

2018 TEXAS HIGH PLAINS REPLICATED AGRONOMIC COTTON EVALUATION (RACE) TRIALS

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Table of Contents

| | Page |
|---|-------------|
| <i>2018 Southern High Plains RACE Trials</i> | 4 |
| Acknowledgements..... | 5 |
| 2018 Season Overview..... | 6 |
| RACE Trial Format..... | 7 |
| Conditions at Harvest..... | 7 |
| 2018 RACE Trial Cotton Varieties..... | 8 |
| In-Season Rainfall and Heat Unit Accumulation..... | 9 |
| Floyd County..... | 10 |
| Dawson County..... | 11 |
| Hale County..... | 12 |
| Lubbock County..... | 13 |
| Terry County..... | 14 |
| Hockley County..... | 15 |
| Dryland Trials Combined..... | 16 |
| Limited Irrigation Trials Combined..... | 17 |
| Irrigated Trials Combined..... | 18 |
| <i>2018 Texas Panhandle RACE Trials</i> | 19 |
| <i>List of Figures (Panhandle RACE Trials)</i> | |
| Distribution of growing degree days (GDD60) accumulated from planting..... | 20 |
| 4-week stand counts in the 2018 Hutchison County row spacing trial..... | 34 |
| Comparison of 2017 and 2018 lint data for the 2018 Hutchinson County row spacing trial..... | 35 |

| | Page |
|--|-------------|
| <i>List of Tables (Panhandle RACE Trials)</i> | |
| 2018 Agronomic information by location..... | 21 |
| 2018 trial condition and in-season details including irrigation, precipitation, Growing Degree Days, and harvest date..... | 22 |
| Characteristics of varieties evaluated in 2018 Panhandle RACE trials..... | 23 |
| Four-week post planting stand counts by location..... | 24 |
| Four-week post planting stand counts as a fraction of the planted population | 25 |
| 2018 Lint yield and quality for the Deaf Smith County Irrigated RACE Trial, Frank Bezner Farm at Hereford, Texas..... | 26 |
| 2018 Lint yield and quality for the Gray County Dryland RACE Trial, Chandler Bowers Farm at Pampa, Texas..... | 27 |
| 2018 Lint yield and quality for the Hansford County Dryland RACE Trial, Craig McCloy Farm at Morse, Texas..... | 28 |
| 2018 Lint yield and quality for the Hutchison County Irrigated RACE Trial, Craig McCloy Farm at Pringle, Texas..... | 29 |
| 2018 Lint yield and quality for the Moore County Deficit Irrigated RACE Trial, Darren Stallwitz Farm at Dumas, Texas..... | 30 |
| 2018 Lint yield and quality for the Ochiltree County Irrigated RACE Trial, Brandon Davis Farm at Perryton, Texas..... | 31 |
| 2018 Lint yield and quality for the Sherman County Irrigated RACE Trial, Tommy Cartrite Farm at Sunray, Texas..... | 32 |
| 2018 Lint yield and quality for the Swisher County Irrigated RACE Trial, Jeremy Reed Farm at Kress, Texas..... | 33 |
| 2018 Hutchinson County row spacing lint yield and fiber quality..... | 36 |
| 2018 Hutchinson County row spacing lint yield and fiber quality by row spacing..... | 37 |
| 2018 Hutchinson County seeding rate trial lint yield and fiber data | 38 |
| Acknowledgements..... | 39 |

**2018 Texas Southern High Plains
Replicated Agronomic Cotton Evaluation (RACE) Trials**



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Seed companies are also acknowledged for their continued support of Texas A&M AgriLife Extension efforts in bringing reliable, non-biased information to our cotton producers. Companies graciously donate all the seed that goes into the Replicated Agronomic Cotton Evaluation (RACE) trials.

This year in particular we would also like to acknowledge Dr. Jaroy Moore (Professor and Center Director, Lubbock), Dr. Gaylon Morgan (Professor and State Extension Cotton Specialist, College Station), Dr. Wayne Keeling (Professor - Cropping Systems, Lubbock), Mr. Robert Wright (Extension Cotton Technician, Lubbock), as well as our County and IPM agents across the region, among many others, for putting forth the effort to ensure these trials were in place for the 2018 season.

Appreciation is also extended to Dr. Brendan Kelly, Jacob James, and staff at the Fiber Biopolymer Research Institute at Texas Tech University in Lubbock for their continued support of our activities.

Seed Companies:



2018 Season Overview

As many of you are well aware, 2018 was definitely a challenging growing season. Lack of adequate soil moisture early on meant many of the dryland acres failed across the region, and even some of the irrigated crop ended up with skippy stands. A total of 11 RACE trials were planted in 2018, 6 dryland and 5 irrigated. Trials were planted in Hale, Floyd, Lubbock, Crosby, Hockley, Terry, Yoakum, Dawson, and Mitchell Counties. Five trials (4 dryland and 1 irrigated) failed to make adequate stand, so they were abandoned. Studies that made it to harvest and are present in this report include 2 dryland (Floyd and Dawson) and 4 irrigated (Lubbock, Hockley, Terry, and Hale).

In most places across the Southern High Plains soil moisture remained fairly low throughout the season, with much of it not coming until mid to late September for many; a bit too late for it to be of any real good help to the dryland crop. When harvest time came around, widespread rainfall across the region held many of our producers back, and kept those strippers parked at the barns for most of October.

All things considered though, as we compile this report in late January most of the Texas High Plains growers should be done with harvest (or pretty close to it). Given favorable weather, it is pretty impressive to watch how fast acres and acres of cotton literally disappear from the fields. Most gins appear to be wrapping up their season or getting pretty close to it as well. According to the USDA-National Agricultural Statistics Service office, 7,400,000 acres of cotton were planted in the State and as of December 15, 2018 a total of 4,227,950 had been ginned in Texas.

According to the USDA-Agricultural Marketing Service office the ten most planted varieties accounted for approximately 58.5% of the total acreage in Texas (Table 1).

Table 1. Ten most planted upland cotton varieties in the State of Texas. Source: USDA-AMS.

| | Company | Variety | % of acres |
|----|------------------|----------------|-------------------|
| 1 | Deltapine | DP 1646 B2XF | 10.73% |
| 2 | Americot | NG 4689 B2XF | 9.84% |
| 3 | Americot | NG 3406 B2XF | 8.94% |
| 4 | Americot | NG 3500 XF | 7.50% |
| 5 | Americot | NG 4545 B2XF | 7.44% |
| 6 | FiberMax | FM 1830 GLT | 4.03% |
| 7 | Americot | NG 3640 XF | 3.33% |
| 8 | Phytogen | PHY 330 W3FE | 2.41% |
| 9 | Phytogen | PHY 312 WRF | 2.19% |
| 10 | All-Tex/Dyna-Gro | DG 3385 B2XF | 2.13% |

RACE Trial Format

For the 2018 season the same format introduced in 2016 was maintained. A standard lineup of 10-12 commercial varieties (exception of CG18XT9 XF) were evaluated across different locations in the Southern High Plains region, with all seed companies given the opportunity to participate in these trials, as well as select varieties from their respective portfolios to enter the RACE trials. Varieties could differ between dryland and irrigated trials, but most (7 varieties) were present in both (Table 2). All plots were replicated three times and local management of the study followed the collaborator's on-farm practices, but no one variety was treated different in any of these trials. As noted on figure 1, most trials were limited by the lack of timely rainfall but not by the lack of accumulated heat units during 2018. Accumulated DD60s from planting to harvest ranged from 2,200 to 2,600 by early October, when temperatures started to drop. Average yields ranged from 220 to 277 lbs of lint per acre on the dryland trials, 367 to 532 lbs of lint per acre on the limited irrigation trials, and 852 to 1,316 lbs of lint per acre for the irrigated trials. Trials were harvested with a cotton stripper and seedcotton samples were collected for each variety and replication upon harvest. Those samples were later sent to the Fiber Biopolymer Research Institute at Texas Tech University in Lubbock for ginning and HVI fiber quality analysis. From the six locations that made it to harvest, growing conditions (and yield levels) could be separated into three (dryland, limited irrigation, and irrigated). Pooled data for these is shown as bar graphs in this report for reference.

Specifically, for the Terry County RACE trial our collaborator was interested in evaluating two varieties (NG3517 B2XF and DP1549 B2XF) so they were both added. Moving forward, we would like to encourage our growers in the region to get in touch with your local Texas A&M AgriLife Extension office if they have interest in hosting one of these trials at their farm or would like to see a particular variety included. These trials are done for the benefit of our growers and should also include varieties that are relevant for their specific regions.

Conditions at Harvest

All trials were harvested between October 30th and December 19th, 2018.

- Terry County: A single replication of two FiberMax varieties (FM1888 GL and FM2574 GLT) in Terry County suffered dicamba damage early in the season and were deemed lost. These were not included in the data analysis for this report.
- Floyd County: Harvest occurred during fairly high winds, thus some loss of seedcotton happened when transferring it from the stripper into the weigh wagon. Wind effect assumed to have affected all plots equally.
- Hale County: No issues.
- Lubbock County: No issues.
- Hockley County: Harvest happened over two days (December 18 – 19th) due to rain. Precipitation was minimal but enough to put a hold on harvest operations.
- Dawson County: Last few plots harvested at approximately 60% RH, otherwise no issues.

2018 RACE Trial Cotton Varieties

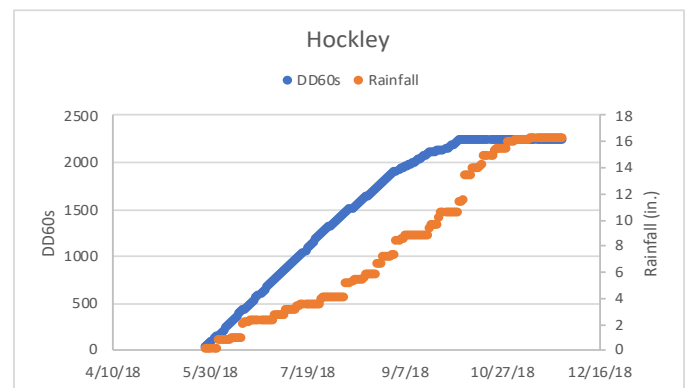
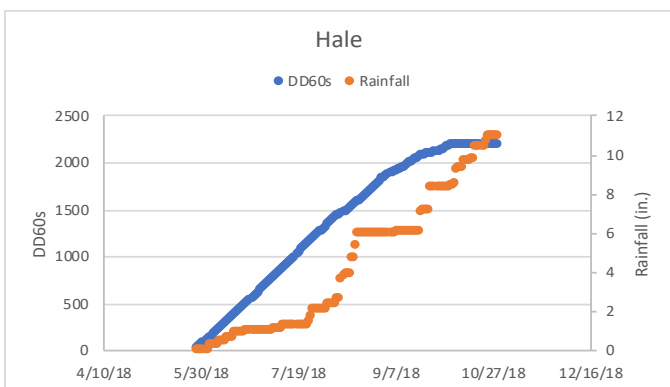
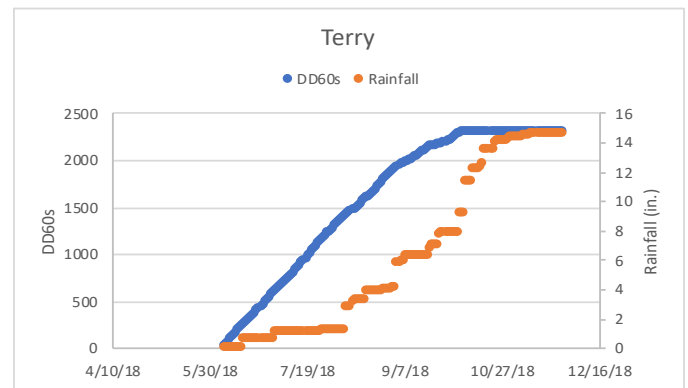
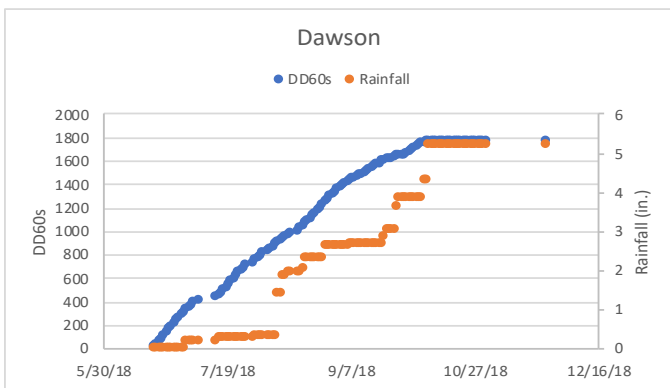
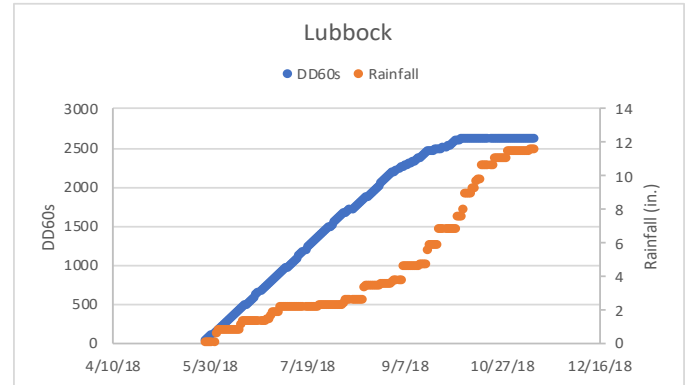
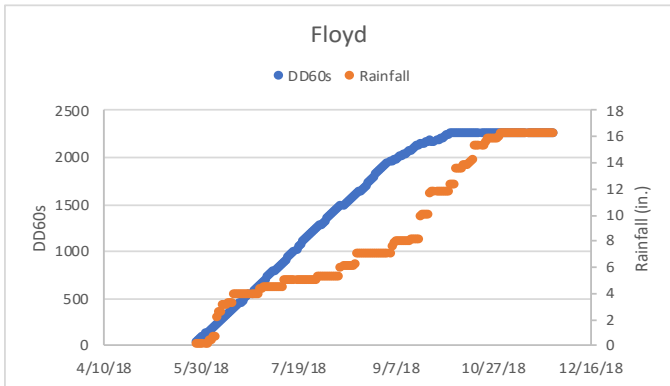
Table 2. Cotton varieties included in the irrigated and dryland 2018 Southern High Plains RACE trials.

| Irrigated | Dryland |
|------------------|----------------|
| 1 NG 3780 B2XF | 1 NG 3640 XF |
| 2 NG 4777 B2XF | 2 NG 4777 B2XF |
| 3 NG 4689 B2XF | 3 NG 4545 B2XF |
| 4 NG 4792 XF | 4 NG 4792 XF |
| 5 DP 1522 B2XF | 5 DP 1549 B2XF |
| 6 DP 1646 B2XF | 6 DP 1646 B2XF |
| 7 CP 9598 B3XF | 7 FM 2574 GLT |
| 8 CP 18XT9 XF | 8 FM 1830 GLT |
| 9 FM 2574 GLT | 9 FM 1888 GL |
| 10 FM 1830 GLT | 10 FM 1911 GLT |
| 11 FM 1888 GL | |
| 12 FM 1911 GLT | |
| 13 NG 3517 B2XF* | |
| 14 DP 1549 B2XF* | |

*Grower entry, exclusive to Terry County trial.

B2XF = Bollgard II® XtendFlex™
 B3XF = Bollgard III® XtendFlex™
 GL = GlyTol® LibertyLink®
 GLT = GlyTol® LibertyLink® TwinLink®
 XF = XtendFlex™

Figure 1. In-Season Rainfall and Heat Unit (DD60s) Accumulation



Data retrieved from the National Weather Service.
 Dawson County weather dataset is incomplete.

Floyd County

Dryland

Planted: 05/29/2018

Harvested: 11/28/2018

Plant population and row spacing: 29,000 plants per acre, 40 in. rows

Heat Units (DD60s): 2,250

In-season rainfall: 16 in.

| Variety | Lint Yield lbs/acre | Bales acre | Turnout % | Mic | Length in. | Unif % | Strength g/tex | Stand plants/acre | Loan Value (cents/lb) | Lint Value (\$/acre) |
|----------------|------------------------|---------------|--------------|---------|---------------|-----------|-------------------|----------------------|--------------------------|-------------------------|
| DP1549 | 284 a | 0.59 | 0.39 a | 3.9 cd | 1.05 d | 79.8 a | 29.5 bc | 15,033 a | 51.9 bc | 147 a |
| FM1911 | 278 a | 0.58 | 0.38 a | 4.1 b-d | 1.12 b | 81.5 a | 31.3 ab | 18,083 a | 54.7 ab | 152 a |
| NG4545 | 262 a | 0.55 | 0.39 a | 4.7 ab | 1.06 d | 80.9 a | 30.7 ab | 13,725 a | 53.1 bc | 139 a |
| FM1888 | 261 a | 0.54 | 0.39 a | 4.5 a-c | 1.10 bc | 80.5 a | 30.8 ab | 15,251 a | 54.1 a-c | 141 a |
| DP1646 | 246 a | 0.51 | 0.39 a | 3.7 d | 1.17 a | 80.8 a | 28.4 c | 12,854 a | 53.7 a-c | 133 a |
| NG3640 | 230 a | 0.48 | 0.38 a | 5.0 a | 1.06 d | 81.6 a | 32.5 a | 18,736 a | 51.8 c | 119 a |
| NG4777 | 227 a | 0.47 | 0.39 a | 4.9 a | 1.08 cd | 81.6 a | 31.0 ab | 18,954 a | 52.8 bc | 120 a |
| NG4792 | 227 a | 0.47 | 0.39 a | 4.7 ab | 1.05 d | 81.3 a | 31.6 a | 16,558 a | 51.3 c | 116 a |
| FM1830 | 226 a | 0.47 | 0.39 a | 4.3 a-d | 1.17 a | 81.5 a | 31.6 a | 16,993 a | 56.1 a | 127 a |
| FM2574 | 223 a | 0.46 | 0.39 a | 4.4 a-c | 1.13 b | 80.6 a | 31.0 ab | 18,083 a | 56.3 a | 125 a |
| Mean | 246 | 0.51 | 0.39 | 4.4 | 1.10 | 81.0 | 30.8 | 16,427 | 53.6 | 132 |
| STDEV | 34 | | 0.01 | 0.53 | 0.05 | 0.85 | 1.46 | 3,084 | 2.18 | 18.87 |
| CV, % | 13.8 | | 2.7 | 12.0 | 4.5 | 1.0 | 4.7 | 18.8 | 4.1 | 14.3 |
| p-value | 0.1492 | | 0.9596 | 0.0153 | <.0001 | 0.1287 | 0.0187 | 0.1346 | 0.0108 | 0.2081 |
| LSD | NS | | NS | 0.7 | 0.035 | NS | 1.94 | NS | 2.8 | NS |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV: Coefficient of Variation in %, LSD: Least Significant Difference at 0.05 probability level, NS: not significant

Lint loan values were calculated from the 2018 Upland Cotton loan valuation model from Cotton Incorporated using a \$0.52/lb base price.

MIC = Micronaire, UNIF = Uniformity

NG = NexGen, FM = FiberMax, DP = Deltapine

Dawson County

Dryland

Planted: 06/20/2018

Harvested: 12/06/2018

Plant population and row spacing: 25,000 plants per acre, 40 in. rows

Heat Units (DD60s): 1,771 (incomplete dataset)

In-season rainfall: 16 in. (incomplete dataset)

| Variety | Lint Yield | | Bales | Turnout | | Mic | | Length | | Unif | | Strength | | Stand | Loan Value | | Lint Value | |
|----------------|------------|---|-------|---------|---|-------|-----|--------|-----|-------|----|----------|-----|-------------|------------|---|------------|---|
| | lbs/acre | | acre | % | | | | in. | | % | | g/tex | | plants/acre | (cents/lb) | | (\$/acre) | |
| NG4792 | 273 | a | 0.57 | 0.35 | a | 4.3 | a | 1.11 | d | 80.2 | ab | 31.4 | ab | NC | 54.4 | a | 148 | a |
| DP1646 | 271 | a | 0.56 | 0.36 | a | 3.3 | d | 1.21 | a | 80.8 | a | 29.9 | a-c | NC | 52.5 | a | 143 | a |
| DP1549 | 269 | a | 0.56 | 0.37 | a | 3.5 | cd | 1.11 | d | 78.6 | d | 29.6 | c | NC | 53.1 | a | 143 | a |
| NG3640 | 250 | a | 0.52 | 0.37 | a | 4.1 | a | 1.14 | b-d | 80.8 | a | 31.6 | a | NC | 54.1 | a | 136 | a |
| NG4777 | 238 | a | 0.50 | 0.36 | a | 4.2 | a | 1.13 | cd | 80.0 | ab | 29.8 | a-c | NC | 53.1 | a | 127 | a |
| NG4545 | 229 | a | 0.48 | 0.34 | a | 4.2 | a | 1.12 | d | 79.0 | cd | 29.6 | bc | NC | 54.4 | a | 124 | a |
| FM1830 | 228 | a | 0.48 | 0.38 | a | 4.1 | a | 1.18 | a | 80.5 | ab | 30.9 | a-c | NC | 54.5 | a | 124 | a |
| FM1911 | 225 | a | 0.47 | 0.31 | a | 3.9 | a-c | 1.17 | ab | 79.7 | bc | 30.7 | a-c | NC | 54.3 | a | 122 | a |
| FM2574 | 217 | a | 0.45 | 0.33 | a | 3.6 | b-d | 1.20 | a | 80.4 | ab | 30.9 | a-c | NC | 54.8 | a | 119 | a |
| FM1888 | 193 | a | 0.40 | 0.37 | a | 3.9 | ab | 1.17 | a-c | 80.2 | ab | 30.9 | a-c | NC | 54.4 | a | 105 | a |
| Mean | 239 | | 0.50 | 0.35 | | 3.9 | | 1.15 | | 80.0 | | 30.5 | | | 54.0 | | 129 | |
| STDEV | 44.54 | | | 0.04 | | 0.39 | | 0.04 | | 0.84 | | 1.16 | | | 1.47 | | 23.93 | |
| CV, % | 18.6 | | | 10.0 | | 10.0 | | 3.8 | | 1.0 | | 3.8 | | | 2.7 | | 18.5 | |
| p-value | 0.4345 | | | 0.4164 | | 0.001 | | 0.0004 | | 0.008 | | 0.2201 | | | 0.6467 | | 0.5662 | |
| LSD | NS | | | NS | | 0.44 | | 0.046 | | 0.923 | | 1.83 | | | NS | | NS | |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV: Coefficient of Variation in %, LSD: Least Significant Difference at 0.05 probability level, NS: not significant, NC: not collected

Lint loan values were calculated from the 2018 Upland Cotton loan valuation model from Cotton Incorporated using a \$0.52/lb base price.

MIC = Micronaire, UNIF = Uniformity

NG = NexGen, FM = FiberMax, DP = Deltapine

Hale County

Irrigated – Center Pivot

Planted: 05/14/2018

Harvested: 10/30/2018

Plant population and row spacing: 45,000 plants per acre, 40 in. rows

Heat Units (DD60s): 2,195

In-season rainfall: 11 in.

Irrigation: 16.5 in.

| Variety | Lint Yield lbs/acre | Bales acre | Turnout % | Mic | Length in. | Unif % | Strength g/tex | Stand plants/acre | Loan Value (cents/lb) | Lint Value (\$/acre) |
|----------------|------------------------|---------------|--------------|---------|---------------|-----------|-------------------|----------------------|--------------------------|-------------------------|
| NG4792 | 1,269 a | 2.64 | 0.38 cd | 4.0 a | 1.13 de | 83.4 ab | 31.8 cd | 32,898 ab | 54.0 a-c | 685 a |
| FM1830 | 1,223 ab | 2.55 | 0.40 b | 3.9 ab | 1.22 a | 83.0 a-c | 33.8 a | 30,283 b | 55.7 a | 681 a |
| FM2574 | 1,207 a-c | 2.52 | 0.42 a | 3.8 ab | 1.22 a | 83.6 a | 33.5 ab | 25,708 b-d | 52.1 cd | 630 ab |
| NG4777 | 1,197 a-c | 2.49 | 0.37 d | 3.8 a-c | 1.15 cd | 82.6 a-c | 33.6 ab | 31,155 ab | 54.7 ab | 654 a |
| NG4689 | 1,176 a-d | 2.45 | 0.39 c | 4.0 a | 1.17 bc | 82.9 a-c | 30.0 f | 38,562 a | 53.2 a-d | 625 ab |
| FM1911 | 1,125 b-e | 2.34 | 0.39 c | 3.6 cd | 1.17 bc | 82.9 a-c | 31.8 cd | 27,015 bc | 51.5 de | 579 bc |
| FM1888 | 1,123 b-e | 2.34 | 0.38 cd | 3.6 cd | 1.18 bc | 82.7 a-c | 33.7 a | 20,697 c-e | 49.2 ef | 553 cd |
| NG3780 | 1,114 b-e | 2.32 | 0.36 e | 3.9 ab | 1.13 e | 82.2 cd | 33.1 ab | 28,540 b | 52.4 b-d | 584 bc |
| CG18XT9 | 1,104 c-e | 2.30 | 0.41 ab | 3.5 d | 1.15 cd | 81.3 d | 32.7 bc | 15,468 e | 48.2 f | 531 cd |
| DP1646 | 1,096 c-e | 2.28 | 0.42 a | 3.6 cd | 1.22 a | 82.6 a-c | 30.5 ef | 26,144 b-d | 52.0 cd | 570 bc |
| CG9598 | 1,081 de | 2.25 | 0.42 a | 3.7 b-d | 1.17 bc | 82.3 b-d | 31.3 de | 18,736 de | 53.5 a-d | 578 bc |
| DP1522 | 1,026 e | 2.14 | 0.38 cd | 3.4 d | 1.14 de | 82.2 cd | 31.0 de | 25,490 b-d | 49.0 f | 502 d |
| Mean | 1,145 | 2.39 | 0.39 | 3.7 | 1.17 | 82.6 | 32.2 | 26,725 | 52.1 | 598 |
| STDEV | 87.35 | | 0.02 | 0.24 | 0.03 | 0.81 | 1.37 | 7,236 | 2.57 | 63.85 |
| CV, % | 7.6 | | 5.2 | 6.4 | 3.0 | 1.0 | 4.2 | 27.1 | 4.9 | 10.7 |
| p-value | 0.0077 | | <.0001 | 0.0003 | <.0001 | 0.0241 | <.0001 | 0.0002 | <.0001 | <.0001 |
| LSD | 56.4 | | 0.0064 | 0.132 | 0.114 | 0.555 | 0.462 | 3851.86 | 4.93 | 31.14 |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV: Coefficient of Variation in %, LSD: Least Significant Difference at 0.05 probability level, NS: not significant

Lint loan values were calculated from the 2018 Upland Cotton loan valuation model from Cotton Incorporated using a \$0.52/lb base price.

MIC = Micronaire, UNIF = Uniformity

NG = NexGen, FM = FiberMax, DP = Deltapine, CG = Croplan Genetics

Lubbock County

Irrigated - Furrow
Planted: 05/08/2018
Harvested: 11/13/2018
Plant population and row spacing: 45,000 plants per acre, 40 in. rows
Heat Units (DD60s): 2,607
In-season rainfall: 11.5 in.
Irrigation: Row watered 3x

| Variety | Lint Yield lbs/acre | Bales acre | Turnout % | Mic | Length in. | Unif % | Strength g/tex | Stand plants/acre | Loan Value (cents/lb) | Lint Value (\$/acre) |
|----------------|------------------------|---------------|--------------|---------|---------------|-----------|-------------------|----------------------|--------------------------|-------------------------|
| NG3780 | 484 a | 1.01 | 0.36 c-e | 4.8 ab | 1.10 c-e | 80.4 d | 30.0 b-d | 23,094 a | 52.6 a | 254 a |
| NG4792 | 468 a | 0.98 | 0.35 e | 5.0 a | 1.10 de | 82.0 ab | 32.9 a | 22,658 a | 50.2 a | 235 a |
| CG18XT9 | 448 a | 0.93 | 0.35 de | 4.4 de | 1.14 a-c | 81.6 a-c | 31.4 a-b | 11,547 c | 35.7 b | 175 a |
| CG9598 | 440 a | 0.92 | 0.39 a | 4.8 a-c | 1.13 a-d | 81.9 a-c | 30.3 b-d | 15,468 bc | 54.2 a | 239 a |
| DP1522 | 432 a | 0.90 | 0.37 cd | 4.6 b-d | 1.11 b-e | 82.4 a | 30.2 b-d | 18,954 ab | 47.1 a | 204 a |
| NG4777 | 421 a | 0.88 | 0.36 c-e | 4.8 a-c | 1.08 e | 80.6 d | 29.1 d | 18,301 ab | 52.5 a | 221 a |
| NG4689 | 396 a | 0.83 | 0.37 cd | 4.8 ab | 1.07 e | 81.0 cd | 29.5 cd | 22,222 a | 50.4 a | 200 a |
| FM1911 | 383 a | 0.80 | 0.37 bc | 4.4 de | 1.14 a-d | 81.8 a-c | 31.1 bc | 23,094 a | 52.8 a | 202 a |
| FM1888 | 379 a | 0.79 | 0.37 bc | 4.4 e | 1.13 a-d | 80.5 d | 30.9 bc | 20,261 ab | 47.8 a | 179 a |
| DP1646 | 366 a | 0.76 | 0.39 a | 4.5 de | 1.16 a | 81.3 b-d | 29.1 d | 17,647 a-c | 52.4 a | 192 a |
| FM2574 | 345 a | 0.72 | 0.39 a | 4.6 c-e | 1.16 a | 81.1 b-d | 31.3 ab | 18,519 ab | 53.5 a | 184 a |
| FM1830 | 319 a | 0.66 | 0.38 ab | 4.6 b-d | 1.14 ab | 81.7 a-c | 31.5 ab | 22,222 a | 54.4 a | 173 a |
| Mean | 407 | 0.85 | 0.37 | 4.7 | 1.12 | 81.4 | 30.6 | 19,499 | 50.3 | 205 |
| STDEV | 1117.10 | | 0.02 | 0.24 | 0.04 | 0.79 | 1.39 | 4,570 | 7.01 | 64.20 |
| CV, % | 28.8 | | 4.4 | 5.1 | 3.1 | 1.0 | 4.6 | 23.4 | 13.9 | 31.4 |
| p-value | 0.9084 | | <.0001 | <.0001 | 0.0015 | 0.003 | 0.0053 | 0.0171 | 0.0446 | 0.9279 |
| LSD | NS | | 0.0067 | 0.121 | 0.0208 | 0.485 | 0.882 | 3078.7 | 4.99 | NS |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV: Coefficient of Variation in %, LSD: Least Significant Difference at 0.05 probability level, NS: not significant

Lint loan values were calculated from the 2018 Upland Cotton loan valuation model from Cotton Incorporated using a \$0.52/lb base price.

MIC = Micronaire, UNIF = Uniformity

NG = NexGen, FM = FiberMax, DP = Deltapine, CG = Croplan Genetics

Terry County

Irrigated – Center Pivot

Planted: 06/07/2018

Harvested: 11/27/2018

Plant population and row spacing: 27,000 plants per acre, 40 in. rows

Heat Units (DD60s): 2,307

In-season rainfall: 14.6 in.

Irrigation: 9 in.

| Variety | Lint Yield lbs/acre | | Bales acre | Turnout % | | Mic | | Length in. | | Unif % | | Strength g/tex | | Stand plants/acre | | Loan Value (cents/lb) | | Lint Value (\$/acre) | |
|----------------|------------------------|---|---------------|--------------|---|--------|-----|---------------|-----|-----------|----|-------------------|---|----------------------|-----|--------------------------|-----|-------------------------|---|
| NG3780 | 539 | a | 1.12 | 0.38 | a | 3.6 | a | 1.08 | ef | 79.4 | bc | 29.1 | a | 17,211 | a-c | 53.2 | a | 287 | a |
| DP1522 | 532 | a | 1.11 | 0.37 | a | 3.2 | de | 1.08 | d-f | 80.1 | ab | 28.0 | a | 16,558 | a-d | 48.5 | b-e | 258 | a |
| NG3517 | 532 | a | 1.11 | 0.38 | a | 3.4 | a-d | 1.08 | f | 79.6 | bc | 28.9 | a | 13,943 | b-e | 51.0 | a-c | 271 | a |
| NG4689 | 531 | a | 1.11 | 0.39 | a | 3.5 | a-c | 1.05 | f | 79.9 | ab | 27.7 | a | 16,558 | a-d | 50.2 | a-d | 267 | a |
| FM1888 | 520 | a | 1.08 | 0.40 | a | 2.9 | ef | 1.13 | b-e | 79.8 | ab | 29.4 | a | 15,686 | a-d | 47.9 | b-e | 250 | a |
| DP1549 | 517 | a | 1.08 | 0.38 | a | 2.8 | f | 1.06 | f | 78.5 | c | 27.6 | a | 16,993 | a-c | 44.7 | f | 233 | a |
| CG18XT9 | 509 | a | 1.06 | 0.39 | a | 3.1 | de | 1.12 | cd | 80.6 | a | 28.7 | a | 10,022 | e | 51.1 | ab | 261 | a |
| FM1830 | 499 | a | 1.04 | 0.39 | a | 3.2 | b-e | 1.14 | bc | 80.0 | ab | 29.1 | a | 12,636 | de | 50.9 | a-c | 254 | a |
| NG4792 | 497 | a | 1.04 | 0.40 | a | 3.3 | b-d | 1.05 | f | 79.7 | ab | 29.2 | a | 17,429 | ab | 47.9 | c-e | 238 | a |
| NG4777 | 495 | a | 1.03 | 0.40 | a | 3.5 | ab | 1.07 | f | 79.6 | ab | 29.7 | a | 18,519 | a | 52.1 | a | 257 | a |
| FM1911 | 442 | a | 0.92 | 0.38 | a | 3.2 | c-e | 1.17 | ab | 79.8 | ab | 28.5 | a | 18,736 | a | 52.0 | a | 230 | a |
| DP1646 | 431 | a | 0.90 | 0.39 | a | 2.7 | f | 1.18 | a | 79.8 | ab | 28.5 | a | 13,072 | c-e | 48.1 | b-e | 208 | a |
| FM2574 | 401 | a | 0.84 | 0.39 | a | 2.7 | f | 1.15 | a-c | 79.1 | bc | 28.6 | a | 14,706 | a-c | 46.1 | ef | 187 | a |
| CG9598 | 391 | a | 0.81 | 0.38 | a | 2.7 | f | 1.13 | bc | 80.0 | ab | 29.6 | a | 10,240 | e | 47.3 | d-f | 185 | a |
| Mean | 488 | | 1.02 | 0.39 | | 3.1 | | 1.11 | | 79.7 | | 28.8 | | 15,165 | | 49.3 | | 242 | |
| STDEV | 76.66 | | | 0.01 | | 0.33 | | 0.05 | | 0.68 | | 0.95 | | 3,491 | | 2.86 | | 43.41 | |
| CV, % | 15.6 | | | 2.9 | | 10.6 | | 4.4 | | 0.9 | | 3.3 | | 23.0 | | 5.8 | | 17.9 | |
| p-value | 0.2632 | | | 0.2721 | | <.0001 | | <.0001 | | 0.0453 | | 0.0648 | | 0.0018 | | 0.0002 | | 0.1263 | |
| LSD | NS | | | NS | | 0.135 | | 0.0189 | | 0.448 | | NS | | 1,949.80 | | 1.429 | | NS | |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV: Coefficient of Variation in %, LSD: Least Significant Difference at 0.05 probability level, NS: not significant

Lint loan values were calculated from the 2018 Upland Cotton loan valuation model from Cotton Incorporated using a \$0.52/lb base price.

MIC = Micronaire, UNIF = Uniformity

NG = NexGen, FM = FiberMax, DP = Deltapine, CG = Croplan Genetics

Hockley County

Irrigated – Center Pivot

Planted: 05/23/2018

Harvested: 12/19/2018

Plant population and row spacing: 38,000 plants per acre, 40 in. rows

Heat Units (DD60s): 2,232

In-season rainfall: 16.1 in.

Irrigation: 16 in.

| Variety | Lint Yield lbs/acre | Bales acre | Turnout % | Mic | Length in. | Unif % | Strength g/tex | Stand plants/acre | Loan Value (cents/lb) | Lint Value (\$/acre) |
|----------------|------------------------|---------------|--------------|---------|---------------|-----------|-------------------|----------------------|--------------------------|-------------------------|
| NG4777 | 1,436 a | 2.99 | 0.36 ab | 3.8 a | 1.15 f | 81.4 ab | 30.4 ab | 26,144 a-c | 55.0 a | 790 a |
| FM1911 | 1,411 ab | 2.94 | 0.37 ab | 3.5 ab | 1.19 b-d | 82.6 a | 29.0 cd | 26,362 a-c | 53.4 ab | 753 ab |
| NG4689 | 1,358 ab | 2.83 | 0.37 a | 3.5 ab | 1.15 ef | 81.5 ab | 30.7 ab | 23,529 a-d | 53.6 ab | 729 ab |
| DP1646 | 1,321 a-c | 2.75 | 0.38 a | 3.3 a-c | 1.20 b | 80.6 b | 27.9 d | 25,054 a-d | 49.0 bc | 650 bc |
| FM1830 | 1,320 a-c | 2.75 | 0.37 ab | 3.4 a-c | 1.24 a | 82.5 a | 30.5 ab | 26,144 a-c | 50.2 ab | 664 a-c |
| CG9598 | 1,318 a-c | 2.75 | 0.38 a | 3.7 a | 1.18 c-e | 82.3 a | 28.8 cd | 20,479 cd | 54.3 ab | 716 a-c |
| NG4792 | 1,318 a-c | 2.75 | 0.37 a | 3.8 a | 1.12 g | 82.6 a | 30.3 ab | 28,322 ab | 52.7 ab | 695 a-c |
| FM1888 | 1,279 bc | 2.66 | 0.36 ab | 3.7 a | 1.18 b-d | 82.3 a | 31.0 a | 24,401 a-d | 51.4 ab | 658 bc |
| DP1522 | 1,275 bc | 2.66 | 0.36 ab | 3.7 a | 1.17 d-f | 82.2 a | 27.7 d | 19,826 d | 51.2 ab | 654 bc |
| FM2574 | 1,208 c | 2.52 | 0.37 a | 3.0 bc | 1.20 bc | 80.8 b | 29.6 bc | 22,876 b-d | 48.5 bc | 587 c |
| NG3780 | 1,179 c | 2.46 | 0.35 b | 3.7 a | 1.19 b-d | 81.8 ab | 30.5 ab | 29,412 a | 53.8 ab | 634 bc |
| CG18XT9 | 600 d | 1.25 | 0.35 b | 2.9 c | 1.17 de | 81.6 ab | 28.9 cd | 11,329 e | 43.4 c | 264 d |
| Mean | 1,252 | 2.6 | 0.4 | 3.5 | 1.18 | 81.9 | 29.6 | 23,656 | 51.4 | 650 |
| STDEV | 223.89 | | 0.01 | 0.40 | 0.03 | 0.92 | 1.26 | 5,521 | 4.30 | 144.49 |
| CV, % | 17.9 | | 3.9 | 11.5 | 1.1 | 2.8 | 4.2 | 23.3 | 8.4 | 22.2 |
| p-value | <.0001 | | 0.0377 | 0.0306 | 0.0245 | <.0001 | <.0001 | 0.0002 | 0.0258 | <.0001 |
| LSD | 74.80 | | 0.01 | 0.03 | 0.63 | 0.01 | 0.63 | 2,996.88 | 2.97 | 64.54 |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV: Coefficient of Variation in %, LSD: Least Significant Difference at 0.05 probability level, NS: not significant

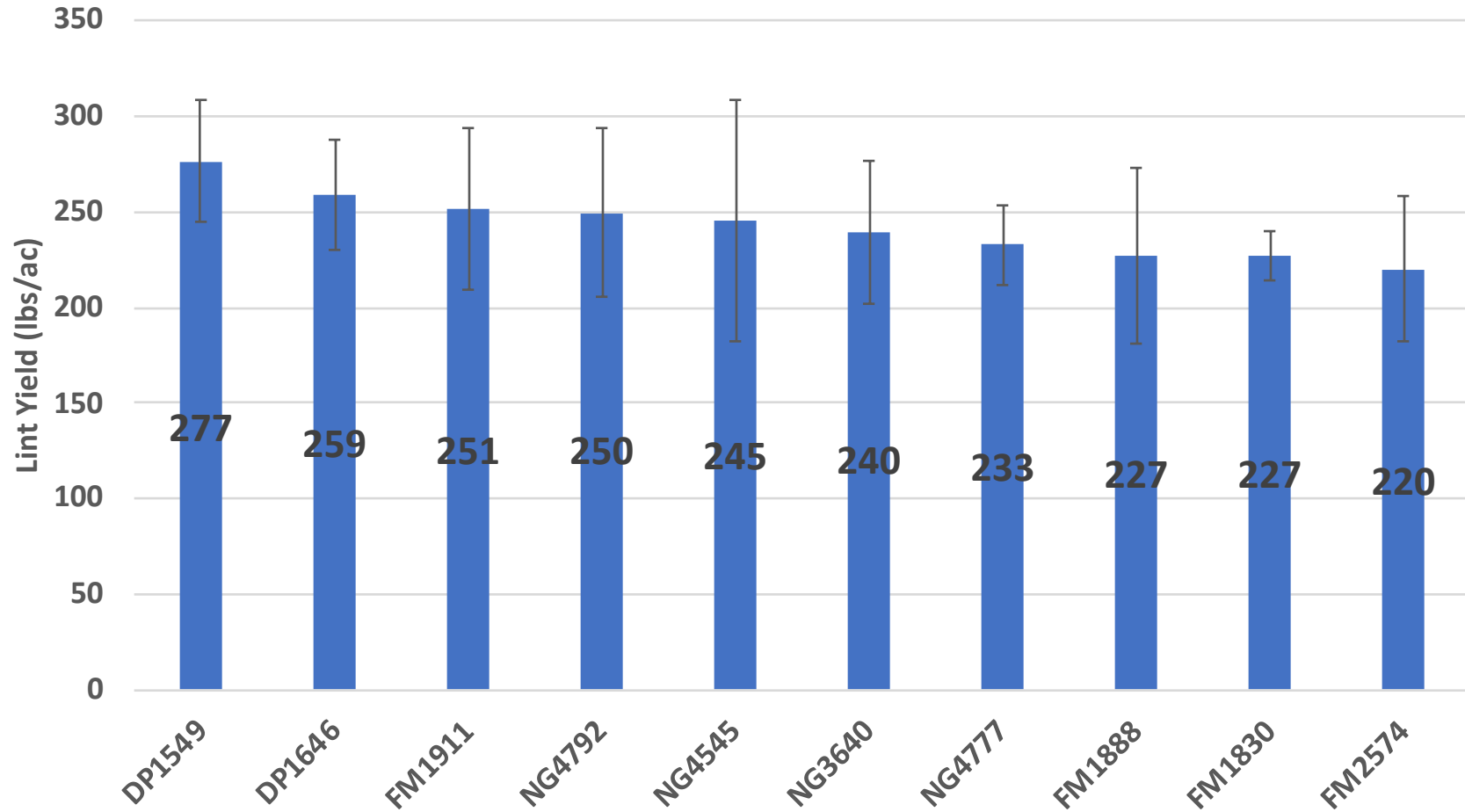
Lint loan values were calculated from the 2018 Upland Cotton loan valuation model from Cotton Incorporated using a \$0.52/lb base price.

MIC = Micronaire, UNIF = Uniformity

NG = NexGen, FM = FiberMax, DP = Deltapine, CG = Croplan Genetics

Dryland RACE Trials at Dawson and Floyd Combined

No statistical differences between varieties at the 0.05 probability level.
 Bars represent \pm one standard deviation.

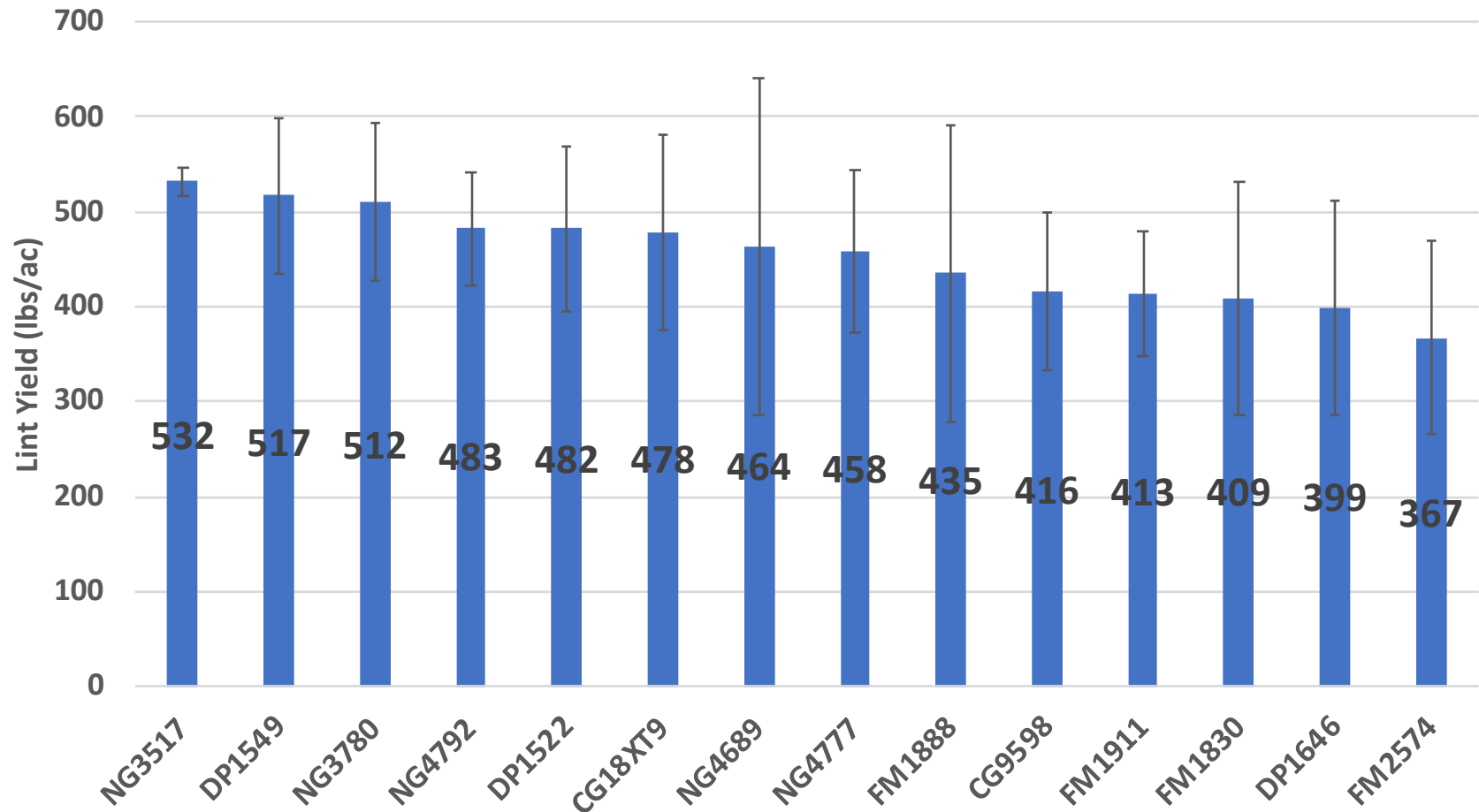


Limited Irrigation RACE Trials at Lubbock and Terry Combined

No statistical differences between varieties at the 0.05 probability level.

Bars represent \pm one standard deviation.

NG3517 and DP1549 are exclusive to Terry County.



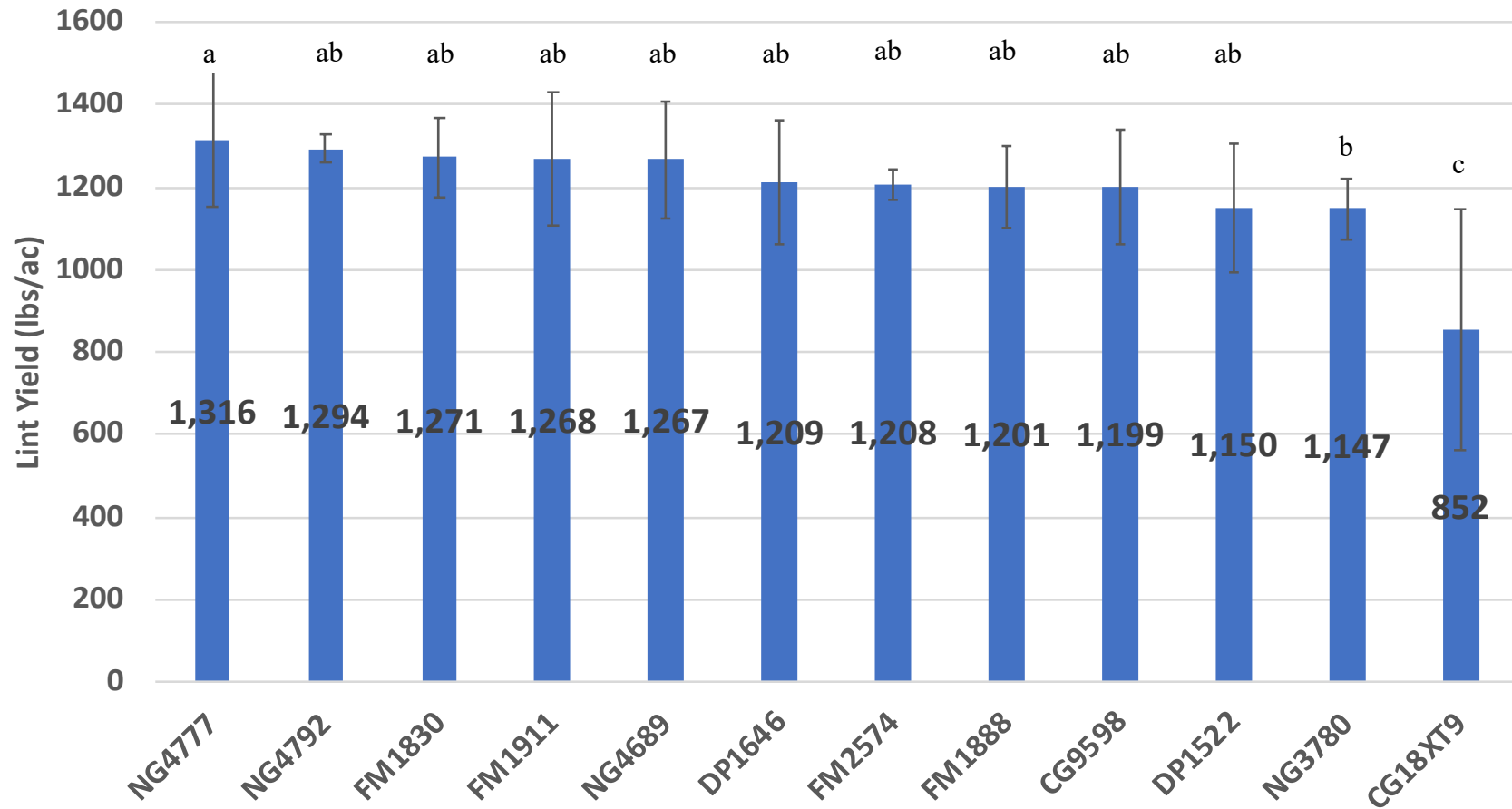
Irrigated RACE Trials at Hale and Hockley Combined

p-value = <0.0001

Least Significant Difference = 166.6 lbs/ac

Different letters indicate statistical significance at the 0.05 probability level.

Bars represent ± one standard deviation.



**2018 Texas Panhandle
Replicated Agronomic Cotton Evaluation (RACE)**



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2018 Texas Panhandle Highlights

The Texas Panhandle RACE trials provide producers knowledge of varietal performance and stability under regional environmental conditions. The 2018 production season brought many weather-related challenges. In the southern and southwestern Panhandle, dry planting conditions and above average early season temperatures resulted in dryland cotton crop failure across much of the region. In the northeastern Panhandle, early June rain brought much needed moisture, but severe rainfall events resulted in water logging as well as extensive hail damage and crop loss on numerous fields. Regionally, above-average spring temperatures resulted in rapid growing degree day (GDD) accumulation in May (Fig. 1). Hot-dry conditions in late-May and early-June increased crop water demands, but under irrigation, crops were managed for optimum production with irrigated yields exceeding 2000 lbs/ac at many locations.

The 2018 Texas Panhandle RACE Trials were planted at ten locations under varying crop rotations, row spacings and populations (Table 1). Two locations were not taken to harvest (Randall – drought and poor stand; Parmer – extensive volunteer cotton). Eight early to early-mid maturing double and triple herbicide stacked varieties were planted at each location.

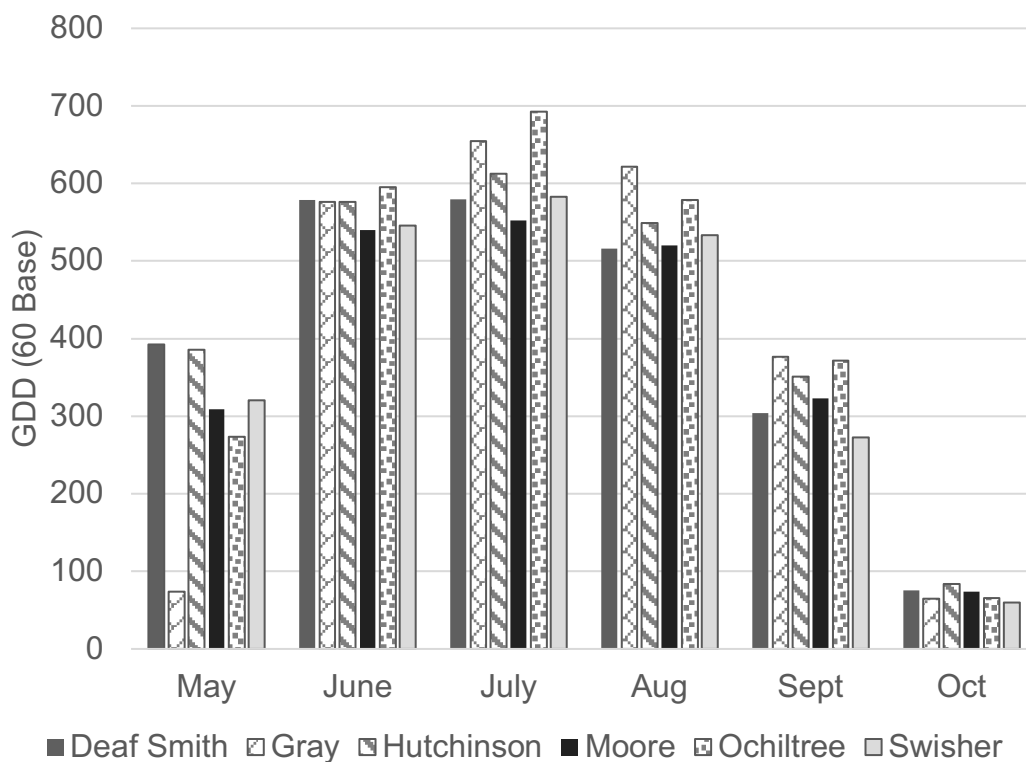


Figure 1. Distribution of growing degree days (GDD60) accumulated from planting for locations where a Texas A&M AgriLife weather station is located.



Table 1. 2018 Agronomic information by location.

| County | Location (Nearest Town) | Cooperator | County Agent(s) | Planting Date | Planting Population (Seeds/ac) | Previous Crop | Row Spacing (in) | Air Temp. at Planting (F) | 4" Soil Temp. at Planting (F) |
|-------------------|--------------------------------|-------------------|-----------------------------|----------------------|---------------------------------------|-----------------------|-------------------------|------------------------------------|--|
| Deaf Smith | Hereford | Frank Bezner | Rick Auckerman | 8-May-18 | 55,000 | Corn | 30 | 60 | 59 |
| Gray | Pampa | Chandler Bowers | NA | 28-May-18 | 32,000 | Grain Sorghum | 30 | 93 | 85 |
| Hansford | Morse | Craig McCloy | Kristy Slough | 21-May-18 | 36,000 | Wheat | 40 | 66 | 67 |
| Hutchinson | Pringle | Craig McCloy | Kristy Slough | 8-May-18 | 80,000 | Cotton w/ wheat cover | 20 | 72 | 67 |
| Moore | Dumas | Stallwitz Farm | Marcel Fischbacher | 15-May-18 | 60,000 | Grain Sorghum | 30 | 81 | 79 |
| Ochiltree | Perryton | Davis Farm | Strawn, Sprague, and Wilkes | 15-May-18 | 50,000 | Corn | 30 | 68 | 68 |
| Parmer | Farwell | Williams Farm | C. Preston and S. Mendez | 7-May-18 | 40,000 | Cotton | 30 | 75 | 63 |
| Randall | Umbarger | Danny Hicks | J.D. Ragland | 30-May-18 | 35,000 | Wheat | 30 | 81 | 76 |
| Sherman | Sunray | Tommy Cartrite | Marcel Fischbacher | 10-May-18 | 65,000 | Corn | 30 | 77 | 66 |
| Swisher | Kress | Jeremy Reed | John Vilalba | 11-May-18 | 50,000 | Grain Sorghum | 40 | 72 | 68 |

Table 2. 2018 trial condition and in-season details including irrigation, precipitation, Growing Degree Days, and harvest date.

| County | Trial Condition/Issue | Irrigation (inches) | In-season Precipitation (inches)* | Growing Degree Days | Harvest Date |
|------------|---------------------------------|---------------------|-----------------------------------|---------------------|--------------|
| Deaf Smith | Good | 8 | 13 | 2446 | 10-Dec-18 |
| Gray | Dicamba Drift | Dryland | 12 | 2368 | 1-Dec-18 |
| Hansford | Field water logged in June | Dryland | 16 | 2354 | 20-Nov-18 |
| Hutchinson | Good | 12 | 16 | 2558 | 29-Oct-18 |
| Moore | Good | 6.5 | 9 | 2237 | 3-Nov-18 |
| Ochiltree | Good | 9 | 18 | 2577 | 28-Nov-18 |
| Parmer | Not Harvested - Heavy Volunteer | --- | --- | --- | --- |
| Randall | Terminated | Dryland | --- | --- | --- |
| Sherman | Good | 12 | 16 | 2322 | 29-Nov-18 |
| Swisher | Good - Hail in July | not available | 11 | 2315 | 26-Nov-18 |

* Across the Texas Panhandle, approximately 5 inches of rainfall (+/- 2.5 inches) was received after October 1. Heavy precipitation in October resulted in harvest delays and quality concerns. Regionally, precipitation after October 1 did not contribute to lint productivity.

Table 3. Characteristics of varieties evaluated in 2018 Panhandle RACE trials.

| Variety | Maturity | Herbicide Package | Leaf Type | Storm Tolerance* | Plant Height | Mic | Vert. | Bacterial Blight |
|---------------------|------------|--------------------------------|-------------|------------------|--------------|-----|--------------|------------------|
| Deltapine 1522B2XF | Early-Med | Glyphos., Glufos., and Dicamba | Light Hair | 5 | Medium | 4.3 | Poor | Susceptible |
| Deltapine 1612B2XF | Early | Glyphos., Glufos., and Dicamba | Light Hair | 6 | Medium | 4.3 | Good | Mod. Susc. |
| Deltapine 1820B3XF | Early-Med | Glyphos., Glufos., and Dicamba | Semi-Smooth | 3.5 | Med-Tall | 4.1 | Moderate | Resistant |
| Stoneville 4747GLB2 | Early-Med | Glyphosate and Glufosinate | Semi-Smooth | 7 | Short | 4.2 | Intermediate | Susceptible |
| FiberMax 1320GL | Very Early | Glyphosate and Glufosinate | Semi-Smooth | 7 | Short | 3.9 | Fair | Partial Susc. |
| FiberMax 1888GLB2 | Early-Med | Glyphosate and Glufosinate | Semi-Smooth | 7 | Medium | 3.9 | Fair | Resistant |
| FiberMax 2011GT† | Early | Glyphosate and Glufosinate | Semi-Smooth | 8 | Short | 3.9 | Very Good | Resistant |
| FiberMax 2322GL† | Med | Glyphosate and Glufosinate | Semi-Smooth | 6 | Med-Tall | 4 | Excellent | Susceptible |
| NexGen 3406B2XF | Early-Med | Glyphos., Glufos., and Dicamba | Semi-Smooth | 6 | Medium | 4.4 | Intermediate | Susceptible |
| NexGen 3500B2XF | Early-Med | Glyphos., Glufos., and Dicamba | Smooth | 6 | Med-Tall | 3.8 | Excellent | Resistant |
| NexGen 3517B2XF | Early-Med | Glyphos., Glufos., and Dicamba | Smooth | 6 | Med-Tall | 4.3 | Tolerant | Mod. Susc. |
| NexGen 3780B2XF | Early-Med | Glyphos., Glufos., and Dicamba | Smooth | 6 | Med-Tall | 4.3 | Tolerant | Susceptible |

*Storm Tolerance (1-9): 1=Loose Boll, 9=Tight Boll from Company Variety Descriptions.

†Variety included at the producer's request.

Table 4. Four-week post planting stand counts by location.

| | Deaf Smith | Gray | Hansford | Hutchinson | Moore | Ochiltree | Parmer | Sherman | Swisher |
|----------------------|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | ----plants/acre---- | | | | | | | | |
| Planted Pop. | 55,000 | 32,000 | 36,000 | 80,000 | 60,000 | 50,000 | 40,000 | 65,000 | 50,000 |
| DP 1522 B2XF | ----* | 14665 | 24720 | ---- | 31363 | ---- | ---- | ---- | 19275 |
| DP 1612 B2XF | 37171 | 20764 | 22325 | 66211 | 35138 | 39494 | 22651 | 55902 | 28314 |
| DP 1820 B3XF | 27443 | 18150 | ---- | 60984 | ---- | 37752 | 18150 | 50239 | 25483 |
| FM 1320 GL | 22651 | 19892 | 12850 | 56846 | 32815 | 33977 | 16988 | 42253 | ---- |
| FM 1888 GL | 23522 | 16553 | 17642 | 55757 | 30492 | 33541 | 18150 | 43415 | ---- |
| NG 3406 B2XF | 29476 | 18731 | 17860 | 57935 | 36736 | 35429 | 21054 | 48932 | 22433 |
| NG 3500 XF | ---- | 17714 | 19166 | ---- | 31218 | ---- | ---- | ---- | 19602 |
| NG 3517 B2XF | 27152 | ---- | ---- | 52054 | ---- | 35429 | 17134 | 50094 | 21562 |
| NG 3780 B2XF | 29621 | 20328 | 17533 | 55975 | 31508 | 33541 | 17424 | 41527 | 25156 |
| ST 4747 GLB2 | 30056 | 18440 | 17315 | 57281 | 32525 | 34993 | 19021 | 44286 | 23522 |
| Trial Average | 28387 | 18360 | 18676 | 57880 | 32724 | 35520 | 18822 | 47081 | 23168 |
| CV, % | 11.30 | 23.10 | 22.85 | 8.01 | 18.83 | 9.39 | 23.08 | 7.08 | 16.85 |
| p-value | 0.0038 | 0.7557 | 0.2914 | 0.0656 | 0.9082 | 0.2086 | 0.7838 | 0.0007 | 0.0482 |
| LSD | 5619 | ns | ns | 8020 | 10666 | 5775 | ns | 5657 | 6205 |

* Varieties not planted at the respective location.

Table 5. Four-week post planting stand counts by location as a fraction of the planted population.

| | Deaf Smith | Gray | Hansford | Hutchinson | Moore | Ochiltree | Parmer | Sherman | Swisher | Variety |
|----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | ----plants/acre---- | | | | | | | | | Average |
| Planted Pop. | 55,000 | 32,000 | 36,000 | 80,000 | 60,000 | 50,000 | 40,000 | 65,000 | 50,000 | |
| DP 1522 B2XF | ----* | 0.46 | 0.69 | ---- | 0.52 | ---- | ---- | ---- | 0.39 | 0.51 |
| DP 1612 B2XF | 0.68 | 0.65 | 0.62 | 0.83 | 0.59 | 0.79 | 0.57 | 0.86 | 0.57 | 0.68 |
| DP 1820 B3XF | 0.50 | 0.57 | ---- | 0.76 | ---- | 0.76 | 0.45 | 0.77 | 0.51 | 0.62 |
| FM 1320 GL | 0.41 | 0.62 | 0.36 | 0.71 | 0.55 | 0.68 | 0.42 | 0.65 | ---- | 0.55 |
| FM 1888 GL | 0.43 | 0.52 | 0.49 | 0.70 | 0.51 | 0.67 | 0.45 | 0.67 | ---- | 0.55 |
| FM 2011 GT | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 0.75 | ---- | 0.75 |
| FM 2322 GL | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 0.39 | 0.39 |
| NG 3406 B2XF | 0.54 | 0.59 | 0.50 | 0.72 | 0.61 | 0.71 | 0.53 | 0.75 | 0.45 | 0.60 |
| NG 3500 XF | ---- | 0.55 | 0.53 | ---- | 0.52 | ---- | ---- | ---- | 0.39 | 0.50 |
| NG 3517 B2XF | 0.49 | ---- | ---- | 0.65 | ---- | 0.71 | 0.43 | 0.77 | 0.43 | 0.58 |
| NG 3780 B2XF | 0.54 | 0.64 | 0.49 | 0.70 | 0.53 | 0.67 | 0.44 | 0.64 | 0.50 | 0.57 |
| ST 4747 GLB2 | 0.55 | 0.58 | 0.48 | 0.72 | 0.54 | 0.70 | 0.48 | 0.68 | 0.47 | 0.58 |
| Trial Average | 0.52 | 0.57 | 0.52 | 0.72 | 0.55 | 0.71 | 0.47 | 0.73 | 0.46 | 0.57 |

* Varieties not planted at the respective location.

Table 6. 2018 Lint yield and quality for the Deaf Smith County RACE Trial, Frank Bezner Farm at Hereford, Texas (Rick Auckerman County Extension Agent). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield --- lb/acre --- | Seed Yield --- lb/acre --- | Turnout --%-- | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- |
|---------------------|-------------------------------|-------------------------------|------------------|-----------------|--------------------------|---------------------|---------------------|--------------------------------|----------------------------------|
| ST 4747 GLB2 | 2366 a | 4078 a | 0.32 abc | 3.4 | 1.19 | 29.2 | 81.1 | 48.28 | 1141.32 |
| DP 1820 B3XF | 2329 ab | 3601 a | 0.35 a | 2.9 | 1.24 | 31.7 | 81.5 | 44.20 | 1030.49 |
| FM 1888 GL | 2201 abc | 3703 a | 0.33 ab | 3.2 | 1.20 | 31.2 | 81.0 | 49.18 | 1082.10 |
| DP 1612 B2XF | 2132 abc | 3806 a | 0.32 abc | 3.1 | 1.19 | 30.9 | 81.7 | 47.83 | 1019.81 |
| FM 1320 GL | 2011 abc | 3790 a | 0.31 bc | 3.0 | 1.14 | 30.2 | 80.0 | 46.13 | 927.86 |
| NG 3780 B2XF | 1861 bc | 3438 a | 0.31 bc | 3.1 | 1.17 | 31.4 | 79.6 | 49.10 | 914.69 |
| NG 3406 B2XF | 1841 c | 3393 a | 0.31 bc | 2.6 | 1.14 | 27.8 | 80.2 | 44.08 | 817.41 |
| NG 3517 B2XF | 1756 c | 3453 a | 0.30 c | 2.8 | 1.16 | 30.4 | 79.6 | 44.58 | 782.87 |
| Test average | 2062 | 3658 | 0.32 | 2.99 | 1.18 | 30.33 | 80.57 | 46.67 | 964.57 |
| CV, % | 5.92 | 5.20 | 2.58 | 8.04 | 1.10 | 1.91 | 0.98 | 5.95 | 10.03 |
| Std. Dev. | 240.30 | 264.80 | 0.02 | 0.27 | 0.03 | 1.32 | 0.99 | 2.93 | 140.65 |
| p-value | 0.0063 | 0.0727 | 0.0058 | 0.0699 | 0.0008 | 0.0021 | 0.1496 | 0.3787 | 0.0543 |
| LSD | 482.7 | ns | 0.0328 | ns | 0.0514 | 2.2967 | ns | ns | ns |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 7. 2018 Lint yield and quality for the Gray County Dryland RACE Trial, Chandler Bowers Farm at Pampa, Texas. The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield --- lb/acre --- | Seed Yield --- lb/acre --- | Turnout --%-- | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- |
|---------------------|-------------------------------|-------------------------------|------------------|-----------------|-----------------------|---------------------|---------------------|--------------------------------|-------------------------------|
| DP 1612 B2XF | 970 a | 1363 a | 0.33 bc | 3.9 | 1.14 | 30.0 | 81.0 | 49.89 | 532.26 |
| NG 3406 B2XF | 960 a | 1320 ab | 0.34 ab | 3.6 | 1.12 | 29.2 | 81.1 | 50.63 | 520.35 |
| DP 1522 B2XF | 941 a | 1274 ab | 0.34 ab | 3.7 | 1.14 | 30.1 | 80.7 | 51.05 | 494.95 |
| DP 1820 B3XF* | 933 a | 1158 b | 0.35 a | 3.6 | 1.16 | 30.7 | 80.6 | 51.67 | 490.22 |
| NG 3500 XF | 919 a | 1275 ab | 0.34 ab | 4.3 | 1.10 | 30.5 | 81.9 | 51.39 | 486.82 |
| NG 3780 B2XF | 871 a | 1328 ab | 0.32 c | 4.1 | 1.13 | 30.4 | 80.8 | 54.07 | 470.94 |
| FM 1320 GL | . | . | . | . | . | . | . | . | . |
| FM 1888 GL | . | . | . | . | . | . | . | . | . |
| ST 4747 GLB2 | . | . | . | . | . | . | . | . | . |
| Test average | 932 | 1286 | 0.34 | 3.88 | 1.13 | 30.14 | 81.02 | 51.45 | 499.26 |
| CV, % | 7.89 | 6.82 | 2.10 | 14.70 | 1.22 | 2.92 | 1.24 | 7.58 | 9.64 |
| Std. Dev. | 73.00 | 102.18 | 0.01 | 0.58 | 0.02 | 0.92 | 0.99 | 3.70 | 41.28 |
| p-value | 0.4904 | 0.0582 | 0.0001 | 0.3898 | 0.0004 | 0.2682 | 0.4993 | 0.7462 | 0.9946 |
| LSD | ns | 197.1 | 0.0159 | ns | 0.0309 | ns | ns | ns | ns |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

*Farmer Entry

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Non-XtendFlex varieties injured by dicamba drift.

Table 8. 2018 Lint yield and quality for the Hansford County Dryland RACE Trial, Craig McCloy Farm at Morse, Texas (Kristy Slough County Extension Agent). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield --- lb/acre --- | Seed Yield --- lb/acre --- | Turnout --%-- | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- |
|---------------------|-------------------------------|-------------------------------|------------------|-----------------|-----------------------|---------------------|---------------------|-----------------------------|-------------------------------|
| NG 3406 B2XF | 437 a | 628 a | 0.37 ab | 3.8 | 1.02 | 27.5 | 78.9 | 48.48 | 211.24 |
| FM 1320 GL | 429 a | 659 a | 0.35 bc | 3.7 | 1.00 | 28.4 | 77.8 | 47.55 | 204.03 |
| FM 1888 GL | 419 a | 608 a | 0.36 abc | 3.7 | 1.03 | 27.9 | 78.2 | 47.48 | 198.20 |
| NG 3500 XF | 400 a | 598 a | 0.36 abc | 4.2 | 1.01 | 28.2 | 79.6 | 46.20 | 185.61 |
| DP 1612 B2XF | 400 a | 595 a | 0.36 abc | 4.0 | 1.02 | 28.1 | 79.0 | 45.63 | 182.98 |
| ST 4747 GLB2 | 387 a | 599 a | 0.35 bc | 3.9 | 1.01 | 25.4 | 76.5 | 43.87 | 170.30 |
| DP 1522 B2XF | 385 a | 541 a | 0.37 a | 4.1 | 1.02 | 28.0 | 79.4 | 47.23 | 182.23 |
| NG 3780 B2XF | 374 a | 582 a | 0.34 c | 3.9 | 1.00 | 27.7 | 77.4 | 45.10 | 168.42 |
| Test average | 404 | 601 | 0.36 | 3.91 | 1.01 | 27.63 | 78.35 | 46.44 | 187.87 |
| CV, % | 12.88 | 13.80 | 1.98 | 1.91 | 1.45 | 2.35 | 0.81 | 3.77 | 13.50 |
| Std. Dev. | 48.40 | 76.50 | 0.01 | 0.17 | 0.02 | 1.07 | 1.15 | 2.06 | 25.77 |
| p-value | 0.77 | 0.82 | 0.0043 | <0.0001 | 0.1612 | 0.0009 | 0.0002 | 0.0821 | 0.4047 |
| LSD | ns | ns | 0.0200 | 0.21 | ns | ns | 1.7869 | ns | ns |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 9. 2018 Lint yield and quality for the Hutchinson County Irrigated RACE Trial, Craig McCloy Farm at Pringle, Texas (Kristy Slough County Extension Agent). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield | | Seed Yield | | Turnout | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity | Lint loan Value cents/lb | Lint Value --- \$/acre --- | | |
|---------------------|-----------------|-----|-----------------|---|-------------|-----------------|--------------------------|---------------------|--------------|--------------------------------|----------------------------------|---------------|----|
| | --- lb/acre --- | a | --- lb/acre --- | a | | | | | | | | ---%--- | |
| DP 1820 B3XF | 2266 | a | 3051 | a | 0.37 | a | 4.0 | 1.22 | 32.7 | 82.8 | 50.78 | 1149.75 | a |
| FM 1888 GL | 2046 | ab | 2952 | a | 0.35 | ab | 3.7 | 1.21 | 32.6 | 82.7 | 50.72 | 1038.21 | ab |
| FM 1320 GL | 1982 | bc | 2909 | a | 0.35 | ab | 3.9 | 1.13 | 30.8 | 80.7 | 52.10 | 1033.56 | ab |
| ST 4747 GLB2 | 1927 | bc | 3223 | a | 0.32 | cd | 3.7 | 1.17 | 29.6 | 79.1 | 48.35 | 931.65 | bc |
| NG 3517 B2XF | 1833 | bcd | 3266 | a | 0.31 | d | 3.6 | 1.16 | 32.6 | 81.3 | 50.20 | 919.61 | bc |
| NG 3780 B2XF | 1728 | cd | 2588 | a | 0.30 | d | 3.4 | 1.18 | 32.8 | 80.7 | 50.12 | 864.49 | c |
| NG 3406 B2XF | 1723 | cd | 2700 | a | 0.34 | bc | 3.3 | 1.14 | 30.1 | 80.7 | 49.00 | 843.63 | c |
| DP 1612 B2XF | 1630 | d | 2674 | a | 0.32 | d | 3.6 | 1.17 | 31.9 | 81.7 | 52.62 | 857.12 | c |
| Test average | 1892 | | 2920 | | 0.33 | | 3.66 | 1.17 | 31.64 | 81.22 | 50.49 | 954.75 | |
| CV, % | 4.87 | | 10.81 | | 2.54 | | 4.25 | 1.77 | 2.01 | 1.07 | 3.65 | 5.26 | |
| Std. Dev. | 212.21 | | 357.62 | | 0.02 | | 0.25 | 0.04 | 1.32 | 1.37 | 2.06 | 112.17 | |
| p-value | <0.0001 | | 0.1308 | | <0.0001 | | 0.0009 | 0.0005 | <0.0001 | 0.0016 | 0.1563 | <0.0001 | |
| LSD | 260.3 | | ns | | 0.0238 | | 0.4395 | 0.0588 | 1.7944 | 2.4542 | ns | 142.07 | |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 10. 2018 Lint yield and quality for the Moore County Deficit Irrigated RACE Trial, Darren Stallwitz Farm, Dumas, Texas (Marcel Fischbacher County Extension Agent). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint | Seed | Turnout | Micro- naire | Fiber | Strength | Uniformity | Lint loan | Lint |
|---------------------|-----------------|-----------------|-------------|-----------------|-------------|--------------|--------------|--------------|-----------------|
| | Yield | Yield | | | Length | | | Value | Value |
| | --- lb/acre --- | --- lb/acre --- | --%-- | | (in.) | (g/tex) | --%-- | cents/lb | --- \$/acre --- |
| DP 1612 B2XF | 1203 a | 1702 a | 0.34 a | 4.6 | 1.14 | 31.3 | 82.8 | 54.27 | 652.87 a |
| FM 1888 GL | 1116 a | 1483 ab | 0.34 a | 4.6 | 1.16 | 31.6 | 81.8 | 53.25 | 591.97 ab |
| ST 4747 GLB2 | 1108 a | 1627 ab | 0.32 a | 4.3 | 1.15 | 27.9 | 80.4 | 48.93 | 540.64 ab |
| DP 1522 B2XF | 1099 a | 1528 ab | 0.33 a | 4.6 | 1.14 | 30.8 | 82.4 | 54.53 | 599.32 ab |
| NG 3406 B2XF | 1075 a | 1486 ab | 0.34 a | 4.5 | 1.11 | 29.6 | 82.9 | 54.30 | 584.03 ab |
| NG 3500 XF | 1053 a | 1532 ab | 0.33 a | 4.7 | 1.11 | 32.1 | 82.5 | 53.70 | 568.01 ab |
| NG 3780 B2XF | 1028 a | 1532 ab | 0.32 a | 4.7 | 1.12 | 30.7 | 81.4 | 52.28 | 536.01 ab |
| FM 1320 GL | 953 a | 1339 b | 0.34 a | 4.6 | 1.11 | 31.1 | 81.5 | 53.65 | 511.68 b |
| Test average | 1079 | 1529 | 0.33 | 4.58 | 1.13 | 30.63 | 81.96 | 53.11 | 573.07 |
| CV, % | 10.14 | 7.98 | 3.54 | 5.50 | 1.84 | 2.40 | 1.17 | 2.72 | 8.32 |
| Std. Dev. | 114.79 | 144.04 | 0.01 | 0.24 | 0.25 | 1.40 | 1.14 | 2.13 | 58.10 |
| p-value | 0.3004 | 0.0597 | 0.0675 | 0.7289 | 0.0626 | 0.0001 | 0.0709 | 0.0044 | 0.0544 |
| LSD | ns | 344.7 | ns | ns | ns | 2.0819 | ns | 4.09 | 134.81 |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 11. 2018 Lint yield and quality for the Ochiltree County Irrigated RACE Trial, Davis Farm, Perryton, Texas (Scott Strawn and JR Sprague County Extension Agents). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield | | Seed Yield | | Turnout | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- | |
|---------------------|-----------------|----|-----------------|---|-------------|-----------------|-----------------------|---------------------|---------------------|--------------------------------|----------------------------------|---------------|
| | --- lb/acre --- | | --- lb/acre --- | | | | | | | | | --%-- |
| DP 1820 B3XF | 2194 | a | 3275 | a | 0.37 | a | 3.4 | 1.24 | 32.6 | 81.8 | 53.28 | 1147.33 |
| DP 1612 B2XF | 1944 | ab | 3378 | a | 0.32 | b | 3.4 | 1.18 | 32.0 | 82.0 | 50.58 | 964.33 |
| ST 4747 GLB2 | 1929 | ab | 3490 | a | 0.32 | b | 3.5 | 1.18 | 28.6 | 78.7 | 50.27 | 963.00 |
| FM 1888 GL | 1919 | ab | 3210 | a | 0.34 | ab | 3.3 | 1.21 | 32.0 | 81.8 | 50.88 | 957.33 |
| NG 3517 B2XF | 1873 | b | 3476 | a | 0.32 | b | 3.2 | 1.17 | 32.5 | 80.9 | 50.60 | 929.00 |
| NG 3406 B2XF | 1864 | b | 3152 | a | 0.34 | ab | 3.2 | 1.15 | 30.2 | 81.0 | 51.18 | 935.67 |
| NG 3780 B2XF | 1982 | b | 3423 | a | 0.34 | b | 3.1 | 1.19 | 33.7 | 81.1 | 49.78 | 964.00 |
| FM 1320 GL | 1777 | b | 3220 | a | 0.32 | b | 3.7 | 1.15 | 30.5 | 81.4 | 54.17 | 944.67 |
| Test average | 1935 | | 3328 | | 0.33 | | 3.34 | 1.18 | 31.50 | 81.08 | 51.34 | 975.67 |
| CV, % | 5.63 | | 5.04 | | 3.73 | | 3.49 | 1.25 | 3.31 | 0.97 | 2.29 | 9.23 |
| Std. Dev. | 153.87 | | 187.43 | | 0.02 | | 0.22 | 0.03 | 1.78 | 1.20 | 1.77 | 100.99 |
| p-value | 0.0064 | | 0.1537 | | 0.0012 | | 0.0001 | <0.0001 | 0.0005 | 0.0027 | 0.0032 | 0.1461 |
| LSD | 303.9 | | ns | | 0.0346 | | 0.3295 | 0.0420 | 2.9445 | 2.2251 | 3.33 | ns |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 12. 2018 Lint yield and quality for the Sherman County Irrigated RACE Trial, Tommy Cartrite Farm, Dumas, Texas (Marcel Fischbacher County Extension Agent). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield | | Seed Yield | | Turnout | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- | | |
|---------------------|-----------------|----|-----------------|---|-------------|-----------------|--------------------------|---------------------|---------------------|--------------------------------|----------------------------------|---------------|----|
| | --- lb/acre --- | a | --- lb/acre --- | a | | | | | | | | --%-- | |
| FM 2011 GT* | 1947 | a | 3048 | a | 0.34 | a | 2.8 | 1.14 | 29.4 | 79.8 | 45.13 | 869.75 | ab |
| DP 1820 B3XF | 1932 | a | 2788 | a | 0.33 | ab | 2.9 | 1.18 | 30.4 | 80.3 | 47.97 | 913.67 | a |
| ST 4747 GLB2 | 1904 | a | 3017 | a | 0.29 | ab | 2.8 | 1.16 | 27.7 | 79.0 | 44.48 | 842.50 | ab |
| FM 1888 GL | 1904 | a | 3140 | a | 0.31 | ab | 2.7 | 1.20 | 30.7 | 80.8 | 45.82 | 853.33 | ab |
| FM 1320 GL | 1849 | ab | 3012 | a | 0.31 | ab | 2.8 | 1.12 | 30.1 | 80.3 | 46.63 | 845.67 | ab |
| NG 3517 B2XF | 1536 | bc | 2900 | a | 0.28 | ab | 2.6 | 1.17 | 31.7 | 80.9 | 45.90 | 692.00 | bc |
| NG 3406 B2XF | 1483 | c | 2523 | a | 0.30 | ab | 2.7 | 1.13 | 28.4 | 80.8 | 44.07 | 643.33 | c |
| DP 1612 B2XF | 1422 | c | 2693 | a | 0.27 | b | 2.7 | 1.17 | 31.2 | 80.4 | 45.05 | 633.67 | c |
| NG 3780 B2XF | 1446 | c | 2636 | a | 0.29 | ab | 2.8 | 1.17 | 31.0 | 80.2 | 44.72 | 636.00 | c |
| Test average | 1714 | | 2862 | | 0.30 | | 2.8 | 1.16 | 30.05 | 80.26 | 45.53 | 769.99 | |
| CV, % | 12.22 | | 18.60 | | 6.95 | | 6.65 | 1.16 | 1.73 | 0.73 | 5.12 | 14.61 | |
| Std. Dev. | 279.83 | | 496.49 | | 0.03 | | 0.18 | 0.03 | 1.30 | 0.76 | 2.26 | 146.0377 | |
| p-value | 0.0131 | | 0.8009 | | 0.0183 | | 0.6441 | <0.0001 | <0.0001 | 0.0193 | 0.6102 | 0.0189 | |
| LSD | 361.14 | | ns | | 0.0606 | | ns | 0.0385 | 1.4876 | 1.6781 | ns | 193.23 | |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

*Farmer Entry

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 13. 2018 Lint yield and quality for the Swisher County Irrigated RACE Trial, Jeremy Reed Farm, Kress, Texas (John Villalba County Extension Agent). The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Lint Yield --- lb/acre --- | | Seed Yield --- lb/acre --- | | Turnout --%-- | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- | | |
|---------------------|-------------------------------|----|-------------------------------|----|------------------|-----------------|--------------------------|---------------------|---------------------|--------------------------------|----------------------------------|----------------|----|
| FM 1888 GL | 2221 | a | 2837 | ab | 0.36 | ab | 3.8 | 1.15 | 32.4 | 80.3 | 54.07 | 1184.00 | ab |
| ST 4747 GLB2 | 2196 | a | 3064 | a | 0.33 | ab | 3.9 | 1.15 | 28.9 | 80.0 | 51.27 | 1108.67 | a |
| FM 2322 GL* | 2192 | a | 2567 | b | 0.36 | ab | 3.8 | 1.16 | 32.1 | 80.7 | 53.05 | 1141.33 | ab |
| DP 1820 B3XF | 2182 | a | 2541 | b | 0.37 | a | 4.0 | 1.18 | 32.9 | 80.7 | 54.72 | 1177.33 | b |
| FM 1320 GL | 2067 | ab | 2845 | ab | 0.34 | ab | 3.9 | 1.12 | 30.4 | 80.8 | 53.88 | 1098.33 | ab |
| NG 3406 B2XF | 2044 | ab | 2809 | ab | 0.34 | ab | 3.6 | 1.12 | 30.4 | 81.9 | 52.12 | 1045.00 | ab |
| NG 3780 B2XF | 1995 | ab | 2871 | ab | 0.32 | b | 3.6 | 1.14 | 32.3 | 81.2 | 53.72 | 1051.33 | ab |
| NG 3517 B2XF | 1897 | ab | 2842 | ab | 0.32 | ab | 3.7 | 1.14 | 32.4 | 81.5 | 53.70 | 998.67 | ab |
| DP 1612 B2XF | 1750 | b | 2503 | b | 0.33 | ab | 3.7 | 1.16 | 31.8 | 82.2 | 53.88 | 925.67 | ab |
| Test average | 2060 | | 2764 | | 0.34 | | 3.8 | 1.15 | 31.50 | 81.02 | 53.38 | 1081.15 | |
| CV, % | 6.70 | | 5.99 | | 4.27 | | 4.18 | 0.89 | 1.52 | 0.76 | 2.91 | 7.18 | |
| Std. Dev. | 191.70 | | 226.11 | | 0.20 | | 0.20 | 0.02 | 1.33 | 0.87 | 1.65 | 104.0600 | |
| p-value | 0.0068 | | 0.0089 | | 0.0122 | | 0.03 | <0.0001 | <0.0001 | 0.0059 | 0.2528 | 0.01 | |
| LSD | 395.01 | | 474.02 | | 0.0419 | | 0.45 | 0.03 | 1.37 | 1.77 | ns | 222.13 | |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

*Farmer Entry

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

NG=NexGen, FM=FiberMax, ST=Stoneville, DP=DeltaPine

Supplementary Trials to 2018 Panhandle RACE Trials

2018 Hutchinson County Row Spacing Trial

The 2018 Hutchinson County row spacing trial was a continuation of the 2017 row spacing trial. In both years, FM 1320GL and ST 4747GLB2 were planted on 20, 30, and 40 inch row spacings at a seeding rate to maintain approximately 3.1 seeds per row foot (80,000, 55,000, and 40,000 seeds per acre) rather than the same number of plants per acre. Because final plant stands are often 60-70% of the planted seed, the actual seeding rate of the 30- and 40-inch row spacings was increased to 60,000 and 50,000 seeds per acre to compensate for stand reductions. Plots were planted on May 8, 2018, and final plant stands were evaluated 4-weeks post planting (Fig. 2). There was a significant difference between row spacings ($p=0.0257$), but there were no differences between varieties ($p=0.5672$). The final plant stand for the 20-inch seeding rate was significantly greater than plant populations at 30- and 40-inch row spacings. There were no significant differences in lint for fiber quality parameters when evaluating differences between each variety and row spacing interaction (Table 14; Fig. 3). There were no significant differences between the varieties evaluated. When only considering row spacing, there were significant differences in lint yield ($p=0.0257$) and parameters between the 20- and 40-inch spacings (Table 15).

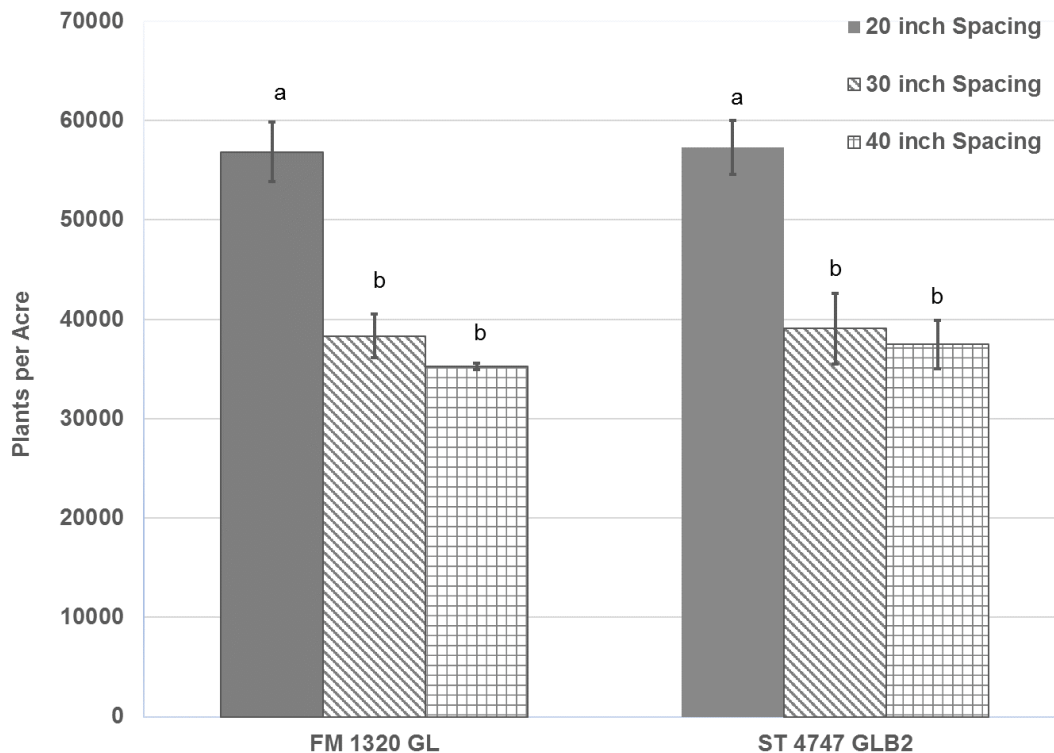


Figure 2. Four-week post planting stand counts for the Hutchinson County 2018 row spacing trial.

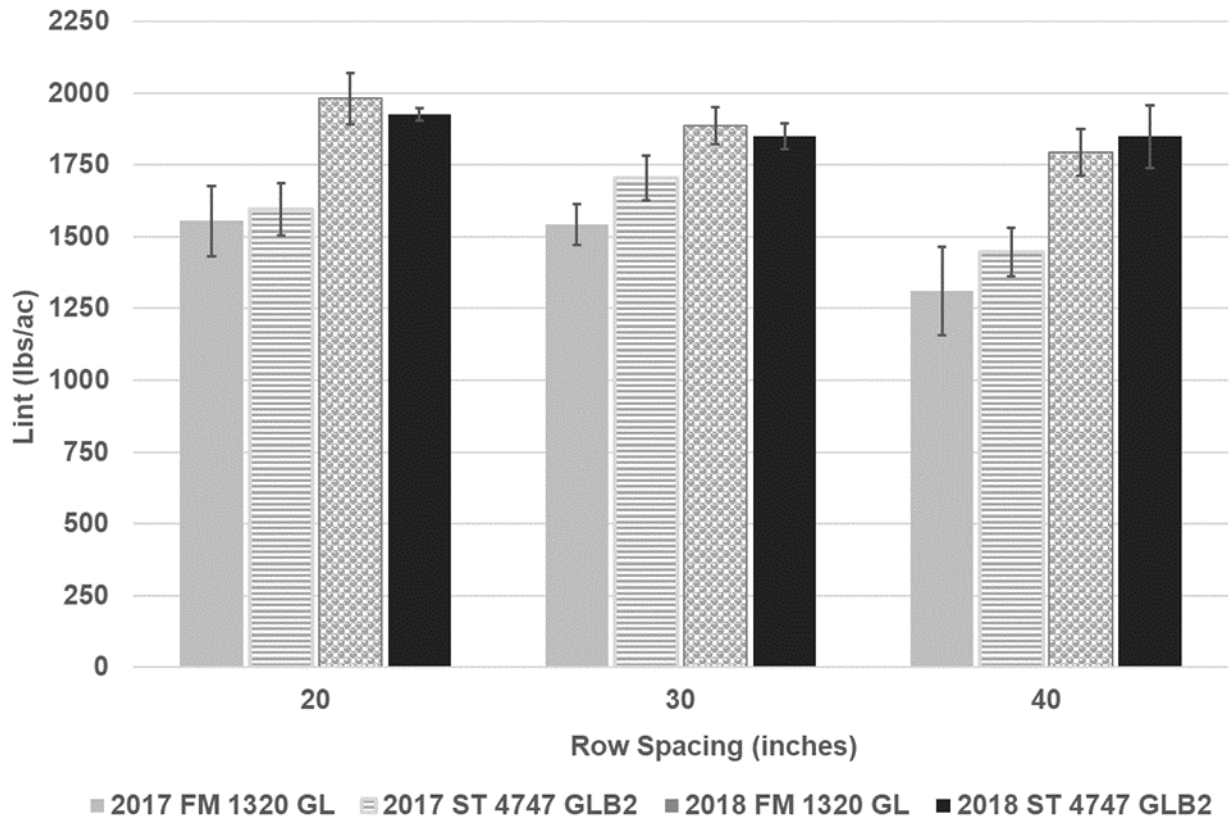


Figure 3. Comparison of 2017 and 2018 lint data for the 2018 Hutchinson County row spacing trial.

Table 14. 2018 Hutchinson County row spacing lint yield and fiber quality. The reported lint value is an average of the calculated lint values of all three replications.

| Variety | Row Spacing (in.) | Lint Yield --- lb/acre --- | Seed Yield --- lb/acre --- | Turnout --%-- | Micro-naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- |
|---------------------|-------------------|----------------------------|----------------------------|---------------|-------------|--------------------|------------------|------------------|--------------------------|----------------------------|
| FM 1320 GL | 20 | 1981 a | 2909 ab | 0.35 ab | 3.9 | 1.13 | 30.8 | 80.7 | 52.10 | 1033.56 a |
| ST 4747 GLB2 | 20 | 1927 a | 3223 a | 0.32 d | 3.7 | 1.13 | 31.1 | 80.1 | 48.35 | 931.65 ab |
| FM 1320 GL | 30 | 1888 a | 2734 b | 0.36 a | 3.5 | 1.13 | 30.7 | 81.0 | 52.27 | 987.72 ab |
| ST 4747 GLB2 | 30 | 1849 a | 2888 b | 0.33 dc | 3.5 | 1.17 | 29.6 | 79.1 | 48.63 | 899.60 ab |
| FM 1320 GL | 40 | 1849 a | 2689 b | 0.34 bc | 3.5 | 1.15 | 29.6 | 79.5 | 51.85 | 928.43 ab |
| ST 4747 GLB2 | 40 | 1793 a | 2929 ab | 0.33 dc | 3.3 | 1.18 | 30.6 | 79.9 | 44.52 | 822.50 b |
| Test average | | 1881 | 2895 | 0.34 | 3.6 | 1.15 | 30.41 | 80.06 | 49.62 | 933.91 |
| CV, % | | 3.93 | 4.11 | 4.27 | 4.42 | 2.05 | 1.52 | 1.27 | 2.91 | 7.11 |
| p-value | | 0.0953 | 0.0021 | <0.0001 | 0.01 | 0.0507 | 0.0509 | 0.2764 | 0.0238 | 0.0322 |
| LSD | | ns | 325.99 | 0.0419 | 0.43 | ns | ns | ns | 4.74 | 182.21 |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

FM=FiberMax, ST=Stoneville, DP=DeltaPine

Table 15. 2018 Hutchinson County row spacing lint yield and fiber quality by row spacing. Because there were no significant differences between varieties, reported row spacing data in this table is an average of FM 1320GL and ST 4747GLB2 at each respective row spacing. The reported lint value is an average of the calculated lint values of all three replications.

| Row Spacing (in.) | Lint Yield --- lb/acre --- | Seed Yield --- lb/acre --- | Turnout --%-- | Micro-naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- |
|---------------------|----------------------------|----------------------------|---------------|-------------|--------------------|------------------|------------------|--------------------------|----------------------------|
| 20 | 1954 a | 3066 a | 0.34 b | 3.8 | 1.15 | 30.2 | 79.9 | 50.23 | 982.61 a |
| 30 | 1868 ab | 2811 b | 0.35 ab | 3.5 | 1.14 | 30.4 | 79.8 | 50.45 | 943.66 ab |
| 40 | 1821 b | 2809 b | 0.33 b | 3.4 | 1.16 | 30.6 | 80.4 | 48.18 | 875.46 b |
| Test average | 1881 | 2895 | 0.34 | 3.6 | 1.15 | 30.41 | 80.06 | 49.62 | 933.91 |
| CV, % | 3.93 | 4.10 | 1.71 | 4.42 | 2.05 | 2.03 | 1.27 | 5.37 | 7.11 |
| p-value | 0.0257 | 0.0037 | 0.0090 | 0.0030 | 0.6302 | 0.5651 | 0.1666 | 0.3040 | 0.0467 |
| LSD | 113.82 | 183.08 | 0.0089 | 0.24 | ns | ns | ns | ns | 222.13 |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

FM=FiberMax, ST=Stoneville, DP=DeltaPine

2018 Hutchison County Seeding Rate Trial

Optimized seeding rates are necessary to maximize lint yield while minimizing production costs. In the Texas Panhandle, the final plant stand is approximately 60% of the planted population (as seen in the 2018 RACE trial) so, many producers increase seeding rates to increase the plant density. However, compensatory plant growth often occurs at reduce stands compensating for reduced plant populations. To evaluate seeding rates under an irrigated Texas Panhandle cotton system, a small seeding rate trial was conducted adjacent to the Hutchinson County Irrigated RACE Trial. FM 1320GL was planted on May 8, 2018 at 60,000, 80,000, and 100,000 seeds per acre on 20-inch rows. There was no significant difference between lint production ($p=0.7997$) or fiber properties for any seeding rate. Although non-significant, the lint value for the 100,000 seeds/acre seeding rate was \$26.70 greater than the lint value of the 60,000 seeds/acre seeding rate (Table 16). However, the increased cost associated with planting an additional 40,000 seeds/acre was \$45.46, which resulted in a production loss of -\$18.76/acre at the higher seeding rate.

Table 16. 2018 Hutchinson County seeding rate trial lint yield and fiber data.

| Seeding Rate (1000 Seeds/Ac) | Lint Yield --- lb/acre --- | Seed Yield --- lb/acre --- | Turnout --%-- | Micro- naire | Fiber Length (in.) | Strength (g/tex) | Uniformity --%-- | Lint loan Value cents/lb | Lint Value --- \$/acre --- | Seed Cost --- \$/acre --- |
|---------------------------------|-------------------------------|-------------------------------|------------------|-----------------|-----------------------|---------------------|---------------------|-----------------------------|-------------------------------|------------------------------|
| 60 | 1940 a | 2894 a | 0.34 b | 4.0 | 1.12 | 31.4 | 80.6 | 52.05 | 1009.64 a | 68.18 |
| 80 | 1982 a | 2909 a | 0.35 a | 3.9 | 1.13 | 30.8 | 80.7 | 52.10 | 1032.59 a | 90.91 |
| 100 | 1952 a | 2900 a | 0.35 b | 4.0 | 1.12 | 31.2 | 80.4 | 53.10 | 1036.34 a | 113.64 |
| Test average | 1958 | 2901 | 0.35 | 4.0 | 1.12 | 31.13 | 80.59 | 52.42 | 1026.19 | |
| Std. Dev. | 156 | 179 | 0.01 | 0.2 | 0.01 | 0.48 | 0.83 | 2.85 | 88.68 | |
| CV, % | 5.71 | 4.72 | 2.87 | 4.74 | 1.91 | 2.51 | 0.98 | 5.36 | 8.14 | |
| p-value | 0.7997 | 0.9814 | 0.5151 | 0.5689 | 0.7438 | 0.5265 | 0.8942 | 0.9643 | 0.8752 | |
| LSD | ns | ns | ns | ns | ns | ns | ns | ns | ns | |

Means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Lint loan value calculated from the 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated using a \$0.52/pound base.

FM=FiberMax, ST=Stoneville, DP=DeltaPine



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