40-90-12.5	None	10/07/2016

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, gin turnout, and fiber quality of 32 entries in the 2016 Tennessee Official Variety Trials averaged over the Grand Junction, Huntersville, Jackson, Milan, and Ridgely locations, listed by yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	Leaf Grade
1	PHY 312 WRF	1533 a [‡]	38.9 efgh	4.7 klmn	1.17 cde	32.4 cde	82.8 abc	3 bcde
2	PHY 333 WRF	1529 a	40.4 abcd	4.7 j-n	1.16 defg	30.9 f-j	80.9 hijk	3 cdef
3	MON15R535 B2XF	1492 ab	41.3 a	4.9 e-k	1.15 e-j	30.6 g-k	81.2 g-k	2 ghi
4	CPS16214 B2XF	1466 abc	39.6 cde	4.5 no	1.23 a	31.0 f-j	81.5 e-i	3 defg
5	PHY 444 WRF	1465 abc	39.5 cde	4.4 o	1.24 a	33.3 bcd	82.8 abc	3 fghi
6	DP 1522 B2XF	1452 abcd	39.1 efg	5.4 a	1.13 jkl	30.4 hijk	82.1 b-g	3 defg
7	MON16R229 B2XF	1447 bcde	39.2 def	5.1 b-f	1.10 mn	30.5 hijk	80.9 hijk	3 defg
8	DP 1614 B2XF	1424 b-f	41.1 ab	5.3 ab	1.20 bc	31.4 efgh	82.6 bcde	3 bcde
9	DG 3526 B2XF	1421 b-g	40.7 abc	4.9 f-l	1.14 ghij	29.6 k	82.4 b-f	3 defg
10	DG 3385 B2XF	1417 b-h	38.8 e-i	5.0 c-i	1.14 f-j	29.6 k	82.2 b-g	2 ghi
11	ST 4946 GLB2	1416 b-h	37.0 klm	4.9 d-i	1.13 ijkl	33.4 bc	81.8 c-i	3 cdef
12	DP 1518 B2XF	1405 c-i	37.7 hijk	4.6 mno	1.16 e-i	30.4 hijk	81.1 g-k	4 abc
13	BX 1771 GLTP	1399 c-i	37.8 hijk	5.0 b-h	1.14 f-j	33.7 ab	82.8 abc	3 cdef
14	BX 1737 GLT	1399 c-i	36.9 klm	4.7 i-n	1.17 def	31.3 e-i	82.0 b-g	3 fghi
15	AMX1601 B2XF	1397 c-i	40.0 bcde	5.1 b-g	1.18 bcd	34.1 ab	82.4 b-f	3 fghi
16	NG 3522 B2XF	1394 c-i	39.3 def	4.8 h-l	1.09 mn	27.9 l	80.8 ijk	2 hi
17	ST 4848 GLT	1379 d-j	39.0 efg	5.1 b-g	1.16 defg	31.5 efgh	81.9 c-i	3 cdef
18	NG 3405 B2XF	1367 e-j	38.2 f-j	4.8 i-m	1.09 n	27.5 l	80.2 k	2 ghi
19	CG 3475 B2XF	1357 f-k	37.0 jklm	5.1 b-h	1.14 ghij	31.7 efg	82.9 abc	4 abcd
20	ST 4747 GLB2	1355 f-k	37.1 jklm	4.9 d-j	1.17 def	29.9 jk	80.3 k	3 cdef
21	SSG UA 222	1341 g-k	37.1 jklm	5.0 c-i	1.20 bc	32.3 cde	81.5 f-j	3 bcde
22	NG 3406 B2XF	1338 hijk	38.1 f-k	4.9 d-i	1.13 jkl	29.5 k	82.6 bcd	3 defg
23	DP 1612 B2XF	1330 ijkl	36.4 lm	5.0 b-h	1.16 defg	32.3 cde	83.0 ab	4 ab
24	BX 1775 GLTP	1330 ijkl	37.6 ijkl	4.7 klmn	1.17 defg	30.5 hijk	80.4 jk	2 hi
25	BX 1776 GLTP	1304 jkl	38.2 f-j	4.7 j-n	1.17 de	30.2 ijk	81.6 d-i	2 ghi
26	AMX1604 B2XF	1279 kl	37.9 g-k	5.1 bcde	1.13 hijk	32.4 cde	81.5 f-j	3 fghi
27	AMX1606 B2XF	1249 lm	36.3 mn	4.7 i-n	1.16 e-i	33.5 b	81.7 d-i	3 efgh
28	SSG HQ 210	1194 mn	36.4 lm	5.2 abc	1.11 lmn	32.2 de	81.9 c-i	2 ghi
29	BRS 335	1168 mno	36.0 mn	4.6 lmno	1.16 efgh	31.3 efgh	81.2 ghijk	4 a
30	BRS 286	1145 no	35.1 no	4.9 g-l	1.11 klm	31.7 ef	81.9 c-h	3 defg
31	BRS 293	1116 no	34.6 o	5.2 abcd	1.13 ijkl	33.9 ab	82.3 b-f	2 i
32	DG 3544 B2XF	1098 o	37.1 jklm	5.1 b-g	1.20 b	34.8 a	83.8 a	3 fghi
Average		1356	38.1	4.9	1.15	31.4	81.8	3
LSD (p<0.05)		82	1.3	0.3	0.03	1.1	1.1	0.7

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

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

Table OVT2. Lint yield, gin turnout, and fiber quality of 32 entries for the Grand Junction location of the 2016 Tennessee Official Variety Trial listed by trial yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	PHY 444 WRF	1274 _a [‡]	39.9	4.9	1.18	31.5	82	2	31
2	PHY 312 WRF	1265 _{ab}	39.9	5.2	1.14	30.9	81.8	4	41
3	CPS16214 B2XF	1250 _{abc}	39.6	5	1.15	29.6	79.5	3	41
4	BX 1771 GLTP	1230 _{abcd}	37.4	5.3	1.11	31.7	81.3	3	41
5	PHY 333 WRF	1227 _{abcd}	36.2	5.2	1.09	29.4	80.5	3	41
6	ST 4946 GLB2	1207 _{abcde}	37.4	5.3	1.11	33.6	81.7	4	41
7	BX 1737 GLT	1173 _{abcdef}	37.0	5.3	1.15	30.5	82.2	2	41
8	ST 4848 GLT	1169 _{abcdef}	38.8	5.5	1.12	29.7	81	3	41
9	DG 3526 B2XF	1166 _{abcdefg}	39.7	5.3	1.1	28.6	82.2	3	41
10	MON 16R229 B2XF	1164 _{abcdefg}	38.9	5.5	1.02	29.1	79.8	2	41
11	NG 3522 B2XF	1164 _{abcdefg}	39.2	5.3	1.05	26.8	80.4	2	41
12	ST 4747 GLB2	1157 _{abcdefg}	37.9	5.4	1.13	27.5	79.9	3	41
13	NG 3405 B2XF	1152 _{abcdefg}	38.2	5.2	1.05	25.4	80.3	3	41
14	DP 1725 B2XF	1150 _{abcdefg}	41.8	5.4	1.09	28.7	78.7	2	41
15	DP 1614 B2XF	1138 _{bcdefg}	38.5	5.7	1.14	30.9	82.4	3	41
16	DP 1522 B2XF	1131 _{cdefg}	38.5	5.7	1.06	29.8	81	3	41
17	SSG UA 222	1117 _{defgh}	39.4	5.5	1.16	31.4	80.9	3	41
18	AMX 1601 B2XF	1116 _{defgh}	37.3	5.6	1.16	33.4	81.9	3	41
19	DP 1518 B2XF	1113 _{defgh}	40.7	5	1.12	29.4	80.7	4	41
20	DG 3385 B2XF	1108 _{defghi}	42.3	5.5	1.12	28.2	81.8	2	41
21	AMX 1604 B2XF	1106 _{defghi}	40.4	5.5	1.1	29.6	81.3	3	41
22	CG 3475 B2XF	1100 _{defghi}	38.5	5.5	1.09	29.9	80.6	4	41
23	DP 1612 B2XF	1081 _{efghi}	38.2	5.4	1.12	31.4	81.8	3	41
24	NG 3406 B2XF	1080 _{efghi}	38.9	5.4	1.08	27.6	80.7	3	41
25	BX 1775 GLTP	1079 _{efghi}	41.1	5.1	1.12	30.7	79.9	2	41
26	BX 1776 GLTP	1074 _{fghi}	41.6	5.2	1.14	29.1	81.1	2	41
27	BRS 293	1062 _{fghi}	39.9	5.7	1.08	32.8	81.5	1	41
28	BRS 335	1037 _{ghij}	37.1	5	1.11	29.9	81.1	4	41
29	SSG HQ 210	1000 _{hijk}	38.8	5.6	1.08	31.3	81.5	2	31
30	BRS 286	982 _{ijk}	39.0	5.3	1.05	29.9	81.1	3	41
31	AMX 1606 B2XF	908 _{jk}	40.8	5.4	1.1	31.3	80.2	2	31
32	DG 3544 B2XF	894 _k	38.8	5.6	1.14	34.6	82.1	2	31
Average		1121	39.1	5.4	1.11	30.13	81.03	3	41
LSD (p<0.05)		130							

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

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

Table OVT3. Lint yield, gin turnout, and fiber quality of 32 entries for the Milan, TN location of the 2016 Tennessee Official Variety Trial listed by trial yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	PHY 312 WRF	1619 ^a *	37.9	4.5	1.22	31.5	83.0	3	41
2	PHY 333 WRF	1594 ^a	38.3	4.5	1.22	30.5	82.4	4	41
3	DP 1522 B2XF	1461 ^b	37.8	5.2	1.16	30.2	82.6	3	41
4	CPS16214 B2XF	1460 ^b	37.5	4.1	1.29	30.4	82.2	4	41
5	DP 1614 B2XF	1457 ^{bc}	40.1	5.0	1.23	31.0	82.5	3	41
6	DP 1725 B2XF	1453 ^{bc}	39.1	4.7	1.22	30.8	83.1	2	41
7	DP 1518 B2XF	1449 ^{bcd}	36.5	4.3	1.19	30.9	79.8	4	41
8	NG 3522 B2XF	1439 ^{bcde}	37.0	4.6	1.13	29.0	80.3	2	31
9	MON 16R229 B2XF	1436 ^{bcdef}	37.4	4.9	1.12	30.1	80.7	3	41
10	DG 3385 B2XF	1432 ^{bcdef}	38.2	4.8	1.18	29.9	82.2	2	31
11	DG 3526 B2XF	1421 ^{bcdefg}	39.2	4.6	1.23	31.1	83.3	2	31
12	CG 3475 B2XF	1407 ^{bcdefgh}	36.0	4.8	1.19	31.0	84.5	3	41
13	NG 3406 B2XF	1405 ^{bcdefgh}	37.4	4.5	1.19	30.2	83.9	3	41
14	NG 3405 B2XF	1403 ^{bcdefgh}	36.2	4.6	1.11	27.8	79.2	2	41
15	PHY 444 WRF	1391 ^{bcdefgh}	38.1	4.3	1.29	33.1	83.8	2	31
16	BX 1737 GLT	1368 ^{bcdefgh}	35.7	4.7	1.22	30.4	82.5	2	41
17	SSG UA 222	1350 ^{bcdefghi}	35.2	4.8	1.18	30.5	79.1	3	41
18	ST 4747 GLB2	1344 ^{cdefghi}	35.7	4.8	1.19	30.0	80.5	2	41
19	ST 4946 GLB2	1335 ^{defghi}	35.8	4.9	1.13	32.7	80.9	3	41
20	BX 1776 GLTP	1327 ^{efghi}	36.1	4.5	1.25	30.0	83.0	2	41
21	BX 1771 GLTP	1323 ^{fghi}	36.2	5.1	1.17	33.1	83.7	3	41
22	ST 4848 GLT	1320 ^{fghi}	36.5	4.9	1.18	30.8	80.8	3	41
23	DP 1612 B2XF	1314 ^{ghi}	36.1	4.8	1.23	32.9	85.3	4	41
24	AMX 1604 B2XF	1304 ^{hi}	36.5	4.9	1.18	32.5	82.4	2	41
25	AMX 1601 B2XF	1291 ^{hi}	38.4	4.8	1.21	33.5	82.9	2	41
26	AMX 1606 B2XF	1247 ^{ij}	36.8	4.4	1.22	34.3	81.8	3	41
27	BX 1775 GLTP	1239 ^{ij}	35.9	4.4	1.24	31.2	81.8	3	31
28	BRS 335	1166 ^{jk}	34.3	4.5	1.21	31.7	82.2	4	41
29	BRS 293	1158 ^{jk}	35.5	5.0	1.19	33.4	83.7	2	41
30	SSG HQ 210	1149 ^{jk}	34.1	4.9	1.16	32.3	82.8	2	41
31	BRS 286	1056 ^k	32.9	4.4	1.18	32.4	83.6	3	41
32	DG 3544 B2XF	938 ^l	35.2	4.6	1.27	32.4	84.8	3	41
Average		1345	36.7	4.7	1.20	31.3	82.4	3	41
LSD (p<0.05)		115							

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

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

Table OVT4. Lint yield, gin turnout, and fiber quality of 32 entries for the Ridgely, TN location of the 2016 Tennessee Official Variety Trial listed by trial yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	PHY 444 WRF	1650 ^a *	38.3	4.6	1.22	34.1	81.9	3	31
2	PHY 333 WRF	1619 ^{ab}	39.6	4.8	1.18	32.3	81.6	3	41
3	DG 3526 B2XF	1617 ^{ab}	39.6	5.1	1.15	29.6	83.5	3	31
4	DP 1725 B2XF	1586 ^{abc}	39.3	5.2	1.14	30.5	81.0	3	31
5	AMX 1601 B2XF	1532 ^{abcd}	39.1	4.9	1.19	35.1	82.3	2	31
6	CPS16214 B2XF	1530 ^{abcd}	37.3	4.7	1.22	31.1	81.2	2	31
7	MON 16R229 B2XF	1510 ^{abcde}	38.1	5.1	1.11	30.6	81.3	3	31
8	ST 4946 GLB2	1509 ^{abcde}	35.9	5.3	1.13	33.2	82.2	3	31
9	PHY 312 WRF	1493 ^{abcde}	38.0	5.3	1.14	32.0	83.1	3	31
10	DP 1522 B2XF	1464 ^{abcdef}	37.8	5.5	1.12	30.8	81.7	3	31
11	NG 3522 B2XF	1426 ^{bcdefg}	39.1	4.9	1.10	27.7	81.7	2	31
12	NG 3406 B2XF	1406 ^{bcdefg}	36.8	5.1	1.13	30.3	83.6	3	41
13	ST 4848 GLT	1404 ^{bcdefg}	37.6	5.4	1.15	33.8	81.9	3	31
14	ST 4747 GLB2	1391 ^{cdefg}	36.0	5.0	1.18	31.1	80.4	3	41
15	SSG UA 222	1388 ^{cdefg}	35.6	5.2	1.19	34.5	80.9	3	41
16	DG 3385 B2XF	1365 ^{defgh}	38.2	5.4	1.13	30.1	82.8	2	31
17	BX 1775 GLTP	1354 ^{defghi}	36.6	5.2	1.10	29.3	79.9	2	31
18	BX 1771 GLTP	1341 ^{defghi}	35.4	5.2	1.17	37.4	84.3	3	41
19	BX 1737 GLT	1340 ^{defghi}	35.4	5.2	1.16	31.7	82.0	2	31
20	DP 1614 B2XF	1319 ^{defghij}	38.3	5.3	1.20	32.4	82.4	3	41
21	BX 1776 GLTP	1306 ^{efghij}	37.7	4.9	1.15	30.8	82.7	3	31
22	AMX 1604 B2XF	1302 ^{efghij}	37.4	5.5	1.10	32.3	80.0	2	31
23	NG 3405 B2XF	1292 ^{efghij}	36.9	5.1	1.08	27.8	79.9	2	31
24	AMX 1606 B2XF	1272 ^{fghij}	36.2	5.2	1.15	33.8	82.2	3	41
25	CG 3475 B2XF	1263 ^{fghij}	35.1	5.2	1.12	32.4	82.2	3	31
26	DP 1612 B2XF	1256 ^{fghij}	35.8	5.0	1.15	32.9	82.4	4	41
27	DP 1518 B2XF	1245 ^{fghij}	35.9	4.9	1.14	29.5	81.6	3	41
28	BRS 286	1217 ^{ghij}	33.5	5.2	1.10	32.7	81.7	3	41
29	DG 3544 B2XF	1159 ^{hij}	35.8	5.3	1.18	35.9	84.5	3	41
30	SSG HQ 210	1155 ^{hij}	35.1	5.5	1.09	33.3	82.1	3	31
31	BRS 335	1137 ^{ij}	34.9	4.9	1.15	32.2	81.4	4	41
32	BRS 293	1116 ^j	31.5	4.8	1.14	35.4	82.2	2	41
Average		1374	36.8	5.1	1.15	32.1	82.0	3	31
LSD (p<0.05)		219							

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

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

Table OVT5. Lint yield, gin turnout, and fiber quality of 32 entries for the Jackson, TN location of the 2016 Tennessee Official Variety Trial listed by trial yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
1	DP 1614 B2XF	1808 ^a ‡	44.1	5.4	1.22	31.6	83.4	4	41
2	PHY 333 WRF	1807 ^a	42.4	4.9	1.18	30.6	80.6	3	31
3	PHY 312 WRF	1795 ^a	39.0	4.9	1.19	32.7	83.2	3	31
4	DP 1518 B2XF	1764 ^{ab}	38.9	4.8	1.18	31.1	82.6	4	31
5	CPS16214 B2XF	1763 ^{ab}	41.8	4.4	1.30	32.7	83.8	4	31
6	BX 1771 GLTP	1741 ^{abc}	39.3	5.2	1.15	33.4	83.3	4	41
7	BX 1737 GLT	1734 ^{abcd}	37.3	4.9	1.17	31.8	82.6	4	31
8	MON 16R229 B2XF	1724 ^{abcde}	40.0	5.1	1.12	31.3	82.3	4	41
9	DP 1725 B2XF	1718 ^{abcdef}	41.8	4.9	1.16	31.0	83.6	3	41
10	DP 1522 B2XF	1709 ^{abcdef}	39.2	5.4	1.16	30.9	83.3	3	41
11	ST 4946 GLB2	1683 ^{abcdefg}	38.3	5.3	1.17	34.3	82.9	3	31
12	BX 1775 GLTP	1648 ^{bcdefg}	38.0	4.6	1.21	31.1	81.0	2	31
13	ST 4848 GLT	1646 ^{bcdefg}	39.1	5.2	1.20	32.1	83.4	3	41
14	DG 3385 B2XF	1638 ^{bcdefgh}	40.3	5.1	1.16	29.0	83.1	3	31
15	DG 3526 B2XF	1628 ^{bcdefgh}	40.7	4.9	1.15	30.2	82.4	4	31
16	PHY 444 WRF	1614 ^{cdefgh}	39.4	4.5	1.27	32.8	84.4	3	31
17	AMX 1601 B2XF	1600 ^{defghi}	40.4	5.4	1.18	34.8	83.2	3	31
18	NG 3405 B2XF	1596 ^{efghi}	39.2	4.9	1.13	29.3	81.7	3	31
19	DP 1612 B2XF	1586 ^{fghi}	36.0	5.1	1.18	33.3	83.5	5	41
20	ST 4747 GLB2	1565 ^{ghi}	36.9	4.9	1.20	31.3	80.8	5	41
21	SSG UA 222	1553 ^{ghi}	37.5	5.0	1.24	32.5	84.5	5	41
22	CG 3475 B2XF	1549 ^{ghi}	38.5	5.1	1.18	33.2	84.2	4	41
23	NG 3522 B2XF	1549 ^{ghi}	39.0	5.1	1.10	27.7	81.9	3	31
24	NG 3406 B2XF	1506 ^{hij}	38.4	4.9	1.17	30.4	82.4	3	31
25	BRS 335	1502 ^{hijk}	37.5	4.7	1.15	30.5	80.6	5	41
26	AMX 1604 B2XF	1474 ^{ijk}	38.1	5.3	1.15	34.7	83.2	3	41
27	AMX 1606 B2XF	1474 ^{ijk}	36.3	4.9	1.18	34.0	83.2	3	31
28	BX 1776 GLTP	1473 ^{ijk}	37.7	4.8	1.17	31.7	81.4	2	31
29	SSG HQ 210	1411 ^{jkl}	37.6	5.3	1.13	33.0	82.0	3	31
30	BRS 286	1367 ^{kl}	36.6	4.9	1.12	31.8	81.8	3	41
31	DG 3544 B2XF	1324 ^l	37.2	5.0	1.22	35.2	84.4	3	31
32	BRS 293	1162 ^m	31.6	5.4	1.14	34.0	82.7	3	31
Average		1597	38.7	5.0	1.18	32.0	82.7	3	31
LSD (p<0.05)		137							

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

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

Table OVT6. Lint yield, gin turnout, and fiber quality of 32 entries for the Halls, TN location of the 2016 Tennessee Official Variety Trial listed by trial yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)*	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	Color
	AMX1601 B2XF	-	42.2	4.8	1.18	33.5	81.5	3	31
	AMX1604 B2XF	-	38.0	4.5	1.14	32.7	80.4	3	31
	AMX1606 B2XF	-	35.0	3.8	1.13	34.3	80.9	3	31
	BRS 286	-	36.6	4.5	1.11	31.8	81.5	3	41
	BRS 293	-	37.0	4.9	1.11	33.9	81.5	2	31
	BRS 335	-	36.2	4.1	1.17	32.3	80.8	4	31
	BX 1737 GLT	-	37.2	3.6	1.14	32.1	80.9	3	31
	BX 1771 GLTP	-	38.2	4.4	1.12	32.8	81.5	3	41
	BX 1775 GLTP	-	38.8	4	1.16	30.1	79.3	2	31
	BX 1776 GLTP	-	40.3	4	1.14	29.3	79.7	3	41
	CG 3475 B2XF	-	37.5	4.8	1.13	31.9	82.9	4	41
	CPS16214 B2XF	-	41.4	4.4	1.21	31.1	80.8	2	41
	DG 3385 B2XF	-	39.3	4	1.13	30.8	81.2	3	31
	DG 3526 B2XF	-	42.1	4.5	1.08	28.7	80.6	3	31
	DG 3544 B2XF	-	39.1	5	1.19	35.7	83.4	2	31
	DP 1518 B2XF	-	38.7	3.9	1.15	31.2	81	4	41
	DP 1522 B2XF	-	41.2	5.2	1.13	30.3	81.7	3	41
	DP 1612 B2XF	-	36.8	4.9	1.12	31.2	82.2	4	41
	DP 1614 B2XF	-	42.4	5	1.19	31.3	82.1	4	31
	MON15R535 B2XF	-	44.0	4.3	1.13	31.8	79.4	2	31
	MON16R229 B2XF	-	40.0	5	1.11	31.5	80.3	3	31
	NG 3405 B2XF	-	40.5	4.1	1.06	27.1	79.9	2	31
	NG 3406 B2XF	-	39.6	4.8	1.08	28.9	82.4	3	31
	NG 3522 B2XF	-	42.3	4.3	1.07	28.3	79.8	2	31
	PHY 312 WRF	-	38.5	3.4	1.17	34.9	82.9	4	41
	PHY 333 WRF	-	40.1	4	1.14	31.6	79.3	3	31
	PHY 444 WRF	-	41.8	3.7	1.22	34.9	81.7	3	31
	SSG HQ 210	-	38.2	4.7	1.08	30.9	81	2	31
	SSG UA 222	-	38.4	4.4	1.21	32.7	81.9	3	31
	ST 4747 GLB2	-	37.9	4.5	1.14	29.4	80	3	41
	ST 4848 GLT	-	41.3	4.5	1.15	31.1	82.2	4	41
	ST 4946 GLB2	-	36.1	3.9	1.12	33.4	81.3	3	31
	Average	-	39.3	4.4	1.14	31.6	81.1	3	31
	LSD (p≤0.05)	-							

*Undetected load cell failure prevented collection of yield data. Plot samples were collected and analyzed for turnout and fiber quality.

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

Table OVT7. Lint yield for 32 entries for the Huntersville, TN location of the 2016 Tennessee Official Variety Trial listed by trial yield rank.

Yield Rank	Variety	Lint Yield (lb/ac)
1	DP 1725 B2XF	1554 ^a *
2	DG 3385 B2XF	1540 ^{ab}
3	DP 1522 B2XF	1497 ^{abc}
4	PHY 312 WRF	1494 ^{abc}
5	CG 3475 B2XF	1468 ^{abcd}
6	DP 1518 B2XF	1452 ^{abcd}
7	AMX 1601 B2XF	1446 ^{abcd}
8	DP 1612 B2XF	1412 ^{abcde}
9	MON 16R229 B2XF	1401 ^{abcdef}
10	PHY 333 WRF	1400 ^{abcdef}
11	DP 1614 B2XF	1398 ^{abcdef}
12	PHY 444 WRF	1395 ^{abcdef}
13	NG 3405 B2XF	1393 ^{abcdef}
14	NG 3522 B2XF	1390 ^{abcdef}
15	BX 1737 GLT	1379 ^{abcdef}
16	BX 1771 GLTP	1359 ^{abcdef}
17	ST 4848 GLT	1355 ^{abcdef}
18	AMX 1606 B2XF	1346 ^{abcdef}
19	ST 4946 GLB2	1345 ^{abcdef}
20	BX 1776 GLTP	1337 ^{abcdef}
21	BX 1775 GLTP	1328 ^{abcdefg}
22	CPS16214 B2XF	1325 ^{abcdefg}
23	ST 4747 GLB2	1318 ^{bcdefg}
24	SSG UA 222	1298 ^{cdefgh}
25	NG 3406 B2XF	1294 ^{cdefgh}
26	DG 3526 B2XF	1271 ^{cdefgh}
27	SSG HQ 210	1255 ^{defgh}
28	AMX 1604 B2XF	1211 ^{efghi}
29	DG 3544 B2XF	1171 ^{fghi}
30	BRS 286	1103 ^{ghi}
31	BRS 293	1080 ^{hi}
32	BRS 335	998 ⁱ
Average		1344
LSD (p≤0.05)		234

*Means followed by the same letter are not significantly different (p=0.05).
Tennessee AgResearch data of Raper et al. (2016).

Table OVT8. Percent open boll, plant height (cm), total number of nodes, height(in) to node ratio, and node of first fruiting branch (NFFB) of 32 entries in the 2016 Tennessee Official Variety Trials. †

Yield Rank	Variety	Percent Open		Total Nodes	Height:Node Ratio	NFFB
		Boll ¹	Height (cm)			
2	PHY 333 WRF	74.4 a [‡]	104 cde	17.6 lm	2.33	5.8 hij
13	BX 1771 GLTP	71.9 ab	99 klmnop	18.3 defghij	2.12	5.9 fghij
1	PHY 312 WRF	71.7 abc	104 def	18.2 defghij	2.23	5.9 fghij
16	NG 3522 B2XF	71.7 abc	93 s	17.9 ijklm	2.06	5.9 ghij
17	ST 4848 GLT	71.7 abc	102 fghi	17.6 klm	2.27	6.0 cdefgh
18	NG 3405 B2XF	71.4 abcd	97 opq	17.7 jklm	2.15	5.8 hij
25	BX 1776 GLTP	71.4 abcd	99 jklmn	18.4 cdefghi	2.13	6.1 abcde
3	DP 1725 B2XF	70.3 abcde	97 opq	18.4 cdefghi	2.07	6.0 cdefgh
7	MON 16R229 B2XF	70.3 abcde	97 mnopq	18.4 cdefghi	2.08	6.1 bcdef
8	DP 1614 B2XF	70.3 abcde	93 s	17.9 hijklm	2.04	5.6 k
14	BX 1737 GLT	69.4 bcdef	103 efg	18.6 bcdefg	2.17	5.9 efghij
19	CG 3475 B2XF	69.4 bcdef	96 qr	18.1 fghijkl	2.09	5.8 hij
12	DP 1518 B2XF	68.9 bcdefg	101 fghij	18.8 bcd	2.12	5.8 jk
27	AMX 1606 B2XF	68.6 bcdefgh	104 cde	18.9 bc	2.18	6.1 bcdefg
20	ST 4747 GLB2	68.1 bcdefghi	100 ijklm	17.9 ijklm	2.19	6.2 ab
23	DP 1612 B2XF	67.8 bcdefghi	98 lmnopq	18.2 efghijk	2.12	5.8 hij
6	DP 1522 B2XF	67.5 cdefghi	103 efg	18.4 cdefghi	2.21	6.0 defghi
22	NG 3406 B2XF	67.5 cdefghi	99 jklmno	17.5 m	2.23	5.7 jk
24	BX 1775 GLTP	67.5 cdefghi	101 ghijk	18.7 bcde	2.12	6.2 ab
10	DG 3385 B2XF	67.2 defghij	97 nopq	18.5 cdefgh	2.07	5.8 ijk
21	SSG UA 222	67.2 defghij	97 mnopq	18.3 defghij	2.10	6.1 bcdefg
11	ST 4946 GLB2	66.9 efghij	97 pqr	17.8 jklm	2.14	6.2 abc
5	PHY 444 WRF	65.3 fghijk	100 hijkl	18.1 ghijkl	2.18	6.2 ab
26	AMX 1604 B2XF	64.7 ghijk	107 ab	19.6 a	2.15	6.2 abcd
9	DG 3526 B2XF	64.4 hijkl	105 cde	18.0 hijklm	2.29	5.9 fghij
15	AMX 1601 B2XF	64.4 hijkl	104 def	18.7 bcdef	2.18	6.1 bcdefg
28	SSG HQ 210	64.2 ijkl	94 rs	18.8 bcd	1.97	6.0 cdefgh
4	CPS16214 B2XF	63.1 jkl	109 a	19.2 ab	2.25	6.2 abc
30	BRS 286	62.5 kl	106 bcd	19.2 ab	2.17	6.0 cdefgh
29	BRS 335	60.3 lm	106 bc	18.4 cdefghi	2.28	6.1 abcde
32	DG 3544 B2XF	60.3 lm	102 fgh	18.1 fghijkl	2.21	5.8 jk
31	BRS 293	56.4 m	103 def	19.5 a	2.09	6.3 a
Average		67.4	101	18.4	2.16	6.0
LSD (p≤0.05)		0.4	2	0.6		0.2

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

†Data collected from three replications of the Ames, Halls, Huntersville, Jackson, Milan, and Ridgely locations of the 2016 Official Variety Trials.

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

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

Table OVT9. Lint yield, gin turnout, and fiber quality of 20 like-entries averaged across the 2015-2016 Tennessee Official Variety Trials.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	Leaf Grade
1	PHY 333 WRF	1525 a [‡]	39.9 ab	4.5 hi	1.18 def	31.1 efg	82.0 efg	4 cdef
2	PHY 312 WRF	1475 ab	38.5 cd	4.5 ghi	1.19 cd	32.1 cde	83.1 abcd	4 abcd
3	DP 1614 B2XF	1450 abc	40.7 a	5.0 ab	1.20 bc	31.1 efg	83.1 abc	4 b-f
4	PHY 444 WRF	1445 abc	39.0 bc	4.3 j	1.24 a	32.8 bc	83.2 abc	3 ghi
5	DP 1522 B2XF	1444 abc	38.7 cd	5.1 a	1.16 fghi	30.9 fgh	82.9 a-e	4 cdef
6	DG 3526 B2XF	1432 bcd	40.0 ab	4.8 cdef	1.16 fghi	30.1 h	82.9 abcd	4 efg
7	ST 4747 GLB2	1419 bcd	37.8 defg	4.7 cdefg	1.18 cde	30.4 gh	81.0 h	4 def
8	NG 3405 B2XF	1418 bcd	38.4 cd	4.6 fgh	1.12 j	28.0 i	81.3 gh	3 i
9	ST 4946 GLB2	1392 bcde	37.1 efg	4.8 cdef	1.15 hi	33.4 ab	82.3 def	4 cdef
10	DP 1518 B2XF	1390 bcde	37.7 defg	4.4 ij	1.18 defg	30.4 gh	82.0 fg	5 abc
11	NG 3406 B2XF	1378 cde	38.0 cdef	4.7 c-g	1.15 hi	30.0 h	83.0 abcd	4 fgh
12	ST 4848 GLT	1373 cde	38.8 cd	4.8 b-f	1.17 d-h	31.3 efg	82.4 cdef	4 cdef
13	DP 1612 B2XF	1362 cde	36.9 fgh	4.8 bcde	1.18 cde	32.7 bcd	83.5 a	5 a
14	DG 3385 B2XF	1351 de	38.2 cde	4.8 b-f	1.17 d-h	30.5 gh	82.9 abcd	3 ghi
15	CG 3475 B2XF	1343 de	36.7 gh	4.9 bcd	1.16 e-i	31.7 def	83.3 ab	4 a-e
16	SSG UA 222	1302 ef	36.8 gh	4.7 d-h	1.21 b	31.9 cdef	82.0 efg	4 b-f
17	SSG HQ 210	1250 fg	36.1 hi	4.9 abc	1.14 ij	32.7 bcd	82.7 b-f	3 hi
18	BRS 335	1240 fg	36.1 hi	4.5 ghi	1.17 d-h	31.9 cdef	81.8 fgh	5 ab
19	BRS 293	1172 g	35.4 i	4.9 abcd	1.15 ghi	34.0 a	82.5 b-f	3 hi
20	BRS 286	1165 g	35.3 i	4.6 efg	1.14 i	32.4 bcd	82.2 def	4 efg
Average		1366	37.8	4.7	1.17	31.5	82.5	4
LSD (p _≤ 0.05)		90	1.1	0.2	0.02	1.1	0.8	0.6

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

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

Tennessee AgResearch data of Raper et al. (2015).

2016 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 2016 Tennessee Large Plot Replicated Trials.

Location	County	Planting Date	Harvest Date	Soil Type	Tillage	Irrigation
Alamo	Crockett	05/18/2016	11/11/2016	Grenada Silt Loam	No-Till	None
Huntersville	Madison	05/06/2016	10/07/2016	Memphis Silt Loam	No-Till	None
Mason	Fayette	05/19/2016	09/29/2016	Calloway Silt Loam	Minimum	None
Milan	Gibson	05/07/2016	10/10/2016	Falaya Silt Loam	Conventional	Pivot

Table LVAR1. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across all four of the 2016 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	PHY 444 WRF	1382 ^a ‡	40.5 ^{ab}	4.3 ^e	1.25 ^a	33.0 ^a	83.4 ^a	31	3 ^{cd}	56.80
2	PHY 333 WRF	1342 ^{ab}	40.3 ^{ab}	4.8 ^d	1.20 ^b	32.2 ^b	82.5 ^b	31	4 ^a	56.70
3	ST 4946 GLB2	1326 ^{ab}	38.2 ^d	5.2 ^b	1.17 ^c	33.4 ^a	83.3 ^{ab}	31	3 ^{bc}	54.40
4	DG 3385 B2XF	1320 ^{ab}	39.8 ^{bc}	5.1 ^b	1.15 ^{de}	30.0 ^c	82.7 ^{ab}	31	3 ^d	54.60
5	DP 1614 B2XF	1314 ^{ab}	41.1 ^a	5.4 ^a	1.20 ^b	31.6 ^b	82.7 ^{ab}	31	4 ^a	52.95
6	ST 4848 GLT	1292 ^b	41.3 ^a	5.2 ^b	1.15 ^{de}	31.9 ^b	82.6 ^{ab}	31	4 ^a	54.25
7	NG 3406 B2XF	1270 ^b	38.7 ^{cd}	5.0 ^c	1.14 ^e	30.3 ^c	82.6 ^{ab}	31	3 ^{bcd}	56.25
8	DP 1522 B2XF	1266 ^b	38.9 ^{cd}	5.3 ^b	1.16 ^{cd}	31.5 ^b	82.8 ^{ab}	31	4 ^{ab}	54.25
	Mean	1313	39.8	5.0	1.18	31.7	82.8	31	3	55.03
	LSD (p<0.05)	81	1.2	0.1	0.02	0.8	0.9		0.5	

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

Table LVAR2. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Alamo location of the 2016 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 4946 GLB2	1490 ^a ‡	35.9 ^c	5.2 ^{ab}	1.19 ^{bc}	33.1 ^{ab}	83.3 ^a	41	4 ^{ab}	52.60
2	PHY 333 WRF	1485 ^a	40.4 ^a	5.0 ^b	1.21 ^b	31.7 ^{cd}	81.7 ^a	41	4 ^{ab}	52.40
3	DG 3385 B2XF	1475 ^a	38.2 ^{abc}	5.2 ^{ab}	1.18 ^{bc}	31.6 ^{cd}	83.3 ^a	41	4 ^b	52.55
4	DP 1614 B2XF	1435 ^a	39.7 ^a	5.4 ^a	1.21 ^b	32.1 ^{bcd}	82.3 ^a	41	5 ^a	48.50
5	PHY 444 WRF	1413 ^a	38.7 ^{abc}	4.5 ^c	1.27 ^a	33.3 ^a	82.9 ^a	31	4 ^b	55.30
6	NG 3406 B2XF	1409 ^a	36.8 ^{bc}	5.1 ^{ab}	1.16 ^c	29.9 ^e	83.1 ^a	41	4 ^b	52.10
7	ST 4848 GLT	1392 ^a	39.0 ^{ab}	5.3 ^a	1.17 ^{bc}	32.6 ^{abc}	81.7 ^a	41	4 ^{ab}	50.85
8	DP 1522 B2XF	1370 ^a	36.5 ^{bc}	5.4 ^a	1.17 ^{bc}	31.5 ^d	83.4 ^a	41	4 ^{ab}	51.00
Mean		1433	38.1	5.1	1.20	32.0	82.7	41	4	51.91
LSD (p≤0.05)		271	2.8	0.3	0.04	1.1	3.1		0.9	

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

Table LVAR3. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Huntersville location of the 2016 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	PHY 444 WRF	1629 ^a ‡	39.6 ^a	4.3 ^e	1.25 ^a	33.4 ^{ab}	84.1 ^a	31	3 ^a	56.95
2	ST 4848 GLT	1518 ^{ab}	41.3 ^a	5.1 ^{cd}	1.16 ^d	31.8 ^{bc}	83.2 ^a	31	3 ^a	54.35
3	DP 1614 B2XF	1497 ^{ab}	40.9 ^a	5.5 ^a	1.19 ^{bc}	31.4 ^c	83.3 ^a	31	3 ^a	53.05
4	PHY 333 WRF	1460 ^{ab}	39.3 ^a	5.0 ^d	1.22 ^b	33.3 ^{ab}	83.4 ^a	31	3 ^a	54.55
5	DG 3385 B2XF	1459 ^{ab}	39.1 ^a	5.2 ^{bcd}	1.18 ^{bcd}	30.1 ^c	83.5 ^a	31	3 ^a	54.35
6	DP 1522 B2XF	1436 ^{ab}	39.2 ^a	5.4 ^{ab}	1.15 ^d	31.4 ^c	83.0 ^a	31	3 ^a	52.90
7	ST 4946 GLB2	1412 ^b	37.8 ^a	5.3 ^{abc}	1.19 ^{bcd}	33.9 ^a	83.9 ^a	41	3 ^a	51.65
8	NG 3406 B2XF	1350 ^b	38.1 ^a	5.0 ^d	1.16 ^{cd}	30.7 ^c	82.6 ^a	31	3 ^a	54.10
Mean		1470	39.4	5.1	1.19	32.0	83.4	31	3	54.00
LSD (p≤0.05)		205	3.7	0.3	0.03	1.9	1.5		1	

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

Table LVAR4. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Mason location 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	ST 4946 GLB2	1128 ^a ‡	41.0 ^b	5.3 ^b	1.11 ^{bcde}	33.6 ^a	82.7 ^{ab}	31	3 ^{bc}	52.70
2	PHY 333 WRF	1124 ^{ab}	41.9 ^{ab}	5.0 ^c	1.14 ^{abc}	31.8 ^b	82.1 ^{ab}	31	3 ^{bc}	54.25
3	PHY 444 WRF	1122 ^{ab}	44.0 ^a	4.7 ^d	1.19 ^a	33.5 ^a	83.3 ^a	21	3 ^{bc}	57.25
4	NG 3406 B2XF	1077 ^{abc}	42.0 ^{ab}	5.3 ^b	1.07 ^e	29.7 ^c	81.9 ^b	31	3 ^{bc}	49.25
5	DG 3385 B2XF	1068 ^{abc}	42.2 ^{ab}	5.4 ^b	1.09 ^{de}	29.2 ^c	81.7 ^b	31	2 ^c	51.50
6	ST 4848 GLT	1039 ^{bc}	43.9 ^a	5.5 ^{ab}	1.10 ^{cde}	31.3 ^b	82.3 ^{ab}	31	4 ^a	50.45
7	DP 1614 B2XF	1023 ^c	42.8 ^{ab}	5.7 ^a	1.15 ^{ab}	32.5 ^{ab}	82.4 ^{ab}	31	4 ^a	51.40
8	DP 1522 B2XF	1008 ^c	41.1 ^b	5.5 ^{ab}	1.12 ^{bcd}	31.7 ^b	82.1 ^{ab}	31	3 ^{ab}	52.65
Mean		1074	42.4	5.3	1.12	31.7	82.3	31	3	52.43
LSD (p≤0.05)		88	2.3	0.2	0.05	1.6	1.4		0.9	

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

Table LVAR5. Average lint yield, gin turnout, fiber quality and CCC loan value of 8 entries averaged across the 3 replications of the Milan location of the 2016 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	PHY 444 WRF	1363 a [‡]	39.8 ab	3.7 e	1.29 a	31.7 abc	83.3 a	21	3 ab	57.35
2	PHY 333 WRF	1301 ab	39.4 bc	4.3 d	1.22 bc	31.9 ab	82.8 a	31	4 a	55.25
3	DP 1614 B2XF	1300 ab	41.1 a	5.0 a	1.23 b	30.4 cd	82.9 a	31	3 ab	54.25
4	DG 3385 B2XF	1279 ab	39.6 ab	4.8 ab	1.16 e	29.2 d	82.5 a	31	2 b	56.70
5	ST 4946 GLB2	1275 ab	38.0 c	4.9 ab	1.20 cd	33.0 a	83.4 a	31	3 ab	56.85
6	DP 1522 B2XF	1250 b	38.7 bc	4.8 abc	1.19 de	31.5 bc	82.8 a	31	3 ab	56.70
7	NG 3406 B2XF	1244 b	38.1 c	4.5 cd	1.17 e	30.9 bc	83.0 a	31	3 ab	56.50
8	ST 4848 GLT	1218 b	41.0 a	4.7 bc	1.18 de	31.8 ab	83.1 a	31	3 ab	56.80
	Mean	1279	39.5	4.6	1.21	31.3	83.0	31	3	56.30
	LSD (p<0.05)	105	1.5	0.3	0.03	1.4	1.6		1	

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

2016 County Standard Trial Results



Table CST1. Average lint yield, gin turnout, fiber quality and CCC loan value of 15 entries calculated from 15 locations of the 2016 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	PHY 312 WRF	1325 a [‡]	38.4 efgh	4.7 fgh	1.20 bc	32.0 cd	82.7 abc	41	4 abc	54.75
2	DP 1614 B2XF	1281 ab	40.1 ab	5.2 a	1.20 bc	31.4 de	83.1 a	41	4 abcd	52.55
3	PHY 333 WRF	1264 ab	40.1 ab	4.6 gh	1.20 b	31.7 cde	82.3 bcd	41	4 bcd	54.75
4	NG 3405 B2XF	1264 ab	39.3 bcde	4.7 efg	1.11 i	28.9 g	81.2 e	31	3 g	55.95
5	PHY 444 WRF	1261 ab	39.8 bc	4.2 i	1.25 a	33.1 a	83.3 a	31	3 g	57.00
6	DG 3385 B2XF	1260 ab	39.7 bcd	5.1 b	1.15 gh	30.2 f	82.7 abc	31	3 g	54.10
7	ST 4946 GLB2	1257 abc	37.7 ghi	5.1 ab	1.17 def	33.0 ab	82.9 ab	31	4 def	52.90
8	DP 1518 B2XF	1246 abcd	38.7 def	4.6 h	1.17 de	30.5 f	82.4 bcd	41	4 bcd	54.50
9	DP 1612 B2XF	1244 abcd	37.8 fghi	4.9 cd	1.18 cd	32.3 bc	83.2 a	41	4 ab	54.85
10	ST 4848 GLT	1220 bcd	40.9 a	4.9 c	1.16 fgh	31.6 de	82.8 ab	31	4 def	55.15
11	NG 3406 B2XF	1208 bcde	38.9 cde	4.9 cd	1.14 h	30.1 f	82.6 abcd	31	3 fg	56.40
12	DP 1522 B2XF	1201 bcde	38.5 efg	5.1 ab	1.16 efg	31.2 e	82.6 abc	41	4 cde	52.35
13	ST 5032 GLT	1176 cde	37.2 i	4.6 h	1.21 b	32.8 ab	83.0 ab	31	4 cde	55.35
14	ST 4747 GLB2	1166 de	37.3 i	4.8 cde	1.20 b	31.4 de	82.0 cd	41	4 a	54.75
15	ST 5115 GLT	1129 e	37.5 hi	4.8 def	1.15 gh	31.9 cde	81.9 de	31	3 efg	56.50
	Mean	1233	38.8	4.8	1.18	31.5	82.6	31	4	54.79
	LSD (p<0.05)	82	1.0	0.1	0.02	0.7	0.7		0.4	

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

Table CST2. Results from the 2016 Agricenter International (Shelby Co.) County Standard Trial in Memphis, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength		HVI Color	Leaf Grade	Loan Value (¢/lb)
						(g/tex)	Unif. (%)			
1	DP 1612 B2XF	1480	42.7	4.9	1.14	31.5	81.8	41	5	52.20
2	ST 4946 GLB2	1446	41.1	5.1	1.15	32.9	82.4	41	4	52.35
3	ST 4848 GLT	1351	42.7	5	1.14	30.4	83	51	5	47.60
4	ST 5032 GLT	1332	39.6	4.8	1.2	33.2	82.9	41	4	54.80
5	DG 3385 B2XF	1329	41.6	5.1	1.12	29.9	81.9	41	3	52.35
6	NG 3405 B2XF	1273	41.5	4.8	1.1	27.7	82	41	3	53.75
7	NG 3406 B2XF	1261	38.6	4.7	1.14	29.4	82.9	41	4	54.30
8	DP 1614 B2XF	1219	42.2	5.3	1.15	32	83.6	41	5	48.60
9	DP 1522 B2XF	1194	41.5	5.3	1.11	30.2	81.2	41	4	50.60
10	PHY 312 WRF	1188	40.6	4.5	1.18	32.1	84.2	41	5	52.45
11	ST 4747 GLB2	1184	39.6	4.8	1.17	30.1	80.5	41	5	52.05
12	DP 1518 B2XF	1170	41.3	4.8	1.17	31.4	83.2	41	4	54.75
13	PHY 444 WRF	1161	43.2	4.5	1.27	33.1	84.5	31	3	56.95
14	PHY 333 WRF	1144	42.1	4.6	1.2	31.1	82	41	5	52.25
15	ST 5115 GLT	1089	38.5	4.7	1.14	30.8	81.3	41	3	54.95
Mean		1255	41.1	4.9	1.16	31.1	82.5	41	4	52.66

Planted: 05/10/2016

Harvested: 10/19/2016

Grower: Agricenter International; Dr. Bruce Kirksey

Table CST3. Results from the 2016 Ames Plantation (Hardeman Co.) County Standard Trial in Grand Junction, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength		HVI Color	Leaf Grade	Loan Value (¢/lb)
						(g/tex)	Unif. (%)			
1	ST 4946 GLB2	1202	39.0	5.2	1.14	32.4	82.8	41	4	52.35
2	PHY 312 WRF	1160	40.0	5.2	1.15	31.1	82.0	31	4	52.85
3	PHY 444 WRF	1155	40.0	4.7	1.23	31.9	83.0	31	3	56.80
4	DP 1614 B2XF	1144	40.6	5.7	1.15	30.4	80.7	41	5	48.30
5	ST 5032 GLT	1112	38.4	5.0	1.16	33.6	82.5	41	4	52.40
6	ST 4747 GLB2	1054	37.6	5.1	1.14	30.5	81.7	41	5	49.75
7	DP 1612 B2XF	1046	35.8	5.1	1.12	31.1	82.4	41	5	49.95
8	DP 1522 B2XF	1045	37.6	5.5	1.11	29.6	81.8	41	4	50.40
9	NG 3405 B2XF	1037	37.8	5.2	1.08	27.0	81.3	31	3	52.60
10	DG 3385 B2XF	1036	40.1	5.5	1.12	27.2	82.9	31	3	52.25
11	ST 5115 GLT	1035	37.8	5.2	1.13	31.0	81.5	31	4	52.60
12	ST 4848 GLT	1012	39.9	5.5	1.10	30.9	82.9	41	4	49.70
13	NG 3406 B2XF	1006	40.7	5.2	1.10	28.9	82.2	41	4	50.90
14	DP 1518 B2XF	991	38.3	5.2	1.13	28.9	81.2	41	5	49.50
15	PHY 333 WRF	912	40.0	4.9	1.13	30.4	81.6	41	4	54.35
Mean		1063	38.9	5.2	1.13	30.3	82.0	38	4	51.65

Planted: 05/05/2016

Harvested: 11/05/2016

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

Agent: Lindsay Griffin

Table CST4. Results from the 2016 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	PHY 444 WRF	1787	41.9	4.0	1.24	32.0	83.8	31	3	56.95
2	DP 1614 B2XF	1582	41.1	4.7	1.25	30.3	84.0	41	4	54.80
3	PHY 312 WRF	1576	38.9	4.5	1.21	30.5	83.0	41	4	54.70
4	NG 3405 B2XF	1563	40.4	4.5	1.16	28.4	81.8	31	3	56.10
5	DG 3385 B2XF	1547	39.6	5.2	1.15	31.9	81.6	41	5	49.90
6	DP 1522 B2XF	1505	40.8	5.0	1.16	30.4	82.2	31	3	54.10
7	DP 1518 B2XF	1449	38.8	4.3	1.19	29.0	83.4	41	3	55.00
8	DP 1612 B2XF	1416	38.4	4.8	1.18	31.3	84.3	41	3	55.45
9	ST 5032 GLT	1409	38.5	4.4	1.20	32.2	82.6	41	3	55.25
10	ST 5115 GLT	1402	37.5	4.6	1.15	29.9	82.4	41	3	54.80
11	ST 4946 GLB2	1400	35.8	5.1	1.16	31.3	82.7	31	3	54.25
12	PHY 333 WRF	1394	40.5	4.5	1.22	30.3	83.0	41	4	54.70
13	NG 3406 B2XF	1373	39.9	4.8	1.16	29.4	83.6	31	3	56.30
14	ST 4848 GLT	1340	40.0	4.5	1.20	32.2	83.6	41	4	54.85
15	ST 4747 GLB2	1333	38.8	4.7	1.22	31.6	81.3	41	4	54.70
Mean		1472	39.4	4.6	1.19	30.7	82.9	41	3	54.79

Planted: 05/16/2016

Grower: Renfroe Farms

Harvested: 11/04/2016

Agent: Kenny Herndon

Table CST5. Results from the 2016 County Standard Trial in Crockett 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 4946 GLB2	1680	36.3	5.1	1.23	32.2	83.7	41	5	50.05
2	PHY 444 WRF	1628	39.4	4.4	1.27	33.2	84.6	31	3	56.95
3	PHY 312 WRF	1602	37.9	5.0	1.17	32.4	78.7	41	4	51.40
4	DG 3385 B2XF	1554	38.2	5.4	1.16	32.1	80.7	41	4	50.85
5	NG 3405 B2XF	1520	44.1	4.9	1.08	29.7	77.7	41	3	52.75
6	DP 1614 B2XF	1465	40.2	5.2	1.24	31.7	83.1	41	5	50.05
7	NG 3406 B2XF	1452	37.0	5.1	1.15	30.1	83.0	41	4	52.30
8	PHY 333 WRF	1448	38.7	4.8	1.23	31.1	82.4	41	5	52.25
9	DP 1612 B2XF	1440	35.7	5.0	1.19	32.4	82.7	41	5	49.95
10	ST 4848 GLT	1414	40.8	5.2	1.19	32.7	83.8	41	4	52.55
11	ST 4747 GLB2	1333	35.2	4.9	1.25	31.1	81.7	41	5	52.20
12	ST 5115 GLT	1317	36.0	5.2	1.16	32.8	83.3	41	4	52.45
13	ST 5032 GLT	1237	35.6	4.7	1.25	33.5	84.5	41	4	55.00
14	DP 1518 B2XF	1161	36.7	4.9	1.18	29.7	82.8	41	5	51.90
15	DP 1522 B2XF	1157	35.8	5.5	1.17	30.4	80.9	41	4	50.70
Mean		1427	37.8	5.0	1.19	31.7	82.2	41	4	52.09

Planted: 05/18/2016

Grower: Kevin Earnheart

Harvested: 11/09/2016

Agent: Richard Buntin

Table CST6. Results from the 2016 County Standard Trial in Dyer 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 1614 B2XF	1643	42.1	5.0	1.22	31.7	82.8	41	4	52.45
2	PHY 312 WRF	1620	38.2	4.6	1.21	33.4	82.9	41	4	54.80
3	DG 3385 B2XF	1608	39.6	5.1	1.15	31.1	81.4	31	3	54.20
4	PHY 333 WRF	1593	40.8	4.5	1.19	32.2	82.0	31	3	56.70
5	DP 1522 B2XF	1569	38.3	5.1	1.15	31.4	83.3	31	4	52.95
6	DP 1518 B2XF	1559	39.2	4.4	1.18	30.8	82.7	41	5	52.10
7	NG 3405 B2XF	1531	39.4	4.5	1.12	30.7	81.6	31	3	56.20
8	ST 4848 GLT	1514	41.9	5.1	1.14	31.1	81.9	31	3	54.20
9	DP 1612 B2XF	1455	37.5	4.9	1.15	31.8	81.9	31	4	55.10
10	ST 4946 GLB2	1411	38.6	5.2	1.16	33.0	82.6	31	3	54.30
11	NG 3406 B2XF	1387	38.7	4.9	1.13	29.7	82.4	31	3	56.05
12	ST 5032 GLT	1350	37.0	4.3	1.19	32.9	82.7	31	3	56.70
13	ST 4747 GLB2	1341	38.2	4.7	1.19	30.9	81.4	41	5	52.05
14	PHY 444 WRF	1118	37.3	3.8	1.27	32.7	83.4	31	3	56.95
15	ST 5115 GLT	1060	38.6	4.5	1.16	32.1	82.7	31	3	56.55
Mean		1451	39.0	4.7	1.17	31.7	82.4	31	4	54.75

Planted: 05/06/2016

Harvested: 10/26/2016

Grower: Sims Farms (Keith and Alan)

Agent: Tim Campbell

Table CST7. Results from the 2016 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	PHY 444 WRF	1223	43.1	4.5	1.18	32.7	82.8	31	3	56.70
2	PHY 312 WRF	1216	38.7	4.8	1.18	31.9	81.8	31	4	55.20
3	NG 3406 B2XF	1211	41.9	5.1	1.08	29.6	82.6	31	3	52.70
4	ST 4946 GLB2	1207	41.0	4.9	1.12	35.1	81.9	31	3	56.40
5	ST 4848 GLT	1181	43.8	5.4	1.11	31.4	82.3	31	4	51.20
6	NG 3405 B2XF	1156	40.0	5.1	1.07	27.1	80.9	31	3	50.65
7	DP 1614 B2XF	1146	42.1	5.7	1.12	32.0	81.5	31	5	49.95
8	ST 5032 GLT	1141	39.8	5.2	1.13	31.8	82.4	31	3	54.10
9	PHY 333 WRF	1137	42.0	4.9	1.14	32.2	81.9	41	3	55.10
10	ST 4747 GLB2	1113	39.6	5.0	1.18	30.1	82.1	41	4	52.30
11	DP 1522 B2XF	1107	40.5	5.1	1.18	33.5	82.6	31	3	54.45
12	DP 1518 B2XF	1107	39.7	4.7	1.17	30.0	82.9	31	4	55.00
13	DG 3385 B2XF	1100	43.4	5.0	1.07	29.2	81.2	31	2	50.80
14	DP 1612 B2XF	1090	38.6	4.9	1.20	33.0	84.9	31	5	54.10
15	ST 5115 GLT	1048	38.3	5.0	1.11	33.0	82.0	31	3	54.15
Mean		1145	40.8	5.0	1.14	31.5	82.3	31	3	53.52

Planted: 05/19/2016

Harvested: 09/29/2016

Grower: Moore Farms

Agent: Jeff Via

Table CST8. Results from the 2016 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	PHY 312 WRF	1414	38.6	4.3	1.23	32.5	83.1	31	3	56.80
2	DG 3385 B2XF	1374	40.4	4.9	1.17	29.4	83.8	31	3	56.30
3	NG 3405 B2XF	1347	38.1	4.4	1.15	30.0	82.6	31	3	56.40
4	DP 1614 B2XF	1331	40.5	5.1	1.22	31.1	82.4	31	3	54.40
5	PHY 333 WRF	1327	39.4	4.4	1.24	31.6	82.3	31	4	55.25
6	DP 1518 B2XF	1315	37.1	4.3	1.18	30.3	80.9	31	3	56.50
7	PHY 444 WRF	1312	38.9	3.7	1.29	30.9	83.2	21	3	57.20
8	DP 1522 B2XF	1293	37.5	4.9	1.21	31.5	84.0	31	3	56.90
9	ST 4747 GLB2	1291	38.1	4.8	1.21	30.5	80.8	31	3	56.50
10	ST 5115 GLT	1278	37.5	4.5	1.18	30.3	81.6	31	3	56.50
11	ST 4946 GLB2	1271	37.0	5.0	1.18	33.1	82.8	31	3	54.45
12	ST 4848 GLT	1250	41.7	5.0	1.18	30.8	82.5	31	2	54.70
13	NG 3406 B2XF	1250	38.0	4.3	1.17	32.3	83.5	31	3	56.65
14	DP 1612 B2XF	1172	36.2	4.8	1.20	32.7	83.7	31	3	56.80
15	ST 5032 GLT	1163	36.1	4.1	1.24	33.0	82.7	31	4	55.45
Mean		1293	38.3	4.6	1.20	31.3	82.7	31	3	56.05

Planted: 05/07/2016
 Grower: Hedrick Shoaf

Harvested: 10/10/2016
 Agent: Philip Shelby

Table CST9. Results from the 2016 County Standard Trial in Hardeman 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	1333	42.0	5.0	1.17	32.4	82.6	41	4	52.35
2	DP 1612 B2XF	1289	41.6	5.1	1.18	32.5	81.2	41	5	49.90
3	ST 4848 GLT	1274	40.6	5.5	1.13	31.3	83.4	31	3	52.75
4	PHY 312 WRF	1254	37.7	5.1	1.18	31.7	82.3	41	3	52.95
5	NG 3405 B2XF	1187	40.0	5.0	1.10	30.1	82.1	41	3	51.70
6	ST 5115 GLT	1143	38.8	5.0	1.18	34.2	82.7	41	4	52.50
7	DP 1614 B2XF	1083	36.8	5.5	1.20	33.4	85.1	41	4	51.35
8	PHY 333 WRF	1076	42.7	5.1	1.16	32.1	82.4	41	3	52.85
9	DP 1522 B2XF	1045	36.8	5.5	1.17	33.0	84.2	41	4	51.15
10	PHY 444 WRF	1043	37.2	4.7	1.25	34.5	84.5	31	3	56.95
11	NG 3406 B2XF	1015	38.2	5.3	1.16	30.8	81.3	32	4	48.55
12	ST 4946 GLB2	994	36.6	5.2	1.17	34.0	81.8	31	3	54.25
13	ST 5032 GLT	978	36.7	4.9	1.17	32.0	82.1	31	4	55.15
14	ST 4747 GLB2	855	33.9	4.9	1.19	33.6	82.4	52	4	49.30
15	DG 3385 B2XF	771	37.6	5.2	1.16	31.1	83.5	31	3	54.35
Mean		1089	38.5	5.1	1.17	32.4	82.8	41	4	52.53

Planted: 05/12/2016
 Grower: Daniel Jacobs

Harvested: 09/29/2016
 Agent: Lindsay Griffin

Table CST10. Results from the 2016 County Standard Trial 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	ST 4946 GLB2	909	39.4	4.8	1.18	33.0	82.1	41	4	54.80
2	PHY 333 WRF	856	40.8	4.2	1.17	31.8	80.5	31	4	55.25
3	DP 1612 B2XF	840	39.7	4.7	1.13	33.3	82.7	41	4	54.60
4	PHY 444 WRF	803	42.8	4.1	1.24	33.6	81.0	31	3	56.85
5	DG 3385 B2XF	751	40.2	4.6	1.11	31.4	81.9	31	3	56.35
6	ST 5115 GLT	721	37.8	4.9	1.09	32.2	81.0	31	3	55.30
7	DP 1614 B2XF	696	40.8	4.9	1.18	32.0	83.1	41	3	55.35
8	NG 3405 B2XF	694	40.2	4.5	1.06	27.4	79.9	31	3	52.20
9	ST 4747 GLB2	683	39.4	4.6	1.15	31.0	82.2	41	4	54.65
10	PHY 312 WRF	674	40.2	4.3	1.13	32.7	83.4	41	4	54.65
11	ST 5032 GLT	625	37.9	4.4	1.12	32.6	82.3	31	3	56.40
12	NG 3406 B2XF	614	41.3	4.6	1.10	29.4	80.5	31	2	55.25
13	DP 1518 B2XF	599	38.2	3.9	1.15	30.8	80.7	41	4	54.60
14	ST 4848 GLT	575	40.7	4.4	1.12	32.7	82.1	31	3	56.40
15	DP 1522 B2XF	544	40.9	4.9	1.09	30.7	81.6	41	3	53.95
Mean		706	40.0	4.5	1.13	31.6	81.7	41	3	55.11

Planted: 05/14/2016

Grower: Chester King Farms

Harvested: 10/27/2016

Agent: Walter Battle

Table CST11. Results from the 2016 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 312 WRF	1191	37.1	3.9	1.24	31.2	82.3	41	5	52.4
2	DP 1614 B2XF	1155	38.9	4.4	1.27	30.7	82.3	41	5	52.1
3	PHY 333 WRF	1066	36.6	3.8	1.21	30.6	80.9	31	4	55.2
4	ST 4946 GLB2	1011	36.0	4.7	1.19	33.2	83.4	41	5	52.4
5	NG 3406 B2XF	1000	37.1	4	1.16	29.4	82.1	31	3	56.35
6	NG 3405 B2XF	988	36.5	3.9	1.17	29.2	81.3	31	3	56.3
7	ST 4747 GLB2	985	36.2	4.2	1.23	32.2	82.8	41	5	52.4
8	ST 5032 GLT	982	36.2	3.6	1.22	31.5	81.9	31	4	55.2
9	DP 1518 B2XF	980	36.2	3.7	1.22	29.3	80.7	31	3	56.45
10	DP 1612 B2XF	967	36.1	3.9	1.2	31.4	81.3	31	4	55.35
11	DG 3385 B2XF	961	36.3	4	1.16	28.7	81.8	31	2	56.75
12	ST 5115 GLT	942	35.4	4.6	1.14	30.5	80	31	3	56.35
13	PHY 444 WRF	904	37.2	3.2	1.3	32.3	82.6	41	4	51.25
14	ST 4848 GLT	888	36.7	4	1.17	32.8	82.3	41	4	54.8
15	DP 1522 B2XF	875	35.7	4	1.2	31.7	81.5	41	5	52.35
Mean		993	36.5	4.0	1.21	31.0	81.8	36	4	54.38

Planted: 05/09/2016- partial replant 05/24/2016

Grower: Lindamood Planting Company

Harvested: 11/01/2016

Agent: Greg Allen

Table CST12. Results from the 2016 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 1614 B2XF	1412	41.3	5.6	1.15	32.6	83.1	41	3	51.50
2	NG 3406 B2XF	1387	39.7	5.1	1.13	30.7	83.9	31	3	54.05
3	ST 5032 GLT	1340	38.0	4.8	1.2	34.4	83.9	41	4	54.90
4	PHY 333 WRF	1302	40.6	4.7	1.23	34.3	82.7	41	4	54.80
5	PHY 312 WRF	1277	39.0	4.7	1.18	31.9	82.1	41	4	54.75
6	DP 1522 B2XF	1263	38.4	5.4	1.14	31.2	82.7	41	4	50.90
7	DP 1612 B2XF	1256	37.7	4.8	1.2	32.1	83.1	41	4	54.85
8	NG 3405 B2XF	1253	40.8	5.1	1.09	27.8	81.9	31	3	52.60
9	DP 1518 B2XF	1239	38.1	4.8	1.15	31	82.6	41	3	55.15
10	ST 4946 GLB2	1236	38.1	5.5	1.14	31.4	82.8	41	4	50.90
11	DG 3385 B2XF	1229	40.2	5.4	1.15	29.6	82.3	31	4	51.05
12	ST 4848 GLT	1226	44.2	4.7	1.15	29.1	82	31	3	56.20
13	PHY 444 WRF	1194	41.3	4.5	1.23	36.1	84.1	31	3	56.95
14	ST 4747 GLB2	1130	35.9	5.1	1.17	30.1	80.4	41	3	52.65
15	ST 5115 GLT	989	37.1	4.6	1.15	31.6	80.8	41	3	55.10
Mean		1249	39.4	5.0	1.16	31.6	82.6	38	3	53.76

Planted:

Grower:

Harvested:

Agent: JC Dupree

Table CST13. Results from location 1 of the 2016 County Standard Trial 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	PHY 312 WRF	1642	39.2	5.1	1.21	32.2	83.6	31	5	51.65
2	PHY 444 WRF	1557	37.2	4.4	1.25	32.7	83.5	31	3	56.8
3	ST 4946 GLB2	1526	37.3	5.4	1.19	32.4	83.9	41	3	51.6
4	ST 4848 GLT	1512	41.7	5.1	1.15	31.1	83.2	31	4	52.95
5	DG 3385 B2XF	1505	41.3	5.3	1.21	31.4	84	31	3	53.15
6	DP 1518 B2XF	1492	38.6	4.9	1.14	30.3	82.1	41	4	54.5
7	PHY 333 WRF	1488	39.9	5	1.2	32.8	82.6	31	3	54.4
8	NG 3406 B2XF	1441	39.4	5.2	1.15	30.4	82.4	31	2	54.6
9	DP 1522 B2XF	1403	38.2	5.5	1.15	31.8	83.4	31	3	52.9
10	ST 4747 GLB2	1392	36.7	5	1.23	32.6	82.7	41	4	52.45
11	NG 3405 B2XF	1391	39.4	5	1.12	28.7	81.9	31	3	53.65
12	ST 5115 GLT	1376	38.0	4.8	1.16	32.8	83.3	31	3	56.65
13	ST 5032 GLT	1345	36.2	4.9	1.22	34.3	84.2	31	3	56.95
14	DP 1614 B2XF	1304	38.5	5.5	1.16	29.9	83.5	31	2	53.05
15	DP 1612 B2XF	1271	35.9	5.2	1.17	32	84.2	31	4	53.05
Mean		1443	38.5	5.1	1.18	31.7	83.2	33	3	53.89

Planted: 05/06/2016

Grower: Chris Couch

Harvested: 10/07/2016

Agent: Jake Mallard

Table CST14. Results from location 2 of the 2016 County Standard Trial in Madison County, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength		HVI Color	Leaf Grade	Loan Value (¢/lb)
						(g/tex)	Unif. (%)			
1	PHY 444 WRF	1461	37.1	3.9	1.27	33	84.3	31	3	57.10
2	DP 1614 B2XF	1412	39.8	5.2	1.23	30.9	83.8	31	3	54.35
3	DP 1518 B2XF	1365	39.4	4.6	1.2	32.7	83.4	31	3	56.80
4	PHY 312 WRF	1302	36.4	4.6	1.27	31.3	85.6	31	4	55.55
5	DG 3385 B2XF	1291	38.8	4.9	1.21	29.6	85.5	31	3	56.65
6	PHY 333 WRF	1266	37.2	4.6	1.25	32.8	84.9	31	3	56.90
7	DP 1522 B2XF	1226	37.4	5.1	1.22	30.9	84.2	31	4	53.00
8	DP 1612 B2XF	1182	35.8	4.8	1.24	33.1	84.6	31	4	55.50
9	ST 4747 GLB2	1162	37.3	4.7	1.27	32.3	84.4	41	4	54.95
10	NG 3406 B2XF	1154	36.0	4.9	1.19	30.4	84.1	31	3	56.75
11	ST 4848 GLT	1149	38.8	4.8	1.22	33.4	83.2	31	3	56.85
12	NG 3405 B2XF	1141	35.6	4.4	1.21	30.5	83.3	31	3	56.65
13	ST 5115 GLT	1130	37.8	4.7	1.19	31.9	82.7	31	3	56.70
14	ST 5032 GLT	1003	33.4	4.4	1.29	32.7	85	31	4	55.55
15	ST 4946 GLB2	896	35.8	5.3	1.22	34	85.4	31	3	53.30
Mean		1209	37.1	4.7	1.23	32.0	84.3	32	3	55.77

Planted: 05/09/2016

Harvested: 10/12/2016

Grower: Matt Griggs

Agent: Jake Mallard

Table CST15. Results from the 2016 Milan Research and Education Center (Gibson Co.) County Standard Trial in Milan, TN.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength		HVI Color	Leaf Grade	Loan Value (¢/lb)
						(g/tex)	Unif. (%)			
1	DP 1518 B2XF	1494	37.5	4.7	1.18	31.1	83.4	41	3	55.35
2	NG 3405 B2XF	1425	37.9	4.8	1.11	29.9	81.1	31	2	56.45
3	DP 1614 B2XF	1359	41.4	5.2	1.22	30.5	84.7	41	3	53.00
4	PHY 312 WRF	1351	35.3	4.8	1.24	31.5	84.7	31	3	56.90
5	PHY 333 WRF	1345	38.9	5	1.22	30.9	83.3	41	3	52.90
6	DP 1522 B2XF	1329	37.3	5.3	1.16	31	82.4	41	2	51.40
7	PHY 444 WRF	1318	38.4	4.2	1.28	32.2	84.1	31	2	57.50
8	DG 3385 B2XF	1318	37.7	5.3	1.2	31.2	84.6	31	1	53.60
9	ST 5032 GLT	1284	35.8	4.8	1.24	31.8	84	31	3	56.90
10	NG 3406 B2XF	1267	37.6	5	1.14	30.4	82.7	31	2	54.60
11	DP 1612 B2XF	1262	37.1	5.1	1.21	34	84.5	41	3	53.20
12	ST 4848 GLT	1257	38.4	4.9	1.16	31.4	82.9	31	3	56.55
13	ST 4946 GLB2	1222	35.2	5.3	1.18	35	84.5	31	2	53.65
14	ST 4747 GLB2	1103	34.8	4.8	1.26	31.9	83.4	41	4	54.85
15	ST 5115 GLT	871	35.3	4.8	1.17	32.4	80.4	41	3	55.10
Mean		1280	37.2	4.9	1.20	31.7	83.4	36	3	54.80

Planted: 05/19/2016

Harvested: 10/28/2016

Grower: Milan Research and Education Center, Mr. Jason Williams

Table CST16. Results from the 2016 West Tennessee Research and Education Center (Madison Co.) County Standard Trial in Jackson, 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 333 WRF	1612	40.8	4.5	1.23	31.3	82.7	41	4	54.75
2	DG 3385 B2XF	1533	40.3	5.2	1.14	29.5	83.2	31	3	54.00
3	ST 4747 GLB2	1530	37.6	4.7	1.2	32.3	82.1	41	5	52.25
4	ST 5115 GLT	1527	38.4	4.4	1.15	32.7	83.1	31	4	55.25
5	DP 1612 B2XF	1490	38.5	4.9	1.21	32.8	84.6	41	4	54.95
6	DP 1522 B2XF	1466	41.2	5.1	1.15	31.2	83.6	31	4	52.95
7	NG 3405 B2XF	1451	37.5	4.8	1.1	30	79.3	31	3	54.40
8	ST 4946 GLB2	1448	39.2	5.1	1.16	31.9	81.3	31	4	52.80
9	DP 1518 B2XF	1433	39.9	4.7	1.18	29.9	82.7	41	4	54.40
10	PHY 312 WRF	1402	38.0	4.4	1.17	33	80.1	41	4	54.65
11	ST 4848 GLT	1365	41.1	4.5	1.18	32.2	82.2	31	4	55.25
12	ST 5032 GLT	1336	38.6	4.5	1.25	33.2	81.6	31	4	55.25
13	NG 3406 B2XF	1303	39.7	4.8	1.16	30.2	81.7	31	4	54.95
14	DP 1614 B2XF	1262	35.4	5.2	1.17	32	83.1	41	4	52.45
15	PHY 444 WRF	1256	41.6	3.9	1.22	35.1	79.9	31	4	54.65
Mean		1428	39.2	4.7	1.18	31.8	82.1	35	4	54.20

Planted: 04/27/2016

Harvested: 09/27/2016

Grower: West Tennessee Research and Education Center

Agent: Jake Mallard

Table CST17. Lint yield, gin turnout, and fiber quality of 10 like-entries in the 2015 and 2016 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	PHY 312 WRF	1325 a	38.1 b	4.5 cde	1.21 bc	32.4 b	83.5 bc	41	5 ab
2	PHY 444 WRF	1267 ab	39.5 a	4.0 f	1.27 a	33.1 a	84.0 a	31	4 e
3	PHY 333 WRF	1244 bc	39.6 a	4.5 cd	1.21 c	32.0 bc	83.0 cd	41	5 bc
4	DP 1518 B2XF	1242 bc	38.7 b	4.4 de	1.19 d	30.9 d	82.6 de	41	4 c
5	DG 3385 B2XF	1241 bc	39.4 a	4.9 a	1.16 f	30.5 d	83.3 bc	31	3 f
6	DP 1522 B2XF	1230 bcd	38.5 b	5.0 a	1.17 ef	31.6 c	83.3 bc	41	4 cd
7	ST 4946 GLB2	1221 bcd	37.5 c	4.9 a	1.18 de	33.2 a	83.5 ab	41	4 d
8	ST 4747 GLB2	1182 cd	37.2 c	4.6 b	1.21 bc	31.9 bc	82.5 de	41	5 a
9	ST 5032 GLT	1169 d	36.9 c	4.4 e	1.22 b	33.0 a	83.4 bc	41	4 c
10	ST 5115 GLT	1103 e	37.3 c	4.5 c	1.16 f	32.4 b	82.3 e	31	4 de
Mean		1222	38.3	4.6	1.20	32.1	83.1	41	4
LSD (p<0.05)		64	0.6	0.1	0.01	0.6	0.5		0.4

Tennessee AgResearch data of Raper et al. (2015).

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

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 Cry2Ab2 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.

Length (32nds)	Length (Inches)	Length (32nds)	Length (Inches)
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.

Market Value	HVI Micronaire
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.

short staple : less than 25 mm (<0.98 inches) medium

staple : 25 to 30 mm (0.98–1.18 inches)

long staple : 30 to 37 mm (1.18-1.46 inches)

extra long staple : 37mm and above (>1.46 inches)

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 two 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 three 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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