

# Cotton Variety Trial Results | 2014



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# **Tennessee Cotton Variety Trial Results**

## **2014**

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Department of Plant Sciences  
UT Extension  
UT AgResearch  
The University of Tennessee  
Knoxville, Tennessee

This report is also available online at:  
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## Introduction

The University of Tennessee Cotton Variety Testing Program provides an unbiased evaluation of varieties available for commercial cotton production in Tennessee. The program consists of two major components: The Official Variety Trials, referred to as OVTs, and the County Standard Tests, referred to as CSTs. The OVTs are small plot, replicated variety trials typically located on Research and Education Centers and are composed of major cultivars and experimental strains. The CSTs are large plot variety trials located throughout Western and Central TN and are only composed of major commercial cultivars. 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, relatively 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

Five OVTs were conducted in the 2014 growing season. These included two 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, 35 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, nodes above cracked boll to the highest harvestable boll (NACB) were counted 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. Plots were spindle-picked between 140 and 150 DAP. 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.

**Table 1.** 2014 Official variety trial details.

Location	Planting Date	Soil Type	Tillage	Fertility	Irrigation	Harvest Date
Gift	05/22/2014	Commerce Silt Loam	No-Tillage	70-40-90-10	None	11/10/2014
Halls*	05/21/2014	-----	-----	N/A	-----	-----
MREC <sup>1</sup>	05/23/2014	Collins Silt Loam	No-Tillage	93-0-90-15	None	11/13/2014
Ridgely	05/08/2014	Reelfoot Silt Loam	No-Tillage	90- var P&K	None	11/03/2014
WTREC <sup>2</sup>	05/07/2014	Collins Silt Loam	No-Tillage	90-0-0-0	None	10/08/2014

<sup>1</sup> Milan Research and Education Center, Milan, TN

<sup>2</sup> West Tennessee Research and Education Center, Jackson, TN.

\*Not reported due to mid-season glufosinate application.

### Large Plot Variety Trials

Fourteen CSTs were conducted in the 2014 growing season. These included one location on the West Tennessee Research and Education Center and thirteen 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 four to eight rows wide and 300 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, inline 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 MIXED 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 MIXED model considering replication as a random factor and variety as a fixed factor.

## **Seed Sources**

Entries for the 2014 University of Tennessee Cotton Variety Testing Program were provided by:

- American Cotton Breeders, Inc. 5210 88th Street, Lubbock, TX 79424
- Bayer CropScience, 311 Poplar View Lane West, Collierville TN 38017
- Croplan Genetics, 8700 Trail Lake Dr., Suite 100, Memphis, TN 38125
- Crop Production Services, 3005 Rocky Mountain Ave., Loveland, CO 80538
- International Seed Technology, 7950 NW 53<sup>rd</sup> St. Suite 337, Miami, FL 33166
- Monsanto, P.O. Box 157, Scott MS 38772
- Phytogen Seed Co., P.O. Box 27, Leland MS 38756
- Seed Source Genetics, 5159 FM 3354, Bishop, TX 78343

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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.

## 2014 Official Variety Trial Results

**Table OVT1.** Average lint yield, gin turnout, and fiber quality of 35 entries in the 2014 Tennessee Official Variety Trials averaged over all four harvested locations, listed by yield rank.

Yield Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber Strength g/tex	Uniformity %
1	PHY 333 WRF	41.5	1655	4.1	1.15	30.5	80.1
2	ST 4946 GLB2	38.6	1409	4.5	1.14	31.0	81.5
3	PX3122-b51WRF	37.8	1407	4.1	1.16	29.9	81.5
4	PX3003-04WRF	36.2	1389	4.2	1.15	32.4	81.5
5	PHY 495 W3RF	40.0	1368	4.2	1.13	32.4	82.4
6	ST 4747 GLB2	37.5	1340	4.3	1.14	28.5	79.1
7	DP 1321 B2RF	39.2	1339	4.6	1.14	30.0	82.3
8	BX 1534GLT	38.1	1322	4.1	1.12	30.0	81.1
9	DP 0920 B2RF	39.2	1320	4.4	1.11	27.7	80.6
10	ST 5032 GLB2	37.3	1312	3.9	1.16	30.1	80.4
11	PX3003-XXWRF	37.8	1310	4.1	1.15	31.4	81.3
12	NG 1511 B2RF	40.1	1310	4.6	1.11	30.2	81.9
13	PX3003-10WRF	37.6	1298	4.1	1.11	30.0	80.6
14	DP 0912 B2RF	38.0	1287	4.7	1.09	29.5	81.3
15	MON 12R224B2RF	37.1	1281	4.0	1.15	30.2	81.2
16	DG 2285 B2RF	37.5	1280	4.4	1.13	29.1	81.3
17	PHY 427 WRF	36.7	1269	4.0	1.13	30.7	80.9
18	PHY 339 WRF	38.1	1263	3.9	1.15	30.5	81.9
19	PHY 499 WRF	39.6	1255	4.4	1.13	32.2	81.7
20	DP 1311 B2RF	38.8	1250	4.1	1.12	28.8	80.8
21	CL 3787 B2RF	39.3	1219	4.2	1.13	28.7	80.6
22	PX4444-13WRF	38.4	1213	3.6	1.21	31.1	80.5
23	BX 1531GLT	39.4	1188	4.3	1.14	28.5	81.2
24	BX 1533GLT	36.2	1163	4.2	1.21	33.3	82.1
25	ST 5289 GLT	36.8	1155	4.3	1.13	29.3	80.7
26	BX 1535GLT	36.2	1143	4.0	1.18	32.7	81.7
27	DG 2355 B2RF	35.0	1133	4.2	1.15	30.9	81.8
28	SSG UA 222	37.3	1086	4.2	1.17	30.4	81.0
29	BX 1532GLT	41.1	1084	4.1	1.13	29.0	81.0
30	SSG HQ 210	35.9	1010	4.4	1.12	31.8	81.6
31	BRS-293	36.2	988	4.5	1.13	32.6	82.1
32	CT14515	41.2	988	4.3	1.16	31.3	81.2
33	BRS-335	35.8	923	4.3	1.14	30.9	80.3
34	BRS-286	35.8	864	4.3	1.13	31.3	80.6
35	BRS-269	34.8	749	4.2	1.14	32.2	80.8
<b>Average</b>		<b>37.9</b>	<b>1219</b>	<b>4.2</b>	<b>1.1</b>	<b>30.5</b>	<b>81.1</b>
LSD (0.05)		2.3	140	0.2	0.03	1.8	1.5

Tennessee AgResearch data of Raper et al. (2014).

**Table OVT2.** Lint yield, gin turnout, and fiber quality of 35 entries for the Gift, TN location of the 2014 Tennessee Official Variety Trial listed by trial yield rank.

<b>Trial Rank</b>	<b>Variety</b>	<b>Gin Turnout %</b>	<b>Lint Yield lb/ac</b>	<b>Micronaire</b>	<b>Fiber Length in</b>	<b>Fiber Strength g/tex</b>	<b>Uniformity %</b>	<b>Color Grade</b>
1	PHY 333 WRF	46.1	1526	5.0	1.13	30.4	79.7	41
2	PX3003-04WRF	38.9	1281	4.9	1.13	32.3	81.0	41
3	DP 0920 B2RF	42.0	1251	5.0	1.11	28.2	81.1	41
4	NG 1511 B2RF	42.2	1196	5.4	1.12	30.5	82.1	41
5	PX3003-XXWRF	44.3	1185	5.0	1.17	31.8	82.3	41
6	DP 1321 B2RF	43.1	1172	5.3	1.13	30.0	82.5	41
7	BX 1535GLT	37.1	1149	4.8	1.17	32.7	81.8	41
8	DG 2285 B2RF	39.2	1121	5.0	1.13	29.9	82.2	41
9	ST 4747 GLB2	39.3	1094	5.0	1.14	28.6	79.7	41
10	ST 5032 GLB2	40.4	1093	4.7	1.15	31.6	80.8	41
11	PHY 495 W3RF	41.1	1086	5.1	1.14	32.2	83.4	41
13	BX 1531GLT	42.7	1072	5.1	1.16	30.1	82.0	31
14	MON 12R224B2RF	39.7	1055	4.8	1.17	30.6	82.6	41
15	ST 4946 GLB2	40.3	1053	5.1	1.13	31.4	81.6	41
16	PX3122-b51WRF	39.4	1042	4.8	1.14	30.0	81.3	41
17	DP 0912 B2RF	40.7	1036	5.5	1.08	29.7	82.3	41
18	BX 1534GLT	38.9	1034	4.9	1.10	31.6	80.8	41
19	PX3003-10WRF	40.3	1008	5.1	1.10	29.0	81.0	41
20	PHY 427 WRF	39.4	986	5.1	1.14	32.9	82.6	41
21	CL 3787 B2RF	41.7	983	4.9	1.12	29.2	82.8	41
22	DG 2355 B2RF	37.2	980	4.7	1.14	30.6	82.4	41
23	PHY 339 WRF	41.3	970	4.8	1.16	31.8	83.4	51
24	BX 1533GLT	39.9	960	4.9	1.21	34.0	82.1	41
25	DP 1311 B2RF	40.5	934	4.9	1.10	29.5	81.1	41
26	ST 5289 GLT	39.6	879	4.8	1.15	31.0	80.2	41
27	BRS-293	40.7	831	5.3	1.13	32.6	83.2	41
28	PX4444-13WRF	41.8	829	4.4	1.21	32.2	81.1	41
29	BX 1532GLT	45.0	813	4.7	1.15	30.0	82.2	41
12	CT14515	37.5	765	5.1	1.16	31.9	82.3	41
30	SSG HQ 210	37.5	753	5.3	1.11	32.7	82.6	41
31	PHY 499 WRF	41.8	689	5.3	1.14	32.3	83.8	41
32	SSG UA 222	41.6	673	5.0	1.14	30.8	79.0	41
33	BRS-335	38.2	607	5.1	1.12	29.7	80.6	41
34	BRS-269	38.8	487	5.2	1.13	31.0	81.8	41
35	BRS-286	37.0	432	5.1	1.09	30.5	79.4	41
<b>Average</b>		<b>40.4</b>	<b>972</b>	<b>5.0</b>	<b>1.14</b>	<b>31.0</b>	<b>81.7</b>	
LSD (0.05)			376					



**Table OVT3.** Lint yield, gin turnout, and fiber quality of 35 entries for the Jackson, TN location of the 2014 Tennessee Official Variety Trial listed by trial yield rank.

<b>Trial Rank</b>	<b>Variety</b>	<b>Gin Turnout %</b>	<b>Lint Yield lb/ac</b>	<b>Micronaire</b>	<b>Fiber Length in</b>	<b>Fiber Strength g/tex</b>	<b>Uniformity %</b>	<b>Color Grade</b>
1	PHY 333 WRF	44.0	1975	4.7	1.10	30.3	78.9	31
2	ST 5032 GLB2	39.8	1809	4.7	1.13	29.3	78.8	31
3	ST 4946 GLB2	39.8	1755	5.2	1.09	30.5	80.1	31
4	BX 1534GLT	38.2	1712	4.6	1.07	29.4	79.5	21
5	PHY 495 W3RF	44.3	1711	4.8	1.11	33.1	81.5	31
6	MON 12R224B2RF	38.6	1663	4.4	1.11	30.4	80.9	31
7	PX3122-b51WRF	38.9	1638	4.6	1.15	31.1	81.8	31
8	NG 1511 B2RF	40.3	1616	5.1	1.10	30.3	81.5	31
9	DG 2285 B2RF	38.0	1611	4.9	1.08	28.8	80.2	31
10	PX3003-04WRF	36.6	1583	4.7	1.13	35.1	82.3	31
11	ST 5289 GLT	38.8	1581	5.0	1.06	26.9	80.4	31
13	PX3003-XXWRF	38.1	1573	4.7	1.13	31.2	82.4	31
14	PHY 339 WRF	38.8	1573	4.5	1.12	30.4	80.4	21
15	DP 0920 B2RF	42.6	1556	5.0	1.09	27.2	80.8	31
16	PHY 427 WRF	37.6	1544	4.5	1.08	31.2	80.8	31
17	ST 4747 GLB2	39.0	1542	4.8	1.07	24.1	76.2	31
18	DP 0912 B2RF	37.6	1537	5.2	1.07	30.5	80.7	31
19	DP 1321 B2RF	38.4	1516	5.1	1.08	28.1	80.7	31
20	PX3003-10WRF	38.3	1505	4.5	1.08	31.3	80.7	31
21	PHY 499 WRF	38.5	1503	4.9	1.11	33.5	81.2	31
22	PX4444-13WRF	39.4	1497	4.2	1.18	33.5	80.0	21
23	BX 1531GLT	42.7	1413	5.1	1.06	26.3	80.0	31
24	BX 1532GLT	42.8	1392	5.0	1.09	27.5	80.3	31
25	DG 2355 B2RF	35.5	1379	5.0	1.10	30.5	80.4	31
26	CT14515	39.8	1375	4.8	1.11	32.0	79.5	31
27	CL 3787 B2RF	40.4	1346	4.8	1.09	27.9	79.7	21
28	DP 1311 B2RF	40.4	1336	4.9	1.10	28.8	79.8	31
29	BX 1533GLT	35.7	1308	5.1	1.21	33.8	82.8	31
12	SSG UA 222	38.7	1280	4.7	1.15	30.2	82.4	31
30	BX 1535GLT	38.0	1268	4.6	1.13	31.7	79.6	31
31	SSG HQ 210	38.3	1264	5.1	1.07	29.9	80.2	31
32	BRS-293	35.8	1243	4.9	1.11	34.2	81.5	31
33	BRS-335	37.4	1222	4.8	1.13	31.1	80.0	31
34	BRS-286	36.3	1202	4.6	1.07	31.0	80.6	31
35	BRS-269	35.6	993	4.8	1.10	33.7	81.2	31
	<b>Average</b>	<b>38.9</b>	<b>1486</b>	<b>4.8</b>	<b>1.10</b>	<b>30.4</b>	<b>80.5</b>	
	LSD (0.05)		210					

**Table OVT4.** Lint yield, gin turnout, and fiber quality of 35 entries for the Milan, TN location of the 2014 Tennessee Official Variety Trial listed by trial yield rank. †

Trial Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber Strength g/tex	Uniformity %	Color Grade
1	PHY 333 WRF	38.0	1004	3.0	1.16	28.4	79.9	41
2	PX3122-b51WRF	36.3	931	3.2	1.19	29.6	82.1	41
3	DP 1321 B2RF	38.4	906	3.7	1.16	30.7	82.4	41
4	ST 4946 GLB2	38.0	896	3.6	1.17	31.2	81.9	41
5	BX 1534GLT	38.1	890	3.1	1.16	30.6	81.9	41
6	ST 5032 GLB2	35.9	888	2.9	1.19	30.5	81.3	41
7	PHY 499 WRF	40.2	883	3.6	1.16	31.0	82.1	41
8	PHY 495 W3RF	37.6	863	3.3	1.15	31.5	82.7	41
9	PX3003-04WRF	34.8	849	3.2	1.19	31.0	81.7	41
10	DP 0912 B2RF	36.8	848	3.9	1.11	29.1	81.8	31
11	NG 1511 B2RF	39.8	845	3.8	1.13	31.1	83.5	41
13	BX 1533GLT	34.7	843	3.2	1.22	32.8	81.6	41
14	PHY 339 WRF	36.5	835	3.1	1.17	30.5	82.8	41
15	DP 0920 B2RF	36.7	810	3.6	1.14	27.7	81.1	31
16	PHY 427 WRF	35.5	799	3.0	1.18	29.0	82.1	41
17	ST 4747 GLB2	35.7	790	3.3	1.20	31.9	80.6	41
18	DG 2285 B2RF	36.9	783	3.5	1.15	28.3	81.2	41
19	DP 1311 B2RF	36.1	757	3.0	1.14	28.8	80.5	41
20	CL 3787 B2RF	37.0	728	3.4	1.17	29.1	82.0	31
21	MON 12R224B2R2F	34.0	711	3.1	1.21	30.6	83.1	41
22	PX3003-XXWRF	34.5	693	3.1	1.15	30.1	80.0	41
23	BX 1531GLT	36.2	690	3.2	1.17	29.3	81.6	41
24	BX 1535GLT	35.1	680	3.1	1.24	32.5	83.4	41
25	SSG HQ 210	33.6	669	3.4	1.17	33.3	81.2	31
26	DG 2355 B2RF	34.4	659	3.2	1.17	31.4	82.5	41
27	SSG UA 222	34.3	653	3.2	1.24	31.4	83.2	41
28	PX3003-10WRF	34.8	630	3.2	1.15	29.3	81.4	41
29	BX 1532GLT	37.4	622	3.1	1.17	29.6	81.8	41
12	ST 5289 GLT	35.1	609	3.4	1.17	30.0	81.9	41
30	PX4444-13WRF	34.3	605	2.5	1.25	29.0	80.8	41
31	CT14515	36.0	479	3.4	1.18	30.6	81.9	41
32	BRS-293	34.2	474	3.5	1.13	31.6	82.5	41
33	BRS-286	37.0	443	3.5	1.18	32.5	81.3	41
34	BRS-269	32.7	390	3.2	1.17	32.3	81.0	41
35	BRS-335	32.8	388	3.3	1.19	31.8	82.2	31
<b>Average</b>		<b>36.0</b>	<b>730</b>	<b>3.3</b>	<b>1.17</b>	<b>30.5</b>	<b>81.8</b>	
LSD (0.05)			166					

†Delayed maturity caused by saturated field conditions through much of the growing season contributed to abnormally low yields for this location during the 2014 season.

**Table OVT5.** Lint yield, gin turnout, and fiber quality of 35 entries for the Ridgely, TN location of the 2014 Tennessee Official Variety Trial listed by trial yield rank.

Trial Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber Strength g/tex	Uniformity %	Color Grade
1	PHY 333 WRF	37.9	2114	3.7	1.20	33.0	81.7	41
2	PX3003-10WRF	37.1	2050	3.7	1.10	30.3	79.3	41
3	PX3122-b51WRF	36.6	2017	3.8	1.15	28.7	80.7	31
4	DP 1311 B2RF	38.4	1975	3.7	1.13	27.9	81.6	31
5	PHY 499 WRF	37.9	1946	3.6	1.09	32.0	79.6	31
6	ST 4747 GLB2	35.9	1932	3.9	1.15	29.4	79.9	41
7	ST 4946 GLB2	36.5	1931	4.2	1.15	31.0	82.4	31
8	PX4444-13WRF	38.1	1920	3.1	1.21	29.8	80.0	31
9	PX3003-04WRF	34.6	1843	3.9	1.13	31.1	81.0	31
10	CL 3787 B2RF	38.1	1820	3.8	1.13	28.5	77.9	31
11	PHY 495 W3RF	36.9	1810	3.7	1.12	32.6	81.8	31
12	PX3003-XXWRF	34.5	1788	3.7	1.13	32.6	80.5	31
13	DP 1321 B2RF	36.8	1761	4.4	1.17	31.2	83.4	31
14	PHY 427 WRF	34.5	1745	3.5	1.10	29.6	78.2	31
15	SSG UA 222	34.6	1739	3.7	1.14	29.2	79.5	31
16	DP 0912 B2RF	36.7	1728	4.1	1.08	28.6	80.5	31
17	MON 12R224B2RF	35.9	1693	3.6	1.11	29.0	78.0	31
18	PHY 339 WRF	35.9	1676	3.3	1.16	29.2	81.1	41
19	DP 0920 B2RF	35.7	1664	3.9	1.10	27.6	79.4	41
20	BX 1534GLT	37.0	1651	3.7	1.14	28.4	82.2	31
21	DG 2285 B2RF	36.0	1606	4.0	1.16	29.3	81.5	31
22	NG 1511 B2RF	38.0	1582	3.9	1.09	29.0	80.5	31
23	BX 1531GLT	36.0	1576	3.9	1.15	28.3	81.0	31
24	ST 5289 GLT	33.6	1551	3.8	1.13	29.3	80.2	31
25	BX 1533GLT	34.5	1542	3.7	1.21	32.4	81.7	31
26	DG 2355 B2RF	32.9	1515	3.8	1.17	31.1	81.7	41
27	BX 1532GLT	39.0	1509	3.6	1.11	28.7	79.6	31
28	BX 1535GLT	34.6	1477	3.5	1.19	33.7	82.1	31
29	BRS-335	34.8	1475	3.8	1.12	31.0	78.4	31
30	ST 5032 GLB2	33.1	1458	3.1	1.15	29.0	80.7	31
31	BRS-293	34.2	1405	4.2	1.14	32.1	81.2	31
32	BRS-286	33.1	1379	4.0	1.17	31.0	81.2	31
33	SSG HQ 210	34.1	1356	3.9	1.12	31.1	82.3	31
34	CT14515	36.1	1331	3.8	1.17	30.5	81.0	31
35	BRS-269	32.2	1124	3.7	1.15	31.6	79.2	31
<b>Average</b>		<b>35.8</b>	<b>1677</b>	<b>3.8</b>	<b>1.14</b>	<b>30.2</b>	<b>80.6</b>	
LSD (0.05)			256					

**Table OVT6.** Plant height (inches), total number of nodes, height to node ratio, node of first fruiting branch (NFFB) nodes above cracked boll, and relative difference in DD60's to maturity of 35 entries in the 2014 Tennessee Official Variety Trials, listed in alphabetical order. †

Variety	Height	Nodes	Height:Node	NFFB <sup>1</sup>	NACB <sup>2</sup>	DD60 <sup>3†</sup>
	in	no.	ratio	no.	no.	units
BRS-269	35.4	21.5	1.6	6.0	6.3	110
BRS-286	35.6	19.9	1.8	6.4	6.8	40
BRS-293	36.3	20.2	1.8	6.3	7.7	65
BRS-335	40.9	20.5	2.0	6.6	7.7	107
BX 1531GLT	34.5	19.4	1.8	5.6	7.0	75
BX 1532GLT	33.6	18.3	1.8	5.9	6.7	60
BX 1533GLT	33.7	19.1	1.8	6.2	6.5	47
BX 1534GLT	34.6	19.1	1.8	6.2	6.5	47
BX 1535GLT	35.4	19.4	1.8	6.6	6.4	43
CL 3787 B2RF	38.2	18.9	2.0	5.9	6.9	70
CT14515	37.8	19.2	2.0	6.4	6.3	37
DG 2285 B2RF	34.9	18.6	1.9	5.6	6.1	28
DG 2355 B2RF	34.0	18.7	1.8	6.2	5.9	17
DP 0912 B2RF	31.6	19.2	1.6	6.0	7.2	83
DP 0920 B2RF	33.6	19.1	1.8	6.5	6.5	48
DP 1311 B2RF	32.3	19.1	1.7	6.6	6.3	40
DP 1321 B2RF	35.8	19.5	1.8	5.9	6.4	43
MON 12R224B2RF	36.9	20.3	1.8	6.0	7.2	85
NG 1511 B2RF	38.1	19.7	1.9	5.9	7.0	75
PHY 333 WRF	36.9	18.0	2.0	5.9	6.0	23
PHY 339 WRF	37.3	19.6	1.9	6.1	6.3	46
PHY 427 WRF	37.5	19.6	1.9	6.2	7.0	72
PHY 495 W3RF	35.9	18.7	1.9	6.3	6.3	38
PHY 499 WRF	37.5	19.8	1.9	6.4	6.6	53
PX3003-04WRF	37.0	19.4	1.9	6.5	5.9	18
PX3003-10WRF	37.7	18.3	2.1	6.2	6.2	32
PX3003-XXWRF	37.0	18.5	2.0	6.2	6.0	25
PX3122-b51WRF	34.1	18.8	1.8	6.1	7.0	73
PX4444-13WRF	33.9	18.5	1.8	6.2	6.5	47
SSG HQ 210	30.3	19.5	1.6	6.2	6.7	60
SSG UA 222	32.1	20.2	1.6	6.2	7.2	83
ST 4747GLB2	34.6	18.3	1.9	6.3	5.5	0
ST 4946GLB2	35.4	18.5	1.9	6.5	6.5	50
ST 5032GLB2	33.1	18.9	1.8	6.0	6.1	27
ST 5289GLT	34.1	19.3	1.8	6.1	6.6	52
<b>Average</b>	<b>35.4</b>	<b>19.3</b>	<b>1.8</b>	<b>6.2</b>	<b>6.6</b>	
LSD (0.05)	1.7	0.7		0.4	0.8	42

<sup>1</sup>NFFB = node number of first fruiting (sympodial) branch.

<sup>2</sup>NACB = nodes above highest 1st position cracked boll to the highest harvestable boll.

<sup>3</sup>DD60 = relative difference in degree-days, base 60 F. DD60 to maturity = (NACB x (50 DD60/node) to open highest harvestable boll)-lowest observed average DD60 to maturity.

†Averages calculated from Jackson, Milan and Ridgely locations.

#Relative DD60s from Milan location were excluded due to severely delayed maturity.

Tennessee AgResearch data of Raper et al. (2014).

**Table OVT7.** Lint yield, gin turnout, and fiber quality of 18 like-entries averaged across the 2013-2014 Tennessee Official Variety Trials.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		
					Length (inches)	Strength (g/tex)	Uniformity (%)
1	PHY 333 WRF	40.1	1611	4.0	1.17	30.7	81.5
2	DP 1321 B2RF	38.1	1486	4.5	1.16	31.2	82.9
3	ST 4946 GLB2	37.4	1437	4.4	1.15	31.6	82.4
4	DP 0912 B2RF	37.7	1437	4.5	1.11	30.5	82.0
5	ST 4747 GLB2	37.7	1419	4.2	1.15	29.1	79.8
6	PHY 339 WRF	37.1	1411	4.0	1.18	30.8	82.4
7	NG 1511 B2RF	38.7	1405	4.4	1.14	30.7	82.6
8	DG 2285 B2RF	36.7	1404	4.3	1.14	30.2	81.7
9	PX3003-10WRF	37.0	1373	4.0	1.12	30.7	81.5
10	PX4444-13WRF	38.3	1359	3.5	1.24	31.9	81.7
11	DP 0920 B2RF	38.3	1358	4.3	1.13	28.5	81.2
12	MON12R224B2RF	36.8	1356	3.8	1.18	30.8	81.9
13	PHY 427 WRF	36.3	1345	3.9	1.15	31.6	81.7
14	DP 1311 B2RF	38.5	1323	4.2	1.14	28.8	81.4
15	CL 3787 B2RF	38.2	1321	4.3	1.14	29.3	81.5
16	PHY 499 WRF	38.7	1315	4.3	1.15	33.0	83.0
17	SSG UA222	36.4	1264	4.0	1.21	30.9	82.1
18	SSG HQ210	35.3	1171	4.3	1.13	32.3	81.6
<b>Mean</b>		<b>37.6</b>	<b>1378</b>	<b>4.2</b>	<b>1.16</b>	<b>30.7</b>	<b>81.8</b>
LSD ( $p \leq 0.05$ )		1.3	98	0.2	0.02	1.1	1.0

Tennessee AgResearch data of Wiggins et al. (2013).

Tennessee AgResearch data of Raper et al. (2014).

**Table OVT8.** Lint yield, gin turnout, and fiber quality of 10 like-entries averaged across the 2012-2014 Tennessee Official Variety Trials.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		
					Length (inches)	Strength (g/tex)	Uniformity (%)
1	DP 1321 B2RF	38.4	1408	4.3	1.18	31.6	82.0
2	PHY 499 WRF	40.0	1395	4.4	1.15	33.0	83.2
3	PHY 339 WRF	37.9	1363	4.1	1.18	31.3	82.7
4	ST 4946 GLB2	37.4	1355	4.4	1.16	32.0	82.6
5	NG 1511 B2RF	39.0	1346	4.4	1.13	29.9	82.2
6	DP 0912 B2RF	37.2	1346	4.5	1.13	29.7	81.9
7	DP 0920 B2RF	38.2	1295	4.4	1.13	29.0	81.7
8	DP 1311 BRF2	38.8	1282	4.4	1.15	31.0	82.5
9	CG 3787 B2RF	38.4	1279	4.4	1.13	29.7	82.1
10	SSG UA222	37.0	1233	4.2	1.21	31.3	82.7
<b>Mean</b>		<b>38.2</b>	<b>1330</b>	<b>4.4</b>	<b>1.15</b>	<b>30.9</b>	<b>82.3</b>
LSD ( $p \leq 0.05$ )		0.8	128	0.2	0.02	1.0	0.8

Tennessee AgResearch data of Main et al. (2012).

Tennessee AgResearch data of Wiggins et al. (2013).

Tennessee AgResearch data of Raper et al. (2014).

## 2014 Large Plot Variety Trial Results

**Table CST1.** Lint yield, gin turnout, fiber quality and CCC loam value of 15 entries entered in the 2014 Tennessee Large Plot Variety Trials.†

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 333 WRF	39.3	1108	4.3	1.14	30.0	81.6	41-1	4	53.95
2	NG 1511 B2RF	40.1	1018	4.7	1.10	30.0	81.9	41-1	4	53.20
3	ST 4946 GLB2	37.5	1014	4.5	1.14	31.6	82.3	31-2	4	55.30
4	PHY 495 W3RF	39.5	1005	4.3	1.12	32.2	82.7	41-1	4	54.20
5	DP 0912 B2RF	38.1	1000	4.7	1.08	29.0	81.8	41-1	4	53.05
6	ST 5032 GLT	37.7	983	4.0	1.16	31.2	81.0	41-1	4	54.30
7	ST 5289 GLT	37.9	979	4.4	1.11	28.8	80.7	41-1	4	53.65
8	DG 2285 B2RF	38.0	971	4.4	1.12	29.4	81.3	31-1	4	54.75
9	ST 4747 GLB2	36.6	971	4.4	1.13	29.1	79.7	41-1	4	53.00
10	PHY 339 WRF	37.4	970	4.2	1.15	30.7	82.0	41-1	4	54.20
11	DP 1321 B2RF	38.5	963	4.5	1.13	30.4	82.5	31-2	4	55.00
12	PHY 499 WRF	39.3	936	4.6	1.12	31.7	82.5	41-1	5	51.85
13	DP 1311 B2RF	39.1	915	4.2	1.12	28.5	81.2	41-1	4	53.80
14	FM 1944 GLB2	35.2	869	4.2	1.16	31.4	80.1	41-1	4	54.30
15	DG 2355 B2RF	35.2	833	4.3	1.13	31.7	81.6	41-1	4	54.10
<b>Mean</b>		<b>38.0</b>	<b>969</b>	<b>4.4</b>	<b>1.13</b>	<b>30.4</b>	<b>81.5</b>		<b>4</b>	<b>53.91</b>
LSD (p≤0.05)		1.0	88	0.2	0.02	0.9	0.9		0.6	

†Three locations were excluded from this average due to mid-season glufosinate applications.

**Table CST2.** Lint yield, gin turnout, fiber quality and CCC loam value of 8 like-entries averaged across the 2013-2014 Tennessee Large Plot Variety Trials.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	ST 4946 GLB2	37.6	902	4.5	1.14	31.6	82.5	31-2	4	55.30
2	DP 0912 B2RF	37.2	891	4.1	1.09	29.2	82.0	41-1	5	51.00
3	PHY 339 WRF	37.3	866	4.4	1.16	30.7	82.2	31-2	4	55.10
4	DP 1321 B2RF	37.9	860	4.2	1.14	30.5	82.6	41-1	4	54.20
5	NG 1511 B2RF	39.2	856	4.5	1.11	30.6	82.1	41-1	4	54.00
6	PHY 499 WRF	38.9	831	4.1	1.13	31.5	82.6	41-1	5	52.00
7	DP 1311 B2RF	38.6	800	4.4	1.12	28.6	81.1	41-1	4	53.65
8	FM 1944 GLB2	35.3	763	4.4	1.17	31.4	80.6	41-1	4	54.15
<b>Mean</b>		<b>37.7</b>	<b>846</b>	<b>4.3</b>	<b>1.13</b>	<b>30.5</b>	<b>81.9</b>		<b>4</b>	<b>53.18</b>
LSD (p≤0.05)		0.8	57	0.1	0.01	0.8	0.8		0.5	

Tennessee AgResearch data of Wiggins et al. (2013).

Tennessee AgResearch data of Raper et al. (2014).



**Table CST3.** Results from the 2014 Carroll County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)	
				Mic	Length (inches)	Strength Uniformity (g/tex) (%)				
1	PHY 495 W3RF	39.2	1386	4.7	1.14	31.0	84.5	41-1	3	54.95
2	NG 1511 B2RF	38.9	1364	5.1	1.10	27.0	82.5	41-1	3	50.75
3	DG 2285 B2RF	36.0	1252	4.8	1.13	28.4	83.1	41-1	2	54.40
4	DP 0912 B2RF	37.2	1234	5	1.05	27.0	81.6	31-2	3	50.30
5	ST 4946 GLB2	37.0	1227	5.1	1.14	29.6	83.6	31-2	3	53.80
6	FM 1944 GLB2	35.1	1227	4.4	1.14	29.8	80.9	41-1	3	54.35
7	PHY 499 WRF	37.7	1219	4.8	1.10	30.1	82.2	41-1	4	53.30
8	ST 5032 GLT	37.9	1200	4.3	1.14	29.8	80.1	31-2	3	56.45
9	PHY 333 WRF	37.9	1200	4.5	1.10	28.1	81.4	41-2	4	52.95
10	DP 1311 B2RF	37.6	1140	4.3	1.13	27.8	81.9	41-1	4	53.65
11	ST 4747 GLB2	34.7	1130	4.3	1.09	27.9	76.5	41-2	4	51.95
12	ST 5289 GLT	36.9	1130	4.7	1.11	27.9	82.1	41-1	2	54.30
13	PHY 339 WRF	36.0	1113	4.6	1.15	29.3	83.1	41-1	4	54.00
14	DP 1321 B2RF	36.7	1017	4.9	1.13	29.5	83.7	41-2	3	54.50
15	DG 2355 B2RF	34.3	1003	4.5	1.07	30.6	79.3	41-1	3	51.80
<b>Mean</b>		<b>36.9</b>	<b>1189</b>	<b>4.7</b>	<b>1.11</b>	<b>28.9</b>	<b>81.2</b>		<b>3</b>	<b>53.40</b>
<b>Grower:</b> Kevin Renfroe						<b>Agent:</b> Steve Burgess				

**Table CST4.** Results from the 2014 Crockett County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)	
				Mic	Length (inches)	Strength Uniformity (g/tex) (%)				
1	DP 1321 B2RF	34.4	601	4.1	1.17	30.3	82.7	31-2	3	56.85
2	NG 1511 B2RF	34.2	589	4.2	1.16	32.4	82.2	41-1	5	52.00
3	DG 2285 B2RF	33.8	553	4	1.19	30.0	81.8	31-1	4	55.20
4	DP 0912 B2RF	32.8	548	3.6	1.13	28.5	81.8	41-1	4	53.65
5	ST 5032 GLT	33.1	515	3.8	1.21	33.3	82.8	41-1	5	52.00
6	PHY 333 WRF	33.7	478	3.2	1.22	31.8	83.5	41-1	6	46.10
7	PHY 495 W3RF	34.2	477	3.8	1.17	33.0	82.6	41-1	4	54.40
8	DP 1311 B2RF	32.9	472	3	1.19	29.9	82.4	41-1	5	48.05
9	ST 4946 GLB2	30.7	452	3.9	1.19	34.5	81.9	41-2	6	49.50
10	ST 5289 GLT	31.9	434	3.5	1.18	30.3	80.5	51-1	6	47.65
11	DG 2355 B2RF	30.1	421	3.7	1.18	33.0	81.8	41-1	5	51.90
12	ST 4747 GLB2	29.8	412	3.2	1.18	30.9	81.1	41-1	6	45.70
13	PHY 339 WRF	31.8	391	3.1	1.21	32.1	82.9	41-2	5	48.40
14	DP 1321 B2RF	34.4	601	4.1	1.17	30.3	82.7	31-2	5	50.05
15	NG 1511 B2RF	34.2	589	4.2	1.16	32.4	82.2	41-1	6	49.45
<b>Mean</b>		<b>32.4</b>	<b>470</b>	<b>3.6</b>	<b>1.18</b>	<b>31.9</b>	<b>82.1</b>		<b>5</b>	<b>50.70</b>
<b>Grower:</b> Kevin Earnheart						<b>Agent:</b> Richard Buntin				

**Table CST5.** Results from the 2014 Fayette County, Tennessee Large Plot Variety Trial. †

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 333 WRF	44.3	1415	4.3	1.18	31.4	84.4			
2	ST 4946 GLB2	40.2	1334	4.1	1.18	32.8	83.3			
3	DP 0912 B2RF	40.3	1271	4.2	1.13	29.2	83.0			
4	ST 5289 GLT	40.6	1264	4	1.14	29.9	82.9			
5	PHY 499 WRF	41.9	1190	4.1	1.17	32.5	84.3			
6	DP 1321 B2RF	41.4	1159	3.9	1.16	32.2	84.1			
7	PHY 339 WRF	40.8	1108	3.6	1.15	32.4	80.9			
8	ST 4747 GLB2	39.6	1105	4.2	1.14	28.4	81.3			
9	DP 1311 B2RF	42.9	1099	3.8	1.16	30.2	83.8			
10	DG 2285 B2RF	39.2	1085	3.8	1.11	31.1	82.2			
11	NG 1511 B2RF	41.9	1083	3.8	1.11	31.1	83.3			
12	PHY 495 W3RF	41.7	1078	3.6	1.15	32.3	84.5			
13	DG 2355 B2RF	39.8	1018	4.2	1.18	32.9	84.2			
14	ST 5032 GLT	40.4	997	3.5	1.20	32.0	83.4			
15	FM 1944 GLB2	40.1	992	4.4	1.21	32.8	83.0			
<b>Mean</b>		<b>41.0</b>	<b>1146</b>	<b>4.0</b>	<b>1.16</b>	<b>31.4</b>	<b>83.2</b>			

†Samples were ginned on a 10-saw table-top gin, therefore HVI color and leaf grade is not reported and was not included in the calculation of fiber quality averages.

**Grower:** Mark McNabb

**Agent:** Jeff Via

**Table CST6.** Results from the 2014 Haywood County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 333 WRF	38.9	837	4.3	1.22	33.6	84.6	41-3	4	54.45
2	ST 5032 GLT	36.5	713	4.7	1.23	36.7	82.6	52-1	6	46.10
3	NG 1511 B2RF	38.4	678	5.3	1.17	34.4	84.9	42-1	5	45.75
4	ST 4946 GLB2	37.1	655	4.6	1.22	36.1	84.0	41-1	4	54.45
5	PHY 339 WRF	35.0	653	4.8	1.22	34.7	84.4	41-4	5	52.00
6	ST 5289 GLT	35.9	642	4.9	1.21	34.7	83.9	41-1	5	51.95
7	DP 0912 B2RF	36.9	639	5.4	1.12	33.4	83.7	41-3	4	50.20
8	DP 1321 B2RF	36.6	632	5.4	1.22	34.0	85.7	42-2	5	45.85
9	PHY 495 W3RF	38.2	616	5	1.18	35.5	85.4	41-3	4	51.70
10	DG 2285 B2RF	35.1	611	4.8	1.22	33.7	84.0	42-1	4	51.75
11	ST 4747 GLB2	33.9	603	4.7	1.25	34.7	82.5	41-1	5	51.85
12	FM 1944 GLB2	32.6	575	4.5	1.24	37.3	83.9	41-1	4	54.40
13	PHY 499 WRF	38.8	553	5.5	1.19	35.5	85.4	41-4	6	45.60
14	DP 1311 B2RF	36.9	529	4.6	1.20	31.2	84.4	41-1	5	52.00
15	DG 2355 B2RF	31.6	494	4.7	1.21	35.4	85.2	51-3	6	48.20
<b>Mean</b>										

**Grower:** Chester King

**Agent:** Walter Battle

**Table CST7.** Results from the 2014 Lake County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	ST 4946 GLB2	40.5	1062	4.5	1.13	31.1	81.3	31-2	4	55.10
2	PHY 333 WRF	39.2	981	4.2	1.13	29.6	80.9	31-2	4	54.90
3	NG 1511 B2RF	41.3	869	4.5	1.05	28.0	78.3	41-1	4	51.10
4	ST 5032 GLT	37.9	862	3.6	1.14	30.1	80.5	41-1	5	51.55
5	DG 2285 B2RF	39.7	853	4.2	1.13	28.7	81.2	31-2	3	56.40
6	PHY 499 WRF	40.9	840	4	1.13	31.7	82.6	41-2	5	52.00
7	ST 4747 GLB2	37.6	834	4	1.13	27.9	79.2	41-1	5	50.70
8	ST 5289 GLT	37.5	794	3.8	1.11	28.4	79.6	41-2	5	50.70
9	DP 1321 B2RF	39.2	741	4.1	1.11	30.4	80.6	31-1	4	55.05
10	FM 1944 GLB2	35.3	735	3.8	1.19	30.4	79.8	31-2	4	54.45
11	PHY 495 W3RF	40.2	728	4	1.11	30.9	81.6	41-2	5	51.70
12	PHY 339 WRF	36.8	678	3.8	1.15	30.7	81.0	31-2	5	53.70
13	DP 0912 B2RF	37.3	605	4	1.07	28.3	81.2	41-1	5	50.05
14	DG 2355 B2RF	35.9	588	3.7	1.13	31.8	81.2	41-1	6	49.50
15	DP 1311 B2RF	37.7	573	3.7	1.12	27.7	78.7	31-2	3	55.50
<b>Mean</b>		<b>38.4</b>	<b>783</b>	<b>4.0</b>	<b>1.12</b>	<b>29.7</b>	<b>80.5</b>		<b>4</b>	<b>52.83</b>
<b>Grower:</b> Tony Bargery					<b>Agent:</b> Greg Allen					

**Table CST8.** Results from the 2014 Lauderdale County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	ST 5032 GLT	36.9	911	3.3	1.14	30.4	80.7	41-1	6	47.45
2	PHY 333 WRF	35.7	871	3.5	1.16	30.6	81.0	31-2	5	53.55
3	ST 4946 GLB2	35.0	796	3.8	1.15	32.6	82.2	31-2	4	55.45
4	PHY 499 WRF	38.2	789	4.2	1.11	30.1	81.7	31-2	4	55.05
5	ST 4747 GLB2	33.6	768	5.1	1.08	29.1	81.9	41-3	3	50.75
6	DG 2285 B2RF	36.4	712	3.5	1.13	29.2	81.7	31-1	4	54.75
7	ST 5289 GLT	35.1	689	4	1.10	27.2	80.2	41-1	5	50.80
8	DP 0912 B2RF	38.1	685	4.3	1.06	27.3	80.2	51-2	5	48.15
9	DP 1321 B2RF	36.5	684	3.7	1.12	29.6	81.0	31-2	4	54.90
10	PHY 495 W3RF	36.0	681	3.4	1.08	30.2	80.9	31-1	4	52.45
11	PHY 339 WRF	34.8	643	3.3	1.12	28.7	79.9	31-1	3	53.80
12	FM 1944 GLB2	32.5	614	3.7	1.13	30.2	77.9	31-1	3	55.65
13	NG 1511 B2RF	36.4	614	3.7	1.11	28.9	80.9	31-2	4	54.80
14	DP 1311 B2RF	37.2	592	3.9	1.12	26.9	80.6	31-2	3	56.40
15	DG 2355 B2RF	34.2	561	3.9	1.13	32.3	81.3	31-1	4	55.25
<b>Mean</b>		<b>35.8</b>	<b>707</b>	<b>3.8</b>	<b>1.12</b>	<b>29.6</b>	<b>80.8</b>		<b>4</b>	<b>53.28</b>
<b>Grower:</b> Leslie Crook					<b>Agent:</b> J.C. Dupree					

**Table CST9.** Results from the 2014 Lincoln County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 339 WRF	40.8	1444	4	1.16	30.8	82.6	41-1	4	54.20
2	ST 4747 GLB2	39.6	1358	4	1.10	28.5	78.4	41-1	4	52.20
3	PHY 495 W3RF	40.9	1290	3.7	1.12	30.2	81.9	41-1	4	54.05
4	ST 5032 GLT	38.9	1277	3.7	1.13	31.0	78.9	31-2	3	55.95
5	NG 1511 B2RF	43.1	1256	4.3	1.07	28.0	80.6	31-2	2	53.25
6	DP 1311 B2RF	40.3	1240	3.8	1.15	28.5	80.4	41-1	4	53.85
7	ST 4946 GLB2	38.1	1224	4	1.13	32.8	80.5	31-2	3	56.85
8	PHY 333 WRF	41.2	1213	3.7	1.12	30.1	81.2	41-1	3	54.60
9	DP 1321 B2RF	39.7	1201	4.4	1.11	29.6	81.8	41-1	4	53.75
10	DP 0912 B2RF	39.5	1192	4.2	1.05	29.6	80.3	41-1	3	52.55
11	DG 2355 B2RF	40.0	1192	3.9	1.12	32.0	81.7	31-2	3	56.85
12	ST 5289 GLT	41.8	1189	4	1.09	30.1	80.1	41-1	5	51.05
13	FM 1944 GLB2	36.2	1136	3.9	1.14	31.8	78.8	31-2	3	56.05
14	PHY 499 WRF	40.4	1110	3.8	1.13	31.8	82.8	41-1	4	54.35
15	DG 2285 B2RF	39.6	1053	3.7	1.07	29.3	79.0	31-2	3	52.65
<b>Mean</b>		<b>40.0</b>	<b>1225</b>	<b>3.9</b>	<b>1.11</b>	<b>30.3</b>	<b>80.6</b>		<b>3</b>	<b>54.15</b>
<b>Grower:</b> Brannon Farms					<b>Agent:</b> David Qualls					

**Table CST10.** Results from Trial 1 of the 2014 Madison County, Tennessee Large Plot Variety Trials.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	DP 0912 B2RF	42.4	1700	5	1.07	29.2	81.9	41-2	4	49.25
2	DP 1321 B2RF	40.8	1603	4.6	1.08	29.8	80.4	41-1	3	53.60
3	PHY 333 WRF	40.1	1569	4.4	1.11	29.3	81.3	41-2	4	53.75
4	PHY 495 W3RF	40.6	1544	4.8	1.12	32.0	83.6	41-2	4	54.30
5	DP 1311 B2RF	41.3	1511	4.7	1.10	28.6	81.5	41-1	3	53.50
6	DG 2285 B2RF	39.8	1493	4.5	1.08	28.5	80.9	41-1	3	53.50
7	ST 5289 GLT	39.5	1480	4.7	1.08	27.1	81.5	41-1	3	53.50
8	NG 1511 B2RF	40.4	1477	4.8	1.09	30.2	82.9	41-1	4	53.30
9	ST 4747 GLB2	38.3	1476	4.8	1.11	29.4	80.3	41-1	4	53.75
10	PHY 339 WRF	39.0	1422	4.9	1.14	29.7	82.8	41-1	3	54.45
11	ST 5032 GLT	38.9	1414	4.3	1.11	29.8	81.1	41-1	4	53.75
12	ST 4946 GLB2	40.1	1404	4.6	1.07	28.5	80.9	41-1	3	52.30
13	PHY 499 WRF	41.1	1347	5	1.12	31.4	83.1	51-3	4	48.15
14	DG 2355 B2RF	37.3	1279	4.6	1.12	30.9	81.9	41-1	3	54.45
15	FM 1944 GLB2	37.5	1156	3.9	1.13	31.6	78.6	41-2	4	53.35
<b>Mean</b>		<b>39.8</b>	<b>1458</b>	<b>4.6</b>	<b>1.10</b>	<b>29.7</b>	<b>81.5</b>		<b>4</b>	<b>53.00</b>
<b>Grower:</b> Matt Griggs					<b>Agent:</b> Jake Mallard					

**Table CST11.** Results from Trial 2 of the 2014 Madison County, Tennessee Large Plot Variety Trials.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 333 WRF	42.1	1347	4.8	1.14	29.5	81.6	41-1	4	53.80
2	NG 1511 B2RF	44.4	1272	5.1	1.08	30.9	82.0	41-2	3	51.00
3	DP 0912 B2RF	40.3	1202	5.2	1.08	27.0	83.0	41-1	3	50.85
4	DP 1311 B2RF	45.7	1185	4.6	1.06	26.3	80.6	41-1	4	52.00
5	DG 2285 B2RF	41.9	1089	4.6	1.09	29.4	81.8	41-1	3	53.60
6	ST 4946 GLB2	40.6	1075	4.8	1.11	31.0	83.1	41-1	3	54.85
7	FM 1944 GLB2	36.1	1040	4.6	1.18	33.2	80.8	41-1	3	54.80
8	PHY 495 W3RF	42.2	1024	4.7	1.10	32.3	81.4	41-1	3	53.95
9	PHY 499 WRF	42.1	1004	5	1.11	30.3	82.0	41-1	4	51.15
10	DP 1321 B2RF	40.0	995	4.8	1.11	29.0	82.5	31-2	2	57.00
11	ST 5032 GLT	39.1	973	4.3	1.17	29.3	81.1	31-2	3	56.45
12	PHY 339 WRF	39.9	964	4.5	1.10	29.0	80.2	41-1	4	53.05
13	ST 4747 GLB2	38.5	949	4.4	1.07	28.1	78.6	41-1	3	51.40
14	ST 5289 GLT	40.0	909	4.2	1.10	28.2	80.0	41-1	3	53.65
15	DG 2355 B2RF	38.1	870	4.8	1.09	30.7	80.9	41-1	3	53.75
<b>Mean</b>		<b>40.7</b>	<b>1060</b>	<b>4.7</b>	<b>1.10</b>	<b>29.6</b>	<b>81.3</b>		<b>3</b>	<b>53.42</b>
<b>Grower:</b> Wards Grove LLC					<b>Agent:</b> Jake Mallard					

**Table CST12.** Results from Trial 3 of the 2014 Madison County, Tennessee Large Plot Variety Trials. †

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 333 WRF	39.3	1403	4.9	1.10	28.1	79.5	41-3	3	52.75
2	ST 5289 GLT	38.4	1311	4.8	1.09	27.3	79.7	31-2	4	53.15
3	PHY 495 W3RF	40.9	1205	4.8	1.08	34.1	82.6	41-3	3	54.05
4	PHY 339 WRF	38.6	1154	4.8	1.15	30.1	82.1	31-2	3	56.70
5	DG 2355 B2RF	29.3	1141	4.5	1.12	31.5	80.7	41-1	5	51.75
6	ST 4747 GLB2	37.7	1126	4.8	1.16	29.6	79.6	41-1	5	50.65
7	ST 5032 GLT	36.9	1079	4.5	1.14	31.0	79.9	31-4	3	56.05
8	ST 4946 GLB2	36.0	1048	5	1.11	30.4	82.2	31-4	4	52.15
9	PHY 499 WRF	37.8	1045	5.2	1.10	30.6	80.6	41-1	3	50.90
10	DP 1321 B2RF	37.1	989	5.1	1.11	30.8	82.1	31-4	3	53.75
11	DP 0912 B2RF	36.6	918	5.3	1.08	29.4	82.4	41-1	5	46.75
12	DG 2285 B2RF	37.6	911	5	1.14	29.1	82.0	31-4	3	53.70
13	DP 1311 B2RF	38.7	862	4.6	1.08	30.0	80.3	41-1	3	53.75
14	FM 1944 GLB2	34.7	860	4.9	1.11	28.6	78.0	31-2	3	55.35
<b>Mean</b>		<b>37.1</b>	<b>1075</b>	<b>4.9</b>	<b>1.11</b>	<b>30.0</b>	<b>80.8</b>		<b>4</b>	<b>52.96</b>

†NG 1511 B2RF sample missing

**Grower:** Matt Ross

**Agent:** Jake Mallard

**Table CST13.** Results from the 2014 Shelby County, Tennessee Large Plot Variety Trial.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI Color	Leaf Grade	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)	Uniformity (%)			
1	PHY 339 WRF	37.9	1101	4.9	1.08	30.7	82.2	31-1	3	55.65
2	DG 2285 B2RF	39.4	1068	5.2	1.01	26.5	77.0	31-1	3	45.70
3	PHY 495 W3RF	40.6	1025	4.8	1.04	32.5	81.1	31-2	3	51.50
4	DP 0912 B2RF	38.0	1003	5.1	1.06	29.8	81.2	31-2	3	50.40
5	DP 1321 B2RF	41.3	976	4.9	1.13	29.6	83.0	41-1	3	54.50
6	ST 5289 GLT	39.0	923	5.3	1.01	26.0	77.5	31-1	3	44.45
7	ST 4747 GLB2	39.6	918	4.7	1.07	25.8	77.6	41-1	3	49.75
8	ST 5032 GLT	38.4	877	4.2	1.11	29.8	80.0	41-1	3	54.45
9	PHY 333 WRF	39.5	876	5	1.02	27.8	78.3	31-4	4	46.40
10	ST 4946 GLB2	37.6	875	5	1.08	27.7	81.8	31-1	3	52.45
11	NG 1511 B2RF	42.8	865	5.3	1.07	29.1	82.5	31-2	3	49.25
12	DP 1311 B2RF	38.7	857	5.1	1.00	26.7	79.1	31-2	3	45.95
13	FM 1944 GLB2	37.1	855	5.1	1.05	26.6	78.0	31-1	2	49.50
14	PHY 499 WRF	41.1	853	5.4	1.03	29.2	80.0	31-2	3	47.05
15	DG 2355 B2RF	36.7	599	4.9	1.06	28.0	79.3	31-2	4	51.85
<b>Mean</b>		<b>39.2</b>	<b>911</b>	<b>5.0</b>	<b>1.05</b>	<b>28.4</b>	<b>79.9</b>		<b>3</b>	<b>49.92</b>
<b>Grower:</b> Ray Sneed						<b>Agent:</b> Becky Muller				



## Glossary

**Bollguard:** 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.

**Bollguard 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 herbicides glufosinate and glyphosate. Abbreviated **GL** 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.

<b>Length (32nds)</b>	<b>Length (Inches)</b>	<b>Length (32nds)</b>	<b>Length (Inches)</b>
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.

<b>Market Value</b>	<b>HVI Micronaire</b>
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:

Classer's leaf grade	HVI Trash Measurement	
	4-year avg <sup>1</sup> %	1996 crop <sup>2</sup> reading
1	0.12	01
2	0.20	02
3	0.33	03
4	0.50	05
5	0.68	06
6	0.92	08
7	1.21	10
8	--	13

Sources: <sup>1</sup> (USDA, 1999). <sup>2</sup> (USDA, 1997).

**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.

**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.

## 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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