

# Cotton Variety Guide | 2018



**UT Cotton Agronomy**  
Department of Plant Sciences  
University of Tennessee



Tyson B. Raper, Cotton and Small Grains Specialist  
Department of Plant Sciences

## Contributing Authors

Ryan H. Blair	Extension Area Specialist	UT Extension
Shawn Butler	Research Associate	Department of Plant Sciences
Dalton McCurley	Research Specialist	Department of Plant Sciences
J. Richard Buntin	Ext Agent III & Director, Crockett Co	UT Extension
Philip W. Shelby	Ext Agent III, Gibson Co	UT Extension
Jake Mallard	Extension Agent II, Madison Co	UT Extension
Lindsay Griffin	Extension Agent I, Haywood Co	UT Extension

## 2017 Tennessee Cotton Variety Trials

The University of Tennessee Cotton Agronomy Program provides an unbiased evaluation of experimental and commercial varieties available for production in Tennessee each year. The 2017 program consisted of three types of trials: the Official Variety Trials (OVTs), large replicated on-farm variety trials, and the County Standard Trials (CSTs). The OVTs are small plot, replicated variety trials composed of experimental and commercial varieties. The large replicated on-farm trials and CSTs are large plot variety trials located throughout the Western and Central regions of Tennessee and are only composed of major commercial cultivars. Six OVTs, three large replicated trials, and 15 CSTs were conducted during the 2017 season (Fig.1).



**Figure 1:** County map of Tennessee, with counties participating in the 2017 Large-Plot Variety Trial Program highlighted in orange. Red points represent planted locations of the 2017 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 2017 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, stable in yield performance across environments and years, and consistently 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 Tennessee field environments.

# Large On-Farm Trial Results

## County Standard Trials

Lint yield, gin turnout, fiber quality, and CCC loan value of 14 entries entered in the 2017 Tennessee County Standard Trial Program.\*

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	DP 1646 B2XF	1409a	39.6cd	4.4cd	1.28a	30.3g	84.5abc	31	5cd	55.25
2	DG 3385 B2XF	1377ab	39.2de	4.8a	1.17de	30.2g	84.3b-e	31	4d	55.15
3	DP 1614 B2XF	1372abc	41.1a	4.9a	1.22b	30.9efg	84.5a-d	41	5bc	55.25
4	DP 1518 B2XF	1366a-d	38.8de	4.3d	1.21b	30.4fg	84.2b-f	41	7a	55.25
5	DP 1522 B2XF	1353a-e	38.7e	4.9a	1.18d	31.3de	83.8d-g	41	6ab	55.35
6	NG 3522 B2XF	1348a-e	39.0de	4.4cd	1.16ef	29.3h	83.1g	31	4d	54.85
7	ST 4949 GLT	1324b-e	41.2a	4.4cd	1.15f	30.5fg	83.8d-g	31	5bc	55.05
8	PHY 340 W3FE	1319b-e	40.2bc	4.5bc	1.20bc	32.7ab	84.7ab	41	6ab	55.45
9	DP 1725 B2XF	1307b-f	40.7ab	4.4cd	1.20b	31.1def	83.5f-g	31	4d	55.35
10	PHY 330 W3FE	1297c-g	40.1bc	4.5bd	1.22b	33.4a	85.1a	41	7a	55.65
11	ST 4848 GLT	1294d-g	39.6cd	4.5bd	1.18d	30.4fg	83.7e-g	41	6bc	55.15
12	CP 3475 B2XF	1290e-g	37.6f	4.9a	1.17de	31.8cd	84.1b-f	31	6bc	55.45
13	PHY 300 W3FE	1239f-g	39.1de	4.6b	1.20bc	32.5bc	84.4b-e	41	5cd	55.45
14	ST 4946 GLB2	1230g	36.8f	4.6b	1.18cd	32.9ab	84.0c-f	41	5bc	55.45
<b>Mean</b>		<b>1323</b>	<b>39.4</b>	<b>4.6</b>	<b>1.19</b>	<b>31.3</b>	<b>84.1</b>	<b>41</b>	<b>5</b>	
LSD (p<0.05)		77	0.8	0.2	0.02	0.8	0.7		1	
CV(%)		6.9	2.5	3.9	1.5	2.6	0.9		18.9	

\*Mean and LSD values for lint yield and turnout were calculated from 14 varieties planted and harvested in 11 independent 2017 Tennessee County Standard Trials. Mean and LSD values for fiber quality parameters were calculated from 8 independent 2017 Tennessee County Standard Trials. Loan value calculated assuming color of 31 and leaf of 4.

## Replicated On-Farm Variety Trials

Lint yield, gin turnout, fiber quality and CCC loan value of 8 entries entered in the 2017 Cotton Incorporated Replicated Large Plot Variety Trial Program.\*\*

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade	Loan Value (¢/lb)
1	NG 3522 B2XF	1231a	39.0c	4.7c	1.14e	28.6f	82.5	31	3b	54.40
2	DG 3385 B2XF	1216ab	38.8c	4.9ab	1.17d	29.9e	83.9	31	4b	54.85
3	DP 1725 B2XF	1193ab	41.5a	4.6c	1.20c	30.8d	83.2	31	3b	55.15
4	DP 1614 B2XF	1192ab	40.7ab	5.0a	1.24a	31.0cd	84.7	41	5a	53.15
5	ST 4949 GLT	1192ab	41.1a	4.6c	1.16de	30.4de	83.4	31	5a	55.05
6	PHY 340 W3FE	1141bc	40.0b	4.7bc	1.21bc	32.8b	84.8	41	5a	55.45
7	PHY 330 W3FE	1103c	39.8bc	4.7bc	1.22ab	33.7a	85.4	41	5a	55.65
8	CP 3475 B2XF	1088c	36.9d	5.0a	1.16d	31.7c	84.1	31	5a	53.05
<b>Mean</b>		<b>1169</b>	<b>39.7</b>	<b>4.8</b>	<b>1.19</b>	<b>31.1</b>	<b>84.0</b>	<b>31</b>	<b>4</b>	
LSD (p<0.05)		77.3	1.0	0.2	0.02	0.8	0.6		1	
CV(%)		7.0	2.7	4.3	1.4	2.2	0.6		22.6	

\*\*Mean and LSD values were calculated from 8 entries replicated three times at three independent locations during the 2017 season. Loan value calculated assuming color of 31 and leaf of 4.

# Official Variety Trial Results

## Commercial Varieties and Experimental Lines

Lint yield, gin turnout, and fiber quality of 42 entries entered in the 2017 Tennessee Official Variety Trial Program.\*

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Color	Leaf Grade
1	PHY 444 WRF	1529 <sup>a</sup> ‡	38.9 <sup>d-i</sup> ‡	3.8	1.28	32.1	85.9	31	5
2	ST 5517 GLTP	1524 <sup>ab</sup>	36.3 <sup>nop</sup>	4.2	1.20	32.3	83.3	31	4
3	DP 1518 B2XF	1522 <sup>ab</sup>	37.8 <sup>i-m</sup>	4.5	1.19	30.8	84.3	31	5
4	PX4A54W3FE	1508 <sup>abc</sup>	39.0 <sup>c-h</sup>	4.5	1.19	32.9	85.3	31	4
5	DP 1820 B3XF	1505 <sup>abc</sup>	40.1 <sup>bc</sup>	4.7	1.26	34.2	85.4	31	6
6	CP 17XC8 B3XF	1488 <sup>a-d</sup>	41.5 <sup>a</sup>	4.3	1.20	30.6	83.8	31	6
7	PX4A57W3FE	1483 <sup>a-e</sup>	39.8 <sup>b-e</sup>	4.4	1.13	31.8	83.8	31	5
8	DG 3385 B2XF	1479 <sup>a-f</sup>	38.1 <sup>h-k</sup>	4.8	1.17	31.0	84.9	21	4
9	PX3A99W3FE	1476 <sup>a-f</sup>	38.0 <sup>k-l</sup>	4.1	1.22	31.9	85.1	31	4
10	PHY 330 W3FE	1474 <sup>a-g</sup>	38.7 <sup>e-j</sup>	4.4	1.21	33.3	85.3	31	6
11	DP 1646 B2XF	1473 <sup>a-g</sup>	39.1 <sup>b-h</sup>	4.5	1.27	30.8	85.1	31	5
12	DP 1522 B2XF	1466 <sup>a-h</sup>	38.5 <sup>f-j</sup>	4.8	1.16	30.9	83.7	31	5
13	NG 3406 B2XF	1457 <sup>a-i</sup>	37.6 <sup>j-m</sup>	4.7	1.16	30.7	83.5	21	3
14	CPS 17228	1454 <sup>a-i</sup>	38.9 <sup>d-i</sup>	4.3	1.23	32.2	84.9	31	6
15	DP 1614 B2XF	1439 <sup>a-j</sup>	39.8 <sup>b-e</sup>	4.9	1.21	30.7	84.1	31	5
16	PX4A52W3FE	1435 <sup>a-j</sup>	37.7 <sup>j-m</sup>	4.4	1.17	32.3	85.0	31	5
17	PX4A62W3FE	1433 <sup>a-j</sup>	39.5 <sup>b-f</sup>	4.0	1.23	34.5	85.2	31	5
18	NG 4601 B2XF	1430 <sup>a-j</sup>	39.9 <sup>bcd</sup>	4.7	1.21	33.1	83.9	21	4
19	DG 3526 B2XF	1429 <sup>b-j</sup>	39.4 <sup>b-g</sup>	4.6	1.15	30.2	84.0	31	5
20	ST 4946 GLB2	1418 <sup>c-k</sup>	36.0 <sup>n-q</sup>	4.5	1.20	33.2	84.3	41	6
21	PX3A82W3FE	1415 <sup>c-k</sup>	36.9 <sup>l-o</sup>	4.3	1.17	32.4	84.9	31	5
22	PHY 312 WRF	1401 <sup>d-l</sup>	36.9 <sup>mno</sup>	4.2	1.22	31.7	84.7	31	5
23	DP 1725 B2XF	1395 <sup>d-l</sup>	39.6 <sup>b-f</sup>	4.3	1.19	31.4	83.5	31	4
24	ST 4949 GLT	1387 <sup>e-l</sup>	40.2 <sup>b</sup>	4.4	1.16	30.9	83.6	31	5
25	PHY 340 W3FE	1381 <sup>f-l</sup>	38.9 <sup>d-i</sup>	4.5	1.19	31.4	83.8	31	6
26	ST 4848 GLT	1376 <sup>g-l</sup>	38.3 <sup>hij</sup>	4.6	1.18	31.6	84.4	31	5
27	ST 5020 GLT	1371 <sup>h-l</sup>	35.8 <sup>opq</sup>	4.5	1.21	34.2	85.5	31	5
28	DP 1823NR B2XF	1368 <sup>h-m</sup>	39.0 <sup>c-h</sup>	4.2	1.22	31.6	85.0	31	6
29	PX3A96W3FE	1365 <sup>i-m</sup>	36.0 <sup>n-q</sup>	4.0	1.21	30.9	84.8	31	5
30	PHY 300 W3FE	1343 <sup>j-n</sup>	38.3 <sup>g-j</sup>	4.5	1.17	31.9	84.2	31	5
31	CPS 16214	1327 <sup>k-n</sup>	37.6 <sup>j-m</sup>	4.9	1.19	31.3	84.7	31	6
32	NG 3699 B2XF	1326 <sup>k-n</sup>	35.8 <sup>opq</sup>	4.5	1.23	32.7	84.0	31	4
33	BRS 335	1325 <sup>k-n</sup>	36.2 <sup>n-q</sup>	4.4	1.19	32.0	83.2	31	5
34	SSG UA 222	1308 <sup>lmn</sup>	35.7 <sup>pqr</sup>	4.3	1.26	32.7	85.1	31	7
35	NG 3522 B2XF	1307 <sup>lmn</sup>	37.6 <sup>j-m</sup>	4.4	1.15	30.2	84.0	31	4
36	PHY 490 W3FE	1270 <sup>mno</sup>	37.0 <sup>k-n</sup>	4.2	1.17	34.6	84.7	31	5
37	PHY 450 W3FE	1254 <sup>no</sup>	36.1 <sup>n-q</sup>	4.5	1.16	33.6	84.4	41	6
38	BRS 286	1250 <sup>no</sup>	35.0 <sup>qr</sup>	4.5	1.17	34.4	83.8	31	5
39	SSG HQ 210	1188 <sup>op</sup>	34.6 <sup>r</sup>	4.7	1.15	32.4	82.9	31	3
40	PX2A28W3FE	1145 <sup>pq</sup>	35.6 <sup>pqr</sup>	4.1	1.23	34.1	84.8	31	5
41	Red Leaf	1069 <sup>q</sup>	32.8 <sup>s</sup>	4.3	1.21	32.6	83.7	41	5
42	BRS 293	587 <sup>r</sup>	35.3 <sup>pqr</sup>	4.5	1.18	34.6	83.7	31	4
<b>Average</b>		<b>1356</b>	<b>38.1</b>	<b>4.4</b>	<b>1.20</b>	<b>32.2</b>	<b>84.4</b>	<b>31</b>	<b>5</b>
LSD ( $p \leq 0.05$ )		99	1.3						
CV(%)		12.8	2.7						

\*Mean and LSD values for lint yield and turnout were calculated from 42 entries replicated four times at six separate 2017 Tennessee Official Variety Trials. Missing values were replaced with location treatment means. Mean fiber quality values were calculated from two locations.

‡Means followed by the same letter are not significantly different.



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