Tennessee 2025 County Standardized Cotton Cultivar Testing

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OBJECTIVES

- Summarize results from the 2025 TN CST program
- Provide unbiased cotton yield data for producers

INTRODUCTION

Data generated under commercial production conditions continues to be preferred by growers throughout the MidSouth. Although small-plot replicated trials remain a critical component of variety evaluation, large-plot trials planted, maintained, and harvested using commercial-scale equipment provide additional insight into variety performance across diverse production environments.

The University of Tennessee Cotton Agronomy Program conducts County Standard Trials (CSTs) annually to provide an unbiased evaluation of commercial cotton varieties available to Tennessee producers. These large-plot variety strip trials are located across western and central Tennessee and consist of widely available commercial cultivars. Fourteen CST locations were conducted during the 2025 growing season.

METHODS

Seed of commercial cotton varieties evaluated in the County Standard Trials (CSTs) was provided by the respective seed companies, with a total of 19 varieties submitted. Each variety was planted in a single strip plot at each location and maintained according to the cooperating producer's production practices. Plot size ranged from four to twelve rows wide and approximately 400 to over 2,500 feet in length, depending on producer equipment and field size.

Of the fourteen CST locations conducted in 2025, four included both FE (Enlist) and XF (XtendFlex) cultivars, three contained only FE cultivars, and seven included only XF cultivars. The CST program is intended to assist cotton producers in identifying varieties that are high yielding, stable in performance across years, and capable of producing high-quality fiber. Results also provide information to the seed industry, crop consultants, and UT Extension on varietal adaptation to Tennessee production environments. Plots were harvested using the cooperating producer's equipment. When basket-style pickers were used, harvested cotton from each plot was captured in a weighing boll buggy and weighed prior to being dumped into the module builder. When onboard round module pickers were used, modules were wrapped at the end of each plot and weighed using portable scales.

Approximately six pounds of seed cotton were collected from each plot and transported to the University of Tennessee 20-saw Cotton MicroGin to determine gin turnout and obtain subsamples for fiber quality evaluation. Lint subsamples from each ginned sample were submitted to the USDA Cotton Classing Office in Memphis, Tennessee for HVI fiber quality analysis.

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	HVI Color	Loan Value
1	DP 2333 B3XF	1075 a	43.3 ab	4.7 a	1.14 gh	30.8 cd	82.6 bc	4	41	51.85
2	DP 2115 B3XF	1041 ab	41.7 def	4.6 ab	1.15 fg	30.9 cd	83.1 ab	4	41	52.91
3	NG 4626 B3XF	1025 abc	42.6 bcd	4.6 ab	1.15 fg	30.8 cd	83.2 ab	4	41	50.55
4	DP 2414 B3TXF	1019 abc	41.9 def	4.3 cd	1.16 efg	30.9 cd	82.8 abc	4	41	51.56
5	DP 2127 B3XF	1017 a-d	41.5 ef	4.7 a	1.14 gh	31.0 cd	83.4 a	4	41	50.83
6	DP 2211 B3XF	996 a-e	42.3 cde	4.4 bc	1.16 def	30.0 de	82.9 abc	3	41	53.18
7	NG 3572 B3XF	980 b-f	42.3 cde	4.8 a	1.12 h	29.8 e	83.0 ab	4	41	50.85
8	ST 6000 AXTP	960 b-g	43.7 ab	4.1 de	1.18 abcd	33.7 a	83.2 ab	4	41	51.23
9	ST 5855 AXTP	938 c-g	43.2 abc	4.2 de	1.17 cde	32.6 b	83.3 ab	4	41	53.03
10	ST 4215 AXTP	930 d-g	41.5 ef	4.4 cd	1.20 a	31.5 c	82.3 c	4	41	51.79
11	DG 4530 B3TXF	909 efg	41.6 ef	4.0 ef	1.18 bcd	31.1 c	82.8 abc	4	41	52.36
12	ST 5931 AXTP	907 fg	40.9 f	3.9 f	1.20 ab	32.6 b	83.3 a	4	41	51.89
13	ST 4833 AXTP	887 g	39.2 g	4.2 cd	1.19 abc	31.7 bc	83.3 a	5	51	49.63
	Average	**976**	**42.0**	**4.4**	**1.16**	**31.3**	**83.0**	**4**	**41**	**51.67**
	LSD (p<0.05)	88	1.5	0.2	0.02	1.0	0.7			
	CV (%)	10.7	2.7	5.8	2.20	3.7	1			

Table 1: Average lint yield, gin turnout, and fiber quality of the eleven XtendFlex varieties entered in the 2025 Tennessee CST Trial Program

Yield Rank	Variety	Lint Yield (lb/ac)	Turnout (%)	Mic	Length (in.)	Strength (g/tex)	Unif (%)	Leaf Grade	HVI Color	Loan Value
1	PHY 360 W3FE	826 a	40.7	4.4 ab	1.13 cd	31.0 cd	82.5 b	4	41	52.42
2	PHY 415 W3FE	813 a	40.9	4.2 b	1.18 a	34.0 a	83.7 a	5	41	50.29
3	PHY 357 W3FE	788 ab	40.9	4.4 ab	1.16 abc	33.7 abc	83.2 ab	5	41	49.79
4	PHY 433 W3FE	785 ab	40.8 ns	4.3 ab	1.17 abc	33.7 ab	83.7 a	5	41	49.58
5	PHY 443 W3FE	763 ab	39.9	4.5 a	1.14 bcd	33.6 bcd	83.6 ab	4	41	51.97
6	PHY 411 W3FE	739 b	40.4	4.5 a	1.12 d	32.9 d	82.7 ab	4	41	52.67
	Average	**786**	**40.6**	**4.4**	**1.15**	**33.1**	**83.2**	**5**	**41**	**51.12**
	LSD (p<0.05)	73	1.0	0.3	0.03	1.9	1.1			
	CV (%)	8.2	2.2	5.1	2.60	4.9	1.2			

Table 2: Average lint yield, gin turnout, and fiber quality of the six Enlist varieties entered in the 2025 Tennessee CST Trial Program

Fig. 1, 2, & 3: Large-plot variety trials were conducted within eleven Tennessee counties in 2025. As plots are harvested, seedcotton is weighed and a subsample of 6-8 lbs of seedcotton is collected. Pictured is planting and harvest from one of the two Haywood County locations. This trial encompassed 62 acres.

Fig. 4: UT Cotton MicroGin at the West Tennessee Research and Education Center in Jackson, TN, is a 20-saw gin equipped with a stick machine, incline cleaners, and one lint cleaner.

CONCLUSION

Yield and fiber quality data from UT variety trials serve as a foundation for seed selection for future crops among area producers. Strong producer demand for this information highlights the value of these trials as a resource.

County Locations

Crockett	Hardeman	Lauderdale
Dyer	Haywood	Lincoln
Fayette	Henry	Madison
Gibson	Lake	

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