

2024 Dicamba Tolerant Cotton Variety Trial – Edcot Gin

Michael Swinburn Farm Dodd, TX

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Summary

In 2019, a cotton variety testing program was established as a new service created by Windstar Inc. affiliated gins. These gins are working together to support a Cotton Agronomics Manager position. One of the components of this program is to work with local producers to scientifically evaluate varieties in a commercial on-farm setting from planting through ginning. These unique replicated trials are planted and harvested with the grower's commercial equipment. Each variety's round modules are combined across all replicates and then ginned and classed separately in an extremely detailed manner. Purging and weighing any remnant bale from the press is also performed for each variety. All lint samples from each variety's commercial bales are then classed by the USDA-AMS classing office. This detailed ginning and classing management of all round modules for each variety is key to the success of this program and to the best of our knowledge is without peer in the U.S. ginning industry.

At this site in 2024, six entries with dicamba herbicide tolerance technology were planted in a center pivot irrigated field in a scientifically valid trial with three replicates. One entry had ThryvOn technology, a new Bt transgenic trait (DP 2414 B3TXF) stacked with XtendFlex; two entries had Axant Flex technology (FM 765 AX and FM 823 AXTP); and the remainder had XtendFlex technology (DP 1822 XF, DP 2123, and NG 3457 B3XF).

Relatively good moisture conditions prevailed at the site during the early spring, then lower than normal rainfall began in July. The trial was planted May 7 into heavy terminated wheat residue and escaped hail events. Early-season conditions, likely a result of the significant wheat residue challenged seedling vigor. This resulted in average emergence of about 41% of the seed planted (60,000 seed/acre) when stand count observations were performed on June 18. Skips were very noticeable in some entries with lower plant stands. A total of 72 days from planting to first bloom (July 18) was noted in this trial. This indicates a below normal rate of development based on calendar days. This is attributed to seedling disease and overall root health. Once the crop reached the bloom stage, its progression was excellent through the end of August and into the crop maturity phase in September. Due to the long growing season and irrigation, the trial's yield was fair but quality was good to excellent. Yields were moderate (about 2 bales/acre) in the test and fiber maturity as measured by micronaire was excellent for

the area and averaged 4.3 across all entries. Substantial late season pre-harvest rainfall likely negatively impacted the color and leaf grades in the trial.

Harvest results indicated that statistically significant differences were observed. Lint yields ranged from a high of 1128 lb/acre (DP 1822 XF) to a low of 914 lb/acre (FM 823 AXTP), and averaged 1043 lb/acre (Table 1). Average Loan value for varieties from commercially ginned and classed bales varied from a high of \$0.5583/lb (DP 1822 XF) to a low of \$0.5482/lb (DP 2123 B3XF and DP 2124 B3TXF). Overall Loan value for the trial across all entries was \$0.5528/lb. When including lint Loan value on a per acre basis and net gin credit (defined as seed credit minus ginning expense), statistically significant differences were found among varieties for net value/acre. Net value/acre (defined as gross Loan value plus net gin credit) ranged from a high of \$685/acre (DP 1822 XF) to a low of \$551/acre (FM 823 AXTP), a difference of \$134/acre. These differences were statistically significant, and had a reasonable coefficient of variation of about 7%, indicating some variability among entries across replicates, likely attributable to skips and thin stands. Four of the six entries were in the top "t-group" (which is denoted by the letter "a") for net value/acre indicating there were no significant differences among those entries which included DP 1822 XF, FM 765 AX, DP 2123 B3XF, and DP 2414 B3TXF. The performance of the other two entries was likely negatively impacted by skips and thin stands.

Table 2 provides similar information for the trial, but net value/acre is based on cash bid value. Cash bids were obtained for commercially ginned and classed bale quality for each variety. This was performed on January 6th at 68.50 cent March 2025 futures using the USDA-AMS classing results. These cash bid values ranged from a high of \$0.6647/lb (DP 1822 XF) to a low of \$0.6429/lb (DP 2414 B3TXF) and averaged just over \$0.65/lb. Net value/acre (defined as gross lint cash value plus net gin credit) ranged from a high of \$805/acre (DP 1822 XF) to a low of \$643/acre (FM 823 AXTP), a difference of \$162/acre. These differences were statistically significant, and had a reasonable coefficient of variation at about 7%. Based on cash bid value, three of the entries were in the top "t-group" (denoted by the letter "a") indicating there were no significant differences among those three entries which included DP 1822 XF, FM 765 AX, and DP 2123 B3XF.

Table 3 presents in-season data including final plant population, stand establishment percentage, vigor, nodes above white flower (NAWF) on two observation dates, plant height on three observation dates, nodes above cracked boll (NACB) on October 3, and a visual estimate of storm resistance at harvest. Final plant heights ranged from a high of 25.1 inches for DP 1822 XF to a low of 20.1 inches for FM 765 AX.

Table 4 provides the USDA-AMS classing results from each commercial bale for each variety and the variety averages. Averages indicate that color grades were fair to good and were predominantly 31 across all entries. Leaf grades ranged from about 2 to 3. Staple ranged from a low of 35.2 (DP 2414 B3TXF) to a high of 36.2 32nds inch (DP 1822 XF). Micronaire averages were excellent for most entries and ranged from a low of 4.10 (DP 2414 B3TXF) to a high of 4.57 (DP 2123 B3XF). No bark contamination was noted in commercial bales. Fiber strength ranged from 28.3 to 30.9 g/tex, and uniformity ranged from 79.8 to 82.3%. Table 5 presents the mean values across all bales for each variety.

Disclaimer: Readers should realize that results from one trial do not represent conclusive evidence that the same response would occur where conditions vary. Multisite and multi-year data are always best. For this trial, good scientific techniques were used and the results are presented to indicate what actually occurred in the trial. Context of the environment, overall growing season impact, management techniques, and trial methodology used are important and must be considered.

Site Information and Methods

Elevation: 3825 ft

Previous crop: Corn chopped for silage, disk then chisel chopper, VT disk, then drilled 80

lb/acre wheat Oct 20, 2023

Tillage system: Cotton planted no-till into terminated wheat residue

Planted: May 7

Replicates: 3 replicates in a randomized complete block design

Plot width: 8-row plots

Plot length: Trial was planted in ~2,250 ft long rows

Seeding rate: 60,000 seed/acre

Days from planting to first bloom: 72 (July 18)

Row spacing: 30-inch rows

Total rainfall January through November: ~11.9 inches

Jan 0.0, Feb 0.23, Mar 0.3, Apr 1.5, May 1.1, Jun 1.0, July 0.0, Aug 1.0, Sep 1.5, Oct 0.0, Nov 4.25

Total irrigation: ~7.7 inches

Mar 2.0, Apr 2.0, May 1.5, Jun 1.0, Jul 0.0, Aug 1.2, Sep 0.0

Herbicide management – products, rates, and dates of application:

Apr 17 - 40 oz/acre Roundup for wheat termination

May 8 - 1 qt/acre direx, 1 pt/acre Brawl, 40 oz/acre Roundup, 0.4 pt/acre Bronc Triple

Jun 24 - 40 oz/acre Roundup, 22 oz/acre dicamba, 25 oz/acre Liberty, 14 oz/acre Vaquero

Aug 7 – 40 oz/acre Roundup, 22 oz/acre dicamba, 0.4 pt/acre Bronc Triple

Nitrogen fertility rates, dates, and application methods: 10 tons/acre manure applied

Insecticide products, application rates and dates: None

Plant growth regulator products, application rates and dates: Jun 24 – 3 oz/acre Stance

Harvest aid products, application rates and dates:

0.75 oz/acre Sharpen, 8 oz/acre Folex, 3 pt/acre Boll'd, 12.8 oz/acre ammonium sulfate

Harvesting: December 10 using a John Deere CS690, full sized round module from each 8-row plot was harvested. Round modules were weighed using the integral CS690 handler scale, and all round modules were weighed at Edcot Gin.

Commercial ginning: Round modules for all 3 reps of each variety were staged together (1 per plot, with 3 reps = 3 total per variety) and commercially ginned separately by Edcot Gin. Commercial ginning included: cleaning module feeder, clearing gin stream, dumping seed rolls, and purging remnant bale in press. This process was initiated before the first variety module was ginned and then repeated for each variety module in the trial.

Remnants were ejected from the bale press and weighed, but not sampled for USDA-AMS classing. Only data from commercial bales are included in classing data for each variety.

Lint value: Table 1 is based on CCC Loan value from commercial ginning and USDA-AMS classing results.

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Acknowledgements

Edcot Gin would like to thank Michael Swinburn for committing equipment, land, and time to conduct and manage the trial. Gratitude is expressed to Deltapine, NexGen, and FiberMax for providing trial seed, and to Windstar Inc. Detailed ginning was performed by "Ginner Ernie" and the crew and a big thank you is extended to this hard-working group. Landon Kidd provided capable assistance with in-season data collection and module supervision and detailed ginning procedures.



Table 1. Harvest results for the center pivot irrigated dicamba tolerant cotton variety trial (lint loan value), Swinburn Farm, Dodd, TX, 2024.

Entry	Lint turnout	Seed turnout	Bur cotton yield	Lint yield	Seed yield	Lint loan value	Lint loan value	Net gin credit	Net value	
	9	6		b/acre		\$/lb		\$/acro	e	
DP 1822 XF	32.3	44.7	3489	1128	1558	0.5583	629	56	685	а
FM 765 AX	34.3	41.8	3262	1120	1362	0.5521	618	41	659	а
DP 2123 B3XF	29.7	46.4	3647	1081	1691	0.5482	593	66	658	а
DP 2414 B3TXF	33.4	42.1	3194	1066	1344	0.5482	584	41	626	ab
NG 3457 B3XF	32.5	44.5	2918	947	1299	0.5541	525	46	571	bc
FM 823 AXTP	31.8	43.9	2876	914	1263	0.5557	508	43	551	С
Test average	32.3	43.9	3231	1043	1420	0.5528	576	49	625	
CV, %			7.1	7.0	7.2		7.1	7.4	7.1	
OSL			0.0119	0.0191	0.0027		0.0214	0.0001	0.0228	
LSD			338	108	151		60	5	66	

For net value/acre, means within a column with the same letter are not significantly different.

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.10 level, NS - not significant.

Note: some columns may not add up due to rounding error.

Assumes:

\$3.65/cwt commercial ginning cost.

\$235/ton for seed.

Net gin credit is defined as seed credit minus ginning expense.

Net value is defined as gross loan value/acre plus net gin credit.

Value for lint based on CCC loan value from commercial ginning and USDA-AMS classing results.



Table 2. Harvest results for the center pivot irrigated dicamba tolerant cotton variety trial (lint cash value), Swinburn Farm, Dodd, TX, 2024.

Entry	Lint turnout	Seed turnout	Bur cotton yield	Lint yield	Seed yield	Lint cash value	Lint cash value	Net gin credit	Net value	
	9	%		b/acre		\$/lb		\$/acre		
DP 1822 XF	32.3	44.7	3489	1128	1558	0.6647	750	56	805	а
FM 765 AX	34.3	41.8	3262	1120	1362	0.6527	731	41	772	ab
DP 2123 B3XF	29.7	46.4	3647	1081	1691	0.6517	705	66	770	ab
DP 2414 B3TXF	33.4	42.1	3194	1066	1344	0.6429	685	41	727	bc
NG 3457 B3XF	32.5	44.5	2918	947	1299	0.6522	618	46	664	cd
FM 823 AXTP	31.8	43.9	2876	914	1263	0.6560	600	43	643	d
Test average	32.3	43.9	3231	1043	1420	0.6534	681	49	730	
CV, %			7.1	7.0	7.2		7.1	7.4	7.1	
OSL			0.0119	0.0191	0.0027		0.0174	0.0001	0.0180	
LSD			338	108	151		71	5	76	

For net value/acre, means within a column with the same letter are not significantly different.

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.10 level, NS - not significant.

Note: some columns may not add up due to rounding error.

Assumes:

\$3.65/cwt commercial ginning cost.

\$235/ton for seed.

Net gin credit is defined as seed credit minus ginning expense.

Net value is defined as gross cash value/acre plus net gin credit.

Value based on cash bids for each variety on January 6 at 68.50 cent March 2025 futures using commercial ginning and USDA-AMS classing results.



Table 3. Plant observation results from the center pivot irrigated dicamba tolerant cotton variety trial, Swinburn Farm, Dodd, TX, 2024.

Entry	Final	Stand	Vigor	Nodes abov	e white flower		Plant heigh	t	Nodes above	Storm
	population	establishment		Mid bloom	Late bloom	Prebloom	Mid bloom	Late bloom	cracked boll	resistance
	plants/acre	%	1-5 visual scale, 5 best	count			inches		count	1-9 visual scale, 9 tigh
	18-Jun	18-Jun	18-Jun	30-Jul	12-Aug	10-Jul	30-Jul	12-Aug	3-Oct	10-Dec
DP 1822 XF	34,267	57.1	3.0	7.1	4.5	17.0	20.1	25.1	1.7	4.7
DP 2123 B3XF	33,105	55.2	3.0	6.2	3.5	14.6	18.9	21.8	0.9	5.3
DP 2414 B3TXF	23,813	39.7	2.5	6.7	3.6	17.3	23.0	24.5	3.1	4.0
NG 3457 B3XF	17,134	28.6	2.3	7.5	4.5	14.3	19.6	22.6	3.5	6.2
FM 765 AX	20,328	33.9	2.7	6.5	3.5	13.2	18.9	20.1	1.6	7.3
FM 823 AXTP	19,747	32.9	2.7	6.4	4.1	12.9	18.3	20.6	1.3	7.3
Test average	24,732	41.2	2.7	6.7	4.0	14.9	19.8	22.5	2.0	5.8
CV, %	15.4	15.4	5.3	10.0	9.0	5.0	5.4	5.7	21.5	3.7
OSL	0.0009	0.0009	0.0005	0.2513	0.0093	0.0001	0.0036	0.0038	0.0001	0.0001
LSD	5,648	9.4	0.2	1.0	0.5	1.1	1.6	1.9	0.6	0.3

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.10 level, NS - not significant.



Table 4. Commercial classing data for the center pivot irrigated dicamba tolerant cotton variety trial, Swinburn Farm, Dodd, TX, 2024.

Variety and	Color Grade-Quadrant	Color	Color	Leaf	Staple	Micronaire	Extraneous	Remarks	Strength	Rd	+b	Trash	Uniformity	Length	Loan rate
Bale Number	grade-quadrant	digit 1	digit 2	grade	32nds inch	units	matter		g/tex	%	%	% area	%	100ths inch	cents/lb
	<u> </u>								<u> </u>						<u>-</u>
DP 1822 XF															
4206586	31-1	3	1	2	37	4.4	•		30.3	79.0	7.5	2	80.8	114	56.80
4206588	31-1	3	1	3	36	4.7			31.1	78.6	7.5	4	81.1	113	56.10
4206589	41-1	4	1	3	36	4.8	•		31.5	76.8	7.4	3	81.4	111	54.25
4206590	31-2	3	1	3	36	4.6	•		30.9	77.2	7.7	2	81.3	112	55.95
4206591	31-2	3	1	3	36	4.5	•		32.0	77.8	7.7	4	80.6	112	56.10
4206592	31-1	3	1	3	36	4.3			29.4	77.6	8.2	3	81.9	112	55.80
Average	-	3.2	1.0	2.8	36.2	4.55	none	none	30.9	77.8	7.7	3.0	81.2	112.3	55.83
DP 2123 B3XF															
4206593	31-2	3	1	3	36	4.4	•		32.2	78.4	7.6	4	79.4	112	55.65
4206594	31-2	3	1	3	35	4.3	•		29.5	78.2	7.6	4	80.0	110	54.30
4206595	31-2	3	1	3	36	4.6	•		29.1	77.9	7.7	4	80.1	112	55.80
4206596	31-2	3	1	3	35	4.5			30.7	77.5	7.7	4	78.7	109	53.90
4206597	31-2	3	1	4	36	4.7	•		29.7	77.9	7.7	4	80.5	112	54.50
4206598	41-1	4	1	3	36	4.8	•		30.8	77.2	7.5	3	79.6	113	53.65
4206599	31-2	3	1	3	36	4.7	•		30.7	77.8	7.6	3	80.3	111	55.95
Average		3.1	1.0	3.1	35.7	4.57	none	none	30.4	77.8	7.6	3.7	79.8	111.3	54.82
DP 2414 B3TXF															
4206600	21-2	2	1	2	36	4.2	•	•	28.5	80.5	7.6	2	81.1	111	56.55
4206601	31-1	3	1	3	35	4.2		•	30.5	79.6	7.6	2	80.2	108	54.55
4206602	31-1	3	1	2	35	4.1	•		27.8	79.7	7.8	1	80.5	108	54.55
4206603	31-1	3	1	2	34	4.1			27.5	79.5	7.6	2	79.4	107	52.55
4206604	31-1	3	1	2	35	3.9			29.2	79.9	7.8	2	80.0	108	54.60
4206605	31-1	3	1	2	36	4.1			27.7	80.2	7.6	2	80.3	111	56.10
Average		2.8	1.0	2.2	35.2	4.10	none	none	28.5	79.9	7.7	1.8	80.3	108.8	54.82



Table 4 (continued). Commercial classing data for the center pivot irrigated dicamba tolerant cotton variety trial, Swinburn Farm, Dodd, TX, 2024.

Variety and	Color Grade-Quadrant	Color	Color	Leaf	Staple		Extraneous	Remarks	Strength	Rd	+b	Trash	Uniformity	Length	Loan rate
Bale Number	grade-quadrant	digit 1	digit 2	grade	32nds inch	units	matter		g/tex	%	%	% area	%	100ths inch	cents/lb
NO 2457 DOV5															
NG 3457 B3XF	24.4	_				4.0			20.4				00.0	400	T4 20
4206606	31-1	3	1	3	35	4.3	•	•	29.1	77.8	8.0	3	80.3	109	54.30
4206607	31-1	3	1	2	35	4.1		•	29.1	79.0	8.2	2	81.3	110	54.60
4206608	31-1	3	1	3	36	4.5	•	•	27.3	78.5	8.3	3	81.5	111	55.75
4206609	21-2	2	1	2	36	3.9		•	28.4	79.3	8.5	2	79.1	111	56.10
4206610	31-1	3	1	3	36	4.0		•	28.3	78.0	8.7	2	81.7	111	55.85
4206611	31-1	3	1	3	36	3.9			27.7	77.5	8.6	2	80.9	111	55.85
Average		2.8	1.0	2.7	35.7	4.12	none	none	28.3	78.4	8.4	2.3	80.8	110.5	55.41
FM 765 AX															
4206612	31-2	3	1	3	37	4.5			29.6	77.8	7.3	3	82.9	116	56.35
4206613	31-1	3	1	3	35	4.7			30.6	79.5	7.5	3	82.2	110	54.50
4206614	31-1	3	1	4	36	4.6		· · · · ·	28.9	79.1	7.5	4	81.5	111	54.45
4206615	31-1	3	1	3	36	4.4			30.7	79.5	7.4	3	80.2	111	55.95
4206616	31-2	3	1	3	35	4.6			30.0	78.4	7.5	2	80.5	109	54.45
4206617	31-1	3	1	3	36	4.2			32.1	79.8	7.6	3	80.3	111	56.20
4206618	31-1	3	1	3	35	4.4	-		31.6	79.9	7.7	2	80.0	109	54.60
Average		3.0	1.0	3.1	35.7	4.49	none	none	30.5	79.1	7.5	2.9	81.1	111.0	55.21
7110146		0.0		0					55.5		7.0		02.12		
FM 823 AXTP															
4206619	31-1	3	1	3	36	4.1	•		30.3	79.6	7.7	3	82.7	113	56.10
4206620	31-1	3	1	3	35	4.3			29.6	78.3	8.1	2	80.9	110	54.30
4206621	31-1	3	1	3	36	4.1		•	30.9	79.2	8.0	3	83.0	111	56.15
4206622	21-2	2	1	2	36	4.1			30.9	80.5	7.7	2	82.9	113	56.80
4206623	31-1	3	1	2	35	4.5			29.8	80.2	7.7	2	81.9	110	54.50
Average		2.8	1.0	2.6	35.6	4.22	none	none	30.3	79.6	7.8	2.4	82.3	111.4	55.57



Table 5. Mean commercial classing data across all bales by treatment for the center pivot irrigated dicamba tolerant cotton variety trial, Swinburn Farm, Dodd, TX, 2024.

Treatment	Color	Color	Leaf	Staple	Micronaire	Extraneous	Remarks	Strength	Rd	+b	Trash	Uniformity	Length	Loan rate	Cash bid*
	digit 1	digit 2	grade	32nds inch	units	matter		g/tex	%	%	% area	%	100ths inch	cents/lb	cents/lb
DP 1822 XF	3.2	1.0	2.8	36.2	4.55	none	none	30.9	77.8	7.7	3.0	81.2	112.3	55.83	66.47
DP 2123 B3XF	3.1	1.0	3.1	35.7	4.57	none	none	30.4	77.8	7.6	3.7	79.8	111.3	54.82	65.17
DP 2414 B3TXF	2.8	1.0	2.2	35.2	4.10	none	none	28.5	79.9	7.7	1.8	80.3	108.8	54.82	64.29
NG 3457 B3XF	2.8	1.0	2.7	35.7	4.12	none	none	28.3	78.4	8.4	2.3	80.8	110.5	55.41	65.22
FM 765 AX	3.0	1.0	3.1	35.7	4.49	none	none	30.5	79.1	7.5	2.9	81.1	111.0	55.21	65.27
FM 823 AXTP	2.8	1.0	2.6	35.6	4.22	none	none	30.3	79.6	7.8	2.4	82.3	111.4	55.57	65.60
Mean	3.0	1.0	2.8	35.7	4.34		•	29.8	78.8	7.8	2.7	80.9	110.9	55.28	65.34

^{*}Value based on cash bids for each variety on January 6 at 68.50 cent March 2025 futures using commercial ginning and USDA-AMS classing results.





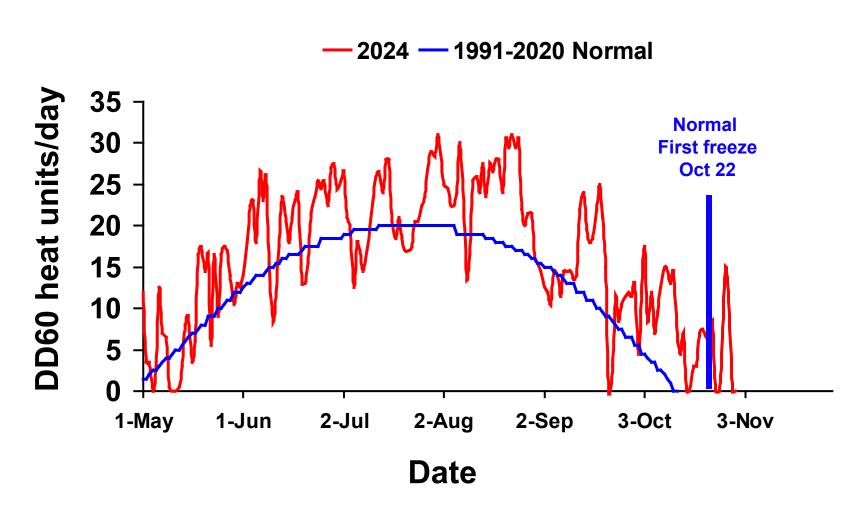
Appendix

Amarillo 2024 cotton heat units and weather data.

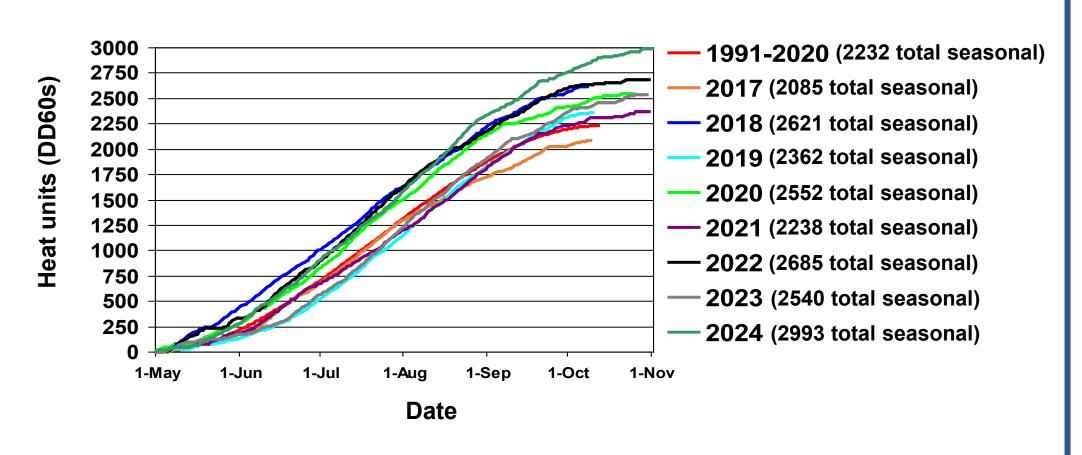




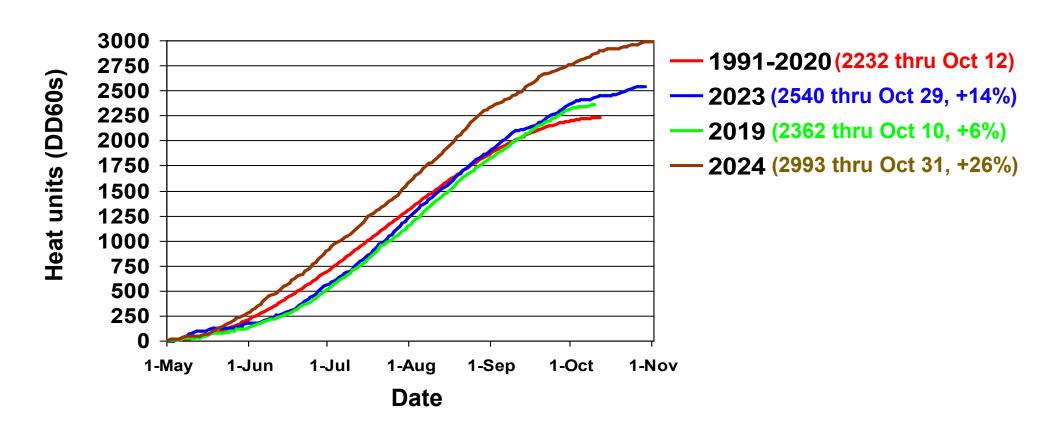
Amarillo 30-Year Normal (1991-2020) and 2024 Daily Heat Units



Amarillo 30-Yr Normal (1991-2020) vs. 2017 through 2024 Cotton Heat Unit Accumulation From May 1 Through First Hard Freeze

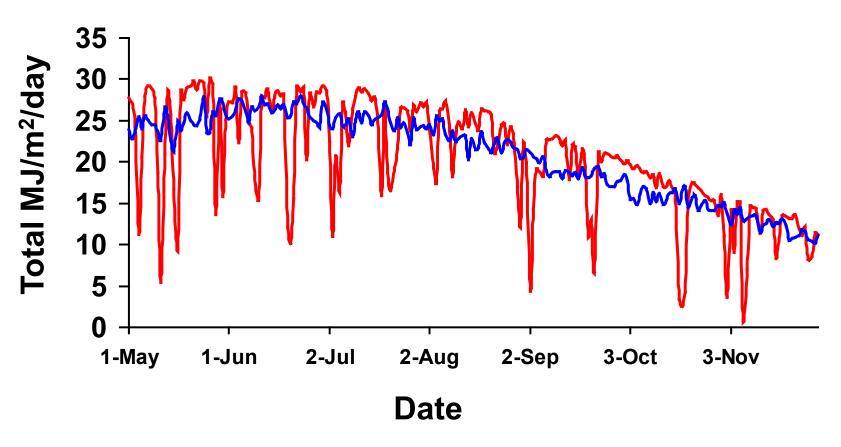


Amarillo 30-Yr Normal (1991-2020) vs. 2019, 2023 and 2024 Cotton Heat Unit Accumulation From May 1



Muleshoe 18-Year Mean (2004-2021) and 2024 Daily Total Solar Radiation (MJ/meter²)

— 2024 — Muleshoe 18-Yr Mean

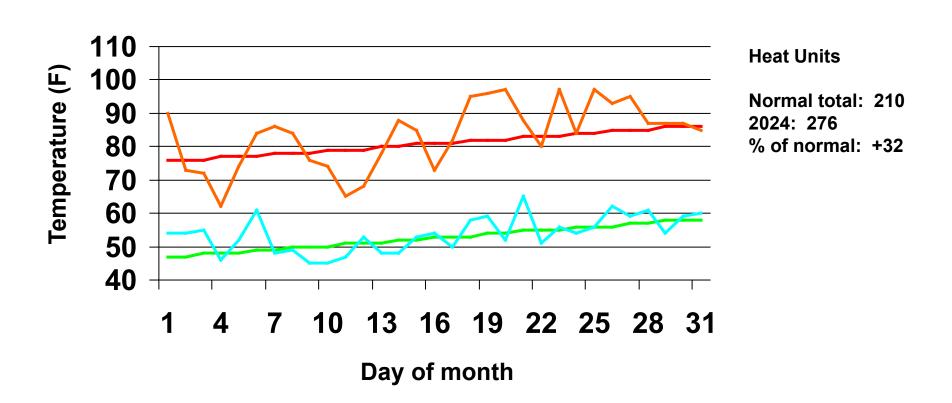


Total solar energy, in MJ/meter², calculated from the hourly average global solar radiation rates and converted to energy by integrating over time.

Source: https://www.ncei.noaa.gov/pub/data/uscrn/products/daily01/2024/

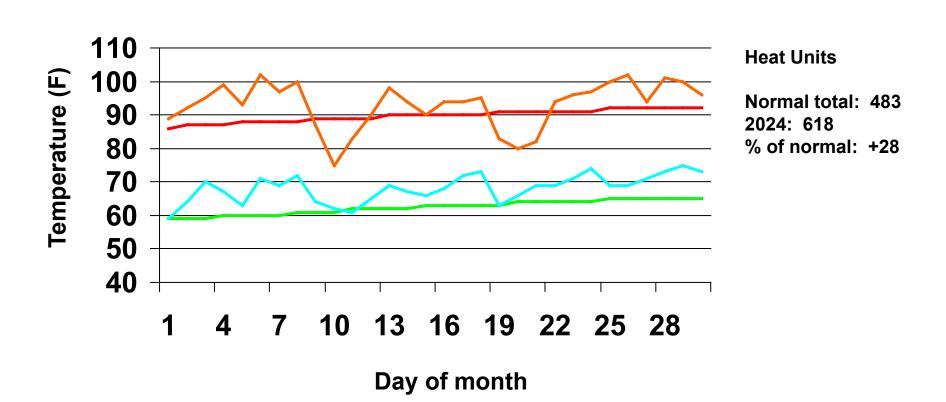
Amarillo 30-Yr Normal (1991-2020) and May 2024 Air Temperatures

─ Normal High ─ Actual High ─ Normal Low ─ Actual Low



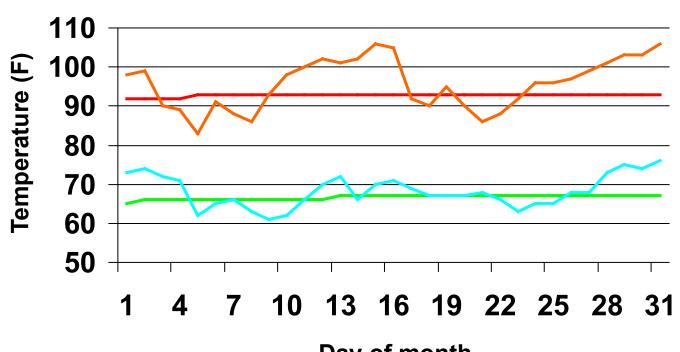
Amarillo 30-Yr Normal (1991-2020) and June 2024 Air Temperatures

— Normal High — Actual High — Normal Low — Actual Low



Amarillo 30-Yr Normal (1991-2020) and July 2024 Air Temperatures

— Normal High — Actual High — Normal Low — Actual Low



Heat Units

Normal total for month: 612

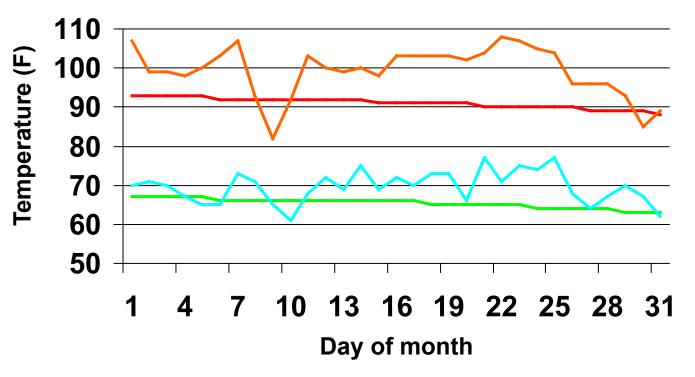
2024: 680

% of normal: +11

Day of month

Amarillo 30-Yr Normal (1991-2020) and August 2024 Air Temperatures

— Normal High — Actual High — Normal Low — Actual Low



Heat Units

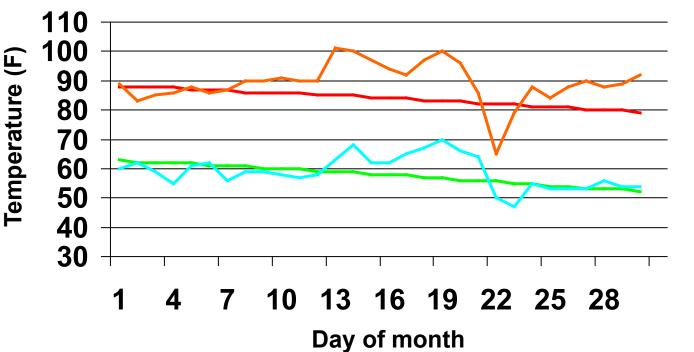
Normal total for month: 565

2024: 757

% of normal: +34

Amarillo 30-Yr Normal (1991-2020) and September 2024 Air Temperatures

— Normal High — Actual High — Normal Low — Actual Low



Heat Units

Normal total for month: 329

2024: 427

% of normal: +30

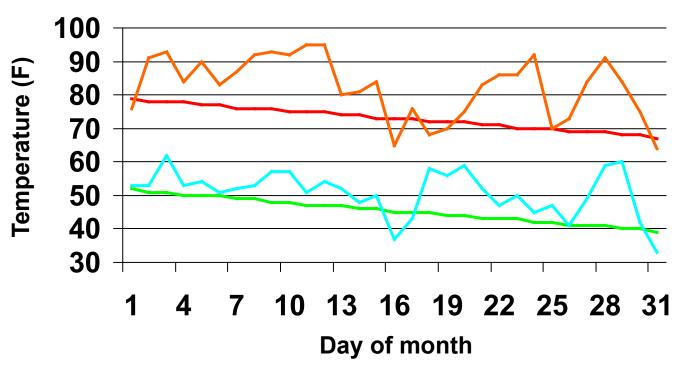
Normal Heat Units/Day

Sep 1: 16 Sep 30: 6

Goes to zero on Oct 12

Amarillo 30-Yr Normal (1991-2020) and October 2024 Air Temperatures

— Normal High — Actual High — Normal Low — Actual Low



Heat Units

Normal total for month: 35

2024: 235

% of normal: +571

Normal Heat Units/Day

Oct 1: 6 Oct 12: 0

Goes to zero on Oct 12

No first freeze in Oct; first freeze on Nov 9 (32 degrees). No hard freeze in Oct; hard freeze on Nov 29 (25 degrees).

Amarillo 2024 DD60s vs Normal (1991-2020)

Month	May	June	July	August	September
Normal	210	483	612	565	329
Actual	276	618	680	757	427
% of Normal	+32	+28	+11	+34	+30
Number of days <u>></u> 100 degrees	0	6	10	17	3