

Cotton Variety Guide | 2015

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2014 Tennessee Cotton Variety Trials

The University of Tennessee Cotton Variety Testing Program provides an unbiased evaluation of experimental and commercial varieties available for production in Tennessee. The program consists of two major types of trials: the Official Variety Trials (OVTs) and the County Standard Trials (CSTs). The OVTs are small plot, replicated variety trials typically located on AgResearch and Education Centers and are composed of experimental and commercial varieties. The CSTs are large plot variety trials located throughout Western and Central regions of Tennessee and are only composed of major commercial cultivars. Five OVTs and 14 CSTs were conducted during the 2014 season (Fig.1).

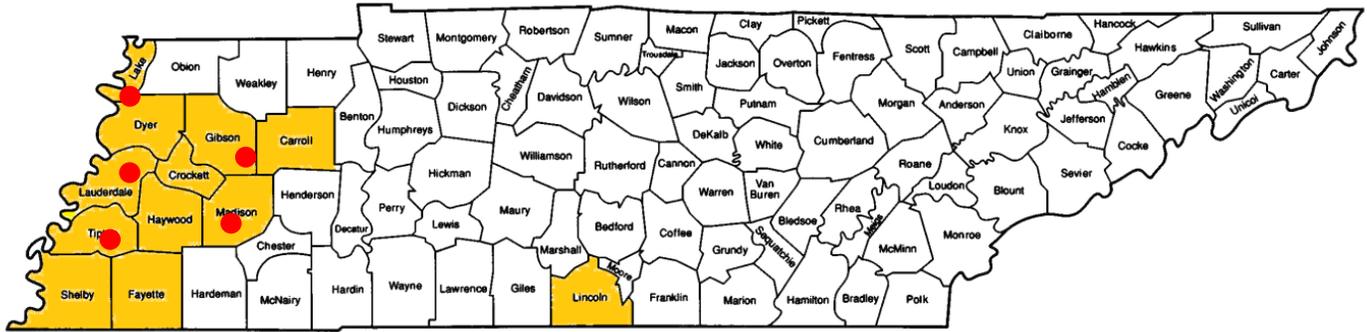


Figure 1: County map of Tennessee, with counties participating in the 2014 Large-Plot Variety Trial Program highlighted in orange. Red points represent locations of the 2014 Official Variety Trials.

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

Information reported in this publication includes average gin turnout, lint yield, and fiber quality averaged by program. This brief report serves as a precursor for the 2014 Tennessee Cotton Variety Trial Results (PB 1742). Specific results from each trial location and plant growth measurements are included in PB 1742.

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

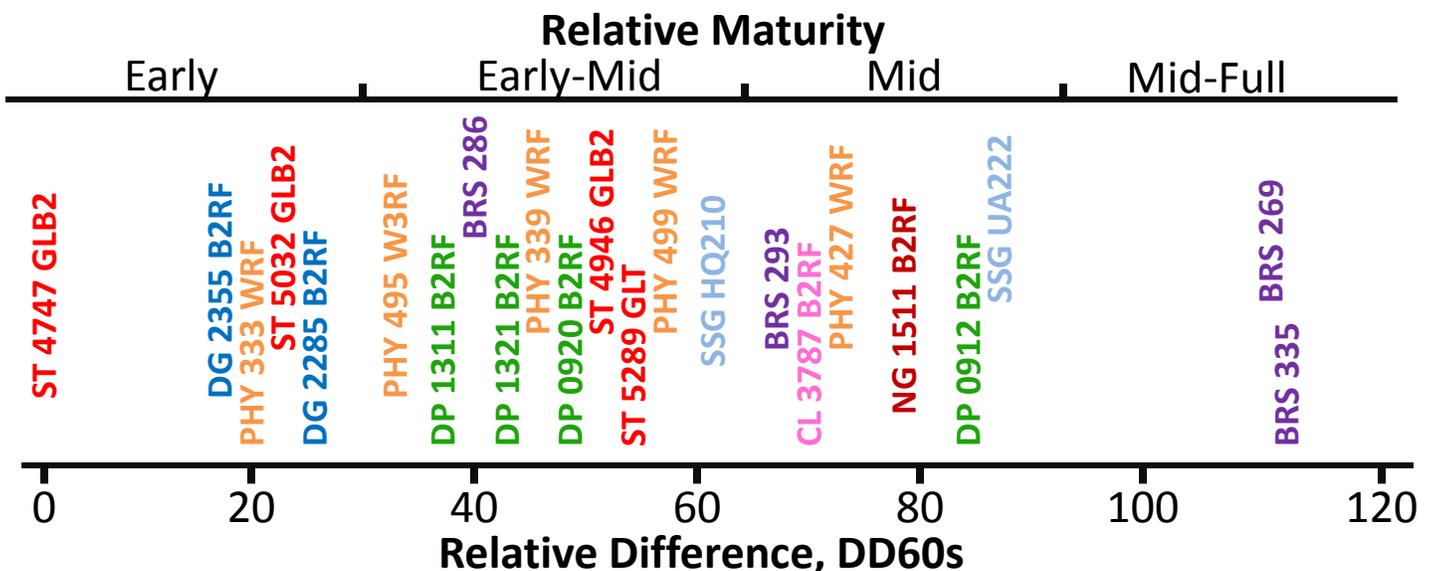


Figure 2: Relative difference in DD60s to reach 100% open calculated from nodes above cracked boll measurements collected at Official Variety Trials in Jackson, TN and Ridgely, TN.

Commercial Varieties

Lint yield, gin turnout, fiber quality, and CCC loan value of 15 entries entered in the 2014 Tennessee County Standard Trial Program.*

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

*Mean and LSD values were calculated from 15 varieties planted and harvested in eleven 2014 Tennessee County Standard Trials.

Two Year CST Averages

Lint yield, gin turnout, fiber quality and CCC loan value of 8 like-entries in the 2013 and 2014 Tennessee County Standard Trial Programs.**

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

**Mean and LSD values were calculated from 8 identical-entries in the 2013 and 2014 Tennessee County Standard Trials. Table compiled from Tennessee AgResearch data of Wiggins et al. (2013) and Raper et al. (2014).

Commercial and Pre-Commercial Varieties

Lint yield, gin turnout, and fiber quality of 35 entries in the 2014 Tennessee Official Variety Trial averaged over all four locations, listed by yield rank.

Yield Rank	Variety	Gin Turnout (%)	Lint Yield (lb/ac)	Micronaire	Fiber Length (in.)	Strength (g/tex)	Uniformity (%)
1	PHY 333 WRF	41.5	1655	4.1	1.15	30.5	80.1
2	ST 4946 GLB2	38.6	1409	4.5	1.14	31.0	81.5
3	PX3122-b51WRF	37.8	1407	4.1	1.16	29.9	81.5
4	PX3003-04WRF	36.2	1389	4.2	1.15	32.4	81.5
5	PHY 495 W3RF	40.0	1368	4.2	1.13	32.4	82.4
6	ST 4747 GLB2	37.5	1340	4.3	1.14	28.5	79.1
7	DP 1321 B2RF	39.2	1339	4.6	1.14	30.0	82.3
8	BX 1534GLT	38.1	1322	4.1	1.12	30.0	81.1
9	DP 0920 B2RF	39.2	1320	4.4	1.11	27.7	80.6
10	ST 5032 GLB2	37.3	1312	3.9	1.16	30.1	80.4
11	PX3003-XXWRF	37.8	1310	4.1	1.15	31.4	81.3
12	NG 1511 B2RF	40.1	1310	4.6	1.11	30.2	81.9
13	PX3003-10WRF	37.6	1298	4.1	1.11	30.0	80.6
14	DP 0912 B2RF	38.0	1287	4.7	1.09	29.5	81.3
15	MON 12R224B2R2	37.1	1281	4.0	1.15	30.2	81.2
16	DG 2285 B2RF	37.5	1280	4.4	1.13	29.1	81.3
17	PHY 427 WRF	36.7	1269	4.0	1.13	30.7	80.9
18	PHY 339 WRF	38.1	1263	3.9	1.15	30.5	81.9
19	PHY 499 WRF	39.6	1255	4.4	1.13	32.2	81.7
20	DP 1311 B2RF	38.8	1250	4.1	1.12	28.8	80.8
21	CL 3787 B2RF	39.3	1219	4.2	1.13	28.7	80.6
22	PX4444-13WRF	38.4	1213	3.6	1.21	31.1	80.5
23	BX 1531GLT	39.4	1188	4.3	1.14	28.5	81.2
24	BX 1533GLT	36.2	1163	4.2	1.21	33.3	82.1
25	ST 5289 GLT	36.8	1155	4.3	1.13	29.3	80.7
26	BX 1535GLT	36.2	1143	4.0	1.18	32.7	81.7
27	DG 2355 B2RF	35.0	1133	4.2	1.15	30.9	81.8
28	SSG UA 222	37.3	1086	4.2	1.17	30.4	81.0
29	BX 1532GLT	41.1	1084	4.1	1.13	29.0	81.0
30	SSG HQ 210	35.9	1010	4.4	1.12	31.8	81.6
31	BRS-293	36.2	988	4.5	1.13	32.6	82.1
32	CT14515	41.2	988	4.3	1.16	31.3	81.2
33	BRS-335	35.8	923	4.3	1.14	30.9	80.3
34	BRS-286	35.8	864	4.3	1.13	31.3	80.6
35	BRS-269	34.8	749	4.2	1.14	32.2	80.8
Average		37.9	1218.5	4.2	1.1	30.5	81.1
LSD (p<0.05)		2.3	140	0.2	0.03	1.8	1.5

*Mean and LSD values were calculated from 35 entries planted and harvested in four 2014 Tennessee Official Variety Trials.

Two Year OVT Averages

Lint yield, gin turnout, and fiber quality of 18 like-entries entered in the 2013 and 2014 Tennessee Official Variety Trial Programs.*

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

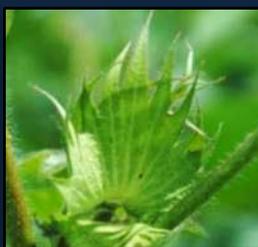
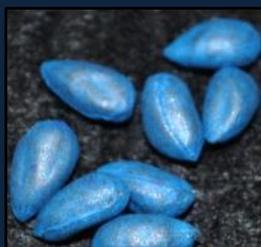
*Mean and LSD values were calculated from 10 identical-entries in the 2013 and 2014 Tennessee Official Variety Trials. Table compiled from Tennessee AgResearch data of Wiggins et al. (2013) and Raper et al. (2014).

Three Year OVT Averages

Lint yield, gin turnout, and fiber quality of 10 like-entries in the 2012, 2013 and 2014 Tennessee Official Variety Trial Programs.**

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

**Mean and LSD values were calculated from 10 identical-entries in the 2012, 2013 and 2014 Tennessee Official Variety Trials. Table compiled from Tennessee AgResearch data of Main et al. (2012), Wiggins et al. (2013) and Raper et al. (2014).



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