2024 TEXAS HIGH PLAINS REPLICATED AGRONOMIC COTTON EVALUATION (RACE) TRIAL REPORT

Southern High Plains

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2024
Southern High Plains
Replicated Agronomic Cotton Evaluation (RACE)
Trial Results

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Acknowledgements

We would like to express our sincere appreciation for all of our collaborators who allowed us onto their land, use of their equipment, and gave us their time. These collaborations allow us to provide information on the performance of commercially available varieties to growers across the Southern High Plains. We would like to thank Cotton Incorporated, Plains Cotton Growers' Plains Cotton Improvement Program, Texas State Support Committee, and Texas Fiber Initiative for their continued support of the Cotton Agronomy program and all extension activities. Seed companies (BASF, Bayer, Corteva, Gowan, May, Land O' Lakes, and Americot) are also acknowledged for their support of Texas A&M AgriLife Extension efforts in bringing reliable, nonbiased information to our cotton producers. Special thanks to the Fiber and Biopolymer Research Institute at Texas Tech University and the USDA-ARS Gin Lab in Lubbock for all their support.

Season Highlights

To better assist Texas cotton producers in the Southern High Plains, the Texas A&M AgriLife Extension Service-Cotton Agronomy program coordinated 19 RACE trials to be planted across the Southern High Plains. Varieties were submitted by seed companies based on site description prior to planting, such that each location entry list was not the same across locations. Eighteen trials were planted from May through June. Drought and flooding led to the abandonment of four sites during the growing season. Fourteen sites were harvested from October through November: three were dryland, and eleven were irrigated. Cotton lint yield averaged 1,022 lbs per acre across the irrigated locations and 254 lbs per acre across the dryland locations. Extreme temperatures during the growing season, low precipitation, and a warmer than average fall led to failed acres across the region.

Glossary

Plant Population – Number of plants per acre.

Stand Establishment (%) – Ratio of emerged plants relative to seeding rate.

Warm Germ (%) - Ratio of germinated seed after a multi-day test of alternative temperatures of 86 °F, and 68 °F. State and federal laws require a minimum of 80% warm germination.

Cool Germ (%) - Ratio of germinated seeds after the "Texas Cool Test." Conducted for 7 days at 64.4 °F, this study is not required by state or federal law. Cool germ % can be requested from your company representatives.

DD60 – Growing degree days (GDD) are calculated daily using a base temperature of 60°F and a maximum temperature of 95°F. DD60 = ((Max. Temp. + Min. Temp.)/2)-Base Temp.

Lint Yield – Pounds of lint harvested per acre.

Seed Yield – Pounds of fuzzy seed harvested per acre.

Turnout (%) – Ratio of cotton lint to seed cotton within a sample. Approximately 6-8 lb. samples submitted to the Fiber and Biopolymer Research Institute.

Seed Turnout (%) - Ratio of seed-to-seed cotton within a sample, approximately 6-8 lb. Samples submitted to the Fiber and Biopolymer Research Institute.

Seed Value ($/A) – Seed yield x $226/metric ton. Cottonseed price acquired from US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts).

Planting Seed Cost – Planting seed cost acquired from Plains Cotton Growers 2024 Seed Cost Calculator.

Loan Value – Base loan rate $0.52 per pound, rate is calculated dependent off fiber quality parameters. Loan value acquired from Cotton Incorporated 2024 Upland Loan Calculator. Please see Loan Premium & Discount Schedule: Upland Cotton for parameters.

Lint Value ($/A) – Lint Yield x Loan Value.

Total Crop Value ($/A) – Lint Value + Seed Value.

Net Return ($/A) – Total crop value – planting seed cost.

Plant Height (in) – Plant height in inches from cotyledons to terminal.

Total Nodes – Cotyledons are considered 0, vegetative and fruiting branches are counted going up the plant till the terminal leaf.

Height-to-Node Ratio (in/internode) – Plant Height / Total Nodes

Length of 4th Internode – The length of the internode between the fourth and fifth node from the terminal.

Node of First Fruiting Branch – First sympodial node.

Nodes Above White Flower – Nodes above the highest white flower at first position to the terminal leaf.

Glossary cont'd

High Volume Instrument (HVI) - HVI is the most commonly used cotton fiber quality testing instrument and is used for classification of every commercially grown bale of cotton produced in the United States.

Length (ln) - HVI length is reported as upper half mean length which is the average length of the longer one half of the fibers in a sample.

Staple (1/32 in) - Refers to the average length of a bundle of fibers, equivalent to HVI upper half mean length.

Micronaire (MIC): A measurement of airflow moving through a cotton plug and is proportional to the surface area of the fibers. Differences in MIC can be indicative of a difference in either fiber fineness, fiber maturity, or both, but MIC does not directly measure either.

Strength (g/Tex) - Strength is a measurement of the force required to break a bundle of fibers.

Uniformity (%) - Uniformity index is a ratio of the average length of fibers to the upper half mean length. It is used as an indication of the distribution of fiber lengths in a sample.

Color Grade - A measurement of how much the color of the lint deviates from white. The HVI reports in two parameters: yellowness and reflectance.

Leaf Grade - HVI uses a black and white camera to assess trash. Any black seen by the camera is trash and is expressed as a ratio of trash to lint.

Verticillium Wilt Ratings – A standardized method to assess Verticillium wilt severity based on:

- Stem Symptoms Incidence (%) – Percentage of plants with vascular discoloration in a 5-foot sub-plot.
- Stem Severity (1-5 scale) – Extent of vascular discoloration, from 1 (none) to 5 (severe, affecting the root cortex).
- Foliar Symptoms Incidence (%) – Percentage of plants with yellowing, wilting, or necrosis in a 5-foot sub-plot.
- Foliar Severity (1-5 scale) – Intensity of foliar symptoms, from 1 (healthy leaves) to 5 (≥75% diseased or dead leaves).

Root-Knot Nematode (RKN) Eggs – These are the starting point of the nematode's life cycle. Root-knot nematode females lay eggs in a gelatinous mass attached to the root surface or embedded in root tissue. Each egg contains a developing juvenile, which will hatch and begin searching for a plant root to infect. The number of eggs in roots indicates the extent of nematode reproduction and root infestation. High egg counts suggest significant nematode activity, which can lead to stunted plant growth and yield losses.

Root-Knot Nematode (RKN) Juveniles – The second-stage juveniles (J2) are the infective stage of root-knot nematodes. After hatching from the eggs, these tiny, worm-like juveniles move through the soil in search of plant roots. Once they enter a root, they establish a feeding site, causing characteristic root galls and stunting plant growth. Juvenile counts in soil samples provide insight into nematode population levels and potential risk for further crop damage.

List of Tables

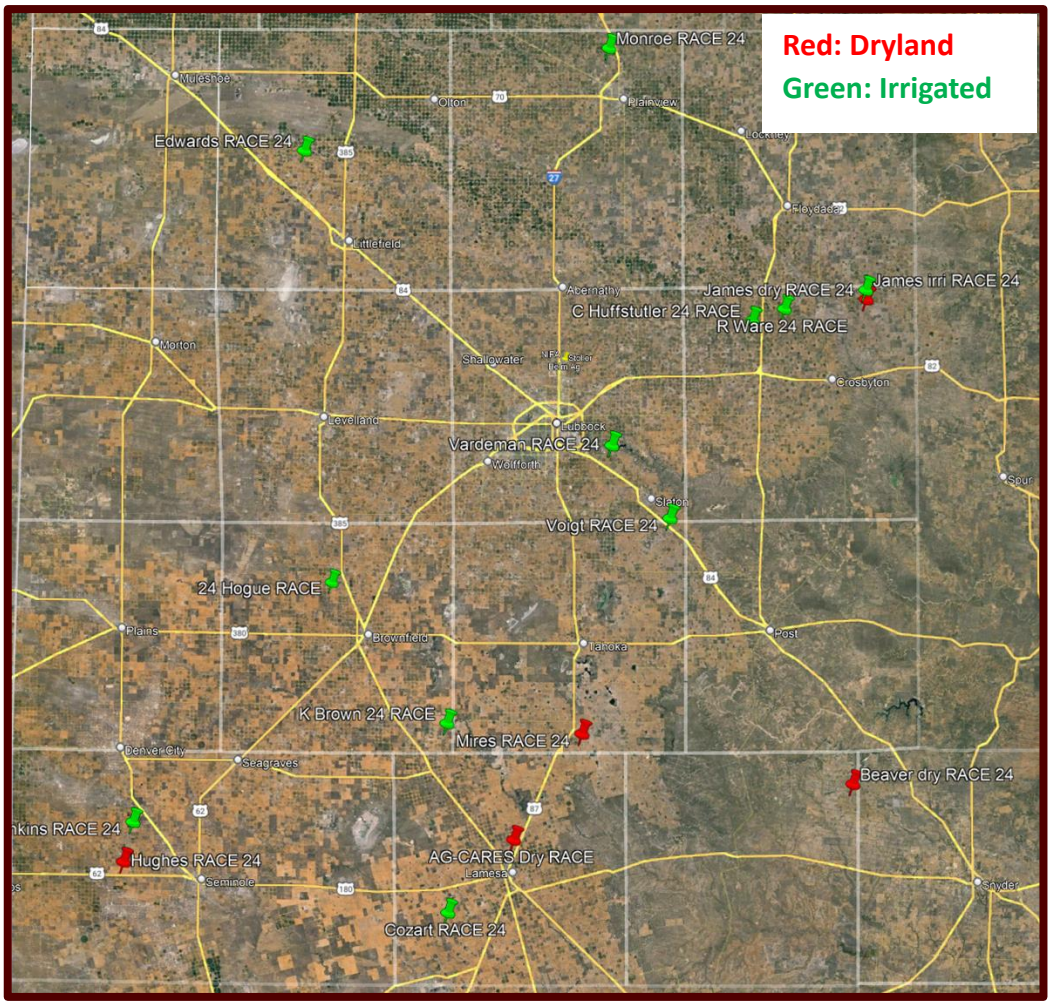

Table 1. 2024 RACE Trial Location Summary

County	Cooperator	Herbicide Technology	Irrigation?	# of Varieties	Planted?	Harvested?	Comments
Baily	Saylor	XF	N	5	N	N	Planting prevented due to to heavy rains
Borden	Beaver	XF	N	5	Y	N	Abandoned in Sept due to drought
Crosby	Huffstutler	XF	Y	9	Y	Y	
Crosby	James	XF	N	5	Y	Y	
Crosby	James	Mixed	Y	6	Y	Y	
Crosby	Ware	Mixed	Y	8	Y	Y	
Dawson	AG-CARES	Mixed	N	8	Y	N	Abondoned in Sept due to drought
Dawson	Cozart	XF	Y	9	Y	Y	
Dawson	Mires	XF	N	5	Y	Y	
Gaines	Hughes	Enlist	N	6	Y	Y	
Gaines	Jenkins	Enlist	Y	6	Y	Y	
Hale	Monroe	XF	Y	8	Y	Y	
Lamb	Edwards	XF	Y	10	Y	Y	
Lamb	Tiller	XF	N	5	Y	N	Lost early due to heavy rain
Lubbock	Vardeman	Mixed	Y	8	Y	Y	
Lynn	Voight	Mixed	Y	4	Y	Y	
Terry	Brown	XF	Y	7	Y	Y	
Terry	Hogue	Mixed	Y	6	Y	Y	
Yoakum	Patton	Conv	Y	3	Y	N	Lost early due to heavy rain

Table 2. Agronomic Characteristics of Varieties included in the 2024 Replicated Agronomic Cotton Evaluation (RACE) Trials in the Southern High Plains

Variety	Maturity	Trait Packages	Leaf Type	Plant Height	MIC	Verticillium	Bacterial Blight	Storm Tolerance***
NG3434B3XF	Early	Bollgard 3, XtendFlex	Smooth	Medium	4.3-4.4	Fair	Susceptible	7.8
NG3457B3XF	Early	Bollgard 3, XtendFlex	Smooth	Medium	4.3-4.5	Good	Resistant	6.8
May558	Early-Medium	Non-GMO Convnetional	Semi-Smooth	Medium	4.5-4.9	8**	Not Determined	8
NG4409B3XF	Early-Medium	Bollgard 3, XtendFlex	Semi-Smooth	Medium	4.3-4.5	Fair	Resistant	6.8
DP1820B3XF	Early-Mid	Bollgard 3, XtendFlex	Semi-Smooth	Med-Tall	4.08	Modearate	Resistant	3.5
DP1822XF	Early-Mid	XtendFlex	Semi-Smooth	Med-Tall	4.27	Modearate	Resistant	3
DP2123B3XF	Early-Mid	Bollgard 3, XtendFlex	Semi-Smooth	Medium	4.35	Mod. Tolerance	Mod. Susceptibility	4
FM765AX	Early-Mid	Axant Flex	Semi-Smooth	Short/Compact	4.33	Good	Resistant	6.5
PHY332W3FE	Early-Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Medium	4.1	Tolerant	Resistant	
PHY350W3FE	Early-Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Medium	4.2	Tolerant	Resistant	
PHY400W3FE	Early-Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Medium	3.9	Susceptible	Resistant	
PHY390W3FE	Early-Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Short-Med	4	Susceptible	Resistant	
Armor9371B3XF	Medium	Bollgard 3, XtendFlex	Semi-Smooth	Medium	4.5-4.6	Mod. Tolerance	Tolerant	3
Armor9413XF	Medium	XtendFlex	Smooth	Medium	4.2-4.5	Mod. Tolerance	Resistant	3
DP2131B3XF	Mid	Bollgard 3, ThryvOn, XtendFlex	Smooth	Med-Tall	4.35	Mod. Susceptibility	Mod. Resistance	4
DP2239B3XF	Mid	Bollgard 3, XtendFlex	Smooth	Medium	4.4	Mod. Susceptibility	Susceptibility	4.5
DP2335B3XF	Mid	Bollgard 3, XtendFlex	Smooth	Medium	3.8	Tolerant	Resisitant	5.1
DP2436NRB3XF	Mid	Bollgard 3, ThryvOn, XtendFlex	Semi-Smooth	Medium	4.25	Mod. Tolerance	Resistant	4
FM823AXTP	Mid	Axant Flex, TwinLink Plus	Semi-Smooth	Short/Compact	4.28	Good	Resistant	6.5
FM868AXTP	Mid	Axant Flex, TwinLink Plus	Semi-Smooth	Medium/Moderate	4.25	Low	Susceptible	6
PHY411W3FE	Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Medium Tall	4.4	Susceptible	Resistant	
PHY415W3FE	Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Medium	4.2	Susceptible	Resistant	
PHY443W3FE	Mid	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Tall	4.4	Susceptible	Resistant	
ST6000AXTP	Midd-Full	Axant Flex, TwinLink Plus	Semi-Smooth	Med-Tall/Moderate	4.3	Fair	Resistant	5.3
DP2141NRB3XF	Mid-Full	Bollgard 3, XtendFlex	Semi-Smooth	Med-Tall	4.71	Mod.Tolerance	Susceptible	5
DP2143NRB3XF	Mid-Full	Bollgard 3, XtendFlex	Semi-Smooth	Med-Tall	4.43	Mod. Tolerance	Susceptible	5
DP2349NRB3XF	Mid-Full	Bollgard 3, XtendFlex	Smooth	Tall	4.3	Mod. Tolerance	Resistant	5.6
PHY475W3FE	Mid-Full	WideStrike 3, Roundup Ready Flex, Enlist	Semi-Smooth	Medium	4.6	Susceptible	Resistant	
GS1432	Full	Conventional	Semi-Smooth	Tall	3.5-4.0	Not Determined	Not Determined	Low

Information available on official company websites. Please refer to each individually for additional variety information.

*** 1-10 scale 10 best*

**** Please refer to individual company website for scale.*

Table 3. Crosby County Irrigated Mixed Technology RACE Summary – Mt. Blanco, TX

Grower Cooperator:	Jonathan James	Planting Date:	5/22/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Caitlin Frederick, Ph.D.	Moist. @ planting:	Fair-Good
Location:	Mt. Blanco, TX (Crosby Co)	Soil Temp @ planting:	71F @2"; 70F @6"
Replicates:	3	Seed/Acre:	45,000
Plot Size:	12 rows x ~1/2 mi	GPS Lat:	33.804379
Row Spacing:	40"	GPS Long:	-101.160784
Beds:	No	Elevation:	3056
Previous crop(s):	Cotton	Harvest Date:	10/24/2024
Soil type:	Pullman Silty Clay Loam		
Irrigation:	Drip (80"; ~3.7 gpma)		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	88.7	65.7	507.0	448.0	4.92
PHS to First Bloom	93.7	69.9	505.5	516.0	0.60
First Bloom to Cutout	91.9	68.9	563.0	638.0	0.29
Cutout to Defoliation	89.4	63.2	830.0	863.0	2.45
Defol to Harvest	84.3	54.2	202.0	131.0	0.00
Total			2607.5	2596.0	8.26

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
FM765AX	**1647**	**39.7**	4.48	1.09	34.8	30.7	81.3	21, 31, 21	3.0	0.5467	**900**	**1077**	**1009**
PHY350W3FE	1515	37.0	4.78	1.10	35.1	30.2	**81.9**	21, 11, 21	2.3	0.5505	834	1022	949
PHY332W3FE	1503	36.7	4.64	1.10	35.2	31.0	81.7	21, 21, 11	2.3	0.5610	843	1024	939
DP1822XF	1437	37.3	4.61	**1.11**	**35.6**	**32.2**	80.9	21, 21, 21	**2.0**	**0.5633**	810	986	913
DP2335B3XF	1409	39.5	4.64	1.09	34.8	30.1	81.1	**11, 21, 11**	2.3	0.5497	775	928	850
FM868AXTP	1308	39.5	**4.39**	1.09	34.9	31.5	81.5	31, 21, 21	**2.0**	0.5562	728	884	800
Mean	*1470*	*38.3*	*4.59*	*1.10*	*35.1*	*31.0*	*81.4*		*2.3*	*0.5546*	*815*	*987*	*910*
LSD	*68*	*1.0*	*ns*	*ns*	*ns*	*ns*	*ns*		*ns*	*ns*	*41*	*45*	*45*
R-square	*0.90*	*0.85*	*0.53*	*0.23*	*0.23*	*0.61*	*0.40*		*0.58*	*0.40*	*0.88*	*0.89*	*0.90*
CV (%)	*3.6*	*2.0*	*3.5*	*1.9*	*1.9*	*3.2*	*0.9*		*17.5*	*2.2*	*3.9*	*3.5*	*3.8*
Prob>F, variety	*0.0003*	*0.0010*	*0.1359*	*0.7450*	*0.7450*	*0.1711*	*0.5374*		*0.1119*	*0.5018*	*0.0010*	*0.0005*	*0.0003*

Planting Seed Quality

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
FM765AX	35792	80	5585	93	76	1725	41.6	177	67.50
PHY350W3FE	34775	77	5084	96	69	**1831**	44.7	**188**	72.45
PHY332W3FE	**39494**	**88**	5000	98	97	1765	43.1	181	85.50
DP1822XF	35501	79	4612	93	69	1724	44.8	177	73.35
DP2335B3XF	38478	86	5768	96	77	1498	42.0	154	78.30
FM868AXTP	34993	78	4475	94	75	1519	**45.8**	156	83.70
Mean	*36506*	*81*				*1677*	*43.7*	*172*	
LSD	*2085*	*5*				*62*	*1.6*	*6*	
R-square	*0.70*	*0.70*				*0.93*	*0.76*	*0.93*	
CV (%)	*4.4*	*4.4*				*2.9*	*2.8*	*2.9*	
Prob>F, variety	*0.0210*	*0.0210*				*<0.0001*	*0.0081*	*<0.0001*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 4. Crosby County Irrigated Mixed Technology RACE Summary – Cone, TX

Grower Cooperator:	Regan Ware	Planting Date:	5/29/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
Location:	Cone, TX (Crosby Co)	Moist. @ planting:	Adequate
Replicates:	3	Soil Temp @ planting:	2" 90 F 6" 85F
Plot Size:	4 rows x ~1260'	Seed/Acre:	39K
Row Spacing:	40"	GPS Lat:	33.769436
Beds:	Yes	GPS Long:	-101.343612
Previous crop(s):	Cotton	Elevation:	3109
Soil type:	Pullman Silty Clay Loam	Harvest Date:	12/8/2024
Irrigation:	Drip (80"; ~4 gpma)	*Remainder of field planted to FM1730GLTP*	

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	90.6	67.6	520.5	458.0	4.97
PHS to First Bloom	94.7	70.4	495.0	495.0	0.35
First Bloom to Cutout	93.5	68.3	571.5	626.0	0.36
Cutout to Defoliation	84.3	56.5	941.5	902.0	6.37
Defol to Harvest	61.3	37.0	4.0	9.0	1.54
Total			2532.5	2490.0	13.59

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
PHY350W3FE	**1211**	34.3	4.29	1.10	35.1	28.0	81.0	31, 31, 31	3.3	0.5435	658	**843**	**780**
DP1820B3XF	1190	37.4	4.15	**1.15**	**36.9**	29.8	81.3	31, 31, 31	3.3	**0.5593**	**666**	826	752
FM765AX	1177	37.1	3.97	1.13	36.1	29.7	81.3	31, 31, 31	4.0	0.5465	643	803	744
NG3434B3XF	1199	**39.3**	**4.42**	1.14	36.4	27.5	**81.4**	31, 31, 31	3.7	0.5528	663	815	740
PHY332W3FE	1157	34.6	4.29	1.11	35.6	28.3	80.6	31, 31, 31	3.7	0.5490	635	808	734
NG3457B3XF	1171	36.7	4.02	1.11	35.4	27.9	80.9	31, 31, 31	3.3	0.5442	638	807	732
DP2335B3XF	1171	37.8	3.52	1.14	36.4	29.3	79.3	31, 31, 31	**3.0**	0.5375	630	786	718
FM868AXTP	1125	36.6	3.83	1.11	35.6	**30.3**	81.3	31, 31, 31	4.0	0.5440	612	775	702
Mean	*1175*	*36.7*	*4.06*	*1.12*	*35.8*	*28.9*	*82.4*		*3.5*	*0.5471*	*643*	*808*	*738*
LSD	*ns*	*0.5*	*0.21*	*0.02*	*0.6*	*0.7*	*ns*		*ns*	*ns*	*ns*	*ns*	*ns*
R-square	*0.51*	*0.95*	*0.78*	*0.65*	*0.65*	*0.81*	*0.63*		*0.62*	*0.52*	*0.42*	*0.44*	*0.46*
CV (%)	*4.4*	*1.2*	*4.8*	*1.7*	*1.7*	*2.3*	*1.0*		*11.3*	*1.6*	*5.6*	*4.9*	*5.4*
Prob>F, variety	*0.6027*	*<0.0001*	*0.0012*	*0.0455*	*0.0455*	*0.0009*	*0.1071*		*0.0840*	*0.2008*	*0.6083*	*0.5565*	*0.4668*

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Storm Tolerance *(1=very tight; 5=very loose)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
PHY350W3FE	33106	84.9	5084	96	69	4.5	**1801**	51.0	**185**	62.79
DP1820B3XF	27806	71.3	5500	96	63	1.8	1562	49.1	160	74.49
FM765AX	27878	71.5	5585	93	76	**1.7**	1556	49.1	160	58.50
NG3434B3XF	27370	70.2	5287	93	83	2.7	1478	48.4	152	74.49
PHY332W3FE	**33396**	**85.6**	5000	98	97	3.8	1683	50.3	173	74.10
NG3457B3XF	26281	67.4	5750	93	91	2.8	1648	51.6	169	74.49
DP2335B3XF	27733	71.1	5768	96	77	1.8	1526	49.2	156	67.86
FM868AXTP	30274	77.6	4475	94	75	3.0	1591	**51.9**	163	72.54
Mean	*29231*	*75.0*				*2.8*	*1606*	*50.1*	*165*	
LSD	*1436*	*3.7*				*0.5*	*52*	*ns*	*5*	
R-square	*0.87*	*0.87*				*0.86*	*0.88*	*0.60*	*0.88*	
CV (%)	*4.6*	*4.6*				*18.0*	*3.0*	*3.3*	*3.0*	
Prob>F, variety	*<0.0001*	*<0.0001*				*<0.0001*	*<0.0001*	*0.1526*	*<0.0001*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 5. Crosby County Irrigated XtendFlex Technology-Only RACE Summary – Cone, TX

Grower Cooperator:	Ciera Huffstutler	Planting Date:	5/22/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various
Location:	Cone, TX (Crosby Co)	Moist. @ planting:	Adequate
Replicates:	3	Soil Temp @ planting:	2" 66.4F ; 6" 67.6F
Plot Size:	8 rows x ~1130'	Seed/Acre:	40,000
Row Spacing:	40"	GPS Lat:	33.747492
Beds:	No	GPS Long:	-101.415655
Previous crop(s):	Cotton	Elevation:	3136
Soil type:	Pullman Silty Clay Loam	Harvest Date:	12/2/2024
Irrigation:	Drip (40"; 2.5 - 3 gpma)	*Remainder of field planted to FM2498GLT*	

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	88.8	64.8	511.5	449.0	4.94
PHS to First Bloom	94.3	70.0	491.5	483.0	1.02
First Bloom to Cutout	93.6	67.7	560.5	631.0	0.34
Cutout to Defoliation	89.6	60.0	926.5	935.0	2.13
Defol to Harvest	68.3	43.0	108.0	63.0	4.87
Total			2598.0	2561.0	13.30

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Due to station malfunction, precipitation from TAEX Verett station from 8/18/24 to harvest

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
FM765AX	**862**	38.3	4.66	1.05	33.6	28.0	80.6	31, 41, 31	3.7	0.5007	**432**	**538**	**478**
NG3434B3XF	757	**38.9**	4.67	**1.08**	**34.6**	27.6	80.2	**31, 31, 31**	3.3	**0.5335**	404	496	420
NG3457B3XF	744	36.7	4.78	1.07	34.1	26.8	**81.4**	**31, 31, 31**	3.3	0.5272	392	495	418
DP1822XF	699	36.2	4.60	1.05	33.7	28.5	80.2	**31, 31, 31**	**3.0**	0.5240	366	462	397
ST6000AXTP	730	38.5	4.62	1.03	32.9	28.3	79.2	31, 41, 31	3.3	0.4993	365	458	384
DP1820B3XF	689	37.5	4.74	1.06	33.9	28.0	79.8	**31, 31, 31**	**3.0**	0.5250	362	451	375
NG4409B3XF	698	37.4	4.84	1.06	33.8	27.1	80.5	31, 31, 32	3.7	0.5065	353	441	365
FM868AXTP	678	38.4	4.76	1.06	34.0	**29.6**	81.0	31, 31, 32	3.3	0.5195	352	438	364
DP2335B3XF	668	38.4	**4.49**	1.05	33.7	26.7	79.5	**31, 31, 31**	**3.0**	0.5058	339	422	353
DP2123B3XF	610	34.0	4.63	1.05	33.7	27.6	80.1	41, 41, 41	3.7	0.5102	311	404	343
Mean	*713*	*37.4*	*4.68*	*1.06*	*33.9*	*27.8*	*80.3*		*3.3*	*0.5152*	*368*	*461*	*390*
LSD	*40*	*0.4*	*ns*	*ns*	*ns*	*0.9*	*ns*		*ns*	*ns*	*30*	*36*	*36*
R-square	*0.82*	*0.96*	*0.35*	*0.41*	*0.41*	*0.58*	*0.55*		*0.28*	*0.36*	*0.68*	*0.67*	*0.68*
CV (%)	*6.0*	*1.1*	*3.8*	*2.0*	*2.0*	*3.4*	*1.0*		*17.6*	*4.1*	*8.7*	*8.4*	*9.9*
Prob>F, variety	*0.0002*	*<0.0001*	*0.4359*	*0.3388*	*0.3388*	*0.0370*	*0.1049*		*0.7453*	*0.4937*	*0.0122*	*0.0177*	*0.0144*

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Storm Tolerance *(1=very tight; 5=very loose)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
FM765AX	26499	66.2	5585	93	76	1.3	**1042**	46.4	**107**	60.00
NG3434B3XF	24394	61.0	5287	93	83	**1.0**	902	46.4	92	76.40
NG3457B3XF	20691	51.7	5750	93	91	3.7	1003	49.3	103	76.40
DP1822XF	30565	76.4	4612	93	69	2.5	934	48.4	96	65.20
ST6000AXTP	23595	59.0	5274	94	89	4.7	903	47.4	93	74.40
DP1820B3XF	26281	65.7	5500	86	63	2.0	874	47.4	90	76.40
NG4409B3XF	25991	65.0	4940	96	86	4.3	856	45.9	88	76.40
FM868AXTP	27443	68.6	4475	94	75	1.3	840	47.5	86	74.40
DP2335B3XF	29839	74.6	5768	96	77	2.5	816	46.9	84	69.60
DP2123B3XF	**31000**	**77.5**	5450	96	81	3.5	912	**50.8**	93	61.60
Mean	*26630*	*66.6*				*2.7*	*908*	*47.6*	*93*	
LSD	*1749*	*4.4*				*0.7*	*73*	*ns*	*7*	
R-square	*0.84*	*0.84*				*0.82*	*0.67*	*0.57*	*0.67*	
CV (%)	*7.0*	*7.0*				*27.9*	*8.5*	*4.1*	*8.5*	
Prob>F, variety	*<0.0001*	*<0.0001*				*<0.0001*	*0.0471*	*0.1378*	*0.0471*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 6. Crosby County Dryland XtendFlex Technology-Only RACE Summary – Mt. Blanco, TX

Grower Cooperator:	Jonathan James	Planting Date:	5/22/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Caitlin Frederick, Ph.D.	Moist. @ planting:	Good
Location:	Mt. Blanco, TX (Crosby Co)	Soil Temp @ planting:	80F @2"; 74F @6"
Replicates:	3	Seed/Acre:	25,000
Plot Size:	12 rows x ~1/2 mi	GPS Lat:	33.786906
Row Spacing:	40"	GPS Long:	-101.160051
Beds:	No	Elevation:	3050
Previous crop(s):	Cotton	Harvest Date:	10/2/2024
Soil type:	Pullman Silty Clay Loam		
Irrigation:	None		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60**	Rain (in)
Planting to PHS	88.9	65.9	510.0	448.0	4.77
PHS to First Bloom	94.2	70.9	499.5	490.0	0.59
First Bloom to Cutout	93.9	69.6	589.0	638.0	0.28
Cutout to Defoliation	91.8	67.5	583.5	644.0	1.71
Defol to Harvest	88.4	59.6	291.0	272.0	0.35
Total			2473.0	2492.0	7.70

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

***Long Term DD60 from McAdoo, TX, West Texas Mesonet*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
DP2123B3XF	**343**	35.1	4.27	0.99	31.6	25.0	**79.1**	31, 21, 21	3.7	0.4252	145	**193**	**155**
DP2239B3XF	337	**39.9**	**4.33**	**1.01**	**32.5**	25.5	79.0	21, 21, 21	**2.3**	0.4603	**155**	192	149
FM868AXTP	333	39.1	3.96	0.97	31.0	25.9	78.8	22, 22, 22	3.0	0.4323	144	183	137
DP2335B3XF	341	38.9	3.87	0.98	31.4	24.5	78.0	21, 21, 21	3.0	0.4198	143	178	135
FM823AXTP	314	37.3	3.62	1.00	32.0	**27.1**	78.8	21, 21, 21	3.0	**0.4810**	143	182	128
Mean	*336*	*38.1*	*4.01*	*0.99*	*31.7*	*25.6*	*78.7*		*3.0*	*0.4437*	*147*	*186*	*141*
LSD	*ns*	*1.2*	*0.10*	*0.01*	*0.3*	*0.8*	*ns*		*0.6*	*ns*	*ns*	*ns*	*ns*
R-square	*0.48*	*0.90*	*0.97*	*0.88*	*0.88*	*0.84*	*0.64*		*0.67*	*0.63*	*0.50*	*0.59*	*0.69*
CV (%)	*4.9*	*2.1*	*1.7*	*0.9*	*0.9*	*2.3*	*0.6*		*13.6*	*5.7*	*8.4*	*7.2*	*9.6*
Prob>F, variety	*0.4495*	*0.0007*	*<0.0001*	*0.0025*	*0.0025*	*0.0048*	*0.1054*		*0.0453*	*0.0795*	*0.7097*	*0.6705*	*0.2714*

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Storm Tolerance *(1=very tight; 5=very loose)*	Planting Seed Cost *($/A)*
DP2123B3XF	**22288**	**89**	5800	91	77	**475**	44.0	**48**	2.5	38.50
DP2239B3XF	20038	80	5500	94	80	360	42.5	37	2.5	43.50
FM868AXTP	18368	73	4475	94	75	386	45.5	40	**2.2**	46.50
DP2335B3XF	20401	82	5768	96	77	343	39.3	35	2.3	43.50
FM823AXTP	20909	84	4788	96	81	408	**49.0**	40	**2.2**	54.50
Mean	*20401*	*82*				*390*	*44.1*	*40*	*2.3*	
LSD	*1521*	*6*				*ns*	*ns*	*ns*	*ns*	
R-square	*0.74*	*0.74*				*0.79*	*0.41*	*0.76*	*0.42*	
CV (%)	*5.1*	*5.1*				*9.4*	*13.8*	*9.7*	*13.3*	
Prob>F, variety	*0.0192*	*0.0192*				*0.0613*	*0.4364*	*0.0653*	*0.5220*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 7. Dawson County Irrigated XtendFlex-Only Technology RACE Summary – Lamesa, TX

Grower Cooperator:	Will Cozart	Planting Date:	5/16/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
Location:	Lamesa, TX	Moist. @ planting:	Adequate
Replicates:	3	Soil Temp @ planting:	71.6F @2"; 69.8F @6"
Plot Size:	8 rows x ~2648'	Seed/Acre:	38K for DP; 35K for all others*
Row Spacing:	40"	GPS Lat:	32.638657
Beds:	No	GPS Long:	-102.0934
Previous crop(s):	Grain Sorghum	Elevation:	2991
Soil type:	Amarillo Fine Sandy Loam	Harvest Date:	11/26/2024
Irrigation	Pivot (5-5.8 gpma)	*varied seeding rates at grower request	

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	94.0	65.0	516.5	427.0	1.02
PHS to First Bloom	97.0	73.0	486.5	468.0	0.43
First Bloom to Cutout	93.2	68.8	570.0	661.0	1.01
Cutout to Defol	89.8	62.5	1276.5	1350.0	1.72
Defol to Harvest	72.9	46.2	122.0	56.0	4.51
Total			*2849.5*	*2962.0*	*4.18*

**PHS @ ≥ 500DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
FM765AX	**1373**	38.8	4.18	1.10	35.3	29.5	81.7	31, 31, 31	4.0	0.5433	**746**	**906**	**854**
FM868AXTP	1253	37.6	4.11	1.13	36.0	29.7	81.4	21, 31, 21	3.0	0.5638	706	870	805
NG3457B3XF	1248	37.4	4.06	1.13	36.2	28.7	81.7	**21, 21, 21**	3.0	0.5645	705	870	803
DP2335B3XF	1226	38.3	**3.84**	1.15	36.9	29.8	81.1	**21, 21, 21**	3.0	0.5673	696	847	781
NG3434B3XF	1237	**40.6**	4.32	1.13	36.0	27.4	81.0	31, 21, 31	3.7	0.5518	683	822	756
DP2239B3XF	1158	39.9	4.40	1.12	35.9	27.8	80.0	**21, 21, 21**	2.7	0.5578	646	784	718
ST6000AXTP	1152	38.7	4.00	**1.17**	**37.5**	**31.7**	**82.5**	31, 31, 31	4.0	0.5550	639	776	711
DP2131B3TXF	1141	38.9	4.04	1.16	37.0	28.7	80.7	21, 31, 21	**2.3**	**0.5693**	650	784	707
NG4409B3XF	1122	36.6	4.38	1.15	36.8	28.7	82.0	21, 31, 32	3.0	0.5513	619	764	697
Mean	*1212*	*38.5*	*4.15*	*1.14*	*36.5*	*29.1*	*81.4*		*3.2*	*0.5583*	*677*	*825*	*759*
LSD	*47*	*0.5*	*0.11*	*0.02*	*0.6*	*2.4*	*0.7*		*0.3*	*ns*	*29*	*34*	*34*
R-square	*0.81*	*0.89*	*0.82*	*0.72*	*0.72*	*0.88*	*0.68*		*0.81*	*0.49*	*0.75*	*0.77*	*0.80*
CV (%)	*3.9*	*1.4*	*2.7*	*1.5*	*1.5*	*2.2*	*0.8*		*10.9*	*2.0*	*4.3*	*4.2*	*4.5*
Prob>F, variety	*0.0002*	*<0.0001*	*0.0001*	*0.0036*	*0.0036*	*<0.0001*	*0.0136*		*0.0002*	*0.1346*	*0.0015*	*0.0008*	*0.0003*

Variety	Seeding Rate* *(#/A)*	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Storm Tolerance *(1=very tight; 5=very loose)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
FM765AX	35000	20546	58.7	5585	93	76	2.3	1565	44.3	160	52.50
FM868AXTP	35000	25918	**74.1**	4475	94	75	3.5	1594	47.8	163	65.10
NG3457B3XF	35000	24466	69.9	5750	93	91	3.3	**1611**	48.2	**165**	66.85
DP2335B3XF	38000	22579	59.4	5768	96	77	3.3	1476	46.2	151	66.12
NG3434B3XF	35000	23232	66.4	5287	93	83	**2.0**	1364	44.8	140	66.85
DP2239B3XF	38000	**27152**	71.5	5500	94	80	3.5	1343	46.2	138	66.12
ST6000AXTP	35000	20328	58.1	5274	94	89	4.5	1339	45.0	137	65.10
DP2131B3TXF	38000	21127	55.6	5800	91	71	4.8	1315	44.8	135	77.52
NG4409B3XF	35000	21635	61.8	4940	96	86	4.0	1416	46.2	145	66.85
Mean		*22998*	*63.9*				*3.5*	*1447*	*45.9*	*148*	
LSD		*ns*	*ns*				*0.2*	*65*	*1.1*	*7*	
R-square		*0.50*	*0.49*				*0.97*	*0.83*	*0.70*	*0.83*	
CV (%)		*13.5*	*13.7*				*5.3*	*4.5*	*2.4*	*4.5*	
Prob>F, variety		*0.1498*	*0.1661*				*<0.0001*	*<0.0001*	*0.0051*	*<0.0001*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 8. Gaines County Irrigated Enlist-Only Technology RACE Summary – Seminole, TX

Grower Cooperator:	Sawyer Jenkins	Planting Date:	5/23/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	TRiO
IPM Agent:	Keegan McCollum	Moist. @ planting:	Very Good
Location:	Seminole, TX (Gaines Co)	Soil Temp @ planting:	74F @2"; 76F @6"
Replicates:	3	Seed/Acre:	30,000
Plot Size:	8 rows x ~2640'	GPS Lat:	32.80223
Row Spacing:	40"	GPS Long:	-102.798073
Beds:	No	Elevation:	3443
Previous crop(s):	Wheat fallow	Harvest Date:	10/29/2024
Soil type:	Amarillo/Patricia Loamy Fine Sand/Fine Sand		
Irrigation:	LEPA (1-2 gpma)		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	94.7	64.9	508.0	448.0	1.93
PHS to First Bloom	94.3	69.5	496.0	532.0	0.66
First Bloom to Cutout	93.8	67.1	550.5	658.0	1.18
Cutout to Defoliation	89.6	62.6	837.0	970.0	4.16
Defol to Harvest	84.4	51.7	225.5	154.0	0.00
Total			2617.0	2762.0	7.93

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
PHY332W3FE	933	33.9	4.62	**1.07**	**34.3**	29.7	80.7	21, 11, 11	**2.3**	**0.5360**	**500**	**614**	**557**
PHY400W3FE	**945**	34.9	**4.30**	1.06	33.8	30.0	79.8	11, 12, 21	2.7	0.5182	491	601	543
PHY443W3FE	910	**35.4**	4.80	1.02	32.6	30.0	80.4	21, 11, 11	**2.3**	0.5040	459	566	509
PHY415W3FE	860	32.9	4.43	**1.07**	**34.3**	**31.4**	**81.1**	11, 22, 22	3.3	0.5223	450	556	498
PHY411W3FE	879	34.3	4.76	1.02	32.5	29.1	80.0	21, 11, 11	3.0	0.5047	442	548	490
PHY475W3FE	838	32.8	4.63	1.04	33.2	30.6	80.1	11, 21, 21	2.7	0.5115	429	537	479
Mean	*894*	*34.0*	*4.59*	*1.05*	*33.5*	*30.1*	*80.4*		*2.7*	*0.5161*	*462*	*570*	*513*
LSD	*29*	*0.5*	*0.14*	*ns*	*ns*	*ns*	*ns*		*0.4*	*ns*	*ns*	*ns*	*ns*
R-square	*0.90*	*0.91*	*0.83*	*0.36*	*0.36*	*0.35*	*0.32*		*0.78*	*0.26*	*0.67*	*0.69*	*0.70*
CV (%)	*2.5*	*1.2*	*2.4*	*4.0*	*4.0*	*4.9*	*1.3*		*12.8*	*5.8*	*6.9*	*6.0*	*6.7*
Prob>F, variety	*0.0009*	*<0.0001*	*0.0016*	*0.4295*	*0.4295*	*0.5388*	*0.7105*		*0.0364*	*0.7707*	*0.1201*	*0.1157*	*0.1132*
Grower field level data	*727*	*29.53*	*4.60*	*1.061*	*34.06*	*29.98* 870	*79.82* *35.3*	*11, 12*	*1.56*	*0.5216*	*379*		

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
PHY332W3FE	**28314**	**94.4**	5000	98	97	**1109**	40.2	**114**	57.00
PHY400W3FE	27515	91.7	5250	98	88	1067	39.3	109	57.60
PHY443W3FE	26281	87.6	4450	92	90	1046	40.7	107	57.00
PHY415W3FE	27878	92.9	4464	97	92	1034	39.5	106	57.60
PHY411W3FE	24974	83.2	4685	91	90	1029	40.2	106	57.60
PHY475W3FE	24902	83.0	4511	92	77	1051	**41.1**	108	57.60
Mean	*26644*	*88.8*				*1056*	*40.2*	*108*	
LSD	*1644*	*5.5*				*ns*	*ns*	*ns*	
R-square	*0.68*	*0.68*				*0.77*	*0.39*	*0.77*	
CV (%)	*4.8*	*4.8*				*3.7*	*3.1*	*3.7*	
Prob>F, variety	*0.0286*	*0.0286*				*0.2443*	*0.5334*	*0.2443*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 9. Gaines County Dryland Enlist-Only Technology RACE Summary – Seminole, TX

Grower Cooperator:	Greg Hughes	Planting Date:	5/23/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	TRiO
IPM Agent:	Keegan McCollum	Moist. @ planting:	Dry
Location:	Seminole, TX (Gaines Co)	Soil Temp @ planting:	96F @2"; 83F @6"
Replicates:	3	Seed/Acre:	26,138
Plot Size:	8 rows x ~2640'	GPS Lat:	32.72742
Row Spacing:	40"	GPS Long:	-102.818486
Beds:	No	Elevation:	3426
Previous crop(s):	Cotton	Harvest Date:	12/19/2024
Soil type:	Patricia/Arvana Fine Sand		
Irrigation:	None		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	94.7	66.5	510.0	427.0	2.21
PHS to First Bloom	94.3	71.3	495.0	504.0	1.06
First Bloom to Cutout	93.5	68.9	576.0	657.0	0.95
Cutout to Defoliation	84.8	58.6	1216.5	1093.0	5.80
Defol to Harvest	62.9	36.0	8.5	6.0	1.51
Total			2806.0	2687.0	11.53

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
PHY350W3FE	**244**	34.3	**4.51**	1.14	36.6	30.1	82.5	**31, 21, 21**	**2.0**	**0.5717**	**139**	**175**	**133**
PHY332W3FE	223	34.1	4.69	1.16	37.2	31.6	82.0	**31, 21, 21**	2.7	0.5683	127	158	108
PHY475W3FE	225	35.2	4.73	1.12	35.8	31.9	81.7	31, 31, 31	**2.0**	0.5630	127	158	108
PHY415W3FE	224	34.8	4.78	**1.17**	**37.5**	**32.5**	82.0	31, 31, 21	3.0	0.5685	127	158	108
PHY390W3FE	209	35.0	4.53	1.11	35.4	29.9	80.3	31, 31, 31	3.0	0.5515	115	142	106
PHY443W3FE	202	**35.3**	4.80	1.12	35.7	32.3	**82.6**	31, 21, 31	**2.0**	0.5605	113	140	91
Mean	*221*	*34.8*	*4.67*	*1.14*	*36.5*	*31.4*	*81.9*		*2.4*	*0.5639*	*125*	*155*	*109*
LSD	*ns*	*ns*	*0.09*	*0.01*	*0.3*	*0.7*	*0.6*		*0.3*	*0.0069*	*11*	*14*	*14*
R-square	*0.77*	*0.63*	*0.84*	*0.91*	*0.91*	*0.87*	*0.82*		*0.88*	*0.76*	*0.79*	*0.80*	*0.81*
CV (%)	*7.0*	*1.5*	*1.5*	*0.9*	*0.9*	*1.7*	*0.6*		*9.6*	*1.0*	*6.9*	*6.9*	*9.9*
Prob>F, variety	*0.0917*	*0.0983*	*0.0011*	*<0.0001*	*<0.0001*	*0.0004*	*0.0020*		*0.0003*	*0.0109*	*0.0374*	*0.0255*	*0.0174*

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Storm Tolerance *(1=very tight; 5=very loose)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
PHY350W3FE	7187	27.5	5084	96	69	1.7	**349**	49.2	**36**	42.08
PHY332W3FE	**10164**	**38.9**	5000	98	97	1.7	304	46.3	31	49.66
PHY475W3FE	8276	31.7	4511	92	77	3.3	306	47.8	31	50.18
PHY415W3FE	**10164**	**38.9**	4464	97	92	2.5	298	46.5	31	50.18
PHY390W3FE	8204	31.4	5450	96	87	2.2	262	43.9	27	35.81
PHY443W3FE	8857	33.9	4450	92	90	2.3	266	46.5	27	49.66
Mean	*8809*	*33.7*				*2.3*	*298*	*46.7*	*31*	
LSD	*1338*	*5.1*				*0.7*	*28*	*0.8*	*3*	
R-square	*0.75*	*0.75*				*0.69*	*0.83*	*0.93*	*0.83*	
CV (%)	*11.8*	*11.8*				*22.6*	*7.4*	*1.3*	*7.4*	
Prob>F, variety	*0.0329*	*0.0329*				*0.0226*	*0.0071*	*<0.0001*	*0.0071*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 10. Hale County Irrigated XtendFlex-Only Technology RACE Summary – Plainview, TX

Grower Cooperator:	Alan Monroe	Planting Date:	5/14/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agents:	Kristie Keys	Moist. @ planting:	Very Good
	Andy Hart	Soil Temp @ planting:	75.4F @2"; 67.2F @6"
Location:	Plainview, TX (Hale Co)	Seed/Acre:	55,000
Replicates:	3	GPS Lat:	34.258149
Plot Size:	8 rows x ~1/2 mi	GPS Long:	-101.739086
Row Spacing:	30"	Elevation:	3411
Beds:	No	Harvest Date:	10/22/2024
Previous crop(s):	Failed cotton, then sorghum		
Soil type:	Pullman Clay Loam		
Irrigation:	Drip (80"; ~3.2 gpma)	*Remainder of field planted in DP18222XF*	

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	89.1	60.3	507.5	437.0	4.44
PHS to First Bloom	92.7	68.0	493.0	499.0	0.36
First Bloom to Cutout	92.6	65.8	521.5	610.0	1.30
Cutout to Defoliation	89.8	60.3	788.0	874.0	3.05
Defol to Harvest	82.4	50.5	132.0	86.0	0.00
Total			2442.0	2506.0	9.15

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Planting Seed Cost *($/A)*	Net Return *($/A)*
DP1822XF	1388	36.0	3.97	1.11	35.4	**31.3**	80.2	21, 21, 21	**2.0**	0.5620	**780**	**968**	89.65	**878**
FM765AX	**1444**	38.0	3.86	1.05	33.7	29.6	80.5	21, 31, 31	3.0	0.5225	755	921	82.50	838
NG3434B3XF	1383	39.5	4.05	**1.13**	**36.3**	29.0	80.5	21, 21, 21	3.0	**0.5628**	778	937	105.05	832
NG3457B3XF	1351	39.5	4.16	1.07	34.3	29.4	80.5	21, 21, 21	**2.0**	0.5465	738	900	105.05	795
DP2335B3XF	1344	39.4	4.05	1.06	33.9	28.2	79.6	21, 21, 21	2.3	0.5320	715	866	95.70	771
Armor9371B3XF	1351	39.9	4.15	1.05	33.6	26.4	80.0	**21, 11, 21**	2.3	0.5243	709	860	105.50	755
FM823AXTP	1229	36.7	**3.82**	1.09	34.8	31.0	**81.1**	21, 21, 21	2.3	0.5530	680	834	119.90	714
Armor9413XF	1222	**40.3**	4.40	1.06	34.0	27.2	80.9	21, 21, 21	**2.0**	0.5322	650	788	76.45	711
Mean	*1339*	*38.7*	*4.06*	*1.08*	*34.6*	*29.0*	*80.4*		*2.4*	*0.5419*	*726*	*884*		*787*
LSD	*45*	*0.7*	*0.08*	*0.01*	*0.3*	*0.8*	*ns*		*0.3*	*0.0085*	*29*	*34*		*34*
R-square	*0.84*	*0.90*	*0.92*	*0.91*	*0.91*	*0.90*	*0.54*		*0.78*	*0.89*	*0.83*	*0.85*		*0.85*
CV (%)	*3.1*	*1.6*	*1.7*	*1.1*	*1.1*	*2.5*	*0.7*		*12.6*	*1.5*	*3.8*	*3.6*		*4.0*
Prob>F, variety	*0.0002*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.1415*		*0.0026*	*<0.0001*	*0.0004*	*0.0001*		*0.0001*

Collected by Kristie Keys, 7/16/24 — *Collected by Kristie Keys, 8/7/24* — *Planting Seed Quality*

Variety	Plant Population *(#/A)*	% Stand Establishment	Plant Ht @ Late Squaring *(in)*	Total Nodes @ Late Squaring	Length of 4th Internode @ Late Squaring *(in)*	Height-to-Node Ratio @ Late Squaring *(in/internode)*	Plant Ht @ Peak Bloom *(in)*	Total Nodes @ Peak Bloom	Length of 4th Internode @ Peak Bloom *(in)*	Height-to-Node Ratio @ Peak Bloom *(in/internode)*	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*
DP1822XF	**39398**	**71.6**	24.6	15.3	**3.0**	1.63	28.2	16.4	1.5	1.74	4612	93	69	**1828**	**47.4**	**187**
FM765AX	29040	52.8	20.6	15.0	2.3	1.38	24.7	16.0	1.2	1.56	5585	93	76	1616	42.6	166
NG3434B3XF	32912	59.8	21.6	14.0	2.7	1.56	25.9	15.7	**2.0**	1.67	5287	93	83	1552	44.3	159
NG3457B3XF	33106	60.2	22.3	**15.6**	2.7	1.43	27.0	15.2	1.9	1.80	5750	93	91	1581	46.2	162
DP2335B3XF	35429	64.4	21.4	14.4	2.5	1.49	25.8	14.9	1.9	1.75	5768	96	77	1477	43.3	151
Armor9371B3XF	31073	56.5	**25.3**	**15.6**	2.8	1.62	**32.0**	**17.0**	1.9	**1.90**	5575	98	72	1480	43.7	152
FM823AXTP	31363	57.0	20.6	14.5	2.3	1.43	25.6	16.2	1.3	1.60	4788	96	81	1501	44.8	154
Armor9413XF	32331	58.8	25.1	14.8	2.8	**1.71**	30.1	16.8	1.8	1.80	5000	93	81	1345	44.4	138
Mean	*33081*	*60.1*	*22.7*	*14.9*	*2.6*	*1.53*	*27.4*	*16.0*	*1.7*	*1.73*				*1548*	*44.6*	*159*
LSD	*ns*	*ns*	*1.2*	*ns*	*0.3*	*0.09*	*2.1*	*ns*	*ns*	*ns*				*55*	*0.6*	*6*
R-square	*0.53*	*0.53*	*0.83*	*0.58*	*0.60*	*0.78*	*0.73*	*0.50*	*0.61*	*0.62*				*0.92*	*0.93*	*0.92*
CV (%)	*11.3*	*11.3*	*5.1*	*4.9*	*9.9*	*5.7*	*7.3*	*6.4*	*21.0*	*8.4*				*3.3*	*1.2*	*3.3*
Prob>F, variety	*0.1090*	*0.1090*	*0.0003*	*0.1345*	*0.0447*	*0.0036*	*0.0062*	*0.2540*	*0.1041*	*0.1750*				*<0.0001*	*<0.0001*	*<0.0001*

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value. Net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts) *Planting seed costs from PCG Seed Cost Calculator*

Table 11. Hale County Irrigated XtendFlex-Only Technology RACE Summary – Plainview, TX Cont'd

Grower Cooperator:	Alan Monroe	Planting Date:	5/14/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agents:	Kristie Keys	Moist. @ planting:	Very Good
	Andy Hart	Soil Temp @ planting:	75.4F @2"; 67.2F @6"
Location:	Plainview, TX (Hale Co)	Seed/Acre:	55,000
Replicates:	3	GPS Lat:	34.258149
Plot Size:	8 rows x ~1/2 mi	GPS Long:	-101.739086
Row Spacing:	30"	Elevation:	3411
Beds:	No	Harvest Date:	10/22/2024
Previous crop(s):	Failed cotton, then sorghum		
Soil type:	Pullman Clay Loam		
Irrigation:	Drip (80"; ~3.2 gpma)	*Remainder of field planted in DP18222XF*	

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	89.1	60.3	507.5	437.0	4.44
PHS to First Bloom	92.7	68.0	493.0	499.0	0.36
First Bloom to Cutout	92.6	65.8	521.5	610.0	1.30
Cutout to Defoliation	89.8	60.3	788.0	874.0	3.05
Defol to Harvest	82.4	50.5	132.0	86.0	0.00
Total			2442.0	2506.0	9.15

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Verticillium Wilt ratings by Dr. Marina Rondon

Variety	Stem Symptoms Incidence *(%)*	Stem Severity *(1=none; 5=very severe)*	Foliar Symptoms Incidence *(%)*	Foliar Severity *(1=none; 5=very severe)*
DP1822XF	62.8	1.57 ab	**81.4**	1.42
NG3434B3XF	68.8	1.88 ab	95.0	1.93
FM765AX	66.4	1.70 ab	90.6	1.80
NG3457B3XF	70.2	2.04 ab	92.6	1.94
DP2335B3XF	61.3	**1.55 b**	85.7	**1.32**
Armor9371B3XF	**58.5**	1.63 ab	88.2	1.59
FM823AXTP	58.9	1.71 ab	85.3	1.65
Armor9413XF	82.0	2.72 a	91.4	2.09
Mean	*66.1*	*1.85*	*88.8*	*1.72*
LSD	*ns*	*1.16*	*ns*	*ns*
CV (%)	*28.0*	*33.8*	*15.0*	*28.9*
Prob>F, variety	*0.4210*	*0.0471*	*0.6886*	*0.1230*

Table 12. Lamb County Irrigated XtendFlex-Only Technology RACE Summary – Amherst, TX

Grower Cooperator:	Jeff Edwards	Planting Date:	6/5/2024 replant *(original planting 5/20/2024)*
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agents:	Kristie Keys	Moist. @ planting:	Adequate
	Brandon Albus	Soil Temp @ planting:	99F @2"; 83F @6"
Location:	Amherst, TX (Lamb Co)	Seed/Acre:	47,000
Replicates:	3	GPS Lat:	34.058405
Plot Size:	8 rows x ~2640'	GPS Long:	-102.428019
Row Spacing:	40"	Elevation:	3650
Beds:	Yes	Harvest Date:	10/30/2024
Previous crop(s):	Failed cotton/rye cover		
Soil type:	Amarillo Fine Sandy Loam	*NOTE: this site experienced season-long 2, 4-D damage,*	
Irrigation:	Drip (80", 2 gpma)	*and two hail events - one during squaring, one between defoliation and harvest.*	
	Remainder of field planted in DP1822XF		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	93.2	68.3	518.0	465.0	1.47
PHS to First Bloom	90.7	66.0	488.0	563.0	1.55
First Bloom to Cutout	95.7	68.1	399.5	404.0	0.28
Cutout to Defoliation	86.0	57.6	456.0	530.0	0.99
Defol to Harvest	82.8	51.1	205.5	96.0	0.23
Total			2067.0	2058.0	4.52

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Seed Turnout *(%)*	Seed Yield *(lbs/A)*	Seed Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
FM765AX	**779**	38.2	**4.29**	1.10	35.1	30.5	**81.5**	21, 11, 21	2.3	0.5558	**435**	46.1	919	94	**529**	**459**
NG3434B3XF	735	**38.3**	4.15	1.11	35.5	28.7	80.3	**11, 11, 11**	2.7	0.5525	406	**47.8**	915	94	500	410
NG3457B3XF	726	35.8	3.89	1.08	34.5	28.6	80.7	**11, 11, 11**	**1.7**	0.5458	396	47.6	**966**	**99**	495	405
DP1822XF	671	34.3	4.27	1.11	35.4	30.7	80.9	21, 11, 21	2.3	0.5617	377	46.5	910	93	470	393
DP1820B3XF	680	34.6	3.83	**1.12**	**35.8**	**31.3**	80.5	**11, 11, 11**	2.0	**0.5690**	387	44.2	869	89	476	386
Armor9413XF	686	33.9	3.64	1.08	34.4	27.1	79.1	11, 21, 11	2.0	0.5193	355	45.6	923	95	449	384
Armor9371B3XF	702	35.1	3.63	1.08	34.4	27.4	81.3	**11, 11, 11**	**1.7**	0.5403	380	44.9	901	92	472	382
NG4409B3XF	658	34.8	4.19	1.10	35.1	29.4	80.9	21, 11, 21	2.0	0.5557	366	46.0	868	89	455	365
FM823AXTP	674	35.4	4.09	1.11	35.6	30.6	81.4	**11, 11, 11**	2.3	0.5612	379	44.6	855	88	466	364
DP2335B3XF	651	34.8	3.30	1.10	35.1	29.3	79.9	**11, 11, 11**	2.0	0.5113	333	46.1	864	89	421	339
Mean	*693*	*35.5*	*3.93*	*1.10*	*35.1*	*29.4*	*80.7*		*2.1*	*0.5473*	*379*	*45.9*	*899*	*92*	*471*	*386*
LSD	*ns*	*0.6*	*0.19*	*ns*	*ns*	*0.7*	*0.7*		*ns*	*0.0168*	*24*	*ns*	*ns*	*ns*	*ns*	*29*
R-square	*0.58*	*0.91*	*0.79*	*0.50*	*0.50*	*0.86*	*0.61*		*0.61*	*0.64*	*0.63*	*0.24*	*0.39*	*0.39*	*0.59*	*0.61*
CV (%)	*6.3*	*1.7*	*5.2*	*1.8*	*1.8*	*2.4*	*0.9*		*18.1*	*3.2*	*6.7*	*5.7*	*8.2*	*8.2*	*6.5*	*8.0*
Prob>F, variety	*0.0993*	*<0.0001*	*0.0001*	*0.1214*	*0.1214*	*<0.0001*	*0.0218*		*0.0894*	*0.0142*	*0.0221*	*0.7617*	*0.7355*	*0.7355*	*0.0569*	*0.0403*

Collected by Kristie Keys & Brandon Albus

			7/19/2024				*8/12/2024*				*8/27/24*		*Planting Seed Quality*			
Variety	Plant Population *(#/A)*	% Stand Establish-ment	Plant Ht @ Early Squaring *(in)*	Total Nodes @ Early Squaring	Length of 4th Internode @ Early Squaring *(in)*	Height-to-Node Ratio @ Early Squaring *(in/internode)*	Plant Ht @ Mid Bloom *(in)*	Total Nodes @ Mid Bloom	Length of 4th Internode @ Mid Bloom *(in)*	Height-to-Node Ratio @ Mid Bloom *(in/internode)*	Node of 1st Fruiting Branch	Nodes Above White Flower @ Hard Cutout	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Planting Seed Cost *($/A)*
FM765AX	30928	65.8	12.3	9.9	1.29	1.26	18.9	13.2	1.05	1.45	**4.8**	0.0	5585	93	76	70.50
NG3434B3XF	30855	65.6	13.4	9.8	1.14	1.39	20.9	14.1	1.10	1.49	5.4	0.0	5287	93	83	89.77
NG3457B3XF	28096	59.8	14.4	**11.4**	1.24	1.27	22.2	13.2	1.14	1.71	5.9	0.1	5750	93	91	89.77
DP1822XF	**38478**	**81.9**	**15.1**	10.9	**1.57**	1.40	22.4	13.2	1.05	1.72	5.6	0.4	4612	93	69	76.61
DP1820B3XF	30710	65.3	14.1	10.6	1.31	1.35	21.8	14.6	1.14	1.51	5.0	0.5	5500	86	63	89.77
Armor9413XF	30274	64.4	14.0	10.0	1.12	1.47	**25.3**	**14.9**	**1.33**	**1.74**	5.5	0.9	5000	93	81	65.33
Armor9371B3XF	30274	64.4	14.3	9.9	1.33	1.45	23.7	13.9	1.25	1.73	5.4	0.8	5575	98	72	89.77
NG4409B3XF	27661	58.9	13.8	9.5	1.36	**1.50**	21.0	13.3	1.06	1.58	5.8	0.1	4940	96	86	89.77
FM823AXTP	27588	58.7	12.3	10.2	1.05	1.23	19.8	13.5	1.02	1.48	5.8	**0.0**	4788	96	81	102.46
DP2335B3XF	31581	67.2	12.5	9.4	1.10	1.34	20.3	13.1	1.00	1.56	5.5	0.3	5768	96	77	81.78
Mean	*30644*	*65.2*	*13.6*	*10.2*	*1.25*	*1.37*	*21.6*	*13.7*	*1.11*	*1.60*	*5.5*	*0.3*				
LSD	*3144*	*6.7*	*ns*	*ns*	*ns*	*ns*	*1.5*	*ns*	*ns*	*ns*	*0.4*	*ns*				
R-square	*0.59*	*0.59*	*0.55*	*0.51*	*0.41*	*0.34*	*0.69*	*0.40*	*0.59*	*0.55*	*0.70*	*0.63*				
CV (%)	*10.9*	*10.9*	*12.0*	*9.4*	*19.1*	*13.1*	*7.4*	*8.9*	*12.1*	*8.3*	*6.8*	*142.9*				
Prob>F, variety	*0.0403*	*0.0403*	*0.4317*	*0.2934*	*0.3106*	*0.6368*	*0.0048*	*0.6353*	*0.1202*	*0.0668*	*0.0462*	*0.1978*				

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 13. Lubbock County Irrigated Mixed-Technology RACE Summary – Lubbock, TX

Grower Cooperator:	Vardeman Farms	Planting Date:	5/15/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Brant Baugh	Moist. @ planting:	Good
Location:	Lubbock, TX (Lubbock Co)	Soil Temp @ planting:	72F @ 2"; 70F @6"
Replicates:	3	Seed/Acre:	41,000
Plot Size:	8 rows x ~2640'	GPS Lat:	33.514369
Row Spacing:	40"	GPS Long:	-101.730469
Beds:	No	Elevation:	3143
Previous crop(s):	Cotton	Harvest Date:	10/24-25/2024
Soil type:	Acuff Loam/Amarillo Fine Sandy Loam	*NOTE: while moisture was good at planting, warm and dry weather caused emergence to occur in marginal moisture conditions.*	
Irrigation:	Drip (80"; ~5gpma)		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	90.9	63.5	514.0	435.0	4.57
PHS to First Bloom	94.9	72.3	486.5	461.0	1.41
First Bloom to Cutout	92.0	68.6	563.5	653.0	0.73
Cutout to Defoliation	89.7	62.7	966.0	1099.0	1.66
Defol to Harvest	84.6	53.0	200.0	136.0	0.00
Total			2733.0	2784.0	8.37

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Planting Seed Cost *($/A)*	Net Return *($/A)*
PHY332W3FE	1918	37.6	3.98	1.16	37.1	30.7	81.4	21, 21, 21	**1.7**	0.5742	**1101**	**1358**	77.90	**1280**
PHY411W3FE	**1933**	39.1	4.25	1.09	35.0	29.5	81.0	21, 11, 31	2.0	0.5488	1060	1295	78.72	1216
NG3457B3XF	1773	38.6	3.92	1.16	37.1	29.3	81.5	21, 21, 21	2.0	0.5733	1017	1244	78.31	1166
NG3434B3XF	1788	**41.7**	3.95	1.16	37.2	29.2	**81.8**	21, 21, 21	**1.7**	0.5730	1025	1230	78.31	1152
DP2335B3XF	1742	40.4	**3.70**	1.15	36.8	29.4	80.2	**11, 21, 21**	2.0	0.5727	997	1208	71.34	1137
DP1820B3XF	1742	40.2	4.40	**1.19**	**38.2**	**31.9**	80.9	21, 21, 21	2.0	0.5755	1003	1202	78.31	1124
FM868AXTP	1685	38.5	3.97	1.12	35.8	30.2	81.2	21, 21, 21	2.0	0.5662	954	1175	76.26	1099
ST6000AXTP	1508	40.9	3.92	1.16	37.0	31.4	81.7	21, 21, 21	**1.7**	**0.5757**	868	1038	76.26	962
Mean	*1761*	*39.6*	*4.01*	*1.15*	*36.8*	*30.2*	*81.2*		*1.9*	*0.5699*	*1003*	*1219*		*1142*
LSD	*109*	*0.9*	*0.20*	*0.02*	*0.6*	*0.7*	*ns*		*ns*	*0.0060*	*59*	*69*		*69*
R-square	*0.75*	*0.82*	*0.75*	*0.85*	*0.85*	*0.79*	*0.57*		*0.33*	*0.80*	*0.74*	*0.79*		*0.78*
CV (%)	*5.8*	*2.1*	*4.6*	*1.4*	*1.4*	*2.2*	*0.8*		*18.9*	*1.0*	*5.5*	*5.3*		*5.6*
Prob>F, variety	*0.0043*	*0.0004*	*0.0110*	*0.0001*	*0.0001*	*0.0009*	*0.1024*		*0.6619*	*0.0006*	*0.0061*	*0.0018*		*0.0019*
Grower field data:	*1623*	*37.61*												

Planting Seed Quality — *Sampled 7/12/24*

Variety	Plant Population *(#/A)* @ 22 DAP*	% Stand Establish-ment @ 22 DAP	Plant Population *(#/A)* @ 36 DAP**	% Stand Establish-ment @ 36 DAP	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Storm Tolerance *(1=very tight; 5=very loose)*	Root-Knot Nematode Eggs *(#/g root)*	Root-Knot Nematode Juveniles *(#/500 cc soil)*	Root-Knot Nematode Resistance?
PHY332W3FE	20510	50.0	**28677**	**69.9**	5000	98	97	**2505**	49.0	**257**	2.8	26.7 bc	96.0	Resistant
PHY411W3FE	9075	22.1	25120	61.3	4685	91	90	2291	46.4	235	3.2	**2.8 c*****	106.7	Resistant
NG3457B3XF	**27588**	**67.3**	15827	38.6	5750	93	91	2214	48.2	227	2.4	112.6 ab	266.7	Susceptible
NG3434B3XF	17424	42.5	16843	41.1	5287	93	83	2001	46.6	205	**2.0**	106.0 ab	288.0	Susceptible
DP2335B3XF	19602	47.8	24394	59.5	5768	96	77	2058	47.7	211	3.0	65.7 ab	160.0	Susceptible
DP1820B3XF	22869	55.8	16480	40.2	5500	86	63	1948	45.0	200	2.7	364.2 a	213.3	Susceptible
FM868AXTP	17061	41.6	23377	57.0	4475	94	75	2157	**49.2**	221	2.4	33.9 ab	224.0	Partial Res.
ST6000AXTP	15972	39.0	11761	28.7	5274	94	89	1659	45.0	170	3.2	13.3 bc	181.3	Partial Res.
Mean	*18763*	*45.8*	*20310*	*49.5*				*2104*	*47.1*	*216*	*2.7*	*86.9*	*192.0*	
LSD	*ns*	*ns*	*2936*	*7.2*				*105*	*0.6*	*11*	*0.4*	*n/a*	*ns*	
R-square	*0.48*	*0.48*	*0.87*	*0.87*				*0.92*	*0.93*	*0.92*	*0.65*	*n/a*	*n/a*	
CV (%)	*39.9*	*39.9*	*13.5*	*13.5*				*4.6*	*1.2*	*4.6*	*15.2*	*23.7*	*47.2*	
Prob>F, variety	*0.2241*	*0.2241*	*<0.0001*	*<0.0001*				*<0.0001*	*<0.0001*	*<0.0001*	*0.0324*	*0.0002*	*0.1670*	

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Planting seed costs from PCG Seed Cost Calculator.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

**3 feet per row across 8 rows per plot counted at one area of each plot (total of 24 row feet per plot), collected in a random diagonal pattern across trial.*

***60 row feet total per plot collected; 20 row feet (2 adjacent 10 ft sections) collected at three different areas per plot (east, middle and west); rows 2, 3, 4, 5, 6 and 7 counted per plot.*

****Root-knot nematode egg data reflect mean separation from log-transformed data. Values followed by the same letter(s) are not statistically different. Nematode sampling by Dr. Marina Rondon, Extension Plant Pathologist.*

Table 14. Lynn County Irrigated Mixed-Technology RACE Summary – Slaton, TX

Grower Cooperator:	Van & Kyle Voigt	Planting Date:	6/3/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Sierra Stephens	Moist. @ planting:	Very Good
Location:	Slaton, TX (Lynn Co)	Soil Temp @ planting:	98F @2"; 86F @6"
Replicates:	3	Seed/Acre:	40,000
Plot Size:	8 rows x ~1/2 mi	GPS Lat:	33.378324
Row Spacing:	40"	GPS Long:	-101.600214
Beds:	No	Elevation:	3050
Previous crop(s):	Cotton *(reniform-resistant variety)*/rye cover	Harvest Date:	10/21/2024
Soil type:	Estacado/Acuff Loam		
Irrigation:	Drip (80"; 4-5 gpma)		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	93.2	70.1	519.5	468.0	3.41
PHS to First Bloom	94.1	70.8	496.0	534.0	1.09
First Bloom to Cutout	94.5	70.0	603.5	651.0	0.52
Cutout to Defoliation	88.3	61.8	683.5	783.0	2.36
Defol to Harvest	84.3	53.6	165.0	106.0	0.00
Total			2467.5	2542.0	7.38

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
PHY411W3FE	**754**	**34.6**	4.35	0.98	31.4	27.7	79.1	11, 21, 11	2.3	0.4812	**363**	**462**	**385**
PHY332W3FE	592	32.9	**3.91**	**1.11**	**35.5**	**28.9**	80.0	21, 11, 21	**2.0**	**0.5552**	329	413	337
DP2141NRB3XF	615	34.1	4.38	1.08	34.5	28.2	**80.2**	21, 21, 21	2.3	0.5343	330	412	335
DP2143NRB3XF	584	34.2	4.52	1.05	33.7	28.0	80.0	11, 21, 21	2.7	0.5230	305	382	306
Mean	*636*	*33.9*	*4.29*	*1.06*	*33.9*	*28.2*	*79.8*		*2.3*	*0.5234*	*332*	*417*	*341*
LSD	*50*	*ns*	*0.17*	*0.06*	*1.9*	*ns*	*ns*		*ns*	*0.0287*	*ns*	*39*	*39*
R-square	*0.94*	*0.48*	*0.93*	*0.83*	*0.83*	*0.43*	*0.50*		*0.18*	*0.85*	*0.82*	*0.86*	*0.86*
CV (%)	*4.5*	*2.8*	*2.2*	*3.0*	*3.0*	*4.2*	*0.9*		*34.3*	*3.2*	*6.1*	*5.4*	*6.6*
Prob>F, variety	*0.0011*	*0.2548*	*0.0011*	*0.0122*	*0.0122*	*0.6256*	*0.3187*		*0.7925*	*0.0083*	*0.0640*	*0.0276*	*0.0283*

Planting Seed Quality

Variety	Plant Population *(#/A)*	Vigor Rating *(1=excellent; 5=very poor)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Storm Tolerance *(1=very tight; 5=very loose)*	Planting Seed Cost *($/A)*
PHY411W3FE	29766	2.1	74	4685	91	90	**961**	44.1	**99**	**2.5**	76.80
PHY332W3FE	**35066**	**2.0**	**88**	5000	98	97	801	44.2	82	2.8	76.00
DP2141NRB3XF	31218	2.7	78	6010	93	82	818	**45.5**	84	**2.5**	76.40
DP2143NRB3XF	32525	2.1	81	5400	94	81	752	44.0	77	2.7	76.40
Mean	*32144*	*2.2*	*80*				*833*	*44.0*	*85*	*2.6*	
LSD	*2202*	*ns*	*6*				*69*	*ns*	*7*	*ns*	
R-square	*0.84*	*0.70*	*0.84*				*0.92*	*0.62*	*0.92*	*0.41*	
CV (%)	*4.0*	*11.5*	*4.0*				*4.8*	*1.9*	*4.8*	*9.0*	
Prob>F, variety	*0.0111*	*0.0566*	*0.0111*				*0.0032*	*0.1953*	*0.0032*	*0.3376*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 15. Lynn County Dryland XtendFlex Technology-Only RACE Summary – O'Donnell, TX

Grower Cooperator:	Landon Mires	Planting Date:	6/3/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Sierra Stephens	Moist. @ planting:	Marginal
Location:	O'Donnell, TX (Lynn Co)	Soil Temp @ planting:	92F @6"; 100F @2"
Replicates:	3	Seed/Acre:	24,000
Plot Size:	8 rows x ~2620'	GPS Lat:	32.975444
Row Spacing:	40"	GPS Long:	-101.795976
Beds:	yes	Elevation:	3044
Previous crop(s):	Wheat cover	Harvest Date:	10/23/2024
Soil type:	Amarillo Fine Sandy Loam		
Irrigation:	No		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	94.3	70.6	508.5	480.0	2.25
PHS to First Bloom	95.0	71.5	507.0	525.0	1.17
First Bloom to Cutout	95.9	70.8	620.0	655.0	0.18
Cutout to Defoliation	88.7	63.5	710.5	786.0	2.42
Defol to Harvest	84.8	54.5	217.5	141.0	0.00
Total			2563.5	2587.0	6.02

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
FM765AX	**228**	**38.9**	4.69	1.07	34.2	30.5	80.4	31, 31, 21	3.0	0.5330	**122**	**150**	**114**
DP2123B3XF	205	34.5	4.50	**1.11**	**35.5**	30.5	**80.9**	31, 31, 31	3.3	0.5505	113	145	108
DP2335B3XF	215	37.7	**4.33**	1.09	34.8	30.0	79.4	21, 21, 21	**2.7**	0.5433	117	145	103
DP2239B3XF	186	36.5	4.62	**1.11**	**35.5**	29.9	80.6	**21, 21, 21**	3.0	**0.5572**	104	128	87
FM868AXTP	191	37.8	4.88	1.05	33.5	**31.9**	80.4	31, 21, 21	**2.7**	0.5253	100	125	81
Mean	*205*	*37.1*	*4.60*	*1.08*	*34.6*	*30.5*	*80.3*		*2.9*	*0.5419*	*111*	*139*	*99*
LSD	*ns*	*0.8*	*ns*	*ns*	*ns*	*ns*	*ns*		*ns*	*ns*	*ns*	*ns*	*ns*
R-square	*0.61*	*0.93*	*0.64*	*0.65*	*0.65*	*0.31*	*0.52*		*0.50*	*0.54*	*0.52*	*0.55*	*0.61*
CV (%)	*11.1*	*1.5*	*4.5*	*2.4*	*2.4*	*5.0*	*1.0*		*14.6*	*2.8*	*13.0*	*12.7*	*17.9*
Prob>F, variety	*0.2348*	*0.0001*	*0.0948*	*0.0697*	*0.0697*	*0.5511*	*0.2705*		*0.3564*	*0.1605*	*0.4083*	*0.3881*	*0.1954*

Planting Seed Quality

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
FM765AX	11471	47.8	5585	93	76	277	47.1	28	36.00
DP2123B3XF	11761	49.0	5450	96	81	**312**	**52.6**	**32**	36.96
DP2335B3XF	11616	48.4	5768	96	77	275	48.3	28	41.76
DP2239B3XF	11035	46.0	5500	94	80	240	46.9	25	41.76
FM868AXTP	**14665**	**61.1**	4475	94	75	244	48.4	25	44.64
Mean	*12110*	*50.5*				*270*	*48.6*	*28*	
LSD	*ns*	*ns*				*ns*	*2.2*	*ns*	
R-square	*0.50*	*0.50*				*0.70*	*0.80*	*0.70*	
CV (%)	*19.8*	*19.8*				*11.8*	*3.1*	*11.8*	
Prob>F, variety	*0.4181*	*0.4181*				*0.1182*	*0.0092*	*0.1182*	

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value; net return = total crop value - seed cost.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 16. Terry County Irrigated Mixed-Technology RACE Summary – Brownfield, TX

Grower Cooperator:	Matt Hogue	Planting Date:	5/16/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Reid Lovorn	Moist. @ planting:	Fair-Good
Location:	Brownfield, TX (Terry Co)	Soil Temp @ planting:	69F @2"; 70F @6"
Replicates: 3	3	Seed/Acre:	32,000
Plot Size:	8 rows x ~2648'	GPS Lat:	33.257944
Row Spacing:	40"	GPS Long:	-102.355306
Beds:	No	Elevation:	3389
Previous crop(s):	Cotton/wheat cover	Harvest Date:	10/28/2024
Soil type:	Patricia/ Amarillo Loamy Fine Sand		
Irrigation:	LEPA (3.1 gpma)		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	91.9	62.3	508.5	456.0	3.67
PHS to First Bloom	93.5	70.0	498.0	509.0	1.63
First Bloom to Cutout	92.1	66.9	540.0	652.0	0.60
Cutout to Defoliation	89.3	61.2	879.0	1029.0	0.93
Defol to Harvest	83.7	51.3	189.5	118.0	0.00
Total			2615.0	2764.0	6.83

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
PHY415W3FE	800	39.8	4.24	1.07	34.2	**29.9**	**80.7**	21, 11, 21	2.3	0.5370	**431**	**525**	**463**
PHY332W3FE	789	39.0	4.21	**1.07**	**34.3**	28.1	80.4	11, 21, 11	2.3	0.5383	425	524	**463**
FM868AXTP	**816**	41.7	4.31	1.05	33.5	28.2	79.4	22, 11, 11	**1.7**	0.5137	420	514	454
DP2335B3XF	812	41.4	4.10	1.04	33.4	26.8	79.1	**11, 11, 11**	2.0	0.5058	411	507	452
ST6000AXTP	758	**43.6**	4.17	**1.07**	**34.3**	**29.9**	80.6	11, 21, 11	2.0	**0.5400**	409	492	433
DP2436NRB3XF	732	42.0	**4.08**	1.05	33.7	28.4	79.9	**11, 11, 11**	2.3	0.5248	384	465	400
Mean	*784*	*41.3*	*4.18*	*1.06*	*33.9*	*28.6*	*80.0*		*2.1*	*0.5266*	*413*	*505*	*444*
LSD	*ns*	*ns*	*ns*	*ns*	*ns*	*1.4*	*0.7*		*ns*	*ns*	*ns*	*ns*	*ns*
R-square	*0.56*	*0.53*	*0.48*	*0.49*	*0.49*	*0.70*	*0.83*		*0.32*	*0.55*	*0.52*	*0.57*	*0.59*
CV (%)	*5.3*	*4.7*	*4.3*	*2.3*	*2.3*	*3.8*	*0.6*		*23.9*	*4.5*	*7.9*	*7.0*	*8.0*
Prob>F, variety	*0.1833*	*0.1400*	*0.6413*	*0.5490*	*0.5490*	*0.0368*	*0.0155*		*0.5340*	*0.4158*	*0.6046*	*0.3587*	*0.2927*

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
PHY415W3FE	27443	85.8	4464	97	92	917	45.6	94	61.44
PHY332W3FE	**28822**	**90.1**	5000	98	97	**966**	47.7	**99**	60.80
FM868AXTP	24248	75.8	4475	94	75	918	47.0	94	59.52
DP2335B3XF	28459	88.9	5786	96	77	941	**47.9**	96	55.68
ST6000AXTP	25918	81.0	5274	94	89	810	46.6	83	59.52
DP2436NRB3XF	21417	66.9	6250	92	74	786	45.1	81	65.28
Mean	*26051*	*81.4*				*890*	*46.7*	*91*	
LSD	*1889*	*5.9*				*58*	*ns*	*6*	
R-square	*0.87*	*0.87*				*0.82*	*0.39*	*0.82*	
CV (%)	*5.6*	*5.6*				*5.1*	*4.1*	*5.1*	
Prob>F, variety	*0.0008*	*0.0008*				*0.0028*	*0.4495*	*0.0028*	

Net return = total crop value - seed cost

Planting seed costs from PCG Seed Cost Calculator

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Table 17. Terry County Irrigated XtendFlex Technology-Only RACE Summary – Welch, TX

Grower Cooperator:	Kalith Brown	Planting Date:	5/18/2024
Texas A&M AgriLife:	Ken Legé, Ph.D.	Seed Treatments:	Various fungicide+insecticide
County Extension Agent:	Reid Lovorn	Moist. @ planting:	Very Good
Location:	Welch, TX (Terry Co)	Soil Temp @ planting:	68F @2"; 66.9F @6"
Replicates:	3	Seed/Acre:	41,500*
Plot Size:	8 rows x ~1/2 mi	GPS Lat:	32.993918
Row Spacing:	40"	GPS Long:	-102.096730
Beds:	No	Elevation:	3133
Previous crop(s):	Cotton	Harvest Date:	11/21/2024
Soil type:	Patricia/Amarillo Fine Sandy Loam		
Irrigation:	Pivot (~4.2 gpma)		

Crop Stage*	Avg High Temp (°F)	Avg Low Temp (°F)	DD60 (95°F max)	Long Term DD60	Rain (in)
Planting to PHS	94.2	63.8	521.5	454.0	1.20
PHS to First Bloom	94.4	70.3	485.0	501.0	1.23
First Bloom to Cutout	92.4	67.2	548.5	648.0	0.92
Cutout to Defoliation	89.9	59.7	1029.5	1159.0	1.63
Defol to Harvest	73.1	46.0	123.5	125.0	3.79
Total			2708.0	2887.0	8.77

**PHS @ >500 DD60s; first bloom @ ≥ 1000 DD60s; Cutout = first bloom + 28 d*

Remainder of field planted to FM868AXTP

Sorted by Net Return

Variety	Lint Yield *(lbs/A)*	Turnout *(%)*	Mic	Length *(in)*	Staple *(1/32 in)*	Strength *(g/tex)*	Uniformity *(%)*	Color Grades	Leaf Grade	Loan Value *($/lb)*	Lint Value *($/A)*	Total Crop Value *($/A)*	Net Return *($/A)*
FM765AX	**667**	36.1	**3.94**	1.07	34.2	28.7	**80.6**	31, 31, 31	4.3	0.5218	**348**	**431**	**369**
Armor9413XF	645	36.8	4.46	1.05	33.7	25.6	79.4	31, 21, 31	3.0	0.4828	311	394	336
DP2335B3XF	624	36.8	4.22	1.07	34.3	27.8	79.0	31, 31, 31	3.3	0.5302	331	408	336
FM868AXTP	573	35.8	4.05	1.08	34.5	29.5	80.4	31, 31, 31	3.7	0.5338	306	382	305
DP2436NRB3XF	508	34.8	4.21	**1.12**	**36.0**	**30.2**	80.2	31, 31, 31	4.0	**0.5473**	278	341	256
Armor9371B3XF	482	**38.0**	4.65	1.08	34.5	26.3	79.7	31, 31, 31	3.0	0.5217	253	316	237
DP2349NRB3XF	458	37.9	4.92	1.03	33.1	27.2	79.6	**31, 21, 21**	**2.7**	0.5057	231	288	208
Mean	*565*	*36.6*	*4.35*	*1.07*	*34.2*	*27.9*	*79.8*		*3.4*	*0.5205*	*294*	*366*	*293*
LSD	*33*	*0.5*	*0.13*	*0.02*	*0.6*	*0.7*	*ns*		*0.5*	*ns*	*22*	*25*	*25*
R-square	*0.93*	*0.91*	*0.94*	*0.78*	*0.78*	*0.92*	*0.57*		*0.74*	*0.63*	*0.90*	*0.91*	*0.93*
CV (%)	*5.1*	*1.3*	*2.6*	*1.8*	*1.8*	*2.2*	*0.8*		*13.0*	*4.6*	*6.5*	*5.9*	*7.4*
Prob>F, variety	*<0.0001*	*<0.0001*	*<0.0001*	*0.0043*	*0.0043*	*<0.0001*	*0.0950*		*0.0063*	*0.0985*	*<0.0001*	*<0.0001*	*<0.0001*

Planting Seed Quality

Variety	Plant Population *(#/A)*	% Stand Establishment	Seed/lb	Warm Germ *(%)*	Cool Germ *(%)*	Storm Tolerance *(1=very tight; 5=very loose)*	Seed Yield *(lbs/A)*	Seed Turnout *(%)*	Seed Value *($/A)*	Planting Seed Cost *($/A)*
FM765AX	27661	66.7	5585	93	76	**2.2**	**808**	43.8	**83**	62.25
Armor9413XF	29839	70.0	5000	93	81	2.3	**808**	46.2	**83**	57.69
DP2335B3XF	**33033**	**79.6**	5768	96	77	2.3	754	44.5	77	72.21
FM868AXTP	25918	62.5	4475	94	75	2.8	745	46.5	76	77.19
DP2436NRB3XF	24539	59.1	6250	92	74	4.3	612	41.9	63	84.66
Armor9371B3XF	28967	69.0	5575	98	72	3.3	615	**48.5**	63	79.27
DP2349NRB3XF	24829	59.8	6100	89	75	4.0	550	45.6	56	79.27
Mean	*27827*	*66.7*				*3.0*	*699*	*45.3*	*72*	
LSD	*2900*	*7.2*				*0.4*	*36*	*1.8*	*4*	
R-square	*0.71*	*0.68*				*0.89*	*0.95*	*0.75*	*0.95*	
CV (%)	*8.9*	*9.2*				*12.6*	*4.4*	*3.4*	*4.4*	
Prob>F, variety	*0.0128*	*0.0191*				*<0.0001*	*<0.0001*	*0.0051*	*<0.0001*	

Net return = total crop value - seed cost

Planting seed costs from PCG Seed Cost Calculator.

Values in bold are best within each column; values in green-shaded cells are not significantly different from the best value; total crop value = seed value + lint value.

Seed value = seed yield x $226/metric ton (Aug 2024 price, according to US Cotton, Cottonseed Price Received Monthly Trends: USDA Farm Price Received | Ycharts)

Texas A&M AgriLife Extension

R.A.C.E.
Replicated Agronomic Cotton Evaluation

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2024 Texas Panhandle Replicated Agronomic Cotton Evaluation (RACE)

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2024 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 2024 Texas Panhandle RACE trials were planted at 4 locations under varying crop rotations, row spacings, and populations (Table 1) with the Swisher County site including a dryland and an irrigated trial. Early to medium maturing varieties were planted at each location as a seed company entry or a cooperating producer entry (Table 2). The highest yielding variety across all trials was Delta Pine 1822 XF in both the Castro County (Table 4) and Hutchinson County (Table 5) trials, but there was no significant difference between the top 3 varieties including FiberMax 765 AX and DP 2414 B3TXF in the Castro County trial and FiberMax 765 AX and NexGen 3434 B3XF in Hutchinson County. Fiber quality was significantly different between varieties (p<0.0001). Variety significance difference was determined at an apha level of 0.05.

Table 1. Locations and Agronomics of the 2024 Texas Panhandle RACE Trials.

County	Castro	Hutchinson	Swisher	Swisher
Location (Nearest Town)	Dimmitt	Pringle	Kress	Kress
Cooperator	Blake Fennel	Craig McCloy	Jeremy Reed	Jeremy Reed
County Agent(s)	Kristie Keys	Hanna Conner & Kristy Slough	Blayne Reed & Jason Wade	Blayne Reed & Jason Wade
Irrigation Regime	Limited Irrigated	Irrigated	Limited Irrigated	Dryland
Herbicide Technologies	Gly, Gluf, XF	Gly, Gluf, XF, Enlist	Gly, Gluf, XF	Gly, Gluf, XF
Planting Date	5/7/2024	5/2/2024	5/22/2024	5/22/2024
Harvest Date	10/31/2024	12/4/2024	12/9/2024	12/9/2024
Planting Pop (Seeds/ac)	12,000	60,000	50,000	32,000
Soil Temp. at Planting (°F)	69	63	67	67
Row Spacing (in.)	60	40	40	40

Table 2. Characteristics of varieties evaluated in 2024 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 Tol.[1]	Plant Height	Mic	Verticill. Tol.[2]	Bacterial Blight[2]
Deltapine 1822 XF	Early-Med	Glyphos., Glufos., and Dicam.	Semi-Smooth	3	Med-Tall	4.3	Moderate	Resistant
Deltapine 2123 B3TXF	Early-Med	Bollgard 3 Thryvon§ , Glyphos., Glufos., and Dicam.	Semi-Smooth	4	Medium	4.4	Mod. Tol.	Mod. Susc.
Deltapine 2317 B3TXF	Early	Bollgard 3 Thryvon§ , Glyphos., Glufos., and Dicam.	Smooth	5	Med-Tall	4.5	Mod. Tol.	Resistant
Deltapine 2414 B3TXF	Early	Bollgard 3 Thryvon§, Glyphos., Glufos., and Dicam.	Smooth	5	Med-Tall	4.4	Mod. Susc.	Susc.
FiberMax 765 AX	Early-Med	Axant™ Flex (Dicam., Glufos., Glyphos., and Alite 27)	Semi-Smooth	6.5	Short	4.3	Good	Resistant
FiberMax 823 AXTP	Medium	TwinLink Plus, Axant™ Flex (Dicam., Glufos., Glyphos., & Alite 27)	Semi-Smooth	6.5	Short	4.3	Good	Resistant
NexGen 3434 B3XF	Early	Bollgard 3* Glyphos., Glufos., and Dicam.	Semi-Smooth	8	Medium	4.4	Fair	Susc.
NexGen 3457 B3XF	Early	Bollgard 3* Glyphos., Glufos., and Dicam.	Smooth	6.8	Medium	4.4	Good	Resistant
Phytogen 205 W3FE‡	Very Early	WideStrike 3**, Glyphos., Glufos., and Enlist	Semi-Smooth	Excellent	Short	4.5	Tolerant	Resistant
Phytogen 210 W3FE‡	Early	WideStrike 3**, Glyphos., Glufos., and Enlist	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. Measured plants/ac and percent of seed dropped 30-days post planting at all locations.

	Castro Deficit Irrigated		Hutchinson Irrigated		Swisher Deficit Irrigated		Swisher Dryland	
Planted Seeds/Acre	12,000		60,000		50,000		32,000	
Row Spacing (in.)	60		40		40		40	
	plants/acre	**% Stand**	**plants/acre**	**% Stand**	**plants/acre**	**% Stand**	**plants/acre**	**% Stand**
NG 3434 B3XF	9,583	0.80	26,626	0.44	32,779	0.66	-----	-----
NG 3457 B3XF	9,220	0.77	21,562	0.36	32,452	0.54	-----	-----
FM 765 AX	9,365	0.78	26,626	0.44	38,551	0.64	25,592	0.43
FM 823 AXTP	9,874	0.82	29,893	0.50	34,195	0.57	25,047	0.42
DP 2317B3TXF	9,511	0.79	21,562	0.36	36,373	0.61	25,918	0.43
DP 2414B3TXF	10,019	0.83	20,745	0.35	32,452	0.54	23,305	0.39
DP 2123B3TXF	11,180	0.93	34,140	0.57	43,124	0.72	30,710	0.51
DP 1822 XF	11,834	0.99	39,531	0.66	42,362	0.71	31,799	0.53
Phy 205 W3FE‡	-----	-----	26,463	0.44	-----	-----	-----	-----
Phy 210 W3FE‡	-----	-----	30,056	0.50	-----	-----	-----	-----
Trial Average	**9,930**	**0.84**	**27,977**	**0.46**	**36,536**	**0.62**	**27,062**	**0.45**
CV, %	9.40		12.5		10.1		6.2	
p-value	0.0171		0.0020		0.0083		0.0002	
LSD	1,600		7,902		6,413		2,979	

*Varieties not planted at the respective location.

‡Farmer entry

Stand counts were measured approximately 30 days post planting. All locations represent stand counts from all 3 replications.

Table 4. 2024 Lint yield, quality, and loan value results for the Texas A&M AgriLife RACE Trial located in Castro County, Blake Fennel Cooperator.

Variety	Seed Cotton Yield --- lb/acre ---	Turnout --%--	Lint Yield --- lb/acre ---	Seed Yield --- lb/acre ---	Micro-naire	Fiber Length (in.)	Strength (g/tex)	Uniformity --%--	Lint loan Value cents/lb	Lint Value $/acre
DP 1822 XF	3504	37	1295	1637	4.7	1.14	32	82	56	665
FM 765 AX	3313	39	1275	1447	4.4	1.13	32	82	55	665
FM 765 AX*	3276	38	1254	1447	4.4	1.14	31	83	56	645
DP 2414 B3TXF	3126	40	1241	1411	4.4	1.12	30	81	55	665
DP 2123 B3TXF	3540	34	1194	1723	4.8	1.12	30	81	56	646
NG 3457 B3XF	3153	37	1178	1442	4.7	1.16	31	83	54	645
NG 3434 B3XF	2919	40	1162	1280	4.5	1.16	30	82	56	646
FM 823 AXTP	3147	37	1160	1445	4.6	1.13	32	82	55	646
DP 2317 B3TXF	3219	36	1146	1465	4.1	1.11	30	81	54	645
Test Average	3244	37	1212	1477	4.5	1.13	31	82	55	652
CV, %	5	2.0	4.4	5.3	4.4	1.4	2.1	0.8	2.2	4.4
p-value	0.0062	<.0001	0.0234	0.0002	0.0182	0.03	0.0004	0.0047	0.3943	0.9311
LSD	279	1.3	93	136	0.3	0.03	1.1	1.2	NS	NS

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

Lint loan value calculated from the 2024 Upland Cotton Loan Evaluation Model from Cotton Incorporated using a $0.52/pound base.

Samples ginned on a Compass gin at TTU-FBRI.

Seed yield calculated based on gin weight.

***Farmer entry with his FM 765 AX seed lot.**

Table 5. 2024 Lint yield, quality, and loan value results for the Texas A&M AgriLife 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.)	Strength (g/tex)	Uniformity --%--	Lint loan Value cents/lb	Lint Value --- $/acre ---
DP 1822 XF	4284	32	1363	2022	3.3	1.15	32	80	48.6	661
FM 765 AX	3715	36	1351	1458	3.2	1.11	31	81	47.2	637
NG 3434 B3XF	3639	36	1298	1849	3.5	1.16	29	81	53.9	699
Phy 205 W3FE*	3915	32	1267	1714	3.5	1.06	31	82	48.3	612
Phy 210 W3FE*	3577	33	1175	1643	3.4	1.11	31	81	52.1	614
DP 2123 B3TXF	3931	29	1149	1930	3.6	1.13	30	80	52.5	602
FM 823 AXTP	3567	31	1112	1542	2.9	1.13	33	81	44.7	497
DP 2414 B3TXF	3188	34	1078	1357	3.4	1.12	29	81	53.8	580
NG 3457 B3XF	3249	32	1034	1469	3.3	1.11	29	80	49.4	510
DP 2317 B3TXF	3234	31	1018	1446	3.3	1.10	28	80	48.3	492
Test Average	3630	33	1185	1673	3.3	1.12	30	81	50.0	590
CV, %	3.5	3.9	5.6	5.6	3.7	1.24	2.3	0.95	4.8	6.8
p-value	<.0001	<.0001	<.0001	<.0001	0.0001	<.0001	<.0001	0.0299	0.0018	<.0001
LSD	220	2.2	114	160	0.21	0.02	1.2	1.3	4.1	69

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

Lint loan value calculated from the 2024 Upland Cotton Loan Evaluation Model from Cotton Incorporated usin0g a $0.52/pound base.

Samples ginned on a Compass gin at TTU-FBRI.

Seed yield calculated based on gin weight.

*** Farmer Entry**

Table 6. 2024 Lint yield, quality, and loan value results for the Texas A&M AgriLife the deficit irrigated RACE Trial located in Swisher County, Jeremy Reed Cooperator.

Variety	Seed Cotton Yield --- lb/acre ---	Turnout --%--	Lint Yield --- lb/acre ---	Seed Yield --- lb/acre ---	Micro-naire	Fiber Length (in.)	Strength (g/tex)	Uniformity --%--	Lint loan Value cents/lb	Lint Value --- $/acre ---
NG 3434 B3XF	2318	37	858	961	4.8	1.07	27	80	49	427
DP 2414B3TXF	2256	39	885	960	4.8	1.00	25	78	44	394
DP 1822 XF	2130	35	736	930	4.9	1.01	27	79	48	355
FM 823 AXTP	2122	37	795	710	4.9	1.04	29	80	49	392
NG 3457 B3XF	2012	37	748	1005	5.1	1.03	27	80	48	360
DP 2123B3TXF	1987	34	692	1189	4.9	1.04	28	80	47	338
DP 2317B3TXF	1979	34	673	819	4.8	1.05	26	79	49	331
FM 765 AX	1862	32	602	635	5.1	1.03	28	81	49	293
Test Average	2092	36	753	892	4.9	1.03	27	79	48	363
CV, %	8.4	5.3	9.9	24.8	3.1	2.13	4.7	1.0	8.0	15.0
p-value	0.1027	0.0098	0.0219	0.2164	0.2013	0.0321	0.0570	0.0440	0.6253	0.1763
LSD	319	3.3	135	NS	0.27	0.04	2.2	1.4	6.7	NS

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

Lint loan value calculated from the 2024 Upland Cotton Loan Evaluation Model from Cotton Incorporated using a $0.52/pound base.

Samples ginned on a Compass gin at TTU-FBRI.

Seed weight calculated based on gin weight.

Table 7. 2024 Lint yield, quality, and loan value results for the Texas A&M AgriLife Dryland RACE Trial located in Swisher County, Jeremy Reed Cooperator.

Variety	Seed Cotton Yield --- lb/acre ---	Turnout --%--	Lint Yield --- lb/acre ---	Seed Yield --- lb/acre ---	Micro-naire	Fiber Length (in.)	Strength (g/tex)	Uniformity --%--	Lint loan Value cents/lb	Lint Value --- $/acre ---
DP 2123B3TXF	469	32	152	230	4.0	0.94	22	77	38.4	58
FM 765 AX	463	35	163	204	4.0	0.93	24	77	39.0	64
FM 823 AXTP	445	33	147	225	3.6	0.93	24	76	39.8	59
DP 2414B3TXF	372	38	139	158	4.1	0.91	22	75	39.4	55
DP 1822 XF	370	32	115	286	3.9	0.91	22	76	38.3	44
DP 2317B3TXF	272	33	89	122	4.2	0.92	21	76	38.2	34
Test Average	397	34	133	211	4.0	0.93	23	76	38.8	52
CV, %	21	5	19	29	3.6	2.26	4	1	2.1	19
p-value	0	0	0	0	0.0	0.38	0	0	0.1	0
LSD	NS	2	44	NS	0.2	NS	0	NS	NS	18

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

Lint loan value calculated from the 2024 Upland Cotton Loan Evaluation Model from Cotton Incorporated using a $0.52/pound base.

Samples ginned on a Compass gin at TTU-FBRI.

Seed weight calculated based on gin weight.