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Cotton Variety Guide | 2020

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TN Cotton Variety Guide | 2020

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2019 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 2019 program consisted of two types of trials: the Official Variety Trials (OVTs) and the County Standard Trials (CSTs). The OVTs are small plot, replicated variety trials composed of experimental and commercial varieties. The CSTs are large plot variety strip trials located throughout the Western and Central regions of Tennessee and are only composed of major commercial cultivars. Five OVTs, 9 XtendFlex CSTs and 5 Enlist, GlyTol/LibertyLink and XtendFlex CSTs were conducted during the 2019 season. Subsequently, the CST data has been summarized in two separate tables. One set includes all 18 varieties (XF, GL and FE) and the second set includes 14 XF varieties.

Samples from each plot are currently being 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. After ginning, a subsample of lint from each ginned sample is submitted to the USDA Cotton Classing Office in Memphis, Tennessee, for HVI analysis. Reported data represents a summary of all data generated and received as of December 18th. As a preliminary report, some variation in lint yield, turnout and fiber quality will likely be noted between this brief, preliminary summary and the full trial results publication which will be released after all samples have been processed.

Information reported in this publication includes average gin turnout, lint yield, and fiber quality averaged by program. This brief preliminary report serves as a precursor for the 2019 Tennessee Cotton Variety Trial Results (PB 1742). Specific results from each trial location and plant growth measurements are included in PB 1742. The two summary tables represent preliminary data as of December 18th; turnout from the WTREC OVT was applied to seedcotton weights collected from all OVT locations to calculate lint yield.

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.

County Standard Trials

Commercial varieties tested in large plots

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Preliminary lint yield, gin turnout, and fiber quality of 18 Enlist, GlyTol/LibertyLink, and XtendFlex entries entered in the 2019 Tennessee County Standard Trial Program in five trial locations.*

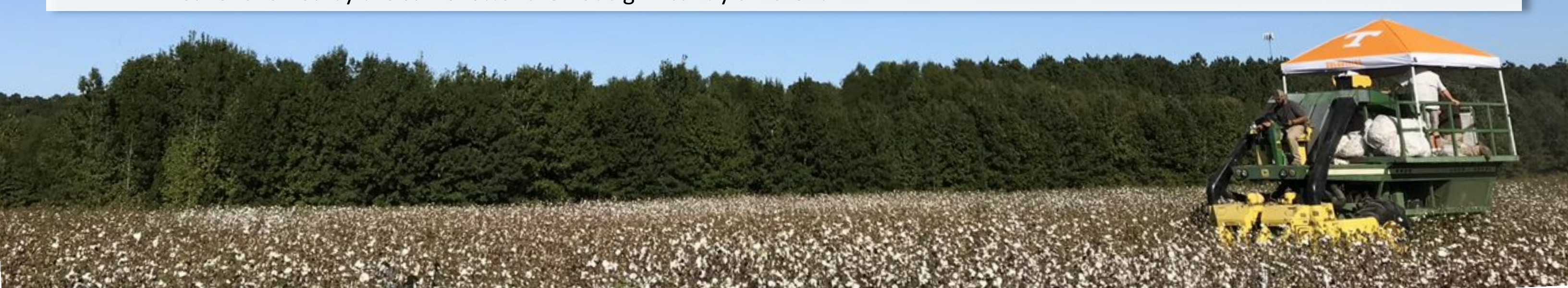
Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade
1	DP 1646 B2XF	1389 a	40.9	4.5	1.22	30.6	83.3	41	4
2	CP 9608 B3XF	1359 ab	41.5	4.5	1.15	30.3	82.5	41	5
3	DG 3385 B2XF	1351 ab	40.4	4.6	1.15	31.1	83.7	31	3
4	DP 1518 B2XF	1347 ab	39.8	3.8	1.18	32.2	83.7	41	5
5	PHY 3B07 W3FE (PHY 400 W3FE)	1329 abc	41.2	4.5	1.16	31.8	83.4	41	4
6	ST 4550 GLTP	1313 a-d	41.4	4.5	1.19	30.7	82.2	41	3
7	NG 4936 B3XF	1306 a-d	37.1	4.5	1.21	31.3	84.6	41	3
8	ST 5471 GLTP	1304 a-d	40.2	4.5	1.13	30.4	81.4	31	3
9	CP 9178 B3XF	1296 a-d	39.4	4.5	1.16	34.6	83.4	41	3
10	DP 1725 B2XF	1280 a-d	40.7	4.7	1.14	30.6	82.4	41	3
11	NG 3729 B2XF	1279 a-d	40.1	4.7	1.18	31.5	84.2	41	5
12	DP 1916 B3XF	1253 bcd	39.9	4.6	1.19	35.2	83.5	41	4
13	DG 3317 B3XF	1247 bcd	40.6	4.8	1.14	30.3	83.1	41	4
14	DG 3526 B2XF	1245 bcd	40.5	4.6	1.12	29.8	83.7	31	4
15	PHY 350 W3FE	1242 bcd	38.4	4.6	1.18	32.6	83.8	41	4
16	NG 3994 B3XF	1210 cd	39.0	4.9	1.17	30.9	83.4	41	5
17	ST 5600 B2XF	1203 cd	39.3	4.9	1.18	32.7	83.6	31	4
18	DP 1820 B3XF	1192 d	39.9	4.6	1.19	33.9	83.2	41	3
	Mean	**1286**	**40.0**	**4.6**	**1.17**	**31.7**	**83.3**	**41**	**4**
	LSD (p<0.05)	132							
	CV(%)	8.6							

Preliminary lint yield, gin turnout, and fiber quality of 14 XtendFlex entries entered in the 2019 Tennessee County Standard Trial Program in nine trial locations.*

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif. (%)	HVI Color	Leaf Grade
1	DP 1646 B2XF	1457 a	40.6	4.4	1.22	30.5	83.7	41	4
2	DG 3385 B2XF	1423 ab	39.2	4.6	1.15	30.7	84.1	31	3
3	DP 1518 B2XF	1415 ab	38.9	4.0	1.16	32.4	83.3	41	5
4	CP 9608 B3XF	1390 ab	41.2	4.4	1.16	30.0	82.7	41	5
5	NG 4936 B3XF	1370 abc	37.3	4.4	1.22	31.2	84.5	41	3
6	DP 1725 B2XF	1370 a-d	40.8	4.6	1.15	31.0	82.4	41	3
7	DG 3526 B2XF	1365 a-d	39.9	4.6	1.13	29.6	84.0	41	4
8	NG 3729 B2XF	1355 a-e	39.7	4.6	1.18	31.0	83.9	41	5
9	CP 9178 B3XF	1302 b-e	39.8	4.4	1.15	34.6	83.4	41	3
10	DP 1916 B3XF	1288 b-e	39.8	4.5	1.19	34.5	83.1	41	4
11	DG 3317 B3XF	1254 cde	40.0	4.7	1.15	30.9	83.3	41	4
12	NG 3994 B3XF	1250 de	39.7	4.9	1.17	30.6	83.3	41	5
13	ST 5600 B2XF	1236 de	38.9	4.8	1.18	32.5	84.1	31	4
14	DP 1820 B3XF	1225 e	39.7	4.5	1.19	34.3	83.8	41	3
	Mean	**1336**	**39.7**	**4.5**	**1.17**	**31.7**	**83.5**	**41**	**4**
	LSD (p<0.05)	127							
	CV(%)	10.7							

*Mean and LSD values for lint yield were calculated from ginned samples as of December 18th. Turnout and fiber quality will be updated after the remaining samples are ginned.

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



Official Variety Trial Results

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Commercial and experimental varieties tested in small plots

Preliminary lint yield, gin turnout, and fiber quality of 48 entries entered in the 2019 Tennessee Official Variety Trial Program.*

Yield Rank	Variety	Lint Yield (lb/ac)		Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Color	Leaf Grade
1	ST 4550GLTP	1609	a	41.8	4.3	1.16	31.7	83.2	31	4
2	DP 1646 B2XF	1556	ab	41.4	4.2	1.23	31.2	82.2	31	4
3	DP 1725 B2XF	1533	abc	42.6	4.3	1.17	30.9	82.4	31	3
4	PHY 340 W3FE	1514	bcd	41.4	4.2	1.17	31.4	82.9	41	5
5	CP 19XE9 B3XF (CP 9210 B3XF)	1497	b-e	41.0	4.9	1.20	32.7	83.5	31	3
6	PX3D43W3FE	1496	b-e	39.9	4.4	1.15	33.7	83.2	31	4
7	CP 9608 B3XF	1482	b-f	42.3	4.3	1.16	30.5	82.1	31	4
8	PHY 350 W3FE	1466	c-g	38.9	4.1	1.19	31.9	83.7	31	4
9	PX3C06W3FE	1464	c-h	39.1	4.2	1.17	30.2	81.6	41	4
10	PX5C05W3FE	1457	c-i	41.8	4.0	1.14	30.9	83.6	31	5
11	DP 1518 B2XF	1446	d-i	38.5	4.0	1.18	30.2	83.0	41	5
12	PX3D32W3FE	1437	d-j	38.2	4.0	1.22	33.7	82.7	31	4
13	PX5C45W3FE	1430	d-k	41.2	4.2	1.16	32.8	82.8	41	4
14	NG 3729 B2XF	1425	e-l	38.7	4.5	1.20	31.2	83.3	41	4
15	PX3B07W3FE (PHY 400 W3FE)	1425	e-l	40.3	3.9	1.18	33.9	82.4	31	4
16	ST 5471 GLTP	1423	e-l	38.2	4.1	1.16	33.6	81.2	31	4
17	CP 9178 B3XF	1420	e-m	40.5	4.3	1.17	33.1	83.1	31	4
18	NG 3994 B3XF	1417	e-m	40.9	4.5	1.16	30.0	82.5	31	4
19	DG 3385 B2XF	1416	e-n	38.6	4.4	1.16	29.5	83.6	31	3
20	AMX 1828 B3XF	1408	f-n	40.1	4.6	1.21	32.2	83.9	31	4
21	DG 3317 B3XF	1406	f-n	40.4	4.6	1.15	29.9	83.4	31	4
22	DP 1614 B2XF	1401	f-n	42.1	4.7	1.20	30.0	83.9	42	5
23	DP 1916 B3XF	1395	g-n	39.9	4.4	1.18	33.4	83.8	32	3
24	DP 1835 B3XF	1394	g-n	42.4	4.3	1.18	31.8	82.4	31	3
25	PX5D28BW3FE (PHY 500 W3FE)	1392	g-n	39.3	3.9	1.17	33.6	83.3	31	5
26	NG 5007 B2XF	1379	h-o	39.2	4.4	1.17	28.1	82.1	31	3
27	DG 3526 B2XF	1379	h-o	40.6	4.4	1.14	29.7	82.9	31	4
28	DG H959 B3XF	1371	i-p	37.9	4.4	1.20	32.6	82.8	31	4
29	PHY 580 W3FE	1371	i-p	41.2	4.1	1.18	32.2	83.5	31	5
30	DGX 18507-C B3XF	1370	i-p	39.9	4.4	1.17	30.4	83.0	41	3
31	AMX 19A005 B3XF	1367	i-q	40.8	4.3	1.17	30.3	83.5	31	3
32	DG 3570 B3XF	1365	i-q	40.1	4.8	1.17	30.4	83.1	31	3
33	DG H929 B3XF	1358	j-q	37.6	4.2	1.15	33.0	83.3	32	4
34	AMX 19A006 B3XF (NG 4098 B3XF)	1350	k-q	37.7	4.2	1.26	34.9	83.5	41	6
35	NG 4936 B3XF	1349	k-q	37.3	4.3	1.22	31.2	83.9	31	3
36	ST 5600 B2XF	1342	l-r	40.4	4.8	1.17	32.7	82.8	31	4
37	DG 3427 B3XF	1336	m-r	40.2	4.4	1.17	31.0	81.8	41	5
38	DG 3470 B3XF	1325	n-s	39.6	4.9	1.16	31.2	83.7	31	3
39	PHY 480 W3FE	1307	o-s	38.2	3.9	1.17	31.3	83.7	31	4
40	NG 3522 B2XF	1305	o-s	38.4	4.3	1.13	28.1	82.5	31	3
41	PX5E28W3FE	1303	o-s	37.3	3.5	1.16	32.3	82.3	31	4
42	PX5E34W3FE	1294	p-s	37.5	3.7	1.18	32.6	82.8	31	4
43	DP 1820 B3XF	1284	qrs	40.4	4.6	1.22	32.4	82.4	31	4
44	NG 3930 B3XF	1265	rs	37.8	4.0	1.18	30.6	83.1	31	4
45	ST 5707 B2XF	1261	rs	35.8	4.5	1.20	35.0	84.6	42	5
46	DG 3421 B3XF	1250	s	38.8	4.1	1.15	30.1	82.8	31	4
47	AMX 1818 B3XF	1245	s	38.5	4.3	1.22	33.5	84.2	41	4
48	AMX 1816 B3XF	1155	t	34.3	4.0	1.22	31.8	83.3	31	4
	Average	**1388**		**39.6**	**4.3**	**1.18**	**31.6**	**83.0**	**31**	**4**
	LSD (p<0.05)	**84**								
	CV(%)	**9.8**								

*Mean and LSD values for seedcotton yield were calculated from 48 entries replicated four times at five separate 2019 Tennessee Official Variety Trials. Missing values were replaced with location treatment means. Mean turnout and fiber quality values were calculated from the West Tennessee Research and Education Center location.

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





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