# 2023 TEXAS HIGH PLAINS REPLICATED AGRONOMIC COTTON EVALUATION (RACE) TRIAL REPORT

**Contributing authors**

**Southern High Plains**

Dr. Ken Legé, Extension Cotton Specialist, Lubbock
Dr. Jane Dever, Professor, Cotton Breeder, and Associate Director, Lubbock
Dr. Carol Kelly, Research Specialist, Lubbock
Valerie Morgan, Research Specialist, Lubbock
Rebekah Ortiz, Extension Assistant, Lubbock
Brooke Shumate, Graduate Extension Assistant, Lubbock

Collaborating County Agents by County:
Brant Baugh, Lubbock County
Kristie Keys, Castro, Lamb, and Hale County

Texas A&M AgriLife Student Employees:
Dawson Kraatz
Jake Weiser

**Panhandle**

Dr. Jourdan Bell, Extension and Research Agronomist, Amarillo
Dr. Kevin Heflin, Program Specialist, Amarillo
Carla Naylor, Research Specialist, Amarillo
Preston Sirmon, Extension Associate, Amarillo

Collaborating County Agents by County:
John Thobe, Bailey County
Kristie Keys, Castro, Lamb, and Hale Counties
Laura Taylor, Dallam and Hartley County
Dennis Coker, Dallam, Moore and Sherman Counties
Kristy Slough, Hansford County
Hanna Conner, Hutchinson County
Janelle Duffy, Parmer County

Texas A&M AgriLife Student Employees:
Jessica Smith

# 2023 Southern High Plains Replicated Agronomic Cotton Evaluation (RACE) Trial Results

Replicated Agronomic Cotton Evaluation (RACE) Trial in Hale County. Cooperator: Chaney Light

Dr. Ken Legé, Extension Cotton Specialist, Lubbock
Dr. Jane Dever, Professor, Cotton Breeder, and Associate Director, Lubbock
Dr. Carol Kelly, Research Scientist, Lubbock
Valerie Morgan, Research Specialist, Lubbock
Rebekah Ortiz, Extension Assistant, Lubbock
Brooke Shumate, Graduate Extension Assistant, Lubbock

Collaborating County Agents by County:
Brant Baugh, Lubbock County
Kristie Keys, Castro, Lamb, and Hale County

Texas A&M AgriLife Student Employees:
Dawson Kraatz
Jake Weiser

## Acknowledgements

We would like to express our sincere appreciation for all of our collaborators who allowed us onto their land, and use their equipment, and furthermore gave us their time. Their collaborations allow us to provide information on the performance of commercially available varieties to growers across the Southern High Plains. We'd like to thank Cotton Incorporated, Plains Cotton Growers, and the Texas State Support Committee for their continued support of the program and all extension activities. Seed companies (BASF, Bayer, and Americot) are also acknowledged for their continued support of Texas A&M AgriLife Extension efforts in bringing reliable, nonbiased information to our cotton producers. Special thanks to the Fiber Biopolymer Research Institute at Texas Tech University and the USDA-ARS Gin Lab in Lubbock for all their support. Special thanks to Dr. Brendan Kelly and Dr. John Wanjura. A big thank you to the Cotton Breeding Program at Lubbock for all the help throughout the season. Special thanks to Dr. Jane Dever, Dr. Carol Kelly, Valerie Morgan, Koy Stair, Reagan Heinrich, and Te'Andra Burton.

## Season Highlights

To better assist Texas cotton producers in the Southern High Plains, the Texas A&M AgriLife Extension Service-Cotton Agronomy program based out of Lubbock conducted five Replicated Agronomic Cotton Evaluations (RACE). These large, on-farm trials are managed by the collaborating producers and are placed across the Southern High Plains. High temperatures and lack of precipitation during the summer led to the failure of two dryland RACE trials. The persistent high temperatures and below average precipitation contributed to many fields being abandoned across the Southern High Plains. Crop conditions declined as the severe weather conditions persisted, severely affecting cotton production on the Southern High Plains. These conditions were reported across Texas. The USDA-NASS final Crop Progress and Condition report of 2023, released November 27, 2023, classified the Texas cotton crop as 38% very poor, 28% poor, 24% fair, 9% good, and 1% excellent.

## List of Tables

*Table 1. Agronomic characteristics of varieties included in the 2023 Replicated Agronomic Cotton Evaluation (RACE) trials in the Southern High Plains.*

| Variety | Trial** | Maturity | Herbicide Package | Leaf Type | Plant Height | MIC | Verticillium | Bacterial Blight | Storm tolerance*** |
|---|---|---|---|---|---|---|---|---|---|
| FM 1621 GL | I + D | Early | Glufos, Glyphos | Semi-Hairy | Medium | 4.3 | Fair | Resistant | 7 |
| NG 3930 B3XF | I | Early - Medium | Glufos, Glyphos, and Dicamba | Semi-Smooth | Medium-Tall | 4.1 - 4.5 | Good | Resistant | 6.8 |
| NG 3500 XF | D | Early - Medium | Glufos, Glyphos, and Dicamba | Smooth | Medium - Tall | 3.7 - 4.6 | Excellent | Resistant | 5.8 |
| DP 1820 B3XF | I | Early-Mid | Glufos, Glyphos, and Dicamba | Semi-Smooth | Med-Tall | 4.08 | Mod. | Resistant | 3.5 |
| DP 2123 B3XF | D | Early-Mid | Glufos, Glyphos, and Dicamba | Semi-Smooth | Medium | 4.67 | Mod. Tolerant | Mod. Susceptibility | 4 |
| ST 4993 B3XF | I + D | Early-Mid | Glufos, Glyphos, and Dicamba | Semi-Smooth | Medium | 4.5 | Fair | Resistant | 7 |
| NG 4098 B3XF | I | Medium | Glufos, Glyphos, and Dicamba | Semi-Smooth | Medium-Tall | 4.3 - 4.5 | Good | Resistant | 7.8 |
| NG 4792 XF | D | Medium | Glufos, Glyphos, and Dicamba | Smooth | Medium - Tall | 3.7 - 4.6 | Excellent | Resistant | 5.8 |
| DP 2239 B3XF | I + D | Mid | Glufos, Glyphos, and Dicamba | Smooth | Medium | 4.4 | Susceptible | Susceptible | 4.5 |
| DP 2335 B3XF | I + D | Mid | Glufos, Glyphos, and Dicamba | Smooth | Medium | 3.8 | Tolerant | Resistant | 5.1 |
| FM 2498 GLT | I + D | Mid | Glufos, Glyphos | Semi-Smooth | Medium - Tall | 4.6 | Very Good | Resistant | 6 |

Glufosinate (Glufos), Glyphosate (Glyphos).
Information available on official company websites. Please refer to each individually for additional variety information.
** Variety present in dryland (D) or irrigated (I) trial(s).
*** Please refer to individual company website for scale.

*Table 2. Weather summary and precipitation for 2023 RACE trial locations.*

| Crosby (June 7th - December 1st) | | | | | |
|---|---|---|---|---|---|
| | Precip. (in.) | Temp. (°F) Min. | Temp. (°F) Max. | DD60 | # of 100 °F days |
| June | 0.72 | 57 | 107 | 474 | 6 |
| July | 1.37 | 63 | 106 | 686 | 7 |
| Aug. | 0.76 | 57 | 108 | 742 | 19 |
| Sep. | 1.62 | 57 | 104 | 510 | 7 |
| Oct. | 2.98 | 26 | 88 | 105 | - |
| Nov. | 0.05 | 23 | 86 | - | - |
| Dec. | 0 | 27 | 61 | - | - |
| Total | 7.5 | | | 2515 | 39 |

Weather summary provided by the National Weather Service. Precipitation data provided by PivoTrac

| Hale (June 9th - December 1st) | | | | | |
|---|---|---|---|---|---|
| | Precip. (in.) | Temp. (°F) Min. | Temp. (°F) Max. | DD60 | # of 100 °F days |
| June | 2.88 | 57 | 107 | 440 | 6 |
| July | 1.64 | 62 | 107 | 662 | 8 |
| Aug. | 1.28 | 61 | 106 | 721 | 14 |
| Sep. | 2.88 | 58 | 103 | 493 | 5 |
| Oct. | 2.76 | 25 | 89 | 105 | - |
| Nov. | 0.04 | 20 | 88 | - | - |
| Dec. | 0 | 26 | 57 | - | - |
| Total | 11.48 | | | 2420 | 33 |

Weather summary provided by the National Weather Service. Precipitation data provided by PivoTrac

| Lubbock (June 16th - November 21st) | | | | | |
|---|---|---|---|---|---|
| | Precip. (in.) | Temp. (°F) Min. | Temp. (°F) Max. | DD60 | # of 100 °F days |
| June | 0.51 | 58 | 109 | 378 | 9 |
| July | 1.16 | 64 | 110 | 772 | 13 |
| Aug. | 0.09 | 59 | 107 | 790 | 18 |
| Sep. | 3.71 | 60 | 107 | 558 | 6 |
| Oct. | 3.38 | 26 | 90 | 115 | - |
| Nov. | 0.09 | 31 | 87 | - | - |
| Dec. | - | - | - | - | - |
| Total | 8.94 | | | 2612 | 46 |

Weather summary and precipitation provided by the National Weather Service.

*Table 3.Crosby County RACE trial. Ranked by highest to lowest lint yield values.*

Cooperator: Ciera Huffstutler | Soil Type: Pullman Silty Clay Loam | Row spacing: 40 in.
Planted: 6/7/2023 | Irrigation: Drip (40 in.) | Plot size: 8 rows x 1108 ft.
Harvested: 12/1/2023 | Seed/Acre: 38,600
Prior Crop: Cotton | Remainder of field: ARMOR 9371 B3XF

| Variety | Yield | Turnout | MIC | Length | Staple | Uniformity | Strength | Color | Leaf | Loan Value | Lint Value | Plant Population |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/A | % | | in. | 1/32 in. | % | g/tex | Grade | Grade | Cents/lb | $/A | Plants/A |
| ST 4993 B3XF | 951 | 37.0 | 5.33 | 1.08 | 34.6 | 82.2 | 32.5 | 31-1,31-1,31-2 | 3.3 | 50.23 | 477 | 23,631 |
| DP 2335 B3XF | 931 | 35.6 | 4.83 | 1.12 | 35.7 | 79.6 | 31.0 | 31-1,31-1,31-1 | 3.0 | 54.20 | 505 | 23,632 |
| FM 2498 GLT | 905 | 33.6 | 5.63 | 1.09 | 34.9 | 80.5 | 29.9 | 31-2,31-2,31-3 | 3.6 | 50.03 | 452 | 27,552 |
| DP 2239 B3XF | 874 | 36.9 | 5.03 | 1.14 | 36.4 | 81.8 | 30.3 | 31-1,31-1,31-1 | 3.3 | 53.93 | 471 | 23,849 |
| FM 1621 GL | 861 | 31.8 | 5.40 | 1.08 | 34.4 | 81.6 | 30.8 | 31-2,41-1,41-1 | 4.3 | 48.27 | 416 | 21,998 |
| ARMOR 9371 B3XF* | 833 | 35.3 | 5.13 | 1.09 | 34.7 | 81.0 | 28.5 | 31-1,31-1,31-2 | 3.3 | 50.77 | 423 | 22,978 |
| DP 1820 B3XF | 810 | 33.0 | 5.10 | 1.13 | 36.1 | 81.8 | 32.4 | 31-1,31-1,31-1 | 3.0 | 53.97 | 437 | 25,701 |
| NG 4098 B3XF | 801 | 31.8 | 4.90 | 1.12 | 35.8 | 80.5 | 32.2 | 31-1,31-1,41-1 | 4.0 | 53.43 | 428 | 26,136 |
| NG 3930 B3XF | 781 | 32.4 | 5.00 | 1.10 | 35.1 | 81.5 | 29.5 | 31-1,31-1,31-2 | 4.0 | 52.00 | 406 | 27,334 |
| FM 1730 GLTP* | 760 | 30.3 | 5.13 | 1.11 | 35.6 | 82.5 | 33.3 | 41-1,41-1,41-1 | 4.3 | 49.70 | 379 | 24,612 |
| Mean | 851 | 33.8 | 5.15 | 1.11 | 35.33 | 81.3 | 31.0 | | 3.6 | 51.65 | 439 | 24,742 |
| $R^2$ | 0.57 | 0.84 | 0.84 | 0.57 | 0.56 | 0.67 | 0.81 | | 0.57 | 0.56 | 0.51 | 0.32 |
| c.v.% | 8.3 | 3.7 | 2.8 | 2.1 | 2.2 | 0.9 | 3.1 | | 15.3 | 5.0 | 10.4 | 13.8 |
| p-value | 0.0468 | 0.0000 | 0.0001 | 0.0454 | 0.0579 | 0.0051 | 0.0001 | | 0.0456 | 0.0573 | 0.1014 | 0.5475 |
| LSD 0.05 | 100 | 1.8 | 0.20 | 0.03 | NS | 1.1 | 1.3 | | 1.0 | NS | NS | NS |

Loan value calculated using the Cotton Incorporated (2023) Upland Loan Calculator Program (52.0 cents/lb).
CV (coefficient of variation), LSD (least significant difference, p <0.05), NS (no statistical significance).
*Grower entry.

*Table 4. Hale County RACE trial. Ranked by highest to lowest lint yield values.*

Cooperator: Chaney Light
Planted: 6/9/2023
Harvested: 12/1/2023
Prior Crop: Grain Sorghum

Soil Type: Estacado Loam/Pullman Clay Loam
Irrigation: Drip (80 in.)
Seed/Acre: 35,000
Remainder of field: FM 1830 GLT

Row spacing: 40 in.
Plot size: 8 rows x 1531 ft.

| Variety | Yield | Turnout | MIC | Length | Staple | Uniformity | Strength | Color | Leaf | Loan Value | Lint Value | Plant Population |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/A | % | | in. | 1/32 in. | % | g/tex | Grade | Grade | Cents/lb | $/A | Plants/A |
| DP 2335 B3XF | 1,013 | 33.8 | 4.66 | 1.15 | 36.9 | 80.7 | 31.1 | 21-1,21-2,31-1 | 2.6 | 57.20 | 578 | 31,799 |
| FM 2498 GLT | 1,095 | 31.7 | 5.53 | 1.10 | 35.2 | 81.2 | 29.7 | 31-1,31-1,31-1 | 2.6 | 51.37 | 561 | 26,789 |
| DP 1820 B3XF | 1,005 | 32.8 | 5.26 | 1.16 | 37.1 | 82.5 | 32.2 | 31-1,31-1,31-1 | 3.0 | 53.83 | 541 | 28,096 |
| DP 2239 B3XF | 961 | 34.6 | 5.03 | 1.16 | 37.1 | 81.9 | 29.7 | 21-1,21-2,21-2 | 2.0 | 56.17 | 540 | 32,670 |
| NG 4098 B3XF | 948 | 28.1 | 4.50 | 1.18 | 37.8 | 80.8 | 32.7 | 31-1,31-1,31-1 | 3.3 | 56.60 | 537 | 26,789 |
| DP 1822 XF* | 958 | 29.9 | 5.26 | 1.12 | 36.0 | 81.4 | 31.2 | 21-2,31-1,31-1 | 2.6 | 54.10 | 518 | 32,126 |
| ST 4993 B3XF | 990 | 34.9 | 5.36 | 1.08 | 34.7 | 81.3 | 31.0 | 21-2,31-1,31-1 | 3.3 | 50.40 | 500 | 27,261 |
| FM 1621 GL | 972 | 30.8 | 5.43 | 1.11 | 35.4 | 81.1 | 31.5 | 41-1,41-1,41-1 | 4.6 | 47.73 | 464 | 27,225 |
| NG 3930 B3XF | 895 | 30.8 | 5.26 | 1.09 | 34.7 | 81.4 | 28.8 | 31-1,31-1,31-1 | 4.0 | 50.17 | 449 | 30,819 |
| Mean | 982 | 31.9 | 5.14 | 1.13 | 36.1 | 81.4 | 30.9 | | 3.1 | 53.06 | 521 | 29,286 |
| $R^2$ | 0.55 | 0.88 | 0.95 | 0.61 | 0.63 | 0.38 | 0.64 | | 0.80 | 0.87 | 0.67 | 0.71 |
| c.v.% | 8.5 | 3.3 | 2.0 | 3.2 | 3.1 | 1.1 | 3.8 | | 15.7 | 3.0 | 8.7 | 7.3 |
| P-value | 0.3064 | 0.0000 | 0.0000 | 0.0309 | 0.0223 | 0.4001 | 0.0149 | | 0.0003 | 0.0000 | 0.0448 | 0.0072 |
| LSD 0.05 | NS | 1.5 | 0.14 | 0.05 | 1.6 | NS | 1.6 | | 0.7 | 2.27 | 65 | 3,030 |

Loan value calculated using the Cotton Incorporated (2023) Upland Loan Calculator Program (52.0 cents/lb).
CV (coefficient of variation), LSD (least significant difference, p <0.05), NS (no statistical significance).
*Grower entry.

*Table 5. Lubbock County RACE trial. Ranked by highest to lowest lint yield values.*

| | | | |
|---|---|---|---|
| Cooperator: | Casey Jones | Soil Type: Estacado Clay Loam | Row spacing: 40 in. |
| Planted: | 6/16/2023 | Irrigation: Pivot | Plot size: 8 rows x 211-581 ft. |
| Harvested: | 11/21/2023 | Seed/Acre: 38,000 | |
| Prior Crop: | Cotton | Remainder of field: DP 1820 B3XF | |

| Variety | Yield | Turnout | MIC | Length | Staple | Uniformity | Strength | Color | Leaf | Loan Value | Lint Value | Plant Population |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/A | % | | in. | 1/32 in. | % | g/tex | Grade | Grade | Cents/lb | $/A | Plants/A |
| ST 4993 B3XF | 321 | 37.5 | 5.00 | 1.05 | 33.5 | 80.3 | 30.4 | 31-1,31-1,31-1 | 3.33 | 50.03 | 160 | 26,354 |
| DP 2335 B3XF | 318 | 36.4 | 4.70 | 1.05 | 33.6 | 79.7 | 29.4 | 31-1,31-3,32-1 | 3.00 | 50.33 | 160 | 28,205 |
| DP 2239 B3XF | 287 | 36.8 | 4.96 | 1.09 | 34.8 | 79.8 | 29.8 | 21-2,31-1,31-1 | 3.33 | 52.50 | 150 | 26,572 |
| NG 3930 B3XF | 280 | 33.0 | 4.96 | 1.06 | 33.9 | 80.4 | 28.7 | 31-1,31-2,31-3 | 3.33 | 50.77 | 142 | 30,056 |
| NG 4098 B3XF | 277 | 30.1 | 4.53 | 1.06 | 33.8 | 77.7 | 30.1 | 31-2,31-2,41-1 | 4.33 | 50.33 | 139 | 27,225 |
| DP 1820 B3XF | 260 | 33.2 | 5.13 | 1.06 | 33.9 | 79.4 | 30.2 | 31-1,31-1,31-2 | 3.66 | 50.30 | 131 | 27,334 |
| Mean | 291 | 34.5 | 4.88 | 1.06 | 33.9 | 79.5 | 29.8 | | 3.50 | 51.71 | 147 | 27,624 |
| $R^2$ | 0.50 | 0.84 | 0.84 | 0.57 | 0.42 | 0.67 | 0.81 | | 0.57 | 0.46 | 0.65 | 0.24 |
| c.v.% | 12.8 | 2.1 | 3.6 | 2.2 | 2.1 | 0.9 | 2.0 | | 12.8 | 4.5 | 9.8 | 12.7 |
| p-value | 0.3614 | 0.0000 | 0.0186 | 0.3627 | 0.3405 | 0.0103 | 0.0493 | | 0.057 | 0.7913 | 0.1671 | 0.8045 |
| LSD 0.05 | NS | 1.0 | 0.30 | NS | NS | 1.1 | 0.9 | | NS | NS | NS | NS |

Loan value calculated using the Cotton Incorporated (2023) Upland Loan Calculator Program (52.0 cents/lb).

CV (coefficient of variation), LSD (least significant difference, p <0.05), NS (no statistical significance).


http://cotton.tamu.edu/



Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Rick Avery, Director, Texas A&M AgriLife Extension Service, The Texas A&M University System.

Department of Soil and Crop Sciences

soilcrop.tamu.edu

# 2023 Texas Panhandle Replicated Agronomic Cotton Evaluation (RACE)

Jourdan Bell, Extension and Research Agronomist, Amarillo
Kevin Heflin, Program Specialist, Amarillo
Carla Naylor, Research Specialist, Amarillo
Preston Sirmon, Extension Associate, Amarillo

Collaborating County Agents by County:
John Thobe, Bailey County
Kristie Keys, Castro, Lamb, and Hale Counties
Laura Taylor, Dallam and Hartley County
Dennis Coker, Dallam, Moore and Sherman Counties
Kristy Slough, Hansford County
Hanna Conner, Hutchinson County
Janelle Duffy, Parmer County

Texas A&M AgriLife Student Employees:
Jessica Smith

## 2023 Texas Panhandle Highlights

The objective of the Texas Panhandle replicated agronomic cotton evaluations (RACE Trials) is to provide producers regional, on-farm, and unbiased comparisons of top cotton varieties marketed for Panhandle cotton production systems. The 2023 Texas Panhandle RACE trials were planted at 5 locations under varying crop rotations, row spacings, and populations (Table 1). Four locations failed because of weather related damage (hail and flooding). The Hutchinson County trial was the only location harvested. Early to medium maturing varieties were planted at each location as a seed company entry or a cooperating producer entry (Table 2). Cumulative GDDs at the Hansford County location was 2,331 (Fig. 1), which was in-line with the regional 8-year average of 2,234 (GDDs). The trial was defoliated on October 11 and harvested on November 10, 2023. The highest yielding variety was FiberMax 2202 GL (Table 3). Varieties were significantly different ($p<0.0001$), but there was no difference between the top 4 varieties. Fiber quality was significantly different between varieties ($p<0.0001$). Plant stands were not significantly different between varieties (Table 4). There was no correlation between maturity at the time of defoliation and micronaire using nodes above cracked boll (Table 5) as a maturity guideline ($R^2 = 0.01$).

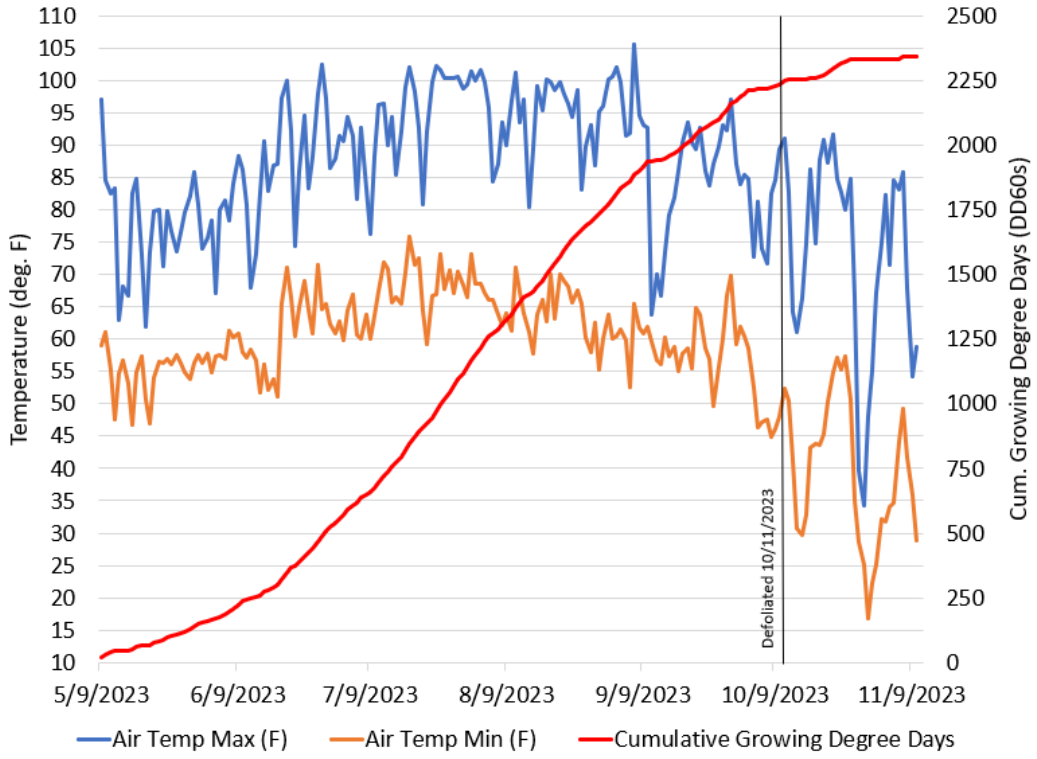


**Figure 1.** Daily temperature and cumulative growing degree days at the Hutchinson County trial.

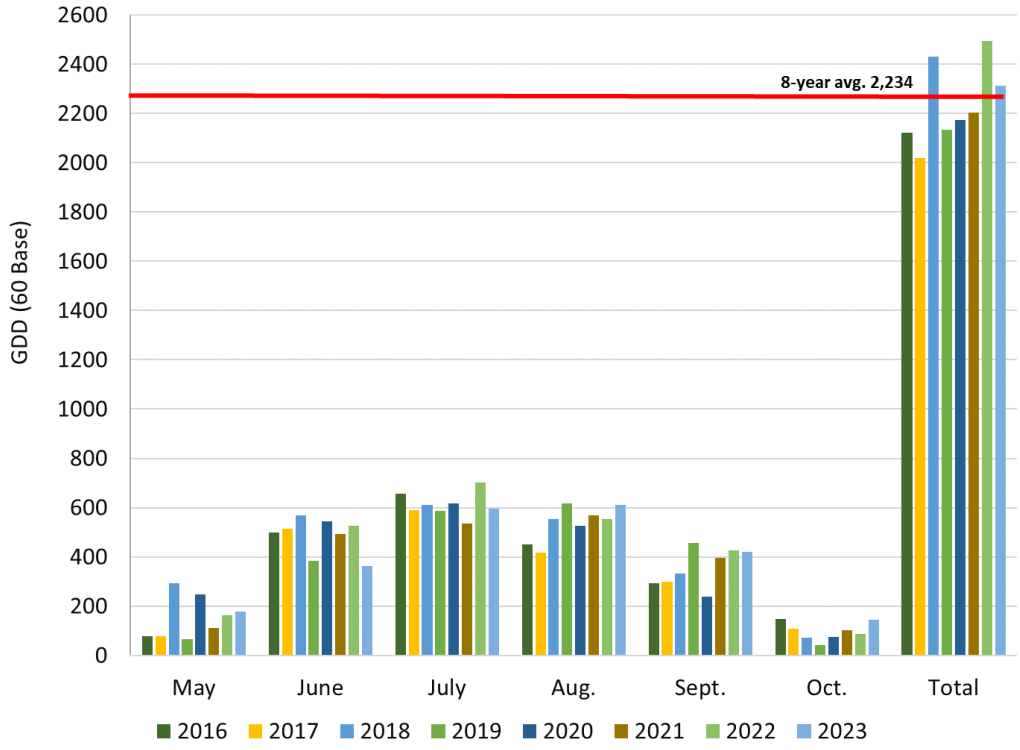


**Figure 2.** Monthly and cumulative growing degree days at Texas Panhandle trial locations from 2016-2024.

**Table 1.** 2023 Agronomic information by location.

| County | Armstrong | Castro | Hartley | Hutchinson | Parmer |
|---|---|---|---|---|---|
| **Location (Nearest Town)** | Claude | Dimmitt | Hartley | Pringle | Farwell |
| **Cooperator** | Madison Bagwell | Blake Fennel | Bill Graff | Craig McCloy | Vic Christian |
| **County Agent(s)** | Sami Hatley & Jody Bradford | Kristie Keys | Dennis Coker & Laura Taylor | Hanna Conner & Kristy Slough | John Thobe & Janelle Duffy |
| **Irrigation Regime** | Dryland | Dryland | Irrigated | Irrigated | Limited Irrigated |
| **In-Season Precipitation (in.)** | ---- | ---- | ---- | ~14.5 (7.5 inches in May) | --- |
| **Growing Degree Days (DD60s)** | ---- | ---- | ---- | 2,511 | --- |
| **Herbicide Technologies** | Gly, Gluf, XF | Gly, Gluf, XF | Gly, Gluf, XF | Gly, Gluf, XF | Gly, Gluf, XF |
| **Planting Date** | 5/23/2023 | 5/23/2023 | 5/11/2023 | 5/9/2023 | 5/10/2023 |
| **Planting Pop (Seeds/ac)** | 28,000 | 16,000 | 65,000 | 60,000 | 40,000 |
| **Soil Temp. at Planting (°F)** | 74 | 81 | 70 | 67 | 85 |
| **Harvest Date** | Failed - Flooding | Failed - Hail | Failed - Hail | 11/10/2023 | Failed - Hail |
| **Row Spacing (in.)** | 30 | 60 | 30 | 40 | 30 |

**Table 2.** Characteristics of varieties evaluated in 2023 Panhandle RACE trials. All variety characteristics are obtained from company variety descriptions. Varieties listed are seed company and farmer entries.

| Variety | Maturity | Pesticide Trait Package | Leaf Type | Storm Tolerance[1] | Plant Height | Mic | Verticilium Tol.[2] | Bacterial Blight[2] |
|---|---|---|---|---|---|---|---|---|
| Deltapine 1820 B3XF | Early-Med | Bollgard 3*, Glyphos., Glufos., and Dicamba | Semi-Smooth | 3.5 | Med-Tall | 4.1 | Moderate | Resistant |
| Deltapine 2012 B3XF | Early | Bollgard 3, Glyphos., Glufos., and Dicamba | Smooth | 4 | Med-Tall | 4.3 | Mod. Tol. | Resistant |
| Deltapine 2211 B3TXF[§] | Early | Bollgard 3 Thryvon, Glyphos., Glufos., and Dicamba | Smooth | 6.7 | Med-Tall | 4.4 | Susc. | Resistant |
| Deltapine 2317 B3TXF | Early | Bollgard 3 Thryvon, Glyphos., Glufos., and Dicamba | Smooth | 5.1 | Med-Tall | 4.5 | Mod. Tol. | Resistant |
| FiberMax 1621 GL | Early | Glyphosate and Glufosinate | Semi-Hairy | 6 | Medium | 4.2 | Fair | Resistant |
| FiberMax 2202 GL | Med | Glyphosate and Glufosinate | Semi-Smooth | 5 | Medium | 4.6 | Outstanding | Resistant |
| FiberMax 2398 GLTP | Med | Glyphosate and Glufosinate; Twin Link Plus[¥] | Semi-Smooth | 5 | Med-Tall | 4.4 | Very Good | Resistant |
| NexGen 3195 B3XF | Early | Bollgard 3, Glyphos., Glufos., and Dicamba | Semi-Smooth | 9 | Medium | 4.0-4.2 | Very Good | Very Tol. |
| Phytogen 205 W3FE‡ | Very Early | WideStrike 3, Glyphosate, Glufosinate, and Enlist | Semi-Smooth | Excellent | Short | 4.5 | Tolerant | Resistant |
| Phytogen 332 W3FE‡ | Early-Med | WideStrike 3, Glyphosate, Glufosinate, and Enlist | Semi-Smooth | Excellent | Med-Tall | 4.1 | Tolerant | Resistant |

‡Farmer entry

[1]Storm Tolerance (1-9): 1=Loose Boll, 9=Tight Boll from company variety descriptions.

[2] Verticillium and bacterial blight tolerance from company descriptions.

[§] T in the trait code denotes a Thryvon variety.

[*] Bollgard 3 contains three Bt proteins: Cry1Ac, Cry2AB and Vip3A.

[¥] TwinLink Plus provides three Bt proteins: Cry1Ab, Cry2Ae and Vip3Aa19.

[**]WideSrike 3 contains three Bt proteins: Cry1Ac, Cry1F and Vip3A.

**Table 3.** 2023 Lint yield, quality, and loan value results for the Texas A&M AgriLife irrigated RACE Trial located in Hutchinson County, Craig McCloy Cooperator.

| Variety | Seed Cotton Yield (lb/acre) | Turnout (%) | Lint Yield (lb/acre) | Seed Yield (lb/acre) | Micro-naire | Fiber Length (in.) | Unif. (%) | Strength (g/tex) | Leaf Grade | Lint loan Value (cents/lb) | Lint Value ($/acre) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FM 2202 GL | 5151 | 33 | 1710 | 2192 | 3.53 | 1.13 | 81.9 | 31.6 | 2.0 | 56.15 | 961 |
| FM 1621 GL | 4992 | 34 | 1683 | 2107 | 3.52 | 1.17 | 82.0 | 32.1 | 3.7 | 54.87 | 923 |
| PHY 205 W3FE‡ | 5123 | 32 | 1628 | 2339 | 4.03 | 1.09 | 81.5 | 32.2 | 2.0 | 55.83 | 908 |
| FM 2398 GLT | 4875 | 33 | 1624 | 2133 | 3.93 | 1.15 | 81.3 | 29.9 | 2.0 | 57.73 | 937 |
| DP 1820 B3XF | 4566 | 32 | 1483 | 1904 | 3.42 | 1.18 | 81.1 | 32.3 | 2.0 | 56.22 | 833 |
| PHY 332 W3FE‡ | 4530 | 30 | 1381 | 1982 | 3.03 | 1.16 | 81.5 | 31.3 | 2.0 | 52.17 | 694 |
| DP 2012 B3XF | 4239 | 32 | 1347 | 1881 | 3.12 | 1.15 | 81.2 | 31.3 | 2.0 | 52.73 | 713 |
| NG 3195 B3XF | 4249 | 31 | 1335 | 1871 | 2.97 | 1.15 | 82.3 | 31.1 | 2.3 | 50.65 | 677 |
| DP 2317 B3TXF | 4150 | 30 | 1226 | 1801 | 2.64 | 1.16 | 81.3 | 29.7 | 2.0 | 45.62 | 559 |
| DP 2211 B3TXF | 3837 | 32 | 1217 | 1676 | 2.78 | 1.15 | 81.0 | 28.8 | 1.7 | 48.23 | 587 |
| **Test Average** | **4573** | **32** | **1466** | **1989** | **3.30** | **1.15** | **81.5** | **31.0** | **2.2** | **53.02** | **779** |
| CV, % | 3.5 | 3.3 | 5.0 | 5.6 | 7.2 | 1.8 | 1.2 | 3.9 | 14.9 | 5.9 | 7.8 |
| p-value | <0.0001 | 0.0032 | <0.0001 | <0.0001 | <0.0001 | 0.0067 | 0.7921 | 0.0231 | <0.0001 | 0.0019 | <0.0001 |
| LSD | 279 | 1.8 | 128 | 194 | 0.42 | 0.04 | NS | 2.1 | 0.6 | 5.5 | 109 |

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

Lint loan value calculated from the 2023 Upland Cotton Loan Evaluation Model from Cotton Incorporated using a $0.52/pound base.

Samples ginned on a Compass gin at TTU-FBRI.

‡Farmer Entry

**Table 4.** Four-week post planting stand counts at 2 locations.

| | Hutchinson Irrigated | Hartley Irrigated Failed |
|---|---|---|
| **Planted Seeds/Acre** | 60,000 | 65,000 |
| | **---- Measured plants/acre----** | |
| NG 3195 B3XF | 24,720 | 12,052 |
| NG 3406 B2XF | -----* | 13,504 |
| FM 1621 GL | 27,770 | 14,375 |
| FM 2202 GL | 29,621 | 14,665 |
| FM 2398 GLT | 31,908 | 21,490 |
| DP 1820 B3XF | 32,452 | 3,920 |
| DP 2012 B3XF | 31,908 | 17,714 |
| DP 2211 B3TXF | 27,661 | 16,117 |
| DP 2317 B3TXF | 27,661 | 11,906 |
| PHY 205 W3FE‡ | 34,739 | -----* |
| PHY 332 W3FE‡ | 30,274 | -----* |
| **Trial Average** | **29,871** | **13,971** |
| CV, % | 14.2 | 58.9 |
| p-value | 0.2217 | 0.4543 |
| LSD | NS | NS |

*Varieties not planted at the respective location.

ǂFarmer entry

Stand counts were measured approximately 30 days post planting. Data represents stand counts from all 3 replications.

**Table 5.** Hutchinson County average nodes above uppermost cracked boll on the day of defoliation (October 11, 2023). Each value is an average of 6 plants representing 2 plants per plot.

| Variety | Average Nodes Above Uppermost Cracked Boll |
|---|---|
| NG 3195 B3XF | 10 |
| FM 1621 GL | 13 |
| FM 2202 GL | 10 |
| FM 2398 GLT | 12 |
| DP 1820 B3XF | 8 |
| DP 2012 B3XF | 10 |
| DP 2211 B3TXF | 11 |
| DP 2317 B3TXF | 9 |
| PHY 205 W3FE‡ | 7 |
| PHY 332 W3FE‡ | 6 |
| **Trial Average** | **10** |
| p-value | 0.1802 |
| LSD | NS |

ǂFarmer entry