



# Current Report

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## 2020 Oklahoma Replicated Agronomic Cotton Evaluation (RACE) Trial Report

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### 2020 Season Overview

Planting conditions were generally favorable for producers in 2020, although rain events in May delayed planting on a large proportion of acreage to late May and early June. In fact, the southwest and west-central locations of our 2020 RACE trials were all planted between May 29th and June 3rd. Moisture was rapidly diminishing by the end of the first week of June and hot, dry conditions dominated the primary cotton regions of the state through the remainder of the month and persisted into early July. Various significant rain events were received from mid-July into early August, although there were variations on how much and when rain fell across certain areas. For example, while the Oklahoma Mesonet site located in Elk City recorded 3.4 inches of rain during July, stations in Tipton and Altus each recorded 1.4 inches. However, this was reversed in August, with only 0.85 inches of rain received at Elk City (over half occurring during the last three days of the month), compared to 2.1 inches at both Altus and Tipton. This July through August rain was beneficial for both dryland and irrigated cotton. It coincided with the squaring through early/peak bloom growth stages for the majority of cotton in Oklahoma, which helped to reduce water stress during these critical growth stages and optimize yield.

There was an overall favorable outlook as the crop entered September, although the dry August had certainly lowered the optimism once surrounding the dryland crop. Then a cold snap struck western Oklahoma Sept. 9 and 10, with daytime highs

struggling to reach 60 F at best, and nighttime lows flirting with freezing in many areas. Although this two-day cold snap was followed by a return to warmer temperatures, it is likely partially to blame for the struggles many had with defoliation and boll opening later in the year. It is more likely this short-term cold snap was an extreme sample of a larger issue, a cooler-than-average September with total heat unit accumulation falling 100 to 150 below average. It is likely the slower leaf drop and boll opening, as well as the variability in micronaire or low micronaire common to many areas in 2020 is to blame on the weather conditions the crop experienced throughout September. There was one final hurdle to cross as an ice storm struck the area in late October, coating open bolls in ice and resulting in lint stringing out of the bolls. Luckily, there was little wind with this system or in subsequent weather events, and the actual loss of lint due to fallout was surprisingly low given the severity of the storm and the number of open bolls present on the plants. The overall feeling from 2020 was that while both yields and quality were good, maybe even great in some cases, they generally fell short of expectations due to the favorable conditions throughout the first three months of the season.

A total of 25 commercial varieties and one experimental variety from five seed companies were evaluated across five locations in the 2020 RACE Trials (Table 1). There were a multitude of insect and herbicide traits represented within these varieties, including both two and three gene *Bt* and

**Table 1. Seed company participants and variety abbreviations for entries in 2019 Oklahoma RACE Trials.**

<i>Seed Company</i>	<i>Variety Entries</i>	<i>Abbreviation</i>
Deltapine®	1646 B2XF	DP 1646 B2XF
	1820 B3XF	DP 1820 B3XF
	1822 XF	DP 1822 XF
	1948 B3XF	DP 1948 B3XF
	2012 B3XF	DP 2012 B3XF
	2020 B3XF	DP 2020 B3XF
	2038 B3XF	DP 2038 B3XF
	2044 B3XF	DP 2044 B3XF
Dyna-Gro®	3317 B3XF	DG 3317 B3XF
	3385 B2XF	DG 3385 B2XF
FiberMax®	1621 GL	FM 1621 GL
	2398 GLTP	FM 2398 GLTP
NexGen®	2982 B3XF	NG 2982 B3XF
	3729 B2XF	NG 3729 B2XF
	3930 B3XF	NG 3930 B3XF
	4098 B3XF	NG 4098 B3XF
	4936 B3XF	NG 4936 B3XF
	5711 B3XF	NG 5711 B3XF
PhytoGen®	350 W3FE	PHY 350 W3FE
	400 W3FE	PHY 400 W3FE
	480 W3FE	PHY 480 W3FE
Stoneville®	4990 B3XF	ST 4990 B3XF
	5600 B2XF	ST 5600 B2XF
	5610 B3XF	ST 5610 B3XF
	5707 B2XF	ST 5707 B2XF

herbicide traits (Table 2). Seasonal temperature patterns from the southwest and Panhandle regions are illustrated by the monthly heat unit accumulation for 2020 compared to the 12-year average for Altus (Figure 1) and Goodwell (Figure 2). Dryland performance pooled across the southwest region dryland trials is presented in Table 3, while variety performance compared to the trial average of entries were included in at least four locations is presented in Table 4. Since there are variations in variety entries across the various regions of the state, these tables provide a hint of variety performance stability for areas unrepresented by our current RACE trial locations.

**Table 2. Insect and herbicide trait glossary for 2019 Oklahoma RACE Trial entries.**

<i>Insect Trait</i>	<i>Abbreviation</i>	<i>Bt Proteins</i>
Bollgard II®	B2	Cry1Ac + Cry2Ab
Bollgard 3®	B3	Cry1Ac + Cry2Ab + Vip3A
TwinLink®	T	Cry1Ab + Cry2Ae
TwinLink Plus®	TP	Cry1Ab+Cry2Ae+Vip3Aa19
Widestrike 3®	W3	Cry1Ac + Cry1F + Vip3A

<i>Herbicide Trait</i>	<i>Abbreviation</i>	<i>Herbicide Tolerances</i>
FlexEnlist®	FE	Glyphosate + Glufosinate + 2,4-D
GlyTol LibertyLink®	GL	Glyphosate + Glufosinate
XtendFlex®	XF	Glyphosate + Glufosinate + Dicamba

### Acknowledgements

First and foremost, the authors would like to thank the Oklahoma cotton producers who serve as cooperators and allow us to use their land, equipment and time to conduct these trials. These trials wouldn't be possible without their cooperation and support. Financial support for these trials was provided by the Cotton Inc. Oklahoma State Support Committee and the participating seed companies. We would like to thank Khawar Arain, Brendan Kelly and the staff of the Texas Tech University Fiber and Biopolymer Research Institute for providing fiber classing services for these trials. Finally, we would like to thank the Oklahoma Cotton Council for their support of both the cotton agronomy program at Oklahoma State University and the entire Oklahoma cotton industry.

### Participating Seed Companies

Americot/NexGen  
 Deltapine  
 Dyna-Gro Seed  
 FiberMax/Stoneville  
 PhytoGen Cottonseed

For more information, visit [cotton.okstate.edu](http://cotton.okstate.edu) or [ntokcotton.org](http://ntokcotton.org)

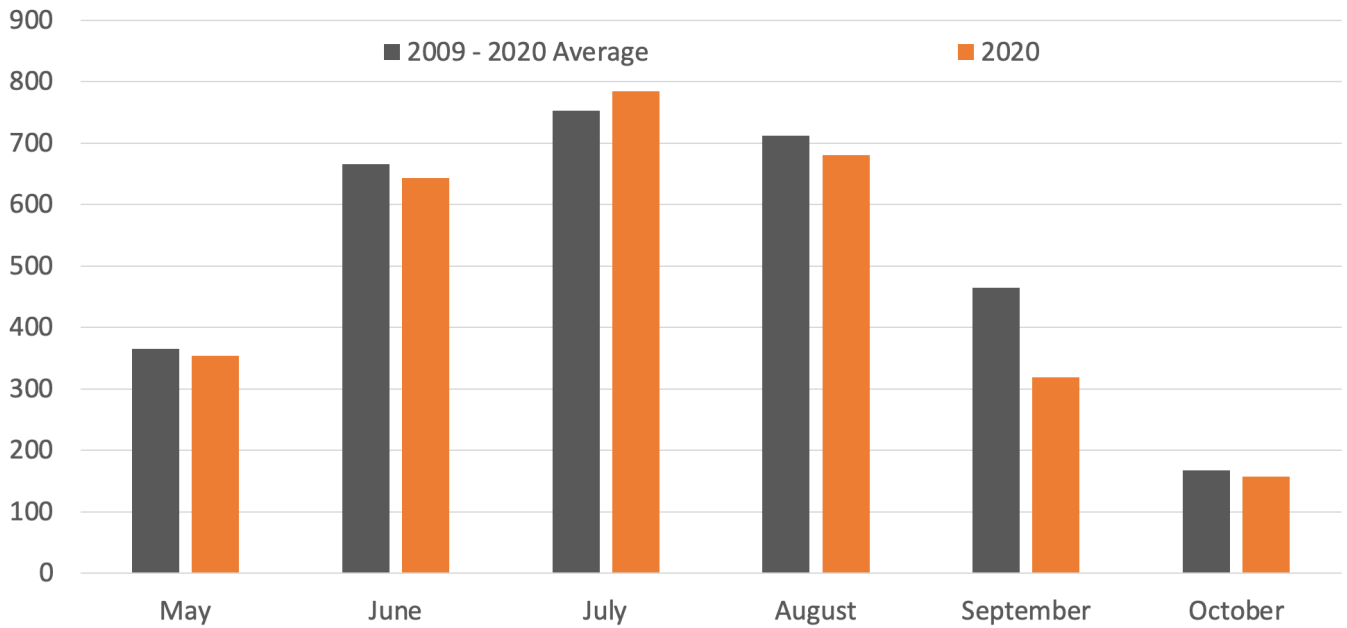


Figure 1. Monthly heat unit (DD 60) accumulation from Altus Mesonet station.

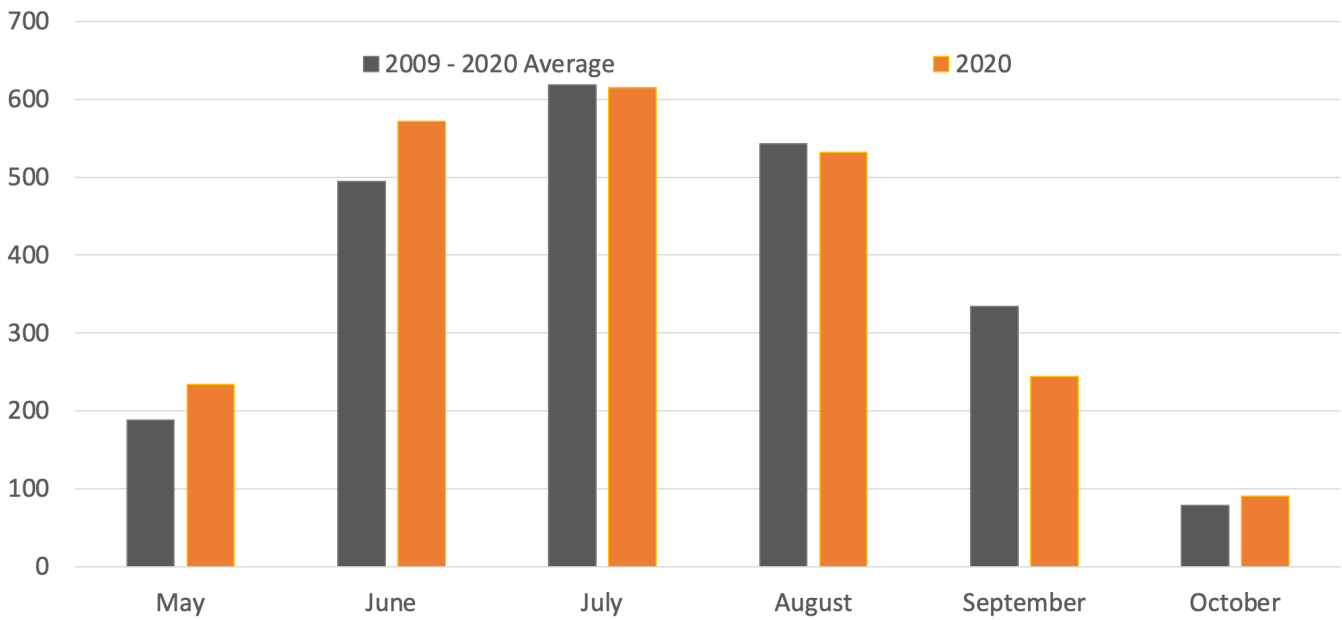


Figure 2. Monthly heat unit (DD 60) accumulation from Goodwell Mesonet station.

**Table 3. 2020 Southwest Dryland Pooled RACE Trial Results.**

Variety	Average Lint Yield <sup>1</sup> lbs./acre	Yield Deviation <sup>2</sup>
NG 4098 B3XF	877 a	+9.5%
ST 5600 B2XF	837 a	+3.0%
NG 3930 B3XF	835 a	+3.8%
ST 5707 B2XF	826 a	+1.8%
DP 1646 B2XF	823 a	+1.0%
DP 1948 B3XF	802 ab	-1.1%
NG 5711 B3XF	738 b	-10.1%
NG 4936 B3XF	732 b	-10.9%

1 Varieties included across Greer, Jackson and Tillman trial locations.

2 Percent difference between yield of variety and trial yield average across all three locations.

**Table 4. 2020 Variety Yield Deviation<sup>1</sup> (minimum four locations).**

Variety	Greer Dry	Jackson Dry	Jackson Irr.	Lincoln Dry	Texas Dry	Texas Irr.	Tillman Dry	Tillman Irr.	Washita Dry	Average
NG 4098 B3XF	+7.46%	+2.37%	-2.87%	+8.55%	+4.60%	+2.56%	+13.88%	-1.58%	+19.63%	+6.78%
NG 3930 B3XF	+2.67%	-1.10%	+9.86%	+3.46%	+4.60%	+2.56%	+6.58%	+2.30%	+2.34%	+2.93%
DP 1948 B3XF	-1.15%	-1.52%	-4.71%	-3.61%	-1.04%		-0.87%	+5.07%		+2.28%
ST 5707 B2XF	+0.30%	+1.54%	+4.73%		-25.55%		+3.38%	+4.34%	+2.50%	+0.34%
ST 5600 B2XF	+3.88%	+3.95%	+1.52%				+1.86%	-5.72%	+8.32%	-1.22%
NG 5711 B3XF	-4.0%	-3.87%	-9.38%	-1.86%			-18.25%	+0.27%	-1.42%	-4.29%
DP 2020 B3XF	-9.51%	-4.90%	-8.17%	-12.27%		-10.52%	+7.29%	-1.32%	-16.29%	-5.34%
NG 4936 B3XF				-0.52%	-14.10%	-12.86%	-14.21%	-3.37%	-12.56%	-9.28%
DP 2012 B3XF									-11.71%	-9.80%

2020 Greer Co. Dryland RACE Trial  
 Planted: May 29  
 Seeding Rate: 25,000 40-inch row spacing  
 Harvested: Nov. 7, stripper harvested

Table 5. Greer County dryland RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
NG 4098 B3XF	851 a	34.40 a	4.19 bc	1.15 b	32.9 b	82.1 b-d	54.10	413
ST 5600 B2XF	823 ab	33.79 ab	4.23 b	1.10 de	32.4 b	81.8 cd	53.63	399
NG 3930 B3XF	813 ab	34.54 a	4.89 a	1.09 e	27.3 d	82.0 cd	51.30	378
ST 5610 B3XF	809 ab	34.77 a	4.08 bc	1.11 d	30.5 c	81.9 cd	53.98	394
DP 1646 B2XF	798 ab	33.74 a-c	3.83 bc	1.16 b	29.9 c	81.4 d	52.25	371
ST 5707 B2XF	794 ab	32.30 bc	4.72 a	1.13 cd	34.5 a	82.7 a-c	53.25	390
DP 1948 B3XF	783 a-c	31.98 b-d	3.79 c	1.20 a	34.2 a	83.8 a	54.32	383
ST 4990 B3XF	771 bc	31.79 cd	4.02 bc	1.11 de	30.0 c	81.6 cd	54.03	374
NG 5711 B3XF	760 bc	32.10 b-d	3.85 bc	1.12 cd	30.9 c	82.0 cd	53.52	364
NG 4936 B3XF	717 c	30.23 d	4.00 bc	1.14 bc	29.9 c	83.3 ab	54.13	345
Average	792	32.96	4.16	1.13	31.3	82.3	53.45	381
p-value	0.0451	0.0018	0.0003	<0.0001	<0.0001	0.0158	0.4399	0.2758
pLSD	69	1.98	0.43	0.03	1.2	1.3	NS <sup>3</sup>	NS
CV	7.82	5.32	10.19	3.22	1.32	7.57	3.08	9.51

1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.

3 NS; no significant statistical difference between varieties at p-value <0.1.

2020 Jackson Co. Dryland Strip Trial  
 Planted: June 3  
 Seeding Rate: 20,000, 40-inch row spacing  
 Harvested: Nov. 19, stripper harvested

Table 6. Jackson County dryland strip trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
ST 5600 B2XF	802	35.87	4.72	1.13	32.0	82.5	53.85	398
DP 1646 B2XF	799	38.48	4.73	1.16	28.6	82.3	54.55	400
NG 4098 B3XF	790	34.89	4.03	1.15	31.8	81.2	54.10	389
ST 5707 B2XF	784	33.26	4.75	1.16	34.0	83.4	55.15	405
NG 3930 B3XF	763	36.83	4.89	1.08	26.8	83.9	53.35	375
DP 1948 B3XF	760	33.10	4.01	1.16	32.3	82.4	54.10	377
NG 5711 B3XF	742	33.41	3.96	1.12	29.9	81.1	56.00	381
NG 4936 B3XF	734	32.82	4.79	1.15	30.0	84.0	56.45	380
Average	772	34.83	4.49	1.14	30.7	82.6	54.69	388

1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.

2020 Jackson Co. Irrigated RACE Trial  
 Planted: May 29  
 Seeding Rate: 42,000 38-inch row spacing  
 Irrigation: sub-surface drip located on 72" spacing in furrow  
 Harvested: Nov. 12, picker harvested

Table 7. Jackson County irrigated RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
DP 1948 B3XF	1,882 a	40.75 a-c	4.09	1.29 a	31.6 bc	84.1 a	54.35	951 a
PHY 400 W3FE	1,814 ab	41.34 ab	4.28	1.20 cd	31.9 b	83.4 a-d	54.55	915 ab
DP 2038 B3XF*	1,796 a-c	42.50 a	4.32	1.14 e	30.3 cd	82.3 d	54.65	912 ab
ST 5600 B2XF	1,794 a-c	41.35 ab	4.85	1.22 b-d	31.0 b-d	83.5 a-d	54.65	908 ab
PHY 480 W3FE	1,782 a-c	38.45 b-d	3.97	1.19 d	30.2 cd	83.7 a-c	53.32	877 a-c
NG 5711 B3XF	1,739 a-d	40.35 a-c	3.99	1.23 bc	30.9 b-d	82.6 b-d	53.07	851 a-c
PHY 350 W3FE	1,714 a-e	38.89 b-d	4.26	1.20 cd	31.1 b-d	82.9 a-d	54.75	866 a-c
NG 4098 B3XF	1,663 b-e	36.45 d	3.81	1.29 a	35.2 a	82.5 cd	52.10	786 c
ST 5707 B2XF	1,632 c-e	36.40 d	4.20	1.22 b-d	34.5 a	84.0 a	54.93	840 bc
FM 2398 GLTP	1,612 se	41.14 ab	4.67	1.22 b-d	31.3 b-d	83.8 ab	53.65	795 c
NG 4936 B3XF	1,573 se	37.77 cd	4.18	1.24 b	29.9 d	83.7 a-c	54.77	789 c
DP 2020 B3XF	1,552 e	35.96 cd	3.90	1.23 bc	30.3 cd	83.1 a-d	54.85	776 c
Average	1,713	39.28	4.21	1.22	31.5	83.3	54.14	856
p-value	0.007	0.001	0.1013	<0.0001	<0.0001	0.0912	0.6302	0.0261
pLSD	168	3.06	NS <sup>3</sup>	0.03	1.4	1.3	NS	707
CV	7.65	6.76	11.38	3.48	5.62	1.03	3.09	9.11

\* Grower-selected entry.

1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

2 Return per acre calculated as (lint yield per acre X loan value per pound) – seed cost per acre.

3 NS; no significant statistical difference between varieties at p-value <0.1.

2020 Lincoln Co. Dryland RACE Trial  
 Planted: May 5  
 Seeding Rate: 34,000 38-inch row spacing  
 Harvested: Nov. 8, picker harvested

Table 8. Lincoln County dryland RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
NG 4098 B3XF	1,223	40.92	3.83	1.20	35.7	82.5	54.28	599
PHY 350 W3FE	1,197	39.83	3.27	1.15	33.0	82.0	48.58	523
PHY 480 W3FE	1,189	40.64	3.86	1.12	31.6	82.9	54.05	584
PHY 400 W3FE	1,184	42.22	3.63	1.12	31.4	81.4	53.85	578
NG 3930 B3XF	1,166	40.35	3.48	1.18	31.8	83.3	51.92	552
DP 2012 B3XF	1,121	41.26	3.71	1.17	33.2	82.6	54.20	547
DP 2020 B3XF	1,106	40.71	3.64	1.17	31.2	82.3	54.48	541
ST 5707 B2XF	1,086	39.87	4.04	1.18	35.8	82.6	54.23	543
FM 1621 GL	1,007	44.06	4.72	1.13	34.5	82.1	54.00	505
NG 4936 B3XF	988	40.29	3.82	1.13	30.5	82.2	53.95	475
Average	1,127	41.02	3.80	1.16	32.9	82.4	53.35	545

<sup>1</sup> Four replications planted of each variety, approximately two plots were combined into a single round module producing two modules from each variety.

<sup>2</sup> Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

<sup>3</sup> Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.



2020 Texas Co. Dryland RACE Trial  
 Planted: May 14  
 Seeding Rate: 35,000 30-inch row spacing  
 Harvested: Nov. 5, stripper harvested without bur extractor

Table 9. Texas County dryland RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
DG 3317 B3XF	420 a	28.29 ab	2.95 a	1.04 c	26.7 bc	79.7	40.75 a	110 a
DP 1822 XF	413 a	28.92 a	3.01 a	1.12 a	28.3 ab	81.4	46.43 a	145 a
DG 3385 B2XF	406 ab	28.17 ab	3.16 a	1.05 bc	26.3 bc	80.8	43.97 a	118 a
NG 3930 B3XF	387 ab	27.03 a-c	2.93 ab	1.08 a-c	27.1 bc	81.3	44.00 a	114 a
NG 3729 B2XF	379 ab	25.78 a-c	2.94 a	1.09 ab	27.6 ab	80.1	44.45 a	114 a
ST 5707 B2XF	366 ab	25.43 a-c	2.81 ab	1.09 a-c	29.9 a	80.1	41.97 a	106 a
NG 2982 B3XF	365 a-c	24.71 bc	2.25 c	1.05 bc	27.7 ab	80.1	32.38 b	49 b
DP 2012 B3XF	318 bc	23.27 c	2.48 bc	1.06 bc	25.1 c	79.5	32.60 b	42 b
ST 5600 B2XF	275 c	24.01 c	2.95 a	1.06 bc	28.3 ab	80.2	40.37 a	53 b
Average	370	26.18	2.83	1.07	27.5	80.4	40.77	95
p-value	0.0605	0.0508	0.0154	0.0755	0.0227	0.3516	0.0016	0.0018
pLSD	90	3.78	0.46	0.05	2.3	NS <sup>3</sup>	6.37	47
CV	16.92	10.21	12.54	3.41	6.29	1.30	14.27	44.26

- 1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.
- 2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.
- 3 NS; no significant statistical difference between varieties at p-value <0.1.

2020 Texas Co. Irrigated RACE Trial  
 Planted: May 12  
 Seeding Rate: 50,000 30-inch row spacing  
 Irrigation: lateral move overhead system  
 Harvested: Nov. 9, stripper harvested

Table 10. Texas County irrigated RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
NG 2982 B3XF	1,447 a	29.67 a-d	2.52 cd	1.13 cd	29.27 ab	82.0	43.58 a-d	453 a
DG 3317 B3XF	1,305 ab	34.04 a	2.89 a-c	1.08 f	28.00 bc	81.4	45.58 a	481 a
DG 3385 B2XF	1,301 ab	31.58 ab	3.12 a	1.09 ef	27.43 cd	80.9	44.87 ab	507 a
NG 3729 B2XF	1,267 ab	30.06 a-c	2.94 ab	1.16 ab	27.77 b-d	81.1	37.08 de	480 a
DP 1820 B3XF	1,156 bc	30.75 a-c	2.91 a-c	1.19 a	30.63 a	80.7	35.70 e	429 a
NG 3930 B3XF	1,139 bc	28.78 b-d	2.74 a-d	1.15 bc	27.70 b-d	81.9	38.15 b-e	410 a
DP 2020 B3XF	994 c	26.14 cd	2.57 b-d	1.12 cd	25.13 e	79.6	44.45 a-c	262 b
DP 2012 B3XF	968 cd	24.82 d	2.54 b-d	1.11 de	26.00 de	80.2	42.90 a-d	275 b
ST 4990 B3XF	790 de	25.82 cd	2.40 d	1.16 b	27.93 bc	80.2	36.82 de	206 b
ST 5610 B3XF	742 e	25.88 cd	2.37 d	1.12 d	27.73 b-d	80.1	37.60 c-e	203 b
Average	1,111	28.75	2.70	1.13	27.76	80.81	40.67	371
p-value	<0.0001	0.0167	0.0120	<0.0001	0.0005	0.1094	0.0396	<0.0001
pLSD	204	4.99	0.41	0.03	1.8	NS <sup>3</sup>	7.19	126
CV	22.74	13.57	11.77	3.15	6.15	1.39	12.79	35.79

1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.

3 NS; no significant statistical difference between varieties at p-value <0.1.

2020 Tillman Co. Dryland RACE Trial  
 Planted: June 2  
 Seeding Rate: 25,000 40-inch row spacing  
 Harvested: Nov. 19, stripper harvested

Table 11. Tillman County dryland RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
NG 4098 B3XF	990 a	36.23 ab	4.13 a-c	1.21 a	32.7 a	81.8	54.23 a	489 a
DP 2020 B3XF	932 ab	34.86 b-d	3.95 bc	1.15 bc	28.1 d	82.3	53.65 b	456 ab
NG 3930 B3XF	926 ab	33.39 de	4.06 bc	1.15 bc	29.9 b-d	82.6	53.80 b	458 ab
ST 5707 B2XF	898 ab	34.17 c-e	4.33 ab	1.11 d	31.9 ab	82.5	53.78 b	449 ab
ST 5600 B2XF	885 b	37.24 a	4.50 a	1.13 cd	29.8 b-d	82.3	53.63 b	432 ab
DP 1646 B2XF	872 b	36.08 ab	3.82 c	1.21 a	29.5 cd	82.0	53.80 b	424 b
DP 1948 B3XF	862 b	35.08 bc	3.82 c	1.21 a	31.2 a-c	83.0	54.27 a	425 b
NG 4936 B3XF	746 c	32.82 e	3.99 bc	1.17 b	29.3 cd	83.3	53.95 ab	359 c
NG 5711 B3XF	711 c	34.16 c-e	3.83 c	1.15 bc	28.7 d	82.0	53.73 b	339 c
Average	869	34.89	4.05	1.17	30.11	82.4	53.87	426
p-value	0.0007	0.0002	0.0358	<0.0001	0.0057	0.6515	0.0048	0.0009
pLSD	104	1.48	0.43	0.03	2.16	NS <sup>3</sup>	0.33	57
CV	11.46	4.58	7.63	3.20	5.94	1.17	0.51	12.69

1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.

3 NS; no significant statistical difference between varieties at p-value <0.1.

2020 Tillman Co. Irrigated RACE Trial  
 Planted: June 1  
 Seeding Rate: 40,000 40-inch row spacing  
 Irrigation: center pivot  
 Harvested: Nov. 20, picker harvested

Table 12. Tillman County irrigated RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Stirength (g/tex)	Uniformity (%)	Loan Value' (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
DP 1948 B3XF	1021	39.68 a	4.27 bc	1.21	33.2 b	82.9	54.85	492
ST 5707 B2XF	1014	36.80 b	4.36 b	1.19	35.7 a	85.0	54.40	498
NG 3930 B3XF	994	40.28 a	4.37 b	1.15	29.0 c	82.7	54.23	475
NG 5711 B3XF	975	39.44 a	4.18 bc	1.19	30.8 c	82.8	54.38	461
DP 2020 B3XF	959	36.73 b	3.81 c	1.21	29.6 c	83.4	54.28	449
NG 4098 B3XF	957	37.17 b	3.94 bc	1.24	34.3 ab	83.2	54.32	443
NG 4936 B3XF	939	36.99 b	4.18 bc	1.21	29.4 c	84.1	54.43	443
ST 5600 B2XF	917	39.00 a	4.94 a	1.18	33.1 b	84.2	53.47	422
Average	972	38.26	4.25	1.20	31.9	83.5	54.30	460
p-value	0.596	0.002	0.0095	0.1038	<0.0001	0.2728	0.2454	0.3427
pLSD	NS3	1.18	0.49	NS	2.0	NS	NS	NS
CV	7.01	4.33	9.42	2.87	8.15	1.50	1.14	9.15

- 1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.
- 2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.
- 3 NS; no significant statistical difference between varieties at p-value <0.1.

2020 Washita Co. Dryland RACE Trial  
 Planted: June 2  
 Seeding Rate: 30,000 40-inch row spacing  
 Harvested: Nov. 11, stripper harvested

Table 13. Washita County dryland RACE trial results.

Variety	Lint Yield (lbs./acre)	Turnout (%)	Micronaire	Length (inches)	Strength (g/tex)	Uniformity (%)	Loan Value <sup>1</sup> (cents/lb.)	Return per Acre <sup>2</sup> (\$/acre)
NG 4098 B3XF	789 a	36.65 a	4.92 cd	1.15 a	32.9 a	81.4	53.23 a	363 a
DP 2044 B3XF	746 ab	36.49 a	4.76 de	1.15 a	31.6 a	81.5	53.08 a	358 a
ST 5600 B2XF	715 a-c	36.87 a	5.36 a	1.10 bc	29.8 b	82.6	48.95 cd	299 b
ST 5707 B2XF	676 bc	34.11 bc	5.41 a	1.12 abc	32.9 a	82.7	50.37 b-d	300 b
NG 3930 B3XF	675 bc	36.54 a	5.03 bc	1.09 bc	28.9 bc	82.7	51.17 a-c	298 b
NG 5711 B3XF	651 cd	36.75 a	4.89 c-e	1.08 c	29.5 bc	81.0	52.57 ab	290 bc
NG 3729 B2XF	634 c-e	36.79 a	5.25 ab	1.08 c	27.2 d	81.4	48.33 d	258 b-d
DP 2012 B3XF	583 de	35.33 ab	4.70 de	1.09 bc	28.1 cd	81.9	51.93 ab	248 cd
NG 4936 B3XF	577 de	32.47 c	4.72 de	1.13 ab	29.7 b	83.6	52.95 a	255 b-d
DP 2020 B3XF	552 e	34.73 ab	4.65 e	1.09 bc	28.1 cd	81.9	52.92 a	239 d
Average	660	35.67	4.97	1.11	28.88	82.07	51.55	291
p-value	0.0004	0.0066	<0.0001	0.0143	<0.0001	0.1606	0.0013	0.0003
pLSD	90	2.23	0.26	0.05	1.5	NS <sup>3</sup>	2.32	49
CV	13.42	5.04	6.85	3.24	6.91	1.42	4.25	17.53

1 Color and leaf grades set to base levels (41 and 4, respectively) due to lack of proper lint cleaner on gin.

2 Return per acre calculated as (lint yield per acre X loan value per pound) - seed cost per acre.

3 NS; no significant statistical difference between varieties at p-value <0.1.





## The Oklahoma Cooperative Extension Service

### *Bringing the University to You!*

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

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