

# Cotton Variety Trial Results | 2013

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Variety trial results are posted at  
<http://utcrops.com>

<http://varietytrials.tennessee.edu>



# **Tennessee Cotton Variety Test Results**

## **2013**

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The University of Tennessee  
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<http://www.UTcrops.com>

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## INTRODUCTION

The University of Tennessee cotton variety testing program provides an unbiased evaluation of new varieties for commercial cotton production in Tennessee. Experimental strains are also tested, and major cultivars are grown in county variety demonstrations. Results are intended to help cotton producers identify varieties that are well adapted to Tennessee, produce high quality fiber, and are relatively stable in yield performance. Results are also used by the seed industry, crop consultants, and the UT extension service to assess varietal adaptation to field environments in Tennessee.

Information contained within this report covers the major components of the 2013 cotton variety testing program of the University of Tennessee. Information reported includes yield, fiber quality data, CCC loan values and selected growth characteristics from the Official Variety Trials (OVT). In addition to experiment station testing, the results from county standard test (CST) demonstrations of cotton varieties in West and Middle Tennessee are also included. A glossary is included at the end of this report to define technical terms and abbreviations used.

## GENERAL PROCEDURES

Seed of commercial cultivars was provided by the respective companies from commercial seed lots. Smaller quantities of seed of experimental strains were furnished by the respective entrants. Seed sources are listed on the next page.

For small plot testing, varieties were assigned to plots arranged in a randomized complete block design. Fertilizer and lime were applied according to soil test results and UT recommendations for cotton. No-tillage methods were used at all locations. Varieties were planted in 2-row plots with row widths of 38 inches. A systemic insecticide and fungicide were applied in-furrow while planting. UT-recommended weed and pest control measures were uniformly applied to all plots. At all locations, seed cotton harvested from each plot was weighed at picking. Subsamples of seedcotton were collected from each plot, weighed, and air-dried, bulked by varietal entry for ginning. Gin turnout was determined for each sample using a 20-saw gin equipped with a stick machine, incline cleaners and two lint cleaners at the West Tennessee Research and Education Center. No heat was applied during ginning. Lint yields were calculated using seedcotton weights, gin turnouts, and harvested areas. A subsample of lint from each entry was analyzed by HVI procedures at the USDA Cotton Classing Office in Memphis, TN.

County Standard Trial demonstrations were conducted to evaluate commercial cultivar performance in multiple large plot environments. County standard testing included only Roundup Ready Flex cultivars. County standard tests were planted in 9 locations each containing 13 cultivars. Each cultivar was planted in only one plot at each location and was maintained using the individual grower's production practices. Seedcotton harvested from each plot was weighed and sampled at picking. Samples were weighed, air dried, and ginned at the West Tennessee Research and Education Center as described above. A sub sample of lint of each entry was analyzed by HVI and hand-classing procedures at the USDA Cotton Classing Office in Memphis, TN. Statistical analysis was not possible for each location but overall yield and fiber quality data were analyzed using SAS Proc MIXED with locations as replications.

## **ACKNOWLEDGMENTS**

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We gratefully acknowledge donations of agricultural chemicals used in conducting this research from Bayer CropScience, Dow AgroSciences, DuPont, FMC Corp., Monsanto, Syngenta Crop Protection, Inc., and Valent USA Corp.

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- Dr. Rick Carlisle, Research Director, Ames Plantation
- Dr. Blake A. Brown, Director, Research and Education Center at Milan
- Dr. Robert M. Hayes, Director, West Tennessee Research and Education Center

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We appreciate the cooperation of county extension agents and producers who conducted the county variety demonstrations in 2013. We also appreciate the technical cooperation of USDA-AMS Cotton Division Classing Office in Memphis, which provided the fiber quality data reported herein.

Special thanks to all who helped pick and gin cotton for these experiments.

## **SEED SOURCES**

Seeds for the 2013 University of Tennessee cotton variety tests and demonstrations 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
- 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

## OFFICIAL VARIETY TRIALS

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West Tennessee Research & Education Center  
The University of Tennessee  
Jackson, TN

Official Variety Trials (OVTs) of cotton were conducted at five locations in Tennessee during 2013. Conventional varieties, and varieties with Liberty-Link (LL), or Roundup Ready Flex (RF) genes, were tested at all locations. There were 33 entries from seven seed companies. All OVTs were planted between 13 May and 20 May 2013 in 2-row plots arranged in a RCB design with four replications at each location. The row spacing was 38 inches at all locations. Planting dates, soil types, tillage and other details are listed in Table 1 below.

Between 120 and 130 days after planting (DAP), plant height, nodes, nodes above cracked boll (NACB) to the highest harvestable boll 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. Seedcotton from each plot was weighed, and two grab samples of each variety were ginned to calculate gin turnout. Two lint samples of each variety from each location were analyzed by HVI at the USDA Cotton Classing Office in Memphis, TN.

**Table OVT1** Average yield and gin turnout data for 33 entries tested across six locations in 2013.

**Table OVT2 – OVT6** Lint yield, gin turnout, and fiber data from the five different OVT locations.

**Table OVT7** Relative maturity, nodes, and final plant height of the 33 OVT entries.

**Table OVT8-9** presents two, and three year averages for varieties common to all years.

**Table 1.** OVT plot management details 2013.

Location	Planting Date	Soil Type	Tillage	Fertility	Irrigation	Harvest Date
Ames Plantation	05/14/2013	Memphis Silt Loam	No-Tillage	80-30-90	None	10/10/2013
Chic	05/20/2013	Commerce Silt Loam	No-Tillage	80- var P&K	None	11/05/2013
Milan	05/15/2013	Collins Silt Loam	No-Tillage	80-0-80	None	11/11/2013
Ridgely	05/13/2013	Reelfoot Silt Loam	No-Tillage	80- var P&K	None	11/04/2013
Jackson	05/15/2013	Collins Silt Loam	No-Tillage	80-0-100	None	10/05/2013

**Table OVT1.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial averaged over four locations, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber Strength	Uniformity
		%	lb/ac		in	g/tex	%
1	PX 3750-01 WRF	40.1	1839	4.1	1.18	31.7	82.0
2	DP 1321 B2RF	37.5	1712	4.3	1.18	32.3	83.6
3	PHY 333 WRF	37.8	1685	4.0	1.19	30.9	82.9
4	DP 0912 B2RF	36.3	1666	4.4	1.13	31.4	82.7
5	PHY 339 WRF	36.3	1639	4.1	1.21	31.2	82.8
6	DG 2285 B2RF	36.3	1628	4.2	1.15	31.3	82.1
7	PX 4444-13 WRF	38.9	1628	3.4	1.27	32.6	82.9
8	PHY 375 WRF	37.5	1615	4.1	1.15	29.3	81.9
9	PX 4444-14 WRF	37.9	1593	3.7	1.18	31.7	83.0
10	BX 1347 GLB2	37.4	1592	4.2	1.17	29.7	80.5
11	NG 1511 B2RF	38.5	1589	4.4	1.17	31.3	83.3
12	ST 4946 GLB2	36.5	1569	4.4	1.17	32.2	83.2
13	DP 12R224 B2R2	36.5	1564	3.7	1.20	31.5	82.6
14	PHY 427 WRF	35.3	1550	3.8	1.17	32.4	82.5
15	PHY 499 WRF	38.7	1546	4.3	1.18	33.8	84.2
16	FM 1944 GLB2	35.4	1541	4.0	1.21	32.4	81.6
17	PX 3003-10 WRF	36.9	1541	4.0	1.14	31.4	82.3
18	SSG UA222	35.9	1540	3.9	1.24	31.4	83.2
19	DG 2570 B2RF	35.7	1526	4.4	1.14	29.7	82.4
20	AM 1550 B2RF	36.7	1524	4.1	1.14	28.6	82.0
21	NGX 3331 B2RF	35.1	1519	4.4	1.13	30.8	83.3
22	DP 12R242 B2R2	36.8	1517	4.4	1.16	29.5	82.5
23	DP 0920 B2RF	38.0	1513	4.3	1.15	29.3	81.8
24	CG 3787 B2RF	37.3	1512	4.4	1.16	30.0	82.4
25	PHY 417 WRF	37.3	1512	3.7	1.14	30.2	81.6
26	DP 1311 B2RF	37.9	1509	4.2	1.16	28.9	82.0
27	CT13414	38.1	1489	4.2	1.16	30.1	81.9
28	SSG HQ210CT	34.9	1428	4.2	1.14	32.8	81.8
29	ST 6448 GLB2	33.6	1407	4.0	1.20	30.5	81.5
30	CG 3428 B2RF	37.6	1400	4.4	1.20	29.9	82.5
31	ST 4145 LLB2	33.9	1391	4.3	1.13	31.1	81.5
32	NG 5315 B2RF	36.7	1370	4.2	1.17	30.2	82.6
33	NGX 01338 B2RF	35.5	1148	4.1	1.20	32.9	81.7
<b>Average</b>		<b>36.8</b>	<b>1539</b>	<b>4.1</b>	<b>1.17</b>	<b>31.0</b>	<b>82.4</b>
<b>LSD (0.05)</b>		<b>0.7</b>	<b>102</b>	<b>0.2</b>	<b>0.03</b>	<b>1.6</b>	<b>1.2</b>

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.



**Table OVT2.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at Ames Plantation, LaGrange, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber		
						Strength g/tex	Uniformity %	Color Grade
1	PX 3750-01 WRF	40.7	2084	4.0	1.15	30.7	80.9	41
2	DP 12R242 B2R2	40.2	1896	4.3	1.17	30.2	83.1	41
3	PHY 375 WRF	38.9	1876	3.8	1.13	30.1	81.6	41
4	CG 3787 B2RF	39.4	1843	4.0	1.16	30.1	82.1	41
5	PHY 333 WRF	40.1	1819	3.7	1.17	30.3	81.4	41
6	PHY 499 WRF	39.4	1806	4.0	1.13	32.0	82.9	41
7	PX 4444-13 WRF	39.3	1791	3.4	1.23	32.2	81.8	31
8	ST 4946 GLB2	37.7	1767	3.8	1.16	32.7	82.7	41
9	PX 4444-14 WRF	38.8	1766	3.6	1.15	30.0	81.0	41
10	CT13414	41.0	1762	4.4	1.14	31.1	83.8	41
11	DP 1321 B2RF	38.6	1734	3.9	1.19	33.1	83.7	41
12	DP 1311 B2RF	40.7	1731	4.3	1.13	29.8	81.1	41
13	SSG UA222	37.8	1724	3.6	1.22	31.1	82.0	41
14	DG 2570 B2RF	37.0	1722	3.9	1.17	32.3	82.7	31
15	NGX 3331 B2RF	37.2	1721	4.1	1.11	31.3	82.0	41
16	DP 0912 B2RF	38.4	1699	4.2	1.13	30.9	82.5	41
17	CG 3428 B2RF	39.0	1695	4.4	1.20	30.3	82.0	41
18	NG 1511 B2RF	39.9	1693	4.2	1.16	31.6	82.4	31
19	PX 3003-10 WRF	38.1	1690	3.6	1.13	32.4	81.2	41
20	DP 12R224 B2R2	39.3	1685	3.3	1.18	31.7	82.7	41
21	AM 1550 B2RF	37.8	1671	3.9	1.14	29.3	82.2	31
22	PHY 339 WRF	38.1	1665	3.9	1.18	32.4	81.6	41
23	BX 1347 GLB2	38.4	1651	3.8	1.16	28.8	79.0	41
24	DG 2285 B2RF	38.2	1650	3.9	1.16	29.9	80.3	41
25	FM 1944 GLB2	35.4	1606	3.6	1.21	30.7	81.1	41
26	PHY 417 WRF	38.1	1589	3.6	1.14	30.3	81.7	41
27	DP 0920 B2RF	39.2	1570	3.7	1.12	29.4	80.8	41
28	PHY 427 WRF	35.9	1568	3.2	1.18	32.7	83.1	41
29	SSG HQ210CT	35.8	1551	4.1	1.13	32.4	81.3	41
30	NG 5315 B2RF	38.5	1549	4.0	1.16	30.5	80.7	31
31	ST 4145 LLB2	34.6	1491	3.9	1.13	30.1	80.1	41
32	NGX 01338 B2RF	37.0	1377	3.8	1.17	33.3	80.4	41
33	ST 6448 GLB2	30.7	1344	3.9	1.19	30.0	80.6	41
<b>Average</b>		<b>38.2</b>	<b>1690</b>	<b>3.9</b>	<b>1.16</b>	<b>31.0</b>	<b>81.7</b>	
<b>LSD (0.05)</b>			<b>174</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT3.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at Hollingsworth Farms, Chic, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber		
						Strength g/tex	Uniformity %	Color Grade
1	PHY 339 WRF	34.8	1463	4.0	1.23	32.5	83.7	31
2	BX 1347 GLB2	36.5	1455	4.3	1.19	30.8	82.7	41
3	DP 1321 B2RF	35.2	1387	4.3	1.18	32.3	83.2	31
4	DG 2285 B2RF	28.3	1359	4.1	1.19	32.1	84.1	31
5	PX 3003-10 WRF	34.7	1306	3.8	1.15	32.9	82.8	31
6	DP 0920 B2RF	35.2	1290	4.3	1.16	28.7	81.6	31
7	NG 1511 B2RF	35.3	1289	4.0	1.20	33.0	83.9	41
8	PX 4444-13 WRF	36.3	1288	3.0	1.29	33.0	82.9	31
9	SSG UA222	34.0	1266	3.8	1.29	32.1	85.2	31
10	DP 0912 B2RF	33.0	1254	4.1	1.15	33.5	83.3	31
11	AM 1550 B2RF	34.7	1252	3.7	1.17	28.8	83.3	21
12	SSG HQ210CT	32.8	1250	3.8	1.18	34.5	83.7	31
13	ST 6448 GLB2	33.8	1246	3.7	1.23	32.5	83.1	31
14	NG 5315 B2RF	33.8	1245	3.9	1.16	30.3	81.8	31
15	CT13414	33.9	1214	4.1	1.16	29.3	81.2	31
16	PX 4444-14 WRF	35.5	1209	3.5	1.22	34.0	83.4	41
17	PX 3750-01 WRF	38.0	1208	3.7	1.23	34.6	84.1	41
18	NGX 3331 B2RF	31.7	1197	4.2	1.16	29.9	83.5	41
19	FM 1944 GLB2	33.3	1184	3.7	1.22	35.7	82.4	41
20	PHY 427 WRF	33.4	1184	3.5	1.21	33.7	84.2	31
21	PHY 375 WRF	35.5	1177	3.9	1.17	30.4	82.5	41
22	CG 3787 B2RF	32.9	1152	3.8	1.20	32.2	83.9	31
23	NGX 01338 B2RF	33.0	1145	3.9	1.24	34.3	84.0	51
24	PHY 333 WRF	35.4	1135	3.7	1.23	31.8	84.4	41
25	DP 1311 B2RF	34.0	1118	3.7	1.19	28.9	82.0	31
26	PHY 417 WRF	34.3	1108	3.6	1.16	30.7	82.3	22
27	ST 4145 LLB2	35.1	1072	4.3	1.11	32.1	82.1	41
28	DP 12R224 B2R2	32.9	1016	3.6	1.23	33.0	84.2	41
29	DP 12R242 B2R2	31.3	1005	4.1	1.16	31.2	82.3	31
30	PHY 499 WRF	36.4	1001	4.0	1.21	36.5	85.9	41
31	ST 4946 GLB2	34.4	990	4.4	1.18	31.8	82.6	31
32	CG 3428 B2RF	34.1	982	4.1	1.21	29.3	83.4	31
33	DG 2570 B2RF	33.7	675	4.5	1.15	28.6	82.0	31
<b>Average</b>		<b>34.1</b>	<b>1185</b>	<b>3.9</b>	<b>1.19</b>	<b>32.0</b>	<b>83.2</b>	
<b>LSD (0.05)</b>			<b>230</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT4.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at the Research and Education Center at Milan, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber		
						Strength	Uniformity	Color Grade
		%	lb/ac		in	g/tex	%	
1	PX 3750-01 WRF	38.0	1655	4.5	1.16	30.4	81.6	41
2	DP 1321 B2RF	35.2	1406	4.5	1.19	32.2	84.3	41
3	BX 1347 GLB2	36.5	1384	4.1	1.18	31.9	82.1	41
4	DP 12R224 B2R2	32.9	1374	3.9	1.18	32.3	83.2	41
5	PHY 333 WRF	35.4	1367	4.2	1.20	31.0	84.8	41
6	NG 1511 B2RF	35.3	1360	4.5	1.14	32.6	83.1	32
7	DP 0912 B2RF	33.0	1357	4.8	1.11	30.4	82.6	41
8	DG 2570 B2RF	33.7	1356	4.2	1.13	29.2	83.3	32
9	DG 2285 B2RF	28.3	1345	4.4	1.15	32.7	83.7	31
10	PX 4444-13 WRF	36.3	1335	3.5	1.26	32.5	83.8	31
11	PHY 339 WRF	34.8	1330	4.0	1.15	30.4	81.2	41
12	PHY 375 WRF	35.5	1303	4.2	1.16	27.8	83.4	31
13	FM 1944 GLB2	33.3	1302	4.4	1.22	31.9	83.1	31
14	PHY 427 WRF	33.4	1298	4.3	1.15	35.0	82.7	31
15	ST 4946 GLB2	34.4	1290	4.9	1.15	31.2	83.3	32
16	PX 3003-10 WRF	34.7	1254	4.1	1.11	31.6	82.6	32
17	DP 1311 B2RF	34.0	1228	4.5	1.13	28.5	81.9	41
18	PX 4444-14 WRF	35.5	1224	3.5	1.21	33.6	85.4	41
19	PHY 499 WRF	36.4	1219	4.5	1.19	33.7	84.2	42
20	AM 1550 B2RF	34.7	1212	4.5	1.10	27.7	81.0	31
21	DP 0920 B2RF	35.2	1205	4.6	1.15	29.9	82.3	31
22	PHY 417 WRF	34.3	1178	3.8	1.15	31.8	83.3	31
23	DP 12R242 B2R2	31.3	1158	4.5	1.14	28.3	82.7	41
24	SSG UA222	34.0	1106	4.3	1.25	32.1	83.9	42
25	CG 3428 B2RF	34.1	1099	4.7	1.16	30.0	82.1	31
26	ST 4145 LLB2	34.0	1094	4.4	1.12	32.2	81.8	41
27	CT13414	33.9	1073	4.4	1.15	28.1	81.7	31
28	CG 3787 B2RF	32.9	1050	4.6	1.13	28.6	81.9	32
29	SSG HQ210CT	32.8	1034	4.1	1.12	35.0	81.1	31
30	NGX 3331 B2RF	31.7	1032	4.5	1.13	29.3	84.5	42
31	ST 6448 GLB2	33.8	1021	3.9	1.16	28.6	80.4	31
32	NG 5315 B2RF	33.8	914	4.1	1.18	30.9	83.7	32
33	NGX 01338 B2RF	33.0	564	4.5	1.19	34.2	82.7	42
<b>Average</b>		<b>34.1</b>	<b>1216</b>	<b>4.3</b>	<b>1.16</b>	<b>31.1</b>	<b>82.8</b>	
<b>LSD (0.05)</b>			<b>126</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT5.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at Lindamood Planting Company, Ridgely, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber		
						Strength	Uniformity	Color Grade
		%	lb/ac		in	g/tex	%	
1	PX 3750-01 WRF	41.8	2423	4.2	1.18	32.3	81.6	41
2	PHY 333 WRF	39.0	2299	4.1	1.18	30.9	82.0	41
3	DP 0912 B2RF	36.0	2244	4.5	1.13	31.9	82.3	41
4	DP 1321 B2RF	38.2	2243	4.6	1.17	30.9	83.0	31
5	PHY 427 WRF	35.3	2061	4.0	1.15	30.3	80.2	41
6	DG 2570 B2RF	38.2	2056	4.7	1.12	28.6	81.8	31
7	PHY 499 WRF	39.0	2052	4.6	1.20	34.4	85.2	41
8	PHY 339 WRF	35.7	2048	4.4	1.25	29.1	83.7	41
9	NGX 3331 B2RF	36.6	2046	4.7	1.13	32.2	82.6	41
10	PHY 417 WRF	38.8	2042	3.7	1.13	29.0	80.3	31
11	PHY 375 WRF	36.2	2030	4.3	1.16	29.1	80.5	41
12	FM 1944 GLB2	35.4	2029	4.6	1.16	29.9	79.0	31
13	ST 4946 GLB2	35.7	2006	4.3	1.19	33.0	83.8	41
14	DG 2285 B2RF	37.7	1975	4.5	1.13	32.0	81.0	31
15	PX 4444-14 WRF	38.6	1968	4.3	1.15	29.6	81.6	41
16	DP 0920 B2RF	38.5	1925	4.5	1.17	29.9	81.6	31
17	NG 1511 B2RF	39.5	1925	4.6	1.18	29.3	83.6	31
18	SSG UA222	36.5	1924	4.1	1.22	30.9	81.6	41
19	PX 4444-13 WRF	39.3	1917	3.5	1.28	32.4	83.0	41
20	DP 12R224 B2R2	35.3	1916	4.1	1.21	29.0	80.6	41
21	AM 1550 B2RF	36.8	1914	4.2	1.16	29.2	80.7	31
22	DP 12R242 B2R2	37.5	1900	4.7	1.16	28.9	81.9	31
23	SSG HQ210CT	36.4	1855	4.4	1.14	31.3	81.3	31
24	PX 3003-10 WRF	37.1	1850	4.3	1.17	30.9	83.1	41
25	BX 1347 GLB2	36.9	1843	4.6	1.15	27.4	79.2	31
26	ST 6448 GLB2	33.8	1841	4.2	1.19	30.3	81.0	31
27	CG 3787 B2RF	38.2	1839	4.7	1.17	28.8	81.5	31
28	CT13414	37.5	1837	4.0	1.16	31.5	80.1	31
29	DP 1311 B2RF	36.5	1835	4.2	1.20	28.5	83.1	41
30	ST 4145 LLB2	34.3	1810	4.6	1.13	29.0	82.0	41
31	CG 3428 B2RF	37.6	1729	4.6	1.20	30.4	82.3	31
32	NG 5315 B2RF	35.2	1695	4.4	1.17	28.7	82.7	31
33	NGX 01338 B2RF	35.8	1311	4.3	1.17	31.5	80.0	41
<b>Average</b>		<b>37.1</b>	<b>1951</b>	<b>4.3</b>	<b>1.17</b>	<b>30.3</b>	<b>81.8</b>	
<b>LSD (0.05)</b>			<b>236</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT6.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at the West Tennessee Research and Education Center, Jackson, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber		
						Strength	Uniformity	Color Grade
		%	lb/ac		in	g/tex	%	
1	DG 2285 B2RF	37.9	1838	4.3	1.11	29.6	81.4	31
2	PX 3750-01 WRF	40.2	1824	3.9	1.19	30.6	81.6	41
3	PX 4444-13 WRF	40.3	1820	3.5	1.29	33.0	82.8	31
4	PHY 333 WRF	40.1	1803	4.2	1.18	30.6	81.7	41
5	PX 4444-14 WRF	39.1	1797	3.7	1.19	31.1	83.5	41
6	ST 4946 GLB2	37.9	1792	4.5	1.16	32.1	83.7	31
7	DP 1321 B2RF	38.6	1790	4.4	1.18	32.8	83.9	41
8	DP 12R224 B2R2	37.7	1780	3.8	1.21	31.3	82.5	41
9	DP 0912 B2RF	38.0	1775	4.6	1.13	30.3	82.7	41
10	DG 2570 B2RF	41.0	1696	4.5	1.14	29.6	82.0	31
11	SSG UA222	35.9	1696	3.9	1.23	30.8	83.2	41
12	PHY 339 WRF	38.0	1687	4.0	1.23	31.4	84.0	41
13	PHY 375 WRF	38.7	1687	4.1	1.13	29.1	81.5	41
14	NG 1511 B2RF	39.4	1680	4.5	1.19	29.9	83.5	41
15	PHY 499 WRF	39.7	1680	4.4	1.18	32.2	83.0	41
16	CG 3787 B2RF	39.3	1674	4.8	1.15	30.2	82.8	31
17	PHY 417 WRF	38.0	1643	3.7	1.11	29.4	80.2	31
18	PHY 427 WRF	36.1	1643	3.8	1.17	30.4	82.4	41
19	DP 12R242 B2R2	39.7	1627	4.6	1.15	28.9	82.5	31
20	BX 1347 GLB2	38.2	1626	4.1	1.15	29.6	79.5	31
21	DP 1311 B2RF	40.7	1622	4.2	1.16	28.7	81.8	31
22	DP 0920 B2RF	39.1	1611	4.3	1.15	28.7	82.9	41
23	PX 3003-10 WRF	38.2	1608	4.1	1.15	29.2	82.0	41
24	NGX 3331 B2RF	36.5	1601	4.4	1.14	31.3	83.9	41
25	CT13414	39.3	1585	4.2	1.20	30.6	82.6	31
26	FM 1944 GLB2	35.8	1584	3.8	1.23	33.9	82.3	31
27	ST 6448 GLB2	37.5	1582	4.1	1.25	31.1	82.5	41
28	AM 1550 B2RF	38.4	1573	4.2	1.15	27.9	82.8	31
29	SSG HQ210CT	35.5	1496	4.5	1.14	30.9	81.6	31
30	CG 3428 B2RF	39.5	1493	4.4	1.21	29.5	82.5	31
31	ST 4145 LLB2	35.1	1489	4.2	1.16	32.2	81.6	41
32	NG 5315 B2RF	39.7	1447	4.4	1.20	30.5	84.1	31
33	NGX 01338 B2RF	37.3	1437	4.0	1.22	31.0	81.4	31
<b>Average</b>		<b>38.4</b>	<b>1657</b>	<b>4.2</b>	<b>1.18</b>	<b>30.6</b>	<b>82.4</b>	
<b>LSD (0.05)</b>			<b>146</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT7.** Plant height (inches), total number of nodes, height to node ratio, node of first fruiting branch (NFFB) nodes above cracked boll, and estimated DD60's remaining to maturity of 33 entries in the 2013 Tennessee Official Variety Trial, 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
AM 1550 B2RF	34.8	17.8	2.0	5.9	6.2	312
BX 1347 GLB2	34.8	18.0	1.9	6.1	5.5	274
CG 3428 B2RF	37.4	17.7	2.1	5.1	6.4	318
CG 3787 B2RF	38.9	17.7	2.2	5.5	6.2	308
CT13414	36.1	17.3	2.1	5.4	6.5	324
DG 2285 B2RF	34.3	17.2	2.0	4.9	6.1	307
DG 2570 B2RF	36.8	18.2	2.0	6.3	5.2	259
DP 0912 B2RF	35.5	18.0	2.0	5.4	6.4	319
DP 0920 B2RF	34.6	17.4	2.0	5.6	5.2	260
DP 12R224 B2R2	37.6	18.4	2.0	5.6	5.7	285
DP 12R242 B2R2	37.5	17.5	2.1	5.2	5.6	278
DP 1311 B2RF	35.2	18.2	1.9	5.9	5.2	258
DP 1321 B2RF	36.8	18.3	2.0	5.5	5.3	264
FM 1944 GLB2	34.1	17.5	1.9	5.8	5.4	270
NG 1511 B2RF	35.9	18.3	2.0	5.2	6.3	313
NG 5315 B2RF	41.5	18.0	2.3	5.5	7.0	351
NGX 01338 B2RF	34.8	18.5	1.9	5.2	7.0	352
NGX 3331 B2RF	37.2	17.9	2.1	5.6	5.3	267
PHY 333 WRF	37.4	16.9	2.2	5.4	5.0	251
PHY 339 WRF	39.9	19.0	2.1	6.0	6.1	306
PHY 375 WRF	35.4	17.7	2.0	5.4	5.6	280
PHY 417 WRF	36.4	18.0	2.0	5.6	4.6	232
PHY 427 WRF	39.4	18.5	2.1	5.5	5.5	274
PHY 499 WRF	40.1	18.8	2.1	5.6	6.0	299
PX 3003-10 WRF	41.2	18.4	2.2	5.8	5.8	288
PX 3750-01 WRF	35.4	17.8	2.0	6.0	5.5	275
PX 4444-13 WRF	35.8	20.6	1.9	5.8	6.0	299
PX 4444-14 WRF	37.5	18.1	2.1	5.6	5.6	281
SSG HQ210CT	32.7	18.8	1.7	5.6	6.3	314
SSG UA222	34.5	18.3	1.9	5.7	6.7	335
ST 4145 LLB2	36.9	18.5	2.0	5.5	5.9	294
ST 4946 GLB2	34.6	18.1	1.9	5.9	6.1	306
ST 6448 GLB2	39.4	19.9	2.0	5.4	7.5	376
<b>Average</b>	<b>36.7</b>	<b>18.2</b>	<b>2.0</b>	<b>5.6</b>	<b>5.9</b>	<b>295</b>
<b>LSD (0.05)</b>	<b>2.4</b>	<b>1.6</b>	<b>0.1</b>	<b>0.4</b>	<b>1.1</b>	<b>55</b>

<sup>1</sup>NFFB = Mode 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 = degree-days, base 60 F. DD60 to maturity = NACB x (50 DD60/node) to open highest harvestable boll.

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

**Table OVT8.** Gin turnout and lint yield of varieties common to Tennessee OVT's from 2012 and 2013 averages, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber Strength	Uniformity
		%	lb/ac		in	g/tex	%
1	PHY 499 WRF	40.2	1501	4.5	1.16	33.4	83.9
2	DP 1321 B2RF	38.1	1481	4.6	1.16	32.0	83.3
3	PHY 339 WRF	37.8	1447	4.2	1.19	31.7	83.0
4	PHY 375 WRF	38.8	1426	4.3	1.14	29.8	82.2
5	DP 0912 B2RF	37.0	1414	4.7	1.12	31.4	82.7
6	NG 1511 B2RF	38.6	1405	4.5	1.15	31.2	82.9
7	ST 4946 GLB2	36.9	1378	4.4	1.17	32.5	83.1
8	DG 2570 B2RF	36.8	1368	4.5	1.14	30.2	82.7
9	AM 1550 B2RF	37.6	1362	4.4	1.14	29.9	82.3
10	CG 3787 B2RF	38.1	1347	4.4	1.16	29.9	82.7
11	FM 1944 GLB2	36.1	1344	4.2	1.19	32.4	82.0
12	DP 1311 B2RF	38.7	1332	4.4	1.14	29.6	82.2
13	SSG UA222	36.8	1330	4.2	1.22	31.8	83.4
14	DP 0920 B2RF	37.8	1322	4.5	1.15	29.8	82.3
15	ST 4145 LLB2	35.5	1308	4.3	1.14	31.1	82.3
16	ST 6448 GLB2	35.4	1273	4.2	1.19	30.7	82.1
<b>AVERAGE</b>		<b>37.5</b>	<b>1377</b>	<b>4.4</b>	<b>1.16</b>	<b>31.1</b>	<b>82.7</b>
<b>LSD (0.05)</b>		<b>0.7</b>	<b>NS</b>	<b>NS</b>	<b>0.02</b>	<b>1.3</b>	<b>0.9</b>

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

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

**Table OVT9.** Gin turnout and lint yield of varieties common to Tennessee OVT's from 2011, 2012 and 2013 averages, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber Strength	Uniformity
		%	lb/ac		in	g/tex	%
1	PHY 499 WRF	40.1	1455	4.7	1.17	34.0	83.9
2	DP 0912 B2RF	37.4	1419	4.8	1.12	31.7	82.9
3	NG 1511 B2RF	39.2	1375	4.6	1.14	31.9	83.2
4	DG 2570 B2RF	38.2	1370	4.5	1.14	31.0	83.1
5	PHY 375 WRF	38.5	1340	4.3	1.16	31.0	82.4
6	ST 4145 LLB2	36.4	1323	4.4	1.16	32.1	83.1
7	DP 0920 B2RF	38.4	1302	4.6	1.15	30.5	82.6
4	AM 1550 B2RF	38.1	1287	4.4	1.12	30.0	82.4
<b>AVERAGE</b>		<b>38.3</b>	<b>1359</b>	<b>4.5</b>	<b>1.15</b>	<b>31.5</b>	<b>83.0</b>
<b>LSD (0.05)</b>		<b>0.5</b>	<b>NS</b>	<b>0.21</b>	<b>0.02</b>	<b>1.1</b>	<b>0.9</b>

Tennessee AgResearch data of Main et al. (2011, 2012).

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

## **COUNTY STANDARD TEST DEMONSTRATIONS**

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County Standard Trial demonstrations were conducted to evaluate commercial cultivar performance in multiple large plot environments. County standard testing included only Roundup Ready Flex cultivars. County standard tests were planted in 9 locations each containing 13 cultivars. Each cultivar was planted in only one plot at each location and was maintained using the individual grower's production practices. Seedcotton harvested from each plot was weighed and sampled at picking. Samples were weighed, air dried, and ginned at the West Tennessee Research and Education Center as described above. A sub sample of lint of each entry was analyzed by HVI and hand-classing procedures at the USDA Cotton Classing Office in Memphis, TN. Statistical analysis was not possible for each location but overall yield and fiber quality data were analyzed using SAS Proc MIXED with locations as replications. All locations were produced without irrigation except the Shelby county trial which had both irrigated and non-irrigated trials.



**Table CST1.** Results of Roundup Ready Flex cotton variety test, all locations averaged, 2013.

Yield										
Rank	Variety	(%)	(lb./acre)	(inches)	(g/tex)	(%)	(%)	(%)	(%)	(¢/lb.)
1	ST 4946 GLB2	36.8	862	4.3	1.16	31.3	82.8	41-2	5	51.70
2	DP 0920 B2RF	37.7	841	4.3	1.11	28.2	80.6	41-2	4	53.35
3	DP 1321 B2RF	36.2	840	4.2	1.15	30.9	82.6	41-2	5	51.70
4	PHY 339 WRF	36.8	826	3.9	1.17	30.8	82.4	41-2	4	53.75
5	DP 0912 B2RF	35.0	822	4.2	1.10	29.4	82.1	41-2	5	50.95
6	DG 2570 B2RF	37.5	814	4.2	1.13	29.7	82.0	41-2	4	53.65
7	PHY 499 WRF	37.7	776	4.1	1.14	31.4	82.5	41-2	5	51.85
8	AM 1550 B2RF	36.4	775	4.0	1.11	28.4	81.7	41-2	4	53.50
9	NG 1511 B2RF	37.5	745	4.2	1.14	31.5	82.6	41-2	5	51.85
10	DP 1311 B2RF	37.1	736	3.8	1.12	28.3	80.6	41-2	5	51.50
11	PHY 375 WRF	36.5	720	3.7	1.13	29.3	82.3	41-2	5	51.65
12	FM 1944 GLB2	34.6	714	4.0	1.18	31.6	81.4	41-2	4	53.85
13	ST 6448 GLB2	33.9	663	3.7	1.19	30.3	81.6	41-2	5	51.65
<b>Mean</b>		<b>36.4</b>	<b>780</b>	<b>4.0</b>	<b>1.14</b>	<b>30.1</b>	<b>81.9</b>		<b>5</b>	<b>52.38</b>
<b>LSD</b>		<b>1.4</b>	<b>103</b>	<b>0.2</b>	<b>0.02</b>	<b>1.2</b>	<b>1.1</b>		<b>0.93</b>	

**Table CST2.** Results of Roundup Ready Flex cotton variety test, Crockett County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		Uniformity (%)	HVI	
					Length (inches)	Strength (g/tex)		Color	Loan Value (¢/lb.)
1	ST 4946 GLB2	34.6	828	3.8	1.19	33.9	83.6	42-1	47.95
2	DP 0912 B2RF	34.0	827	3.6	1.1	29.1	81.9	42-1	47.35
3	FM 1944 GLB2	33.0	780	3.5	1.19	31.7	81.9	31-4	53.75
4	DP 1321 B2RF	34.6	753	3.6	1.16	31.9	82.9	42-1	47.75
5	DG 2570 B2RF	35.4	737	3.5	1.14	31	82.2	32-2	48.15
6	ST 6448 GLB2	33.4	732	3.2	1.18	31.3	82.3	31-4	46.55
7	NG 1511 B2RF	35.5	698	3.6	1.18	33.3	82.5	43-1	45.60
8	PHY 375 WRF	33.6	683	3.1	1.17	30.2	81.9	32-2	46.55
9	PHY 499 WRF	34.5	670	3.4	1.16	31.8	83	42-1	44.35
10	PHY 339 WRF	33.6	668	3.3	1.17	32.9	82.8	32-2	46.45
11	DP 1311 B2RF	33.9	663	3.3	1.12	28.8	81.1	42-1	47.95
12	AM 1550 B2RF	34.6	649	3.5	1.1	29.7	81.1	32-2	49.15
13	DP 0920 B2RF	33.6	626	3.4	1.15	29.6	81.9	42-1	49.90
<b>Mean</b>		<b>34.2</b>	<b>717</b>	<b>3.4</b>	<b>1.15</b>	<b>31.2</b>	<b>82.2</b>		<b>47.80</b>

**Grower:** Kevin Earnheart**Agent:** Richard Buntin

**Table CST3.** Results of Roundup Ready Flex cotton variety test, Dyer County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		Uniformity (%)	HVI	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)		Color	
1	DP 1321 B2RF	35.7	820	4.6	1.18	31.1	84.6	31-3	56.90
2	PHY 339 WRF	38.5	817	4.2	1.18	32.8	82.5	31-2	56.90
3	AM 1550 B2RF	35.9	760	4.2	1.13	31.3	83	31-3	56.85
4	DP 0920 B2RF	37.5	745	4.6	1.16	30.7	82.1	31-1	56.60
5	ST 4946 GLB2	37.2	740	4.8	1.17	31.5	82.4	21-2	57.30
6	DP 0912 B2RF	36.1	687	4.5	1.12	31	81.6	31-1	55.00
7	DG 2570 B2RF	37.6	644	4.8	1.13	28.7	81	31-1	56.30
8	ST 6448 GLB2	35.4	637	4	1.21	31.6	82.2	31-2	53.95
9	NG 1511 B2RF	40.3	614	4.6	1.12	32.7	81.4	31-1	55.00
10	DP 1311 B2RF	39.3	601	4.5	1.12	27.8	80.2	31-2	54.70
11	PHY 499 WRF	37.9	600	4.3	1.18	32.7	83	32-1	52.30
12	PHY 375 WRF	37.2	545	4	1.16	29.7	83.2	31-1	55.15
13	FM 1944 GLB2	35.9	483	4.7	1.22	32.3	82.8	31-1	56.75
<b>Mean</b>		<b>37.3</b>	<b>669</b>	<b>4.4</b>	<b>1.16</b>	<b>31.1</b>	<b>82.3</b>		<b>55.67</b>

**Grower:** Johnny Dodson**Agent:** Tim Campbell

**Table CST4.** Results of Roundup Ready Flex cotton variety test, Haywood County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		Uniformity (%)	HVI	
					Length (inches)	Strength (g/tex)		Color	Loan Value (¢/lb.)
1	DP 0912 B2RF	36.4	525	4.4	1.06	29.9	81.6	31-2	53.60
2	DG 2570 B2RF	37.7	519	4.7	1.06	29.5	81.8	31-1	53.70
3	PHY 499 WRF	40.4	502	4.4	1.04	28.7	82.4	31-2	51.40
4	ST 4946 GLB2	37.1	494	4.5	1.1	32.4	80.8	31-2	55.75
5	NG 1511 B2RF	37.6	473	4.4	1.06	30.2	79.4	31-2	53.40
6	PHY 375 WRF	36.5	435	3.9	1.07	28.7	80.7	31-2	53.65
7	DP 1311 B2RF	36.8	412	4.4	1.06	31	81.7	31-1	53.80
8	PHY 339 WRF	39.0	395	4.3	1.11	31.4	82.1	31-1	56.65
9	DP 1321 B2RF	38.8	387	4.3	1.08	31	82.5	31-1	55.80
10	FM 1944 GLB2	36.3	348	4	1.1	30	79.8	31-1	55.40
11	ST 6448 GLB2	31.8	310	4.1	1.18	29.9	82.7	41-2	49.15
12	AM 1550 B2RF	37.6	303	4.3	1.06	28.4	81.5	31-1	53.50
<b>Mean</b>		<b>37.2</b>	<b>425</b>	<b>4.3</b>	<b>1.08</b>	<b>30.1</b>	<b>81.4</b>		<b>53.82</b>

**Grower:** Chester King**Agent:** Walter Battle

**Table CST5.** Results of Roundup Ready Flex cotton variety test, Lake County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber Length (inches)	Strength (g/tex)	Uniformity (%)	HVI Color	Loan Value (¢/lb.)
1	DP 0920 B2RF	37.8	741	4.2	1.09	27.5	80.5	31-2	55.60
2	DG 2570 B2RF	36.0	711	3.8	1.1	29.5	81.6	21-4	56.05
3	DP 1321 B2RF	36.8	697	4.1	1.11	30.7	81.6	21-2	55.40
4	DP 1311 B2RF	38.2	681	3.7	1.11	29.3	80	31-2	53.60
5	PHY 339 WRF	36.3	680	3.7	1.14	28.9	81.8	31-2	54.95
6	PHY 375 WRF	35.6	677	3.1	1.12	30.6	83.3	31-1	46.40
7	ST 4946 GLB2	35.0	668	4	1.11	30.5	81.4	41-3	49.15
8	AM 1550 B2RF	37.1	667	3.9	1.06	27	79.8	21-4	53.65
9	PHY 499 WRF	35.8	635	3.7	1.11	32.7	82	31-3	50.05
10	DP 0912 B2RF	33.2	573	3.6	1.09	31.4	82.5	41-3	47.10
11	FM 1944 GLB2	31.2	569	3.3	1.17	31.8	80.4	31-1	52.05
12	NG 1511 B2RF	35.1	552	3.5	1.1	31.1	83.1	32-1	48.05
13	ST 6448 GLB2	32.5	495	3.4	1.18	30.3	81.6	31-2	48.05
<b>Mean</b>		<b>35.4</b>	<b>642</b>	<b>3.7</b>	<b>1.11</b>	<b>30.1</b>	<b>81.5</b>		<b>51.55</b>

**Grower:** Tony Bargery

**Agent:** Gregory Allen

**Table CST6.** Results of Roundup Ready Flex cotton variety test, Lauderdale County, 2013.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber Length	Strength	Uniformity	HVI	Loan Value
		(%)	(lb./acre)		(inches)			(g/tex)	
1	DG 2570 B2RF	40.2	1041	4.3	1.15	31.9	83.6	31-2	55.20
2	DP 0912 B2RF	37.4	974	4.5	1.1	28	83.3	41-1	50.75
3	AM 1550 B2RF	38.8	970	4.1	1.12	27.8	82.9	41-1	54.20
4	PHY 499 WRF	41.4	968	4.5	1.14	31.6	84.4	41-1	53.90
5	DP 1311 B2RF	40.0	921	3.9	1.12	28.2	82.3	41-1	49.05
6	ST 4946 GLB2	38.5	921	4.6	1.14	30.8	83.3	41-1	53.65
7	DP 1321 B2RF	37.2	914	4.3	1.17	31.6	83.5	31-2	55.20
8	NG 1511 B2RF	38.2	878	4.5	1.16	30.7	83.2	41-1	51.60
9	DP 0920 B2RF	39.7	877	4.3	1.11	28.3	80.3	41-1	53.35
10	PHY 339 WRF	38.2	759	4	1.19	30.9	83.3	41-1	51.75
11	FM 1944 GLB2	36.8	738	4.1	1.21	33.3	82.9	41-1	51.85
12	PHY 375 WRF	40.0	701	4.1	1.13	29.6	83.2	41-1	51.70
13	ST 6448 GLB2	35.1	530	3.9	1.21	31.1	83	41-1	51.90
<b>Mean</b>		<b>38.6</b>	<b>861</b>	<b>4.2</b>	<b>1.15</b>	<b>30.3</b>	<b>83.0</b>		<b>52.62</b>

**Grower:** Leslie Crook

**Agent:** J.C. Dupree

**Table CST7.** Results of Roundup Ready Flex cotton variety test, Lincoln County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI	
					Length (inches)	Strength (g/tex)	Uniformity (%)	Color	Loan Value (¢/lb.)
1	DP 1311 B2RF	42.5	538	4.2	1.14	28.8	81.3	41-1	51.50
2	DP 0912 B2RF	38.8	532	4.7	1.1	29.7	82.2	43-1	48.50
3	ST 6448 GLB2	38.3	516	4.3	1.12	28.5	80.3	32-2	49.80
4	DP 0920 B2RF	40.0	459	4.5	1.09	27.9	79.9	32-2	51.80
5	PHY 339 WRF	37.4	443	3.9	1.16	30.3	83	42-1	49.60
6	DP 1321 B2RF	41.1	419	4.6	1.09	28.7	81.7	32-1	51.35
7	PHY 499 WRF	40.1	418	4.4	1.16	32	84.2	43-4	45.75
8	ST 4946 GLB2	41.0	415	4.3	1.12	33.4	82.8	32-2	50.15
9	DG 2570 B2RF	39.2	403	4.2	1.13	29.2	82.7	33-2	49.95
10	NG 1511 B2RF	41.4	398	4.6	1.11	29.1	82.7	42-1	51.30
11	AM 1550 B2RF	38.3	387	4	1.16	29.7	83.3	33-2	50.50
12	FM 1944 GLB2	37.2	376	4.2	1.18	32.5	81	42-1	51.60
13	PHY 375 WRF	38.8	353	3.3	1.1	29.6	81.1	41-3	51.20
<b>Mean</b>		<b>39.5</b>	<b>435</b>	<b>4.2</b>	<b>1.13</b>	<b>30.0</b>	<b>82.0</b>		<b>50.23</b>

**Grower:** JBH Farms

**Agent:** David Qualls

**Table CST8.** Results of Roundup Ready Flex cotton variety test, Madison County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI	
					Length (inches)	Strength (g/tex)	Uniformity (%)	Color	Loan Value (¢/lb.)
1	PHY 339 WRF	37.9	1027	4.1	1.19	29	82.3	31-3	56.70
2	DP 0912 B2RF	39.4	1004	5.1	1.12	29.4	82.7	31-3	52.15
3	ST 4946 GLB2	39.2	987	4.9	1.17	31	84.1	32-2	50.30
4	DP 1321 B2RF	37.7	923	4.7	1.18	30.1	84.3	42-1	49.55
5	PHY 375 WRF	39.2	920	4.3	1.16	29	83.1	41-3	53.60
6	PHY 499 WRF	39.5	911	4.7	1.16	32.3	82.9	32-2	53.10
7	NG 1511 B2RF	39.5	883	4.6	1.12	33.8	82.6	42-1	51.50
8	FM 1944 GLB2	37.0	856	4.3	1.23	31.3	82.4	41-1	51.70
9	DG 2570 B2RF	35.4	825	4.7	1.14	30.4	82.7	32-2	52.95
10	AM 1550 B2RF	37.1	800	4.4	1.15	28.4	83.1	42-1	51.25
11	DP 1311 B2RF	39.5	753	4.2	1.17	29.2	81	41-2	49.10
12	ST 6448 GLB2	35.8	636	3.9	1.21	29.1	81.5	42-1	49.45
<b>Mean</b>		<b>38.1</b>	<b>877</b>	<b>4.5</b>	<b>1.17</b>	<b>30.3</b>	<b>82.7</b>		<b>51.78</b>

**Grower:** Wards's Grove LLC**Agent:** Jake Mallard**Table CST9.** Results of Roundup Ready Flex cotton variety test, Madison County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI	
					Length (inches)	Strength (g/tex)	Uniformity (%)	Color	Loan Value (¢/lb.)
1	PHY 339 WRF	40.8	1255	3.9	1.16	30.8	82.2	41-1	51.70
2	DP 0920 B2RF	42.2	1224	4.4	1.07	26.5	80.1	32-2	49.00
3	ST 4946 GLB2	39.5	1194	4.5	1.12	30.2	82.1	42-1	47.60
4	PHY 499 WRF	40.4	1168	4	1.14	29.3	81.4	43-2	12.25
5	DP 1321 B2RF	37.5	1126	4.2	1.13	28.8	81.3	43-2	44.35
6	DP 0912 B2RF	36.0	1083	4.1	1.08	29.5	81	43-1	45.45
7	FM 1944 GLB2	37.2	1069	4.2	1.16	30.5	81.8	31-2	55.10
8	DG 2570 B2RF	40.0	1061	4.4	1.12	29.5	82.2	32-1	52.85
9	NG 1511 B2RF	39.0	1017	4.2	1.15	30.5	83.6	43-2	45.65
10	AM 1550 B2RF	38.4	989	3.8	1.1	27.6	80.7	32-2	51.50
11	DP 1311 B2RF	38.1	983	3.5	1.1	27.1	78.8	41-3	46.20
12	PHY 375 WRF	38.1	897	4.1	1.08	26.8	81	42-2	50.80
13	ST 6448 GLB2	33.6	897	3.2	1.2	29.6	81.8	42-1	42.35
<b>Mean</b>		<b>38.5</b>	<b>1074</b>	<b>4.0</b>	<b>1.12</b>	<b>29.0</b>	<b>81.4</b>		<b>45.75</b>

**Grower:** Matt Griggs**Agent:** Jake Mallard



**Table CST10.** Results of Roundup Ready Flex cotton variety test, Shelby County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		Uniformity (%)	HVI	
					Length (inches)	Strength (g/tex)		Color	Loan Value (¢/lb.)
1	DP 0920 B2RF	35.6	831	4.7	1.1	26.6	78.9	31-1	54.90
2	ST 4946 GLB2	36.1	820	4.1	1.2	31.1	83.9	21-2	57.50
3	PHY 375 WRF	34.3	814	4	1.13	28.7	80.9	31-1	56.45
4	DP 0912 B2RF	33.4	790	4.8	1.09	27.1	82.2	21-1	55.85
5	PHY 339 WRF	33.6	777	4.5	1.17	28.3	81.8	31-1	56.40
6	DP 1321 B2RF	35.5	729	4.4	1.15	31	81.8	31-2	56.70
7	NG 1511 B2RF	36.7	708	4.5	1.13	30.9	81.7	31-2	54.85
8	DG 2570 B2RF	35.5	687	4.5	1.12	27.8	81.2	21-2	56.75
9	ST 6448 GLB2	33.5	687	4.4	1.14	28.1	78.5	51-1	49.70
10	FM 1944 GLB2	33.3	647	4.3	1.15	29.7	78.7	21-1	56.50
11	AM 1550 B2RF	33.7	614	4.4	1.13	27	82.5	21-2	56.80
12	PHY 499 WRF	36.3	613	4.6	1.13	30.5	81.1	31-2	56.45
13	DP 1311 B2RF	33.0	566	4.1	1.14	28.5	81.2	31-1	56.55
<b>Mean</b>		<b>34.7</b>	<b>714</b>	<b>4.4</b>	<b>1.14</b>	<b>28.9</b>	<b>81.1</b>		<b>55.80</b>

**Grower:** Ray Sneed

**Agent:** Becky Muller

**Table CST11.** Gin turnout and lint yield of varieties common to Tennessee Roundup Ready Flex CST's from 2012 and 2013 year averages, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber	Strength	Uniformity	HVI	
		(%)	(lb./acre)		Length			Color	Loan Value
		(%)	(lb./acre)		(inches)	(g/tex)	(%)	(¢/lb.)	
1	DG 2570 B2RF	38.6	883	4.6	1.12	30.5	82.3	4	53.55
2	NG 1511 B2RF	40.0	876	4.5	1.13	31.8	82.6	5	51.70
3	DP 0920 B2RF	38.5	875	4.6	1.12	29.0	81.3	4	53.45
4	PHY 499 WRF	36.9	866	4.7	1.09	29.7	82.1	5	50.80
5	AM 1550 B2RF	38.0	860	4.4	1.10	28.5	81.8	4	52.80
6	PHY 375 WRF	39.1	832	4.6	1.12	31.6	82.6	5	51.70
7	DP 0912 B2RF	38.4	828	4.3	1.11	29.5	82.1	5	51.50
<b>AVERAGE</b>		<b>38.5</b>	<b>860</b>	<b>4.5</b>	<b>1.11</b>	<b>30.1</b>	<b>82.1</b>	<b>5</b>	<b>52.21</b>
<b>LSD (0.05)</b>		<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>1.1</b>	<b>NS</b>		

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

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

**Table CST12.** Gin turnout and lint yield of varieties common to Tennessee Roundup Ready Flex CST's from 2011, 2012 and 2013 year averages, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber	Strength	Uniformity	HVI	
		(%)	(lb./acre)		Length			Color	Loan Value
		(%)	(lb./acre)		(inches)	(g/tex)	(%)	(¢/lb.)	
1	DG 2570 B2RF	38.7	919	4.6	1.12	31.2	82.5	3	54.35
2	PHY 499 WRF	39.6	897	4.5	1.13	32.8	86.1	4	53.95
3	DP 0920 B2RF	38.5	892	4.6	1.12	29.6	81.6	3	54.10
4	AM 1511 B2RF	39.0	883	4.6	1.11	31.9	82.6	4	53.70
5	DP 0912 B2RF	36.9	862	4.7	1.09	30.4	82.1	4	53.00
6	PHY 375 WRF	38.4	858	4.3	1.11	30.3	82.2	4	53.55
<b>AVERAGE</b>		<b>38.5</b>	<b>885</b>	<b>4.6</b>	<b>1.11</b>	<b>31.0</b>	<b>82.9</b>	<b>4</b>	
<b>LSD (0.05)</b>		<b>0.95</b>	<b>NS</b>	<b>0.19</b>	<b>NS</b>	<b>0.8</b>	<b>NS</b>		

Tennessee AgResearch data of Main et al. (2011, 2012).

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

## GLOSSARY OF TERMS

**Bt cotton:** A variety containing genes from the bacterium, *Bacillus thuringiensis*, that confer resistance to certain lepidopterous insect pests such as tobacco budworm. Abbreviated **B** or **BG** in a variety name. **BII** or **B2** indicates that the variety carries a second *Bt* gene.

**CCC:** Commodity Credit Corporation, an entity administered by the Farm Services Agency of the USDA.

**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.

**CST:** County Standard Test of cotton.

**CV:** Coefficient of variation. It is 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.

**DAP:** Days after planting.

**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.

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

**HVI:** High Volume Instrument measurement of fiber length, strength, Micronaire, length uniformity, trash, and color.

**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.

**HNR:** Height-to-node ratio of the main stem, a measure of vegetative vigor.

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

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

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

Source: USDA (1999)

**Lint yield:** Weight of lint harvested per unit ground area.

**Liberty Link:** Designation in a variety name that indicates resistance to glufosinate herbicide.

**LSD:** Least significant difference. It is a 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 **Mike** or **Mic**. No decimal point is used by the USDA (1999) in reporting micronaire values, while others report values in tenths of units.

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

Source: USDA (1999)

**NACB:** 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.

**NAWF:** 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.

**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.

**OVT:** Official variety trial. A replicated small-plot test conducted at several locations to evaluate the adaptation of the most promising commercial cultivars for Tennessee.

**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).

**RCB:** Randomized complete block. An experimental design in which all treatments (varieties) are randomly assigned to plots in separate blocks (replications) in the field.

**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<sup>®</sup>:** A variety containing genes that confer resistance to glyphosate herbicide that may be sprayed topically until the fifth true leaf reaches the size of a quarter. Subsequent glyphosate applications must be directed towards the base of the plant. Usually abbreviated **R** or **RR** in a variety name.

**Roundup Ready Flex<sup>®</sup>:** A variety containing genes that confer resistance to glyphosate herbicide that may be sprayed topically beyond the fifth true leaf stage. Usually abbreviated **F** or **RF** in a variety name.

**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  $\frac{1}{8}$  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).

**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 variety containing a pair of genes from the bacterium, *Bacillus thuringiensis*, that confer resistance to certain lepidopterous insect pests such as tobacco budworm. Sometimes abbreviated **W** in a variety name.

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## INTRODUCTION

The University of Tennessee cotton variety testing program provides an unbiased evaluation of new varieties for commercial cotton production in Tennessee. Experimental strains are also tested, and major cultivars are grown in county variety demonstrations. Results are intended to help cotton producers identify varieties that are well adapted to Tennessee, produce high quality fiber, and are relatively stable in yield performance. Results are also used by the seed industry, crop consultants, and the UT extension service to assess varietal adaptation to field environments in Tennessee.

Information contained within this report covers the major components of the 2013 cotton variety testing program of the University of Tennessee. Information reported includes yield, fiber quality data, CCC loan values and selected growth characteristics from the Official Variety Trials (OVT). In addition to experiment station testing, the results from county standard test (CST) demonstrations of cotton varieties in West and Middle Tennessee are also included. A glossary is included at the end of this report to define technical terms and abbreviations used.

## GENERAL PROCEDURES

Seed of commercial cultivars was provided by the respective companies from commercial seed lots. Smaller quantities of seed of experimental strains were furnished by the respective entrants. Seed sources are listed on the next page.

For small plot testing, varieties were assigned to plots arranged in a randomized complete block design. Fertilizer and lime were applied according to soil test results and UT recommendations for cotton. No-tillage methods were used at all locations. Varieties were planted in 2-row plots with row widths of 38 inches. A systemic insecticide and fungicide were applied in-furrow while planting. UT-recommended weed and pest control measures were uniformly applied to all plots. At all locations, seed cotton harvested from each plot was weighed at picking. Subsamples of seedcotton were collected from each plot, weighed, and air-dried, bulked by varietal entry for ginning. Gin turnout was determined for each sample using a 20-saw gin equipped with a stick machine, incline cleaners and two lint cleaners at the West Tennessee Research and Education Center. No heat was applied during ginning. Lint yields were calculated using seedcotton weights, gin turnouts, and harvested areas. A subsample of lint from each entry was analyzed by HVI procedures at the USDA Cotton Classing Office in Memphis, TN.

County Standard Trial demonstrations were conducted to evaluate commercial cultivar performance in multiple large plot environments. County standard testing included only Roundup Ready Flex cultivars. County standard tests were planted in 9 locations each containing 13 cultivars. Each cultivar was planted in only one plot at each location and was maintained using the individual grower's production practices. Seedcotton harvested from each plot was weighed and sampled at picking. Samples were weighed, air dried, and ginned at the West Tennessee Research and Education Center as described above. A sub sample of lint of each entry was analyzed by HVI and hand-classing procedures at the USDA Cotton Classing Office in Memphis, TN. Statistical analysis was not possible for each location but overall yield and fiber quality data were analyzed using SAS Proc MIXED with locations as replications.

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- Dr. Rick Carlisle, Research Director, Ames Plantation
- Dr. Blake A. Brown, Director, Research and Education Center at Milan
- Dr. Robert M. Hayes, Director, West Tennessee Research and Education Center

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We appreciate the cooperation of county extension agents and producers who conducted the county variety demonstrations in 2013. We also appreciate the technical cooperation of USDA-AMS Cotton Division Classing Office in Memphis, which provided the fiber quality data reported herein.

Special thanks to all who helped pick and gin cotton for these experiments.

## **SEED SOURCES**

Seeds for the 2013 University of Tennessee cotton variety tests and demonstrations 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
- 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

## OFFICIAL VARIETY TRIALS

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West Tennessee Research & Education Center  
The University of Tennessee  
Jackson, TN

Official Variety Trials (OVTs) of cotton were conducted at five locations in Tennessee during 2013. Conventional varieties, and varieties with Liberty-Link (LL), or Roundup Ready Flex (RF) genes, were tested at all locations. There were 33 entries from seven seed companies. All OVTs were planted between 13 May and 20 May 2013 in 2-row plots arranged in a RCB design with four replications at each location. The row spacing was 38 inches at all locations. Planting dates, soil types, tillage and other details are listed in Table 1 below.

Between 120 and 130 days after planting (DAP), plant height, nodes, nodes above cracked boll (NACB) to the highest harvestable boll 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. Seedcotton from each plot was weighed, and two grab samples of each variety were ginned to calculate gin turnout. Two lint samples of each variety from each location were analyzed by HVI at the USDA Cotton Classing Office in Memphis, TN.

**Table OVT1** Average yield and gin turnout data for 33 entries tested across six locations in 2013.

**Table OVT2 – OVT6** Lint yield, gin turnout, and fiber data from the five different OVT locations.

**Table OVT7** Relative maturity, nodes, and final plant height of the 33 OVT entries.

**Table OVT8-9** presents two, and three year averages for varieties common to all years.

**Table 1.** OVT plot management details 2013.

Location	Planting Date	Soil Type	Tillage	Fertility	Irrigation	Harvest Date
Ames Plantation	05/14/2013	Memphis Silt Loam	No-Tillage	80-30-90	None	10/10/2013
Chic	05/20/2013	Commerce Silt Loam	No-Tillage	80- var P&K	None	11/05/2013
Milan	05/15/2013	Collins Silt Loam	No-Tillage	80-0-80	None	11/11/2013
Ridgely	05/13/2013	Reelfoot Silt Loam	No-Tillage	80- var P&K	None	11/04/2013
Jackson	05/15/2013	Collins Silt Loam	No-Tillage	80-0-100	None	10/05/2013

**Table OVT1.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial averaged over four locations, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber Strength	Uniformity
		%	lb/ac		in	g/tex	%
1	PX 3750-01 WRF	40.1	1839	4.1	1.18	31.7	82.0
2	DP 1321 B2RF	37.5	1712	4.3	1.18	32.3	83.6
3	PHY 333 WRF	37.8	1685	4.0	1.19	30.9	82.9
4	DP 0912 B2RF	36.3	1666	4.4	1.13	31.4	82.7
5	PHY 339 WRF	36.3	1639	4.1	1.21	31.2	82.8
6	DG 2285 B2RF	36.3	1628	4.2	1.15	31.3	82.1
7	PX 4444-13 WRF	38.9	1628	3.4	1.27	32.6	82.9
8	PHY 375 WRF	37.5	1615	4.1	1.15	29.3	81.9
9	PX 4444-14 WRF	37.9	1593	3.7	1.18	31.7	83.0
10	BX 1347 GLB2	37.4	1592	4.2	1.17	29.7	80.5
11	NG 1511 B2RF	38.5	1589	4.4	1.17	31.3	83.3
12	ST 4946 GLB2	36.5	1569	4.4	1.17	32.2	83.2
13	DP 12R224 B2R2	36.5	1564	3.7	1.20	31.5	82.6
14	PHY 427 WRF	35.3	1550	3.8	1.17	32.4	82.5
15	PHY 499 WRF	38.7	1546	4.3	1.18	33.8	84.2
16	FM 1944 GLB2	35.4	1541	4.0	1.21	32.4	81.6
17	PX 3003-10 WRF	36.9	1541	4.0	1.14	31.4	82.3
18	SSG UA222	35.9	1540	3.9	1.24	31.4	83.2
19	DG 2570 B2RF	35.7	1526	4.4	1.14	29.7	82.4
20	AM 1550 B2RF	36.7	1524	4.1	1.14	28.6	82.0
21	NGX 3331 B2RF	35.1	1519	4.4	1.13	30.8	83.3
22	DP 12R242 B2R2	36.8	1517	4.4	1.16	29.5	82.5
23	DP 0920 B2RF	38.0	1513	4.3	1.15	29.3	81.8
24	CG 3787 B2RF	37.3	1512	4.4	1.16	30.0	82.4
25	PHY 417 WRF	37.3	1512	3.7	1.14	30.2	81.6
26	DP 1311 B2RF	37.9	1509	4.2	1.16	28.9	82.0
27	CT13414	38.1	1489	4.2	1.16	30.1	81.9
28	SSG HQ210CT	34.9	1428	4.2	1.14	32.8	81.8
29	ST 6448 GLB2	33.6	1407	4.0	1.20	30.5	81.5
30	CG 3428 B2RF	37.6	1400	4.4	1.20	29.9	82.5
31	ST 4145 LLB2	33.9	1391	4.3	1.13	31.1	81.5
32	NG 5315 B2RF	36.7	1370	4.2	1.17	30.2	82.6
33	NGX 01338 B2RF	35.5	1148	4.1	1.20	32.9	81.7
<b>Average</b>		<b>36.8</b>	<b>1539</b>	<b>4.1</b>	<b>1.17</b>	<b>31.0</b>	<b>82.4</b>
<b>LSD (0.05)</b>		<b>0.7</b>	<b>102</b>	<b>0.2</b>	<b>0.03</b>	<b>1.6</b>	<b>1.2</b>

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT2.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at Ames Plantation, LaGrange, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber		
						Strength g/tex	Uniformity %	Color Grade
1	PX 3750-01 WRF	40.7	2084	4.0	1.15	30.7	80.9	41
2	DP 12R242 B2R2	40.2	1896	4.3	1.17	30.2	83.1	41
3	PHY 375 WRF	38.9	1876	3.8	1.13	30.1	81.6	41
4	CG 3787 B2RF	39.4	1843	4.0	1.16	30.1	82.1	41
5	PHY 333 WRF	40.1	1819	3.7	1.17	30.3	81.4	41
6	PHY 499 WRF	39.4	1806	4.0	1.13	32.0	82.9	41
7	PX 4444-13 WRF	39.3	1791	3.4	1.23	32.2	81.8	31
8	ST 4946 GLB2	37.7	1767	3.8	1.16	32.7	82.7	41
9	PX 4444-14 WRF	38.8	1766	3.6	1.15	30.0	81.0	41
10	CT13414	41.0	1762	4.4	1.14	31.1	83.8	41
11	DP 1321 B2RF	38.6	1734	3.9	1.19	33.1	83.7	41
12	DP 1311 B2RF	40.7	1731	4.3	1.13	29.8	81.1	41
13	SSG UA222	37.8	1724	3.6	1.22	31.1	82.0	41
14	DG 2570 B2RF	37.0	1722	3.9	1.17	32.3	82.7	31
15	NGX 3331 B2RF	37.2	1721	4.1	1.11	31.3	82.0	41
16	DP 0912 B2RF	38.4	1699	4.2	1.13	30.9	82.5	41
17	CG 3428 B2RF	39.0	1695	4.4	1.20	30.3	82.0	41
18	NG 1511 B2RF	39.9	1693	4.2	1.16	31.6	82.4	31
19	PX 3003-10 WRF	38.1	1690	3.6	1.13	32.4	81.2	41
20	DP 12R224 B2R2	39.3	1685	3.3	1.18	31.7	82.7	41
21	AM 1550 B2RF	37.8	1671	3.9	1.14	29.3	82.2	31
22	PHY 339 WRF	38.1	1665	3.9	1.18	32.4	81.6	41
23	BX 1347 GLB2	38.4	1651	3.8	1.16	28.8	79.0	41
24	DG 2285 B2RF	38.2	1650	3.9	1.16	29.9	80.3	41
25	FM 1944 GLB2	35.4	1606	3.6	1.21	30.7	81.1	41
26	PHY 417 WRF	38.1	1589	3.6	1.14	30.3	81.7	41
27	DP 0920 B2RF	39.2	1570	3.7	1.12	29.4	80.8	41
28	PHY 427 WRF	35.9	1568	3.2	1.18	32.7	83.1	41
29	SSG HQ210CT	35.8	1551	4.1	1.13	32.4	81.3	41
30	NG 5315 B2RF	38.5	1549	4.0	1.16	30.5	80.7	31
31	ST 4145 LLB2	34.6	1491	3.9	1.13	30.1	80.1	41
32	NGX 01338 B2RF	37.0	1377	3.8	1.17	33.3	80.4	41
33	ST 6448 GLB2	30.7	1344	3.9	1.19	30.0	80.6	41
<b>Average</b>		<b>38.2</b>	<b>1690</b>	<b>3.9</b>	<b>1.16</b>	<b>31.0</b>	<b>81.7</b>	
<b>LSD (0.05)</b>			<b>174</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT3.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at Hollingsworth Farms, Chic, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout %	Lint Yield lb/ac	Micronaire	Fiber Length in	Fiber		
						Strength g/tex	Uniformity %	Color Grade
1	PHY 339 WRF	34.8	1463	4.0	1.23	32.5	83.7	31
2	BX 1347 GLB2	36.5	1455	4.3	1.19	30.8	82.7	41
3	DP 1321 B2RF	35.2	1387	4.3	1.18	32.3	83.2	31
4	DG 2285 B2RF	28.3	1359	4.1	1.19	32.1	84.1	31
5	PX 3003-10 WRF	34.7	1306	3.8	1.15	32.9	82.8	31
6	DP 0920 B2RF	35.2	1290	4.3	1.16	28.7	81.6	31
7	NG 1511 B2RF	35.3	1289	4.0	1.20	33.0	83.9	41
8	PX 4444-13 WRF	36.3	1288	3.0	1.29	33.0	82.9	31
9	SSG UA222	34.0	1266	3.8	1.29	32.1	85.2	31
10	DP 0912 B2RF	33.0	1254	4.1	1.15	33.5	83.3	31
11	AM 1550 B2RF	34.7	1252	3.7	1.17	28.8	83.3	21
12	SSG HQ210CT	32.8	1250	3.8	1.18	34.5	83.7	31
13	ST 6448 GLB2	33.8	1246	3.7	1.23	32.5	83.1	31
14	NG 5315 B2RF	33.8	1245	3.9	1.16	30.3	81.8	31
15	CT13414	33.9	1214	4.1	1.16	29.3	81.2	31
16	PX 4444-14 WRF	35.5	1209	3.5	1.22	34.0	83.4	41
17	PX 3750-01 WRF	38.0	1208	3.7	1.23	34.6	84.1	41
18	NGX 3331 B2RF	31.7	1197	4.2	1.16	29.9	83.5	41
19	FM 1944 GLB2	33.3	1184	3.7	1.22	35.7	82.4	41
20	PHY 427 WRF	33.4	1184	3.5	1.21	33.7	84.2	31
21	PHY 375 WRF	35.5	1177	3.9	1.17	30.4	82.5	41
22	CG 3787 B2RF	32.9	1152	3.8	1.20	32.2	83.9	31
23	NGX 01338 B2RF	33.0	1145	3.9	1.24	34.3	84.0	51
24	PHY 333 WRF	35.4	1135	3.7	1.23	31.8	84.4	41
25	DP 1311 B2RF	34.0	1118	3.7	1.19	28.9	82.0	31
26	PHY 417 WRF	34.3	1108	3.6	1.16	30.7	82.3	22
27	ST 4145 LLB2	35.1	1072	4.3	1.11	32.1	82.1	41
28	DP 12R224 B2R2	32.9	1016	3.6	1.23	33.0	84.2	41
29	DP 12R242 B2R2	31.3	1005	4.1	1.16	31.2	82.3	31
30	PHY 499 WRF	36.4	1001	4.0	1.21	36.5	85.9	41
31	ST 4946 GLB2	34.4	990	4.4	1.18	31.8	82.6	31
32	CG 3428 B2RF	34.1	982	4.1	1.21	29.3	83.4	31
33	DG 2570 B2RF	33.7	675	4.5	1.15	28.6	82.0	31
<b>Average</b>		<b>34.1</b>	<b>1185</b>	<b>3.9</b>	<b>1.19</b>	<b>32.0</b>	<b>83.2</b>	
<b>LSD (0.05)</b>			<b>230</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.



**Table OVT4.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at the Research and Education Center at Milan, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber		
						Strength	Uniformity	Color Grade
		%	lb/ac		in	g/tex	%	
1	PX 3750-01 WRF	38.0	1655	4.5	1.16	30.4	81.6	41
2	DP 1321 B2RF	35.2	1406	4.5	1.19	32.2	84.3	41
3	BX 1347 GLB2	36.5	1384	4.1	1.18	31.9	82.1	41
4	DP 12R224 B2R2	32.9	1374	3.9	1.18	32.3	83.2	41
5	PHY 333 WRF	35.4	1367	4.2	1.20	31.0	84.8	41
6	NG 1511 B2RF	35.3	1360	4.5	1.14	32.6	83.1	32
7	DP 0912 B2RF	33.0	1357	4.8	1.11	30.4	82.6	41
8	DG 2570 B2RF	33.7	1356	4.2	1.13	29.2	83.3	32
9	DG 2285 B2RF	28.3	1345	4.4	1.15	32.7	83.7	31
10	PX 4444-13 WRF	36.3	1335	3.5	1.26	32.5	83.8	31
11	PHY 339 WRF	34.8	1330	4.0	1.15	30.4	81.2	41
12	PHY 375 WRF	35.5	1303	4.2	1.16	27.8	83.4	31
13	FM 1944 GLB2	33.3	1302	4.4	1.22	31.9	83.1	31
14	PHY 427 WRF	33.4	1298	4.3	1.15	35.0	82.7	31
15	ST 4946 GLB2	34.4	1290	4.9	1.15	31.2	83.3	32
16	PX 3003-10 WRF	34.7	1254	4.1	1.11	31.6	82.6	32
17	DP 1311 B2RF	34.0	1228	4.5	1.13	28.5	81.9	41
18	PX 4444-14 WRF	35.5	1224	3.5	1.21	33.6	85.4	41
19	PHY 499 WRF	36.4	1219	4.5	1.19	33.7	84.2	42
20	AM 1550 B2RF	34.7	1212	4.5	1.10	27.7	81.0	31
21	DP 0920 B2RF	35.2	1205	4.6	1.15	29.9	82.3	31
22	PHY 417 WRF	34.3	1178	3.8	1.15	31.8	83.3	31
23	DP 12R242 B2R2	31.3	1158	4.5	1.14	28.3	82.7	41
24	SSG UA222	34.0	1106	4.3	1.25	32.1	83.9	42
25	CG 3428 B2RF	34.1	1099	4.7	1.16	30.0	82.1	31
26	ST 4145 LLB2	34.0	1094	4.4	1.12	32.2	81.8	41
27	CT13414	33.9	1073	4.4	1.15	28.1	81.7	31
28	CG 3787 B2RF	32.9	1050	4.6	1.13	28.6	81.9	32
29	SSG HQ210CT	32.8	1034	4.1	1.12	35.0	81.1	31
30	NGX 3331 B2RF	31.7	1032	4.5	1.13	29.3	84.5	42
31	ST 6448 GLB2	33.8	1021	3.9	1.16	28.6	80.4	31
32	NG 5315 B2RF	33.8	914	4.1	1.18	30.9	83.7	32
33	NGX 01338 B2RF	33.0	564	4.5	1.19	34.2	82.7	42
<b>Average</b>		<b>34.1</b>	<b>1216</b>	<b>4.3</b>	<b>1.16</b>	<b>31.1</b>	<b>82.8</b>	
<b>LSD (0.05)</b>			<b>126</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT5.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at Lindamood Planting Company, Ridgely, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber		
						Strength	Uniformity	Color Grade
		%	lb/ac		in	g/tex	%	
1	PX 3750-01 WRF	41.8	2423	4.2	1.18	32.3	81.6	41
2	PHY 333 WRF	39.0	2299	4.1	1.18	30.9	82.0	41
3	DP 0912 B2RF	36.0	2244	4.5	1.13	31.9	82.3	41
4	DP 1321 B2RF	38.2	2243	4.6	1.17	30.9	83.0	31
5	PHY 427 WRF	35.3	2061	4.0	1.15	30.3	80.2	41
6	DG 2570 B2RF	38.2	2056	4.7	1.12	28.6	81.8	31
7	PHY 499 WRF	39.0	2052	4.6	1.20	34.4	85.2	41
8	PHY 339 WRF	35.7	2048	4.4	1.25	29.1	83.7	41
9	NGX 3331 B2RF	36.6	2046	4.7	1.13	32.2	82.6	41
10	PHY 417 WRF	38.8	2042	3.7	1.13	29.0	80.3	31
11	PHY 375 WRF	36.2	2030	4.3	1.16	29.1	80.5	41
12	FM 1944 GLB2	35.4	2029	4.6	1.16	29.9	79.0	31
13	ST 4946 GLB2	35.7	2006	4.3	1.19	33.0	83.8	41
14	DG 2285 B2RF	37.7	1975	4.5	1.13	32.0	81.0	31
15	PX 4444-14 WRF	38.6	1968	4.3	1.15	29.6	81.6	41
16	DP 0920 B2RF	38.5	1925	4.5	1.17	29.9	81.6	31
17	NG 1511 B2RF	39.5	1925	4.6	1.18	29.3	83.6	31
18	SSG UA222	36.5	1924	4.1	1.22	30.9	81.6	41
19	PX 4444-13 WRF	39.3	1917	3.5	1.28	32.4	83.0	41
20	DP 12R224 B2R2	35.3	1916	4.1	1.21	29.0	80.6	41
21	AM 1550 B2RF	36.8	1914	4.2	1.16	29.2	80.7	31
22	DP 12R242 B2R2	37.5	1900	4.7	1.16	28.9	81.9	31
23	SSG HQ210CT	36.4	1855	4.4	1.14	31.3	81.3	31
24	PX 3003-10 WRF	37.1	1850	4.3	1.17	30.9	83.1	41
25	BX 1347 GLB2	36.9	1843	4.6	1.15	27.4	79.2	31
26	ST 6448 GLB2	33.8	1841	4.2	1.19	30.3	81.0	31
27	CG 3787 B2RF	38.2	1839	4.7	1.17	28.8	81.5	31
28	CT13414	37.5	1837	4.0	1.16	31.5	80.1	31
29	DP 1311 B2RF	36.5	1835	4.2	1.20	28.5	83.1	41
30	ST 4145 LLB2	34.3	1810	4.6	1.13	29.0	82.0	41
31	CG 3428 B2RF	37.6	1729	4.6	1.20	30.4	82.3	31
32	NG 5315 B2RF	35.2	1695	4.4	1.17	28.7	82.7	31
33	NGX 01338 B2RF	35.8	1311	4.3	1.17	31.5	80.0	41
<b>Average</b>		<b>37.1</b>	<b>1951</b>	<b>4.3</b>	<b>1.17</b>	<b>30.3</b>	<b>81.8</b>	
<b>LSD (0.05)</b>			<b>236</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT6.** Lint yield, gin turnout, and fiber quality of 33 entries in the 2013 Tennessee Official Variety Trial conducted at the West Tennessee Research and Education Center, Jackson, TN listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber		
						Strength	Uniformity	Color Grade
		%	lb/ac		in	g/tex	%	
1	DG 2285 B2RF	37.9	1838	4.3	1.11	29.6	81.4	31
2	PX 3750-01 WRF	40.2	1824	3.9	1.19	30.6	81.6	41
3	PX 4444-13 WRF	40.3	1820	3.5	1.29	33.0	82.8	31
4	PHY 333 WRF	40.1	1803	4.2	1.18	30.6	81.7	41
5	PX 4444-14 WRF	39.1	1797	3.7	1.19	31.1	83.5	41
6	ST 4946 GLB2	37.9	1792	4.5	1.16	32.1	83.7	31
7	DP 1321 B2RF	38.6	1790	4.4	1.18	32.8	83.9	41
8	DP 12R224 B2R2	37.7	1780	3.8	1.21	31.3	82.5	41
9	DP 0912 B2RF	38.0	1775	4.6	1.13	30.3	82.7	41
10	DG 2570 B2RF	41.0	1696	4.5	1.14	29.6	82.0	31
11	SSG UA222	35.9	1696	3.9	1.23	30.8	83.2	41
12	PHY 339 WRF	38.0	1687	4.0	1.23	31.4	84.0	41
13	PHY 375 WRF	38.7	1687	4.1	1.13	29.1	81.5	41
14	NG 1511 B2RF	39.4	1680	4.5	1.19	29.9	83.5	41
15	PHY 499 WRF	39.7	1680	4.4	1.18	32.2	83.0	41
16	CG 3787 B2RF	39.3	1674	4.8	1.15	30.2	82.8	31
17	PHY 417 WRF	38.0	1643	3.7	1.11	29.4	80.2	31
18	PHY 427 WRF	36.1	1643	3.8	1.17	30.4	82.4	41
19	DP 12R242 B2R2	39.7	1627	4.6	1.15	28.9	82.5	31
20	BX 1347 GLB2	38.2	1626	4.1	1.15	29.6	79.5	31
21	DP 1311 B2RF	40.7	1622	4.2	1.16	28.7	81.8	31
22	DP 0920 B2RF	39.1	1611	4.3	1.15	28.7	82.9	41
23	PX 3003-10 WRF	38.2	1608	4.1	1.15	29.2	82.0	41
24	NGX 3331 B2RF	36.5	1601	4.4	1.14	31.3	83.9	41
25	CT13414	39.3	1585	4.2	1.20	30.6	82.6	31
26	FM 1944 GLB2	35.8	1584	3.8	1.23	33.9	82.3	31
27	ST 6448 GLB2	37.5	1582	4.1	1.25	31.1	82.5	41
28	AM 1550 B2RF	38.4	1573	4.2	1.15	27.9	82.8	31
29	SSG HQ210CT	35.5	1496	4.5	1.14	30.9	81.6	31
30	CG 3428 B2RF	39.5	1493	4.4	1.21	29.5	82.5	31
31	ST 4145 LLB2	35.1	1489	4.2	1.16	32.2	81.6	41
32	NG 5315 B2RF	39.7	1447	4.4	1.20	30.5	84.1	31
33	NGX 01338 B2RF	37.3	1437	4.0	1.22	31.0	81.4	31
<b>Average</b>		<b>38.4</b>	<b>1657</b>	<b>4.2</b>	<b>1.18</b>	<b>30.6</b>	<b>82.4</b>	
<b>LSD (0.05)</b>			<b>146</b>					

Tennessee AgResearch data of Wiggins et al. (2013). HVI data furnished by USDA, Memphis, TN.

**Table OVT7.** Plant height (inches), total number of nodes, height to node ratio, node of first fruiting branch (NFFB) nodes above cracked boll, and estimated DD60's remaining to maturity of 33 entries in the 2013 Tennessee Official Variety Trial, 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
AM 1550 B2RF	34.8	17.8	2.0	5.9	6.2	312
BX 1347 GLB2	34.8	18.0	1.9	6.1	5.5	274
CG 3428 B2RF	37.4	17.7	2.1	5.1	6.4	318
CG 3787 B2RF	38.9	17.7	2.2	5.5	6.2	308
CT13414	36.1	17.3	2.1	5.4	6.5	324
DG 2285 B2RF	34.3	17.2	2.0	4.9	6.1	307
DG 2570 B2RF	36.8	18.2	2.0	6.3	5.2	259
DP 0912 B2RF	35.5	18.0	2.0	5.4	6.4	319
DP 0920 B2RF	34.6	17.4	2.0	5.6	5.2	260
DP 12R224 B2R2	37.6	18.4	2.0	5.6	5.7	285
DP 12R242 B2R2	37.5	17.5	2.1	5.2	5.6	278
DP 1311 B2RF	35.2	18.2	1.9	5.9	5.2	258
DP 1321 B2RF	36.8	18.3	2.0	5.5	5.3	264
FM 1944 GLB2	34.1	17.5	1.9	5.8	5.4	270
NG 1511 B2RF	35.9	18.3	2.0	5.2	6.3	313
NG 5315 B2RF	41.5	18.0	2.3	5.5	7.0	351
NGX 01338 B2RF	34.8	18.5	1.9	5.2	7.0	352
NGX 3331 B2RF	37.2	17.9	2.1	5.6	5.3	267
PHY 333 WRF	37.4	16.9	2.2	5.4	5.0	251
PHY 339 WRF	39.9	19.0	2.1	6.0	6.1	306
PHY 375 WRF	35.4	17.7	2.0	5.4	5.6	280
PHY 417 WRF	36.4	18.0	2.0	5.6	4.6	232
PHY 427 WRF	39.4	18.5	2.1	5.5	5.5	274
PHY 499 WRF	40.1	18.8	2.1	5.6	6.0	299
PX 3003-10 WRF	41.2	18.4	2.2	5.8	5.8	288
PX 3750-01 WRF	35.4	17.8	2.0	6.0	5.5	275
PX 4444-13 WRF	35.8	20.6	1.9	5.8	6.0	299
PX 4444-14 WRF	37.5	18.1	2.1	5.6	5.6	281
SSG HQ210CT	32.7	18.8	1.7	5.6	6.3	314
SSG UA222	34.5	18.3	1.9	5.7	6.7	335
ST 4145 LLB2	36.9	18.5	2.0	5.5	5.9	294
ST 4946 GLB2	34.6	18.1	1.9	5.9	6.1	306
ST 6448 GLB2	39.4	19.9	2.0	5.4	7.5	376
<b>Average</b>	<b>36.7</b>	<b>18.2</b>	<b>2.0</b>	<b>5.6</b>	<b>5.9</b>	<b>295</b>
<b>LSD (0.05)</b>	<b>2.4</b>	<b>1.6</b>	<b>0.1</b>	<b>0.4</b>	<b>1.1</b>	<b>55</b>

<sup>1</sup>NFFB = Mode 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 = degree-days, base 60 F. DD60 to maturity = NACB x (50 DD60/node) to open highest harvestable boll.

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

**Table OVT8.** Gin turnout and lint yield of varieties common to Tennessee OVT's from 2012 and 2013 averages, listed by yield rank.

Yield							
Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber Strength	Uniformity
		%	lb/ac		in	g/tex	%
1	PHY 499 WRF	40.2	1501	4.5	1.16	33.4	83.9
2	DP 1321 B2RF	38.1	1481	4.6	1.16	32.0	83.3
3	PHY 339 WRF	37.8	1447	4.2	1.19	31.7	83.0
4	PHY 375 WRF	38.8	1426	4.3	1.14	29.8	82.2
5	DP 0912 B2RF	37.0	1414	4.7	1.12	31.4	82.7
6	NG 1511 B2RF	38.6	1405	4.5	1.15	31.2	82.9
7	ST 4946 GLB2	36.9	1378	4.4	1.17	32.5	83.1
8	DG 2570 B2RF	36.8	1368	4.5	1.14	30.2	82.7
9	AM 1550 B2RF	37.6	1362	4.4	1.14	29.9	82.3
10	CG 3787 B2RF	38.1	1347	4.4	1.16	29.9	82.7
11	FM 1944 GLB2	36.1	1344	4.2	1.19	32.4	82.0
12	DP 1311 B2RF	38.7	1332	4.4	1.14	29.6	82.2
13	SSG UA222	36.8	1330	4.2	1.22	31.8	83.4
14	DP 0920 B2RF	37.8	1322	4.5	1.15	29.8	82.3
15	ST 4145 LLB2	35.5	1308	4.3	1.14	31.1	82.3
16	ST 6448 GLB2	35.4	1273	4.2	1.19	30.7	82.1
<b>AVERAGE</b>		<b>37.5</b>	<b>1377</b>	<b>4.4</b>	<b>1.16</b>	<b>31.1</b>	<b>82.7</b>
<b>LSD (0.05)</b>		<b>0.7</b>	<b>NS</b>	<b>NS</b>	<b>0.02</b>	<b>1.3</b>	<b>0.9</b>

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

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

**Table OVT9.** Gin turnout and lint yield of varieties common to Tennessee OVT's from 2011, 2012 and 2013 averages, listed by yield rank.

Yield							
Rank	Variety	Gin Turnout	Lint Yield	Micronaire	Fiber Length	Fiber Strength	Uniformity
		%	lb/ac		in	g/tex	%
1	PHY 499 WRF	40.1	1455	4.7	1.17	34.0	83.9
2	DP 0912 B2RF	37.4	1419	4.8	1.12	31.7	82.9
3	NG 1511 B2RF	39.2	1375	4.6	1.14	31.9	83.2
4	DG 2570 B2RF	38.2	1370	4.5	1.14	31.0	83.1
5	PHY 375 WRF	38.5	1340	4.3	1.16	31.0	82.4
6	ST 4145 LLB2	36.4	1323	4.4	1.16	32.1	83.1
7	DP 0920 B2RF	38.4	1302	4.6	1.15	30.5	82.6
4	AM 1550 B2RF	38.1	1287	4.4	1.12	30.0	82.4
<b>AVERAGE</b>		<b>38.3</b>	<b>1359</b>	<b>4.5</b>	<b>1.15</b>	<b>31.5</b>	<b>83.0</b>
<b>LSD (0.05)</b>		<b>0.5</b>	<b>NS</b>	<b>0.21</b>	<b>0.02</b>	<b>1.1</b>	<b>0.9</b>

Tennessee AgResearch data of Main et al. ( 2011, 2012).

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

## **COUNTY STANDARD TEST DEMONSTRATIONS**

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County Standard Trial demonstrations were conducted to evaluate commercial cultivar performance in multiple large plot environments. County standard testing included only Roundup Ready Flex cultivars. County standard tests were planted in 9 locations each containing 13 cultivars. Each cultivar was planted in only one plot at each location and was maintained using the individual grower's production practices. Seedcotton harvested from each plot was weighed and sampled at picking. Samples were weighed, air dried, and ginned at the West Tennessee Research and Education Center as described above. A sub sample of lint of each entry was analyzed by HVI and hand-classing procedures at the USDA Cotton Classing Office in Memphis, TN. Statistical analysis was not possible for each location but overall yield and fiber quality data were analyzed using SAS Proc MIXED with locations as replications. All locations were produced without irrigation except the Shelby county trial which had both irrigated and non-irrigated trials.

**Table CST1.** Results of Roundup Ready Flex cotton variety test, all locations averaged, 2013.

Yield										
Rank	Variety	(%)	(lb./acre)	(inches)	(g/tex)	(%)	(%)	(%)	(%)	(¢/lb.)
1	ST 4946 GLB2	36.8	862	4.3	1.16	31.3	82.8	41-2	5	51.70
2	DP 0920 B2RF	37.7	841	4.3	1.11	28.2	80.6	41-2	4	53.35
3	DP 1321 B2RF	36.2	840	4.2	1.15	30.9	82.6	41-2	5	51.70
4	PHY 339 WRF	36.8	826	3.9	1.17	30.8	82.4	41-2	4	53.75
5	DP 0912 B2RF	35.0	822	4.2	1.10	29.4	82.1	41-2	5	50.95
6	DG 2570 B2RF	37.5	814	4.2	1.13	29.7	82.0	41-2	4	53.65
7	PHY 499 WRF	37.7	776	4.1	1.14	31.4	82.5	41-2	5	51.85
8	AM 1550 B2RF	36.4	775	4.0	1.11	28.4	81.7	41-2	4	53.50
9	NG 1511 B2RF	37.5	745	4.2	1.14	31.5	82.6	41-2	5	51.85
10	DP 1311 B2RF	37.1	736	3.8	1.12	28.3	80.6	41-2	5	51.50
11	PHY 375 WRF	36.5	720	3.7	1.13	29.3	82.3	41-2	5	51.65
12	FM 1944 GLB2	34.6	714	4.0	1.18	31.6	81.4	41-2	4	53.85
13	ST 6448 GLB2	33.9	663	3.7	1.19	30.3	81.6	41-2	5	51.65
<b>Mean</b>		<b>36.4</b>	<b>780</b>	<b>4.0</b>	<b>1.14</b>	<b>30.1</b>	<b>81.9</b>		<b>5</b>	<b>52.38</b>
<b>LSD</b>		<b>1.4</b>	<b>103</b>	<b>0.2</b>	<b>0.02</b>	<b>1.2</b>	<b>1.1</b>		<b>0.93</b>	

**Table CST2.** Results of Roundup Ready Flex cotton variety test, Crockett County, 2013.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber Length	Strength	Uniformity	HVI Color	Loan Value
		(%)	(lb./acre)		(inches)	(g/tex)	(%)		(¢/lb.)
1	ST 4946 GLB2	34.6	828	3.8	1.19	33.9	83.6	42-1	47.95
2	DP 0912 B2RF	34.0	827	3.6	1.1	29.1	81.9	42-1	47.35
3	FM 1944 GLB2	33.0	780	3.5	1.19	31.7	81.9	31-4	53.75
4	DP 1321 B2RF	34.6	753	3.6	1.16	31.9	82.9	42-1	47.75
5	DG 2570 B2RF	35.4	737	3.5	1.14	31	82.2	32-2	48.15
6	ST 6448 GLB2	33.4	732	3.2	1.18	31.3	82.3	31-4	46.55
7	NG 1511 B2RF	35.5	698	3.6	1.18	33.3	82.5	43-1	45.60
8	PHY 375 WRF	33.6	683	3.1	1.17	30.2	81.9	32-2	46.55
9	PHY 499 WRF	34.5	670	3.4	1.16	31.8	83	42-1	44.35
10	PHY 339 WRF	33.6	668	3.3	1.17	32.9	82.8	32-2	46.45
11	DP 1311 B2RF	33.9	663	3.3	1.12	28.8	81.1	42-1	47.95
12	AM 1550 B2RF	34.6	649	3.5	1.1	29.7	81.1	32-2	49.15
13	DP 0920 B2RF	33.6	626	3.4	1.15	29.6	81.9	42-1	49.90
<b>Mean</b>		<b>34.2</b>	<b>717</b>	<b>3.4</b>	<b>1.15</b>	<b>31.2</b>	<b>82.2</b>		<b>47.80</b>

**Grower:** Kevin Earnheart**Agent:** Richard Buntin



**Table CST3.** Results of Roundup Ready Flex cotton variety test, Dyer County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		Uniformity (%)	HVI	Loan Value (¢/lb.)
					Length (inches)	Strength (g/tex)		Color	
1	DP 1321 B2RF	35.7	820	4.6	1.18	31.1	84.6	31-3	56.90
2	PHY 339 WRF	38.5	817	4.2	1.18	32.8	82.5	31-2	56.90
3	AM 1550 B2RF	35.9	760	4.2	1.13	31.3	83	31-3	56.85
4	DP 0920 B2RF	37.5	745	4.6	1.16	30.7	82.1	31-1	56.60
5	ST 4946 GLB2	37.2	740	4.8	1.17	31.5	82.4	21-2	57.30
6	DP 0912 B2RF	36.1	687	4.5	1.12	31	81.6	31-1	55.00
7	DG 2570 B2RF	37.6	644	4.8	1.13	28.7	81	31-1	56.30
8	ST 6448 GLB2	35.4	637	4	1.21	31.6	82.2	31-2	53.95
9	NG 1511 B2RF	40.3	614	4.6	1.12	32.7	81.4	31-1	55.00
10	DP 1311 B2RF	39.3	601	4.5	1.12	27.8	80.2	31-2	54.70
11	PHY 499 WRF	37.9	600	4.3	1.18	32.7	83	32-1	52.30
12	PHY 375 WRF	37.2	545	4	1.16	29.7	83.2	31-1	55.15
13	FM 1944 GLB2	35.9	483	4.7	1.22	32.3	82.8	31-1	56.75
<b>Mean</b>		<b>37.3</b>	<b>669</b>	<b>4.4</b>	<b>1.16</b>	<b>31.1</b>	<b>82.3</b>		<b>55.67</b>

**Grower:** Johnny Dodson

**Agent:** Tim Campbell

**Table CST4.** Results of Roundup Ready Flex cotton variety test, Haywood County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI	
					Length (inches)	Strength (g/tex)	Uniformity (%)	Color	Loan Value (¢/lb.)
1	DP 0912 B2RF	36.4	525	4.4	1.06	29.9	81.6	31-2	53.60
2	DG 2570 B2RF	37.7	519	4.7	1.06	29.5	81.8	31-1	53.70
3	PHY 499 WRF	40.4	502	4.4	1.04	28.7	82.4	31-2	51.40
4	ST 4946 GLB2	37.1	494	4.5	1.1	32.4	80.8	31-2	55.75
5	NG 1511 B2RF	37.6	473	4.4	1.06	30.2	79.4	31-2	53.40
6	PHY 375 WRF	36.5	435	3.9	1.07	28.7	80.7	31-2	53.65
7	DP 1311 B2RF	36.8	412	4.4	1.06	31	81.7	31-1	53.80
8	PHY 339 WRF	39.0	395	4.3	1.11	31.4	82.1	31-1	56.65
9	DP 1321 B2RF	38.8	387	4.3	1.08	31	82.5	31-1	55.80
10	FM 1944 GLB2	36.3	348	4	1.1	30	79.8	31-1	55.40
11	ST 6448 GLB2	31.8	310	4.1	1.18	29.9	82.7	41-2	49.15
12	AM 1550 B2RF	37.6	303	4.3	1.06	28.4	81.5	31-1	53.50
<b>Mean</b>		<b>37.2</b>	<b>425</b>	<b>4.3</b>	<b>1.08</b>	<b>30.1</b>	<b>81.4</b>		<b>53.82</b>

**Grower:** Chester King

**Agent:** Walter Battle

**Table CST5.** Results of Roundup Ready Flex cotton variety test, Lake County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber Length (inches)	Strength (g/tex)	Uniformity (%)	HVI Color	Loan Value (¢/lb.)
1	DP 0920 B2RF	37.8	741	4.2	1.09	27.5	80.5	31-2	55.60
2	DG 2570 B2RF	36.0	711	3.8	1.1	29.5	81.6	21-4	56.05
3	DP 1321 B2RF	36.8	697	4.1	1.11	30.7	81.6	21-2	55.40
4	DP 1311 B2RF	38.2	681	3.7	1.11	29.3	80	31-2	53.60
5	PHY 339 WRF	36.3	680	3.7	1.14	28.9	81.8	31-2	54.95
6	PHY 375 WRF	35.6	677	3.1	1.12	30.6	83.3	31-1	46.40
7	ST 4946 GLB2	35.0	668	4	1.11	30.5	81.4	41-3	49.15
8	AM 1550 B2RF	37.1	667	3.9	1.06	27	79.8	21-4	53.65
9	PHY 499 WRF	35.8	635	3.7	1.11	32.7	82	31-3	50.05
10	DP 0912 B2RF	33.2	573	3.6	1.09	31.4	82.5	41-3	47.10
11	FM 1944 GLB2	31.2	569	3.3	1.17	31.8	80.4	31-1	52.05
12	NG 1511 B2RF	35.1	552	3.5	1.1	31.1	83.1	32-1	48.05
13	ST 6448 GLB2	32.5	495	3.4	1.18	30.3	81.6	31-2	48.05
<b>Mean</b>		<b>35.4</b>	<b>642</b>	<b>3.7</b>	<b>1.11</b>	<b>30.1</b>	<b>81.5</b>		<b>51.55</b>

**Grower:** Tony Bargery

**Agent:** Gregory Allen

**Table CST6.** Results of Roundup Ready Flex cotton variety test, Lauderdale County, 2013.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber Length	Strength	Uniformity	HVI	Loan Value
		(%)	(lb./acre)		(inches)			(g/tex)	
1	DG 2570 B2RF	40.2	1041	4.3	1.15	31.9	83.6	31-2	55.20
2	DP 0912 B2RF	37.4	974	4.5	1.1	28	83.3	41-1	50.75
3	AM 1550 B2RF	38.8	970	4.1	1.12	27.8	82.9	41-1	54.20
4	PHY 499 WRF	41.4	968	4.5	1.14	31.6	84.4	41-1	53.90
5	DP 1311 B2RF	40.0	921	3.9	1.12	28.2	82.3	41-1	49.05
6	ST 4946 GLB2	38.5	921	4.6	1.14	30.8	83.3	41-1	53.65
7	DP 1321 B2RF	37.2	914	4.3	1.17	31.6	83.5	31-2	55.20
8	NG 1511 B2RF	38.2	878	4.5	1.16	30.7	83.2	41-1	51.60
9	DP 0920 B2RF	39.7	877	4.3	1.11	28.3	80.3	41-1	53.35
10	PHY 339 WRF	38.2	759	4	1.19	30.9	83.3	41-1	51.75
11	FM 1944 GLB2	36.8	738	4.1	1.21	33.3	82.9	41-1	51.85
12	PHY 375 WRF	40.0	701	4.1	1.13	29.6	83.2	41-1	51.70
13	ST 6448 GLB2	35.1	530	3.9	1.21	31.1	83	41-1	51.90
<b>Mean</b>		<b>38.6</b>	<b>861</b>	<b>4.2</b>	<b>1.15</b>	<b>30.3</b>	<b>83.0</b>		<b>52.62</b>

**Grower:** Leslie Crook

**Agent:** J.C. Dupree

**Table CST7.** Results of Roundup Ready Flex cotton variety test, Lincoln County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber			HVI	
					Length (inches)	Strength (g/tex)	Uniformity (%)	Color	Loan Value (¢/lb.)
1	DP 1311 B2RF	42.5	538	4.2	1.14	28.8	81.3	41-1	51.50
2	DP 0912 B2RF	38.8	532	4.7	1.1	29.7	82.2	43-1	48.50
3	ST 6448 GLB2	38.3	516	4.3	1.12	28.5	80.3	32-2	49.80
4	DP 0920 B2RF	40.0	459	4.5	1.09	27.9	79.9	32-2	51.80
5	PHY 339 WRF	37.4	443	3.9	1.16	30.3	83	42-1	49.60
6	DP 1321 B2RF	41.1	419	4.6	1.09	28.7	81.7	32-1	51.35
7	PHY 499 WRF	40.1	418	4.4	1.16	32	84.2	43-4	45.75
8	ST 4946 GLB2	41.0	415	4.3	1.12	33.4	82.8	32-2	50.15
9	DG 2570 B2RF	39.2	403	4.2	1.13	29.2	82.7	33-2	49.95
10	NG 1511 B2RF	41.4	398	4.6	1.11	29.1	82.7	42-1	51.30
11	AM 1550 B2RF	38.3	387	4	1.16	29.7	83.3	33-2	50.50
12	FM 1944 GLB2	37.2	376	4.2	1.18	32.5	81	42-1	51.60
13	PHY 375 WRF	38.8	353	3.3	1.1	29.6	81.1	41-3	51.20
<b>Mean</b>		<b>39.5</b>	<b>435</b>	<b>4.2</b>	<b>1.13</b>	<b>30.0</b>	<b>82.0</b>		<b>50.23</b>

**Grower:** JBH Farms

**Agent:** David Qualls

**Table CST8.** Results of Roundup Ready Flex cotton variety test, Madison County, 2013.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber	Strength	Uniformity	HVI	Loan Value
		(%)	(lb./acre)		Length			Color	
					(inches)	(g/tex)	(%)		(¢/lb.)
1	PHY 339 WRF	37.9	1027	4.1	1.19	29	82.3	31-3	56.70
2	DP 0912 B2RF	39.4	1004	5.1	1.12	29.4	82.7	31-3	52.15
3	ST 4946 GLB2	39.2	987	4.9	1.17	31	84.1	32-2	50.30
4	DP 1321 B2RF	37.7	923	4.7	1.18	30.1	84.3	42-1	49.55
5	PHY 375 WRF	39.2	920	4.3	1.16	29	83.1	41-3	53.60
6	PHY 499 WRF	39.5	911	4.7	1.16	32.3	82.9	32-2	53.10
7	NG 1511 B2RF	39.5	883	4.6	1.12	33.8	82.6	42-1	51.50
8	FM 1944 GLB2	37.0	856	4.3	1.23	31.3	82.4	41-1	51.70
9	DG 2570 B2RF	35.4	825	4.7	1.14	30.4	82.7	32-2	52.95
10	AM 1550 B2RF	37.1	800	4.4	1.15	28.4	83.1	42-1	51.25
11	DP 1311 B2RF	39.5	753	4.2	1.17	29.2	81	41-2	49.10
12	ST 6448 GLB2	35.8	636	3.9	1.21	29.1	81.5	42-1	49.45
<b>Mean</b>		<b>38.1</b>	<b>877</b>	<b>4.5</b>	<b>1.17</b>	<b>30.3</b>	<b>82.7</b>		<b>51.78</b>

**Grower:** Wards's Grove LLC**Agent:** Jake Mallard**Table CST9.** Results of Roundup Ready Flex cotton variety test, Madison County, 2013.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber	Strength	Uniformity	HVI	Loan Value
		(%)	(lb./acre)		Length			Color	
					(inches)	(g/tex)	(%)		(¢/lb.)
1	PHY 339 WRF	40.8	1255	3.9	1.16	30.8	82.2	41-1	51.70
2	DP 0920 B2RF	42.2	1224	4.4	1.07	26.5	80.1	32-2	49.00
3	ST 4946 GLB2	39.5	1194	4.5	1.12	30.2	82.1	42-1	47.60
4	PHY 499 WRF	40.4	1168	4	1.14	29.3	81.4	43-2	12.25
5	DP 1321 B2RF	37.5	1126	4.2	1.13	28.8	81.3	43-2	44.35
6	DP 0912 B2RF	36.0	1083	4.1	1.08	29.5	81	43-1	45.45
7	FM 1944 GLB2	37.2	1069	4.2	1.16	30.5	81.8	31-2	55.10
8	DG 2570 B2RF	40.0	1061	4.4	1.12	29.5	82.2	32-1	52.85
9	NG 1511 B2RF	39.0	1017	4.2	1.15	30.5	83.6	43-2	45.65
10	AM 1550 B2RF	38.4	989	3.8	1.1	27.6	80.7	32-2	51.50
11	DP 1311 B2RF	38.1	983	3.5	1.1	27.1	78.8	41-3	46.20
12	PHY 375 WRF	38.1	897	4.1	1.08	26.8	81	42-2	50.80
13	ST 6448 GLB2	33.6	897	3.2	1.2	29.6	81.8	42-1	42.35
<b>Mean</b>		<b>38.5</b>	<b>1074</b>	<b>4.0</b>	<b>1.12</b>	<b>29.0</b>	<b>81.4</b>		<b>45.75</b>

**Grower:** Matt Griggs**Agent:** Jake Mallard

**Table CST10.** Results of Roundup Ready Flex cotton variety test, Shelby County, 2013.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb./acre)	Mic	Fiber		Uniformity (%)	HVI	
					Length (inches)	Strength (g/tex)		Color	Loan Value (¢/lb.)
1	DP 0920 B2RF	35.6	831	4.7	1.1	26.6	78.9	31-1	54.90
2	ST 4946 GLB2	36.1	820	4.1	1.2	31.1	83.9	21-2	57.50
3	PHY 375 WRF	34.3	814	4	1.13	28.7	80.9	31-1	56.45
4	DP 0912 B2RF	33.4	790	4.8	1.09	27.1	82.2	21-1	55.85
5	PHY 339 WRF	33.6	777	4.5	1.17	28.3	81.8	31-1	56.40
6	DP 1321 B2RF	35.5	729	4.4	1.15	31	81.8	31-2	56.70
7	NG 1511 B2RF	36.7	708	4.5	1.13	30.9	81.7	31-2	54.85
8	DG 2570 B2RF	35.5	687	4.5	1.12	27.8	81.2	21-2	56.75
9	ST 6448 GLB2	33.5	687	4.4	1.14	28.1	78.5	51-1	49.70
10	FM 1944 GLB2	33.3	647	4.3	1.15	29.7	78.7	21-1	56.50
11	AM 1550 B2RF	33.7	614	4.4	1.13	27	82.5	21-2	56.80
12	PHY 499 WRF	36.3	613	4.6	1.13	30.5	81.1	31-2	56.45
13	DP 1311 B2RF	33.0	566	4.1	1.14	28.5	81.2	31-1	56.55
<b>Mean</b>		<b>34.7</b>	<b>714</b>	<b>4.4</b>	<b>1.14</b>	<b>28.9</b>	<b>81.1</b>		<b>55.80</b>

**Grower:** Ray Sneed

**Agent:** Becky Muller

**Table CST11.** Gin turnout and lint yield of varieties common to Tennessee Roundup Ready Flex CST's from 2012 and 2013 year averages, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber	Strength	Uniformity	HVI	
		(%)	(lb./acre)		Length			Color	Loan Value
		(%)	(lb./acre)		(inches)	(g/tex)	(%)	(¢/lb.)	
1	DG 2570 B2RF	38.6	883	4.6	1.12	30.5	82.3	4	53.55
2	NG 1511 B2RF	40.0	876	4.5	1.13	31.8	82.6	5	51.70
3	DP 0920 B2RF	38.5	875	4.6	1.12	29.0	81.3	4	53.45
4	PHY 499 WRF	36.9	866	4.7	1.09	29.7	82.1	5	50.80
5	AM 1550 B2RF	38.0	860	4.4	1.10	28.5	81.8	4	52.80
6	PHY 375 WRF	39.1	832	4.6	1.12	31.6	82.6	5	51.70
7	DP 0912 B2RF	38.4	828	4.3	1.11	29.5	82.1	5	51.50
<b>AVERAGE</b>		<b>38.5</b>	<b>860</b>	<b>4.5</b>	<b>1.11</b>	<b>30.1</b>	<b>82.1</b>	<b>5</b>	<b>52.21</b>
<b>LSD (0.05)</b>		<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>1.1</b>	<b>NS</b>		

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

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

**Table CST12.** Gin turnout and lint yield of varieties common to Tennessee Roundup Ready Flex CST's from 2011, 2012 and 2013 year averages, listed by yield rank.

Yield Rank	Variety	Gin Turnout	Lint Yield	Mic	Fiber	Strength	Uniformity	HVI	
		(%)	(lb./acre)		Length			Color	Loan Value
		(%)	(lb./acre)		(inches)	(g/tex)	(%)	(¢/lb.)	
1	DG 2570 B2RF	38.7	919	4.6	1.12	31.2	82.5	3	54.35
2	PHY 499 WRF	39.6	897	4.5	1.13	32.8	86.1	4	53.95
3	DP 0920 B2RF	38.5	892	4.6	1.12	29.6	81.6	3	54.10
4	AM 1511 B2RF	39.0	883	4.6	1.11	31.9	82.6	4	53.70
5	DP 0912 B2RF	36.9	862	4.7	1.09	30.4	82.1	4	53.00
6	PHY 375 WRF	38.4	858	4.3	1.11	30.3	82.2	4	53.55
<b>AVERAGE</b>		<b>38.5</b>	<b>885</b>	<b>4.6</b>	<b>1.11</b>	<b>31.0</b>	<b>82.9</b>	<b>4</b>	
<b>LSD (0.05)</b>		<b>0.95</b>	<b>NS</b>	<b>0.19</b>	<b>NS</b>	<b>0.8</b>	<b>NS</b>		

Tennessee AgResearch data of Main et al. (2011, 2012).

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



## GLOSSARY OF TERMS

**Bt cotton:** A variety containing genes from the bacterium, *Bacillus thuringiensis*, that confer resistance to certain lepidopterous insect pests such as tobacco budworm. Abbreviated **B** or **BG** in a variety name. **BII** or **B2** indicates that the variety carries a second *Bt* gene.

**CCC:** Commodity Credit Corporation, an entity administered by the Farm Services Agency of the USDA.

**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.

**CST:** County Standard Test of cotton.

**CV:** Coefficient of variation. It is 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.

**DAP:** Days after planting.

**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.

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

**HVI:** High Volume Instrument measurement of fiber length, strength, Micronaire, length uniformity, trash, and color.

**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.

**HNR:** Height-to-node ratio of the main stem, a measure of vegetative vigor.

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

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

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

Source: USDA (1999)

**Lint yield:** Weight of lint harvested per unit ground area.

**Liberty Link:** Designation in a variety name that indicates resistance to glufosinate herbicide.

**LSD:** Least significant difference. It is a 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 **Mike** or **Mic**. No decimal point is used by the USDA (1999) in reporting micronaire values, while others report values in tenths of units.

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

Source: USDA (1999)

**NACB:** 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.

**NAWF:** 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.

**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.

**OVT:** Official variety trial. A replicated small-plot test conducted at several locations to evaluate the adaptation of the most promising commercial cultivars for Tennessee.

**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).

**RCB:** Randomized complete block. An experimental design in which all treatments (varieties) are randomly assigned to plots in separate blocks (replications) in the field.

**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<sup>®</sup>:** A variety containing genes that confer resistance to glyphosate herbicide that may be sprayed topically until the fifth true leaf reaches the size of a quarter. Subsequent glyphosate applications must be directed towards the base of the plant. Usually abbreviated **R** or **RR** in a variety name.

**Roundup Ready Flex<sup>®</sup>:** A variety containing genes that confer resistance to glyphosate herbicide that may be sprayed topically beyond the fifth true leaf stage. Usually abbreviated **F** or **RF** in a variety name.

**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  $\frac{1}{8}$  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).

**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 variety containing a pair of genes from the bacterium, *Bacillus thuringiensis*, that confer resistance to certain lepidopterous insect pests such as tobacco budworm. Sometimes abbreviated **W** in a variety name.

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