



## 2020 XtendFlex Technology Cotton Variety Trial – Lonestar Gin

**Harris Farm  
Zac Harris and Marshall Harris  
Hobart, OK**

**Dr. Randy Boman, Cotton Agronomics Manager – Windstar Inc.**

**Carey McKinney, Lonestar Gin Manager**

### **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 of 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 2020, ten varieties with Bollgard 3 XtendFlex technology were planted in a dryland field in a scientifically valid trial with three replicates. *This site was essentially undamaged by the June 9<sup>th</sup> regional high wind event. During the late square period, a considerable amount four-bract squares were observed in the trial. Cotton physiologists generally attribute four-bract squares to extreme heat during the differentiation phase of this tissue while it is located in the terminal. These four-bract squares were typically located on the lowest two to three fruiting nodes, mostly in first position sites. These squares later aborted, so some level of early season fruit loss was encountered in the trial. The trial was able to stay on track with growth and development and was unaffected by the September 9<sup>th</sup> record low temperature. Visually, it appeared to escape any damage associated with the cold spell. Other than encountering substantial moisture stress during late July and most of August, it was a highly uniform dryland variety trial.*

Harvest results indicated that statistically significant differences were observed. Lint yields ranged from a high of 702 lb/acre (DP 1522 B2XF) to a low of 582 lb/acre (DP 2022 B3XF), and averaged 630 lb/acre (Table 1). Average Loan value for varieties from commercially ginned and classed bales varied from a high of \$0.5650/lb (DP 2044 B3XF) to a low of \$0.5144/lb (DP 1522 B2XF). Overall Loan value for the trial across all entries was 0.5484/lb. When including lint Loan value on a per acre basis and net gin credit, statistically significant differences were found

in net value/acre among varieties. DP 1820 B3XF had the highest net value at \$412/acre, and DP 2022 B3XF had the lowest at \$336/acre, a difference of \$76/acre.

Table 2 presents in-season data including stand establishment percentage, vigor, nodes above white flower (NAWF) and plant height on two sampling dates, nodes above cracked boll (NACB) on October 8, and a visual estimate of storm resistance at harvest. NACB values for varieties ranged from a low of 1.1 to a high of 3.4, and averaged 2.4, indicating excellent maturity for nearly all entries in early October.

Table 3 provides the USDA-AMS classing results from each commercial bale for each variety and the variety averages. Averages indicate that color grades were typically 21 or 22 across entries. Leaf grades were excellent and ranged from 1.6 to 2.5. Staple ranged from an average high of 37.2 (NG 4098 B3XF) to an average low of 34.2 32nds inch (DP 1522 B2XF). Average micronaire values ranged from a high of 5.0 (DP 1522 B2XF) to a low of 4.1 (DP 2022 B3XF and ST 4480 B3XF). No bark contamination was noted in any of the commercial bales. Fiber strength ranged from a high of 35.8 g/tex to a low of 28.4 g/tex. Uniformity ranged from a high of 82.2% to a low of about 79.8%.

***Disclaimer: Readers should realize that results from one trial do not represent conclusive evidence that the same response would occur where conditions vary. Multi-site 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

Dryland field

Elevation: 1580 ft

Previous crop: wheat harvested in 2019

Tillage system: no-till into standing wheat residue

Planted: June 7

Replicates: 3 replicates in a randomized complete block design

Plot width: 12-row plots

Row spacing: 30-inch rows

Plot length: trial was planted in straight rows; ~2375 ft long (one-half mile rows minus headlands)

Seeding rate: 24,000 seed/acre

Days from planting to first bloom: 55 (August 1)

Total rainfall May through August: Not recorded at site, but Oklahoma Mesonet data from the Hobart recording station (about 6.4 miles east of the trial site) is provided in the Appendix

Fertility management:

No nitrogen fertilizer applied; 1 qt/acre Kickstand Zn at planting + 1 qt/acre Receptor at planting, 1 gal/acre Coron (10-0-10) + 1 qt/acre ENC on July 25, 1 gal/acre Coron + 1 qt/acre ENC on August 5

Chemical Applications:

Preemergence – 20 oz/acre Medal EC (s-metolachlor) + 1 qt/acre Roundup PowerMax

Post emergence – 1 qt/acre Roundup PowerMax on July 3

Post emergence – 1 qt/acre Roundup + XtendiMax on Aug 8

Plant growth regulators: 10 oz/acre Potenza mepiquat chloride on July 25, 4 oz/acre mepiquat chloride on August 5

Insecticides: 4 oz/acre Acephate 97 on July 3

Harvest aid applications: 36 oz/acre ethephon + 20 oz/acre tribufos (Folex) on October 23

Harvesting: November 16 using a John Deere CS690, with harvested area calculated by the GPS on the stripper monitor. Entire plot length was harvested with 1 round module harvested/plot. Round modules were weighed using the CS690 scale.

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 Lonestar Gin.

**Note that one of the 3 round modules for DP 1522 B2XF was destroyed by fire, so only 2 were ginned for that entry, and the commercial bale count was thus reduced.**

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 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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Appendix – Hobart Monthly Weather Data from the Oklahoma Mesonet - Station Located 6.4 Miles East of Trial.

### **Acknowledgements**

Lonestar Gin would like to thank Zac Harris and Marshall Davis for committing equipment, land, and time to conduct and manage the trial. Marshall Harris planted the trial and Zac Harris performed harvesting operations and we appreciate their excellent assistance. Gratitude is expressed to participating seed companies for providing testing seed. These include Deltapine, NexGen, and Stoneville. Gratitude is also expressed to Windstar Inc. Detailed ginning was performed by Malcom Jones, Dalton Skinner and the Lonestar ginning crew and a big thank you is extended to this hard-working group.



## 2020 XtendFlex Trial Variety Descriptions – Lonestar Gin

**Zac Harris Farm**  
**Hobart, OK**

**Dr. Randy Boman**  
**Cotton Agronomics Manager**

### Variety Descriptions from Company Literature and Websites

**DP 1522 B2XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 2 Bt technology. Early-medium maturity. Semi-smooth leaves, medium-tall plant height, storm resistance 5 (on scale of 1 = tight, 9 = loose). ~ 36 staple, strength ~30 g/tex. Disease ratings: Fusarium wilt – medium tolerance, Verticillium wilt – moderately susceptible, Bacterial blight – susceptible.

**DP 1646 B2XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 2 Bt technology. Medium-full maturity. Smooth leaves, medium-tall plant height, storm resistance 5 (on scale of 1 = tight, 9 = loose). ~ 38 staple, strength ~29 g/tex. Disease ratings: Fusarium wilt – moderately susceptible, Verticillium wilt – moderately susceptible, Bacterial blight – moderately resistant.

**DP 1820 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Early-medium maturity. Semi-smooth leaves, medium-tall plant height, storm resistance 3.5 (on scale of 1 = tight, 9 = loose). ~ 39 staple, strength ~30.6 g/tex. Disease ratings: Fusarium wilt – moderately susceptible, Verticillium wilt – moderately susceptible, Bacterial blight – resistant.

**DP 2022 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Early-medium maturity. Semi-smooth leaves, medium plant height, storm resistance 3.5 (on scale of 1 = tight, 9 = loose). ~ 37 staple, strength ~29.3 g/tex. Disease ratings: Fusarium wilt – n/a, Verticillium wilt – tolerant, Bacterial blight – resistant.

**DP 2044 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Medium-full maturity. Semi-smooth leaves, medium plant height, storm resistance 4.5 (on scale of 1 = tight, 9 = loose). ~ 39 staple, strength ~32.5 g/tex. Disease ratings: Fusarium wilt – no data, Verticillium wilt – moderately susceptible, Bacterial blight – resistant.

**NG 3930 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Early-Medium maturity. Storm tolerance 7 (scale of 0 = very loose, 9 = very storm tolerant), leaf hair semi-smooth, plant height medium-tall, node of first fruiting branch (avg) 6.7, staple 37-38, strength 29-30. Diseases (on scale of 0 very susceptible, 9 superior resistance): Fusarium wilt - no data, Verticillium wilt 7, Bacterial blight 8.

**NG 4098 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Medium maturity. Storm tolerance 8 (scale of 0 = very loose, 9 = very storm tolerant), leaf hair semi-smooth, plant height medium-tall, node of first fruiting branch (avg) 6, staple 38-39, strength 32-35. Diseases (on scale of 0 very susceptible, 9 superior resistance): Fusarium wilt - no data, Verticillium wilt 7, Bacterial blight 7.

**NG 4936 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Medium maturity. Storm tolerance 5 (scale of 0 = very loose, 9 = very storm tolerant), leaf hair smooth, plant height medium-tall, node of first fruiting branch (avg) 6.9, staple 37-39, strength 28-30. Diseases (on scale of 0 very susceptible, 9 superior resistance): Fusarium wilt - no data, Verticillium wilt 6, Bacterial blight 6.

**ST 4480 B3XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 3 Bt technology. Early-medium maturity. Semi-smooth leaves, medium plant height, storm resistance 6 (on scale of 0 = very loose, 9 = very storm tolerant). ~ 37.7 staple, strength ~31.1 g/tex. Disease ratings: Root knot nematode/Fusarium wilt – fair, Verticillium wilt – fair, Bacterial blight – resistant.

**ST 5707 B2XF** Roundup Ready Flex (glyphosate), Liberty Link (glufosinate), and dicamba stacked herbicide tolerance technologies stacked with Bollgard 2 Bt technology. Mid-full maturity. Semi-smooth leaves, tall/vigorous plant height, storm resistance 4 (on scale of 0 = very loose, 9 = very storm tolerant). ~ 37.1 staple, strength ~32.4 g/tex. Disease ratings: Root knot nematode/Fusarium wilt – fair, Verticillium wilt – fair, Bacterial blight – resistant.



Table 1. Harvest results for the dryland XtendFlex cotton variety trial, Harris Farm, Hobart, OK, 2020.

Entry	Lint turnout	Seed turnout	Bur cotton yield	Lint yield	Seed yield	Lint loan value	Lint loan value	Net gin credit	Net value
----- % -----									
DP 1820 B3XF	31.8	41.0	2193	696	899	0.5552	386	25	412 a
DP 1522 B2XF	33.5	46.7	2095	702	978	0.5144	361	37	398 a
NG 4936 B3XF	31.7	45.6	2013	637	918	0.5640	359	33	393 ab
NG 4098 B3XF	29.2	38.8	2162	631	838	0.5603	354	20	374 bc
NG 3930 B3XF	33.3	44.2	1875	625	829	0.5387	337	28	365 cd
ST 4480 B3XF	27.6	44.8	2122	585	951	0.5646	331	33	363 cd
DP 2044 B3XF	31.2	41.0	1926	600	790	0.5650	339	22	361 cd
DP 1646 B2XF	30.2	32.8	2069	624	678	0.5518	344	6	350 de
ST 5707 B2XF	29.5	39.1	2094	618	819	0.5148	318	20	338 e
DP 2022 B3XF	27.9	35.9	2088	582	749	0.5553	323	13	336 e
Test average	30.6	41.0	2064	630	845	0.5484	345	24	369
CV, %	--	--	3.9	3.9	4.2	--	3.9	5.4	3.9
OSL	--	--	0.0034	0.0001	0.0001	--	0.0003	0.0001	0.0001
LSD	--	--	114	35	50	--	19	2	21

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:

\$3.15/cwt commercial ginning cost.

\$210/ton for seed.

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

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



Table 2. Plant observation results from the dryland XtendFlex cotton variety trial, Harris Farm, Hobart, OK, 2020.

Entry	Final population	Stand establishment	Vigor	Nodes above white flower		Plant height		Nodes above cracked boll	Storm resistance
				Early bloom	+2 weeks	Early bloom	+2 weeks		
	plants/acre	%	1-5 visual scale, 5 best	count		inches		count	1-9 visual scale, 9 tight
	29-Jun	29-Jun	29-Jun	6-Aug	21-Aug	6-Aug	21-Aug	8-Oct	16-Nov
DP 1522 B2XF	18,295	76.2	4.3	7.7	2.5	28.3	30.1	2.2	4.2
DP 1646 B2XF	13,649	56.9	3.5	8.7	2.9	29.3	30.6	3.4	3.5
DP 1820 B3XF	17,424	72.6	4.0	8.3	2.7	28.9	29.2	2.2	4.8
DP 2022 B3XF	18,005	75.0	4.7	7.8	2.5	25.9	27.3	1.5	4.8
DP 2044 B3XF	17,714	73.8	4.7	7.1	2.0	24.4	26.3	2.9	4.5
NG 3930 B3XF	20,909	87.1	5.0	6.9	1.9	25.7	26.9	1.1	4.2
NG 4098 B3XF	18,005	75.0	5.0	6.9	1.9	23.5	24.5	3.1	5.3
NG 4936 B3XF	18,005	75.0	4.3	7.6	2.5	27.5	27.4	2.5	4.0
ST 4480 B3XF	17,714	73.8	3.8	8.7	3.6	28.1	28.1	2.5	4.3
ST 5707 B2XF	20,619	85.9	4.8	7.6	2.7	29.5	30.1	3.0	4.5
Test average	18,034	75.1	4.4	7.7	2.5	27.1	28.1	2.4	4.4
CV, %	6.9	6.9	2.1	7.1	18.4	3.4	3.3	22.1	7.1
OSL	0.0001	0.0001	0.0001	0.0025	0.0073	0.0001	0.0001	0.0011	0.0001
LSD	1,751	7.3	0.3	0.8	0.7	1.3	1.3	0.8	0.5

CV - coefficient of variation.

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

LSD - least significant difference at the 0.10 level.



Table 3. Commercial classing data for the dryland XtendFlex cotton variety trial, Harris Farm, Hobart, OK, 2020.

Variety and Bale Number	Color Grade-Quadrant grade-quadrant	Color digit 1	Color digit 2	Leaf grade	Staple 32nds inch	Micronaire units	Extraneous matter	Remarks --	Strength g/tex	Rd %	+b %	Trash % area	Uniformity %	Length 100ths inch	Loan rate cents/lb
<b>DP 1522 B2XF</b>															
650964	22-2	2	2	2	34	4.7	.	.	31.2	76.0	9.9	1	79.9	106	52.50
650965	22-1	2	2	2	35	5.0	.	.	30.0	76.6	9.8	2	82.3	108	51.50
650966	22-1	2	2	2	34	5.1	.	.	31.5	76.6	9.8	2	81.2	105	50.65
650967	21-4	2	1	2	34	5.1	.	.	29.8	78.1	9.2	2	81.9	107	51.15
650968	21-4	2	1	2	34	5.1	.	.	30.5	77.5	9.3	1	82.2	105	51.40
Average	--	2.0	1.6	2.0	34.2	5.0	none	none	30.6	77.0	9.6	1.6	81.5	106.2	51.44
<b>DP 1646 B2XF</b>															
650920	22-2	2	2	3	36	4.0	.	.	31.0	76.2	9.8	3	80.2	112	54.80
650921	22-1	2	2	3	37	4.5	.	.	30.1	77.1	9.9	2	81.5	116	54.90
650922	22-1	2	2	2	37	4.3	.	.	30.1	77.4	10.1	1	81.2	114	55.35
650923	22-1	2	2	2	37	4.3	.	.	29.5	77.1	9.8	1	81.5	117	55.15
650924	22-1	2	2	2	37	4.2	.	.	29.7	76.5	10.0	1	80.9	115	55.20
650925	22-1	2	2	2	37	4.1	.	.	31.2	76.1	10.4	1	82.0	116	55.65
Average	--	2.0	2.0	2.3	36.8	4.2	none	none	30.3	76.7	10.0	1.5	81.2	115.0	55.18
<b>DP 1820 B3XF</b>															
650939	12-2	1	2	1	37	4.5	.	.	33.7	76.8	10.6	1	80.4	115	55.60
650940	22-1	2	2	2	36	4.2	.	.	32.9	76.2	10.3	2	80.9	113	55.25
650941	22-1	2	2	1	36	4.2	.	.	35.7	76.5	10.3	1	82.0	113	55.35
650942	22-1	2	2	2	37	4.3	.	.	34.0	76.4	10.3	1	80.6	114	55.60
650943	22-1	2	2	2	37	4.2	.	.	36.1	76.5	10.4	1	82.5	117	55.70
650944	22-1	2	2	1	37	4.4	.	.	36.2	76.4	10.2	1	81.6	116	55.60
650945	22-1	2	2	2	37	4.7	.	.	31.7	76.6	10.1	1	80.5	114	55.55
Average	--	1.9	2.0	1.6	36.7	4.4	none	none	34.3	76.5	10.3	1.1	81.2	114.6	55.52



Table 3 (continued). Commercial classing data for the dryland XtendFlex cotton variety trial, Harris Farm, Hobart, OK, 2020.

Variety and Bale Number	Color Grade-Quadrant grade-quadrant	Color digit 1	Color digit 2	Leaf grade	Staple 32nds inch	Micronaire units	Extraneous matter	Remarks --	Strength g/tex	Rd %	+b %	Trash % area	Uniformity %	Length 100ths inch	Loan rate cents/lb
<b>DP 2022 B3XF</b>															
650926	21-3	2	1	3	36	3.9	.	.	29.6	78.1	9.4	2	81.5	113	56.00
650927	21-2	2	1	3	35	4.2	.	.	29.8	78.7	8.6	3	80.8	108	54.65
650928	21-2	2	1	3	36	4.0	.	.	31.8	78.9	8.7	3	81.2	111	56.40
650929	21-2	2	1	2	36	4.3	.	.	28.7	78.1	8.9	2	80.8	111	56.30
650930	21-1	2	1	2	36	4.0	.	.	28.7	78.5	9.1	2	80.2	111	56.35
650931	21-3	2	1	2	34	4.2	.	.	28.6	79.0	9.4	2	80.6	106	53.50
Average	--	2.0	1.0	2.5	35.5	4.1	none	none	29.5	78.6	9.0	2.3	80.9	110.0	55.53
<b>DP 2044 B3XF</b>															
650958	21-3	2	1	2	37	4.0	.	.	35.2	78.2	9.6	1	81.4	116	57.30
650959	21-3	2	1	2	36	4.1	.	.	34.6	78.6	9.5	2	80.5	113	56.85
650960	21-3	2	1	2	37	4.1	.	.	32.7	77.8	9.6	2	79.3	114	56.75
650961	21-3	2	1	2	36	4.1	.	.	33.3	78.1	9.6	2	79.4	112	56.35
650962	21-3	2	1	1	35	4.2	.	.	32.4	78.2	9.6	1	78.2	109	55.00
650963	21-3	2	1	2	37	4.3	.	.	33.4	78.6	9.4	2	79.9	114	56.75
Average	--	2.0	1.0	1.8	36.3	4.1	none	none	33.6	78.3	9.6	1.7	79.8	113.0	56.50
<b>NG 3930 B3XF</b>															
650969	21-1	2	1	2	35	4.6	.	.	30.2	78.5	8.9	2	81.6	110	55.35
650970	21-1	2	1	2	34	4.8	.	.	27.9	78.8	9.0	1	80.4	105	53.45
650971	21-1	2	1	2	34	4.8	.	.	28.4	79.1	9.0	1	80.4	105	53.45
650972	21-2	2	1	2	34	4.8	.	.	28.0	79.3	8.7	1	79.8	106	52.95
650973	31-1	3	1	2	35	4.7	.	.	28.0	77.9	8.8	2	82.0	108	54.55
650974	21-1	2	1	2	34	4.8	.	.	28.1	79.1	8.9	2	80.6	106	53.45
Average	--	2.2	1.0	2.0	34.3	4.8	none	none	28.4	78.8	8.9	1.5	80.8	106.7	53.87



Table 3 (continued). Commercial classing data for the dryland XtendFlex cotton variety trial, Harris Farm, Hobart, OK, 2020.

Variety and Bale Number	Color Grade-Quadrant grade-quadrant	Color digit 1	Color digit 2	Leaf grade	Staple 32nds inch	Micronaire units	Extraneous matter	Remarks --	Strength g/tex	Rd %	+b %	Trash %	Uniformity %	Length 100ths inch	Loan rate cents/lb
<b>NG 4098 B3XF</b>															
650952	22-1	2	2	2	38	4.2	.	.	37.6	75.8	10.3	2	81.7	119	55.70
650953	22-1	2	2	3	37	4.1	.	.	38.0	77.0	10.2	2	81.1	115	55.20
650954	22-1	2	2	2	37	4.2	.	.	33.7	76.0	10.3	2	79.9	116	55.15
650955	22-2	2	2	2	37	4.1	.	.	37.1	75.9	10.0	2	80.6	115	55.65
650956	21-3	2	1	2	37	4.4	.	.	36.2	77.5	9.9	2	81.8	116	57.25
650957	21-3	2	1	2	37	4.4	.	.	32.2	77.5	9.9	1	82.0	116	57.25
Average	--	2.0	1.7	2.2	37.2	4.2	none	none	35.8	76.6	10.1	1.8	81.2	116.2	56.03
<b>NG 4936 B3XF</b>															
650946	21-3	2	1	2	37	4.3	.	.	30.5	78.4	9.5	2	80.9	114	57.00
650947	21-2	2	1	2	36	4.5	.	.	28.7	78.4	9.1	1	80.6	111	56.30
650948	21-4	2	1	2	36	4.5	.	.	30.2	77.2	9.6	2	81.3	112	56.55
650949	22-1	2	2	2	37	4.4	.	.	28.5	77.1	9.8	1	82.9	114	55.15
650950	21-3	2	1	1	36	4.4	.	.	29.4	78.1	9.7	1	81.8	113	56.35
650951	21-3	2	1	1	37	4.6	.	.	30.8	77.7	9.4	1	82.2	115	57.05
Average	--	2.0	1.2	1.7	36.5	4.5	none	none	29.7	77.8	9.5	1.3	81.6	113.2	56.40



Table 3 (continued). Commercial classing data for the dryland XtendFlex cotton variety trial, Harris Farm, Hobart, OK, 2020.

Variety and Bale Number	Color Grade-Quadrant grade-quadrant	Color digit 1	Color digit 2	Leaf grade	Staple 32nds inch	Micronaire units	Extraneous matter	Remarks --	Strength g/tex	Rd %	+b %	Trash %	Uniformity %	Length 100ths inch	Loan rate cents/lb
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**ST 4480 B3XF**

650981	21-1	2	1	3	37	3.7	.	.	34.0	79.2	9.1	2	81.8	117	56.85
650982	21-1	2	1	2	37	4.0	.	.	32.2	79.1	9.2	2	79.9	114	56.75
650983	21-1	2	1	2	36	4.1	.	.	32.3	80.2	8.5	2	81.9	112	56.80
650984	21-1	2	1	3	36	4.1	.	.	33.0	80.2	8.8	2	80.8	112	56.45
650985	21-1	2	1	2	37	4.1	.	.	31.7	80.0	8.6	2	81.8	114	57.25
650986	21-1	2	1	2	35	4.5	.	.	29.3	81.1	8.1	1	79.4	109	54.65
Average	--	2.0	1.0	2.3	36.3	4.1	none	none	32.1	80.0	8.7	1.8	80.9	113.0	56.46

**ST 5707 B2XF**

650975	22-1	2	2	2	35	4.9	.	.	33.3	74.5	11.0	1	81.1	109	54.05
650976	22-1	2	2	2	37	4.6	.	.	34.8	75.1	10.9	1	82.6	115	55.65
650977	23-1	2	3	2	35	4.8	.	.	33.9	73.7	11.1	2	82.1	110	49.55
650978	23-1	2	3	2	35	4.8	.	.	33.9	73.7	11.1	2	82.1	110	49.55
650979	23-2	2	3	1	36	4.6	.	.	33.9	74.1	11.0	1	82.4	112	50.05
650980	23-1	2	3	2	36	4.6	.	.	32.6	74.2	11.1	1	82.6	112	50.00
Average	--	2.0	2.7	1.8	35.7	4.7	none	none	33.7	74.2	11.0	1.3	82.2	111.3	51.48



# Appendix

**Hobart Monthly Weather Data from the Oklahoma Mesonet  
Station Located 6.4 Miles East of Trial**



MESONET CLIMATOLOGICAL DATA SUMMARY (HOBA) Hobart Latitude: 34-59-22							May 2020 Nearest City: 4.0 SE Hobart Longitude: 99-03-10					Time Zone: Midnight-Midnight CST County: Kiowa Elevation: 1552 feet								
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)	SOLAR (MJ/m2)	4" SOIL TEMPERATURES					
	MAX	MIN	AVG	DEWPt	HDD	CDD	MAX	MIN	AVG		STN	MSL			SOD	BARE	MAX	MIN		
1	96	61	77.2	52.3	0	13	67	23	45	0.00	28.18	29.81	S	21.3	37.1	27.52	64.4	73.6	82	66
2	98	65	80.7	57.1	0	16	73	16	48	0.00	28.16	29.79	S	17.4	31.3	29.24	66.7	77.0	86	69
3	82	63	73.4	64.0	0	8	98	53	74	0.00	28.23	29.86	NNE	12.4	22.8	21.94	68.4	77.1	83	72
4	101	64	79.8	61.2	0	18	100	14	61	0.00	28.13	29.76	E	16.3	37.9	29.37	69.5	78.9	87	72
5	77	54	66.0	40.4	0	1	73	17	44	0.00	28.49	30.14	NNE	13.3	34.2	25.87	68.3	75.5	81	71
6	80	52	66.0	42.1	0	1	64	24	44	0.00	28.54	30.19	ESE	7.3	20.1	27.78	67.4	74.5	83	67
7	86	53	69.1	51.9	0	5	90	29	57	0.09	28.25	29.89	SSE	18.1	56.0	19.02	66.9	72.3	78	68
8	68	45	58.0	42.4	9	0	94	30	60	0.01	28.50	30.15	NNE	20.6	49.4	27.89	65.8	69.3	74	65
9	73	39	57.5	37.3	9	0	87	25	52	0.00	28.54	30.19	SE	6.8	19.3	30.02	64.3	68.3	78	59
10	71	51	60.0	44.2	4	0	81	38	58	0.00	28.59	30.25	ENE	12.9	29.8	23.93	64.8	69.5	76	64
11	74	50	59.5	42.3	3	0	93	36	55	0.26	28.50	30.15	E	15.7	29.4	15.14	63.6	67.1	72	63
12	55	46	50.5	49.0	15	0	99	89	95	0.11	28.36	30.01	NE	13.7	26.3	7.52	61.8	61.0	66	59
13	84	53	66.9	60.8	0	3	100	53	83	0.38	28.21	29.85	S	16.2	59.2	15.99	63.0	64.9	73	59
14	89	62	75.8	63.3	0	11	89	45	67	0.00	28.15	29.78	SSE	19.5	47.4	26.73	66.0	70.6	80	63
15	92	60	72.7	63.3	0	11	95	36	75	0.18	28.13	29.77	SSE	17.2	50.3	20.45	68.6	74.6	86	69
16	71	60	64.5	61.2	0	1	97	74	90	0.21	28.24	29.87	NNE	5.8	22.2	9.34	67.3	68.3	72	66
17	83	59	70.4	55.5	0	6	98	27	66	0.00	28.32	29.96	NNE	7.9	21.5	29.17	68.4	70.7	79	63
18	86	57	71.3	57.9	0	6	90	42	66	0.00	28.29	29.93	ENE	10.1	21.9	28.58	69.4	74.2	85	64
19	85	62	72.4	60.4	0	8	90	46	68	0.00	28.22	29.86	E	13.5	27.6	29.01	70.1	77.2	87	69
20	78	58	68.7	60.2	0	3	94	58	75	0.02	28.23	29.87	ESE	12.8	28.3	12.35	69.3	74.0	78	70
21	85	65	73.5	66.1	0	10	97	52	80	0.14	28.15	29.79	SE	13.0	40.2	22.41	70.1	75.1	83	69
22	89	59	75.0	63.9	0	9	95	37	71	0.01	28.16	29.80	E	11.9	39.2	26.76	71.7	78.6	89	69
23	90	64	76.0	63.3	0	12	99	35	68	1.32	28.17	29.81	S	17.7	51.0	25.29	71.8	79.0	87	73
24	86	59	73.3	63.8	0	8	98	50	74	0.62	28.16	29.80	S	16.4	44.4	25.90	71.2	74.4	80	70
25	70	59	63.4	58.3	1	0	98	70	84	0.01	28.23	29.87	NNW	12.0	26.2	10.03	69.7	68.1	71	65
26	79	57	66.7	52.0	0	3	89	33	63	0.00	28.28	29.92	NNW	11.5	28.1	27.27	69.0	67.5	74	62
27	84	58	70.3	55.0	0	6	97	30	64	0.00	28.26	29.90	ENE	5.9	17.5	24.42	70.0	69.9	78	63
28	84	60	72.1	57.9	0	7	95	40	64	0.00	28.38	30.03	NNE	9.2	29.2	20.98	70.5	72.2	80	66
29	88	58	73.9	55.9	0	8	91	28	59	0.00	28.53	30.18	SE	5.7	18.2	29.73	70.8	76.9	89	66
30	88	61	74.1	56.8	0	9	92	33	58	0.00	28.50	30.15	SSE	9.2	24.3	29.22	71.7	79.4	89	71
31	88	60	74.2	56.1	0	9	86	30	57	0.00	28.50	30.15	SE	10.6	24.1	30.09	71.8	79.7	89	71
	83	57	69.4	55.4	<- Monthly Averages ->				28.31	29.95	NNE	13.0	59.2	23.51	68.1	72.9	80	67		
Temperature - Highest: 101 Lowest: 39					Degree Days - Total HDD: 40 Total CDD: 192					Number of Days With: Tmax ≥ 90: 5 Rainfall ≥ 0.01 inch: 13 Tmax ≤ 32: 0 Rainfall ≥ 0.10 inch: 8 Tmin ≤ 32: 0 Avg Wind Speed ≥ 10 mph: 23 Tmin ≤ 0: 0 Max Wind Speed ≥ 30 mph: 13										
Rainfall: Monthly Total: 3.36 in. Greatest 24 Hr: 1.32 in.					Humidity - Highest: 100 Lowest: 14															

MESONET CLIMATOLOGICAL DATA SUMMARY (HOBA) Hobart Latitude: 34-59-22								June 2020 Nearest City: 4.0 SE Hobart Longitude: 99-03-10					Time Zone: Midnight-Midnight CST County: Kiowa Elevation: 1552 feet							
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)	SOLAR (MJ/m2)	4" SOIL TEMPERATURES					
	MAX	MIN	AVG	DEWPt	HDD	CDD	MAX	MIN	AVG		STN	MSL			SOD	BARE	MAX	MIN		
1	90	65	75.9	59.9	0	12	78	35	59	0.00	28.46	30.11	SSE	13.1	28.3	21.93	71.9	79.1	86	73
2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00*	NA	NA	S *	NA	28.7*	NA	NA	NA	NA	NA
3	97	69	83.0	65.7	0	18	91	34	60	0.00	28.27	29.91	SSW	13.9	28.5	29.05	74.1	83.8	93	76
4	103	69	82.4	63.6	0	21	85	23	59	0.30	28.19	29.83	S	11.4	53.4	26.32	75.5	85.5	96	78
5	97	69	82.7	67.2	0	18	90	35	62	0.06	28.27	29.91	SSE	10.4	52.8	30.19	76.0	82.6	92	74
6	98	70	84.0	66.8	0	19	92	28	60	0.00	28.28	29.92	S	12.0	26.5	30.29	77.0	85.8	95	77
7	94	74	82.8	66.6	0	19	84	34	60	0.00	28.19	29.83	SSE	15.2	28.0	30.07	76.9	86.4	95	79
8	96	69	83.7	66.6	0	18	89	38	59	0.00	28.06	29.69	SE	11.9	26.6	29.72	77.1	86.8	96	78
9	82	59	73.9	49.7	0	6	81	24	45	0.00	28.11	29.74	WNW	22.5	51.2	29.53	76.2	83.8	89	78
10	87	52	70.9	41.1	0	4	74	18	39	0.00	28.47	30.12	NNW	12.8	35.0	31.64	73.7	79.2	88	71
11	95*	58*	77.0*	45.1*	0*	11*	61*	18*	36*	0.00*	28.60*	30.25*	SSE*	13.1*	32.1*	NA	73.8*	80.8*	89*	72*
12	94	60	78.5	49.1	0	12	72	18	39	0.00	28.59	30.24	S	12.5	34.5	28.15	74.6	82.1	90	75
13	96	63	80.9	52.3	0	15	75	18	41	0.00	28.45	30.10	S	15.0	30.0	30.49	75.2	82.9	91	75
14	94	65	80.7	53.6	0	15	74	20	42	0.00	28.45	30.09	SSE	14.3	30.0	30.54	76.0	83.9	92	77
15	95	63	80.6	55.1	0	14	71	25	44	0.00	28.48	30.13	SSE	13.7	37.3	29.08	76.4	83.7	91	76
16	95	73	83.5	60.1	0	19	70	29	47	0.00	28.42	30.06	SSE	17.0	33.9	28.98	77.3	85.0	92	79
17	96	72	83.8	56.6	0	19	68	23	43	0.00	28.31	29.95	SSE	20.3	36.0	27.92	77.6	85.0	91	79
18	97	73	83.8	63.7	0	20	62	37	52	0.00	28.22	29.86	SSE	20.2	36.1	19.84	77.6	84.2	90	80
19	87	66	74.3	64.8	0	12	96	52	74	0.19	28.30	29.94	SSE	16.0	34.6	10.98	77.3	81.7	87	77
20	90	65	77.1	63.7	0	13	95	36	66	0.00	28.32	29.96	SSE	10.6	42.2	26.03	76.4	80.9	91	73
21	91	63	78.2	66.3	0	12	97	42	69	0.24	28.23	29.87	SE	16.5	67.4	22.82	76.9	82.7	89	77
22	90	63	76.5	65.8	0	11	96	46	72	0.56	28.27	29.91	S	7.9	29.0	27.55	76.5	80.6	88	73
23	87	67	75.4	65.7	0	12	99	45	74	1.39	28.34	29.98	E	10.7	40.3	26.59	76.5	78.7	84	74
24	90	63	77.1	59.7	0	11	96	31	60	0.00	28.34	29.98	SSE	7.1	18.6	29.99	77.1	77.9	85	71
25	92	65	79.4	64.1	0	13	90	35	63	0.00	28.33	29.97	SSE	11.1	26.1	29.98	77.3	80.7	92	71
26	96	68	82.8	68.0	0	17	96	36	65	0.00	28.31	29.96	S	14.4	29.6	27.90	78.0	84.5	94	76
27	94	72	82.8	67.9	0	18	87	41	63	0.00	28.22	29.86	S	19.0	35.7	26.87	78.2	85.7	93	79
28	93	75	83.2	69.6	0	19	78	50	64	0.00	28.07	29.70	S	23.2	39.0	26.19	78.3	85.9	93	80
29	98	75	85.5	71.6	0	22	89	43	65	0.00	28.04	29.67	S	26.0	41.0	27.79	78.7	86.8	94	80
30	103	74	87.7	69.3	0	24	82	28	58	0.00	28.08	29.71	S	19.9	35.3	28.93	79.4	88.4	96	81
	94*	67*	80.3*	61.3*	<- Monthly Averages ->					28.30*	29.94*	SSE*	14.9*	67.4*	27.33*	76.5*	83.3*	91*	76*	
Temperature - Highest: 103* Lowest: 52*					Degree Days - Total HDD: 0* Total CDD: 442*					Number of Days With: Tmax ≥ 90: 25* Rainfall ≥ 0.01 inch: 6* Tmax ≤ 32: 0* Rainfall ≥ 0.10 inch: 5* Tmin ≤ 32: 0* Avg Wind Speed ≥ 10 mph: 27* Tmin ≤ 0: 0* Max Wind Speed ≥ 30 mph: 20*										
Rainfall: Monthly Total: 2.74* in. Greatest 24 Hr: 1.39* in.					Humidity - Highest: 99* Lowest: 18*															

MESONET CLIMATOLOGICAL DATA SUMMARY (HOBA) Hobart Latitude: 34-59-22							July 2020 Nearest City: 4.0 SE Hobart Longitude: 99-03-10					Time Zone: Midnight-Midnight CST County: Kiowa Elevation: 1552 feet								
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)	SOLAR (MJ/m2)	4" SOIL TEMPERATURES					
	MAX	MIN	AVG	DEWPt	HDD	CDD	MAX	MIN	AVG		STN	MSL			SOD	BARE	MAX	MIN		
1	102	74	87.8	70.5	0	23	84	31	60	0.00	28.16	29.80	S	13.7	28.3	28.04	80.4	90.1	99	82
2	99	72	86.3	68.2	0	21	97	32	59	0.00	28.29	29.93	SSE	12.1	25.6	27.94	81.2	90.4	98	83
3	99	71	85.7	66.4	0	20	88	31	56	0.00	28.34	29.99	SE	7.2	24.5	27.91	81.5	91.1	100	83
4	93	75	82.1	69.8	0	19	84	47	67	0.00	28.31	29.95	ENE	8.2	22.7	19.10	81.5	89.6	95	85
5	92	71	78.8	68.8	0	17	93	43	74	0.09	28.29	29.93	E	6.7	28.3	22.89	81.1	88.0	96	82
6	92	72	80.4	69.9	0	17	94	45	73	0.00	28.31	29.95	E	7.0	22.8	23.97	80.8	88.4	96	82
7	90	70	79.1	69.5	0	15	100	49	75	0.00	28.33	29.97	SE	6.0	20.4	25.31	80.8	88.9	96	82
8	97	72	84.9	71.2	0	19	98	38	67	0.00	28.23	29.87	SSE	12.9	30.1	27.09	81.5	89.9	98	83
9	100	76	88.1	71.6	0	23	85	37	61	0.00	28.18	29.82	S	17.4	38.7	27.51	82.5	90.9	98	84
10	94	72	82.8	70.5	0	18	94	45	68	0.04	28.34	29.98	SSE	15.1	41.6	18.51	82.0	87.9	92	84
11	105	76	90.3	70.5	0	26	87	28	56	0.00	28.31	29.95	S	13.5	25.9	27.85	82.2	90.0	99	83
12	96	72	84.0	68.3	0	19	88	38	61	0.08	28.30	29.94	ESE	10.4	30.7	22.70	82.6	89.3	95	83
13	100	78	88.5	69.8	0	24	81	31	56	0.00	28.19	29.83	SE	13.4	35.7	25.97	82.4	90.6	98	84
14	108	79	91.5	62.0	0	29	65	19	41	0.00	28.12	29.76	SSE	19.2	37.3	25.00	82.5	90.8	97	85
15	102	76	88.4	64.2	0	24	74	21	47	0.00	28.25	29.89	E	11.4	32.7	24.71	82.9	91.4	99	85
16	101	72	85.5	69.4	0	21	87	29	62	0.00	28.35	30.00	E	11.3	28.7	25.26	83.5	91.5	99	85
17	102	76	88.7	65.6	0	24	70	27	49	0.00	28.36	30.01	SSE	13.5	31.0	28.60	84.1	92.1	99	85
18	99	74	86.5	67.6	0	21	83	35	56	0.00	28.33	29.98	S	16.1	30.5	28.47	84.2	91.1	98	85
19	98	74	85.3	66.1	0	21	81	32	55	0.00	28.33	29.97	SSE	13.7	30.0	21.72	83.7	89.3	95	84
20	100	71	83.7	65.7	0	21	98	28	59	2.01	28.30	29.94	S	12.8	44.6	24.58	82.7	87.6	97	80
21	81	72	75.6	70.7	0	12	95	70	85	0.09	28.33	29.98	S	7.0	25.4	6.25	79.8	79.8	81	78
22	93*	70*	80.2*	71.7*	0*	17*	97*	45*	78*	0.28*	28.35*	29.99*	SE *	6.6*	34.0*	NA	80.6*	82.1*	90*	76*
23	93	74	80.3	73.2	0	19	94	52	80	0.13	28.36	30.01	SE	8.3	39.6	19.96	81.8	81.6	87	78
24	93	74	82.8	70.6	0	18	94	46	69	0.00	28.37	30.02	SSE	9.6	24.9	25.26	82.1	81.6	87	77
25	93	73	82.1	71.4	0	18	94	48	72	0.00	28.37	30.01	SSE	9.7	24.9	23.31	82.1	82.7	91	76
26	93	70	82.2	69.8	0	17	96	44	69	0.00	28.40	30.04	SSE	9.3	28.5	26.50	81.9	85.8	96	77
27	95	72	79.2	70.8	0	18	98	40	78	0.13	28.37	30.01	S	8.3	38.2	15.26	81.5	85.0	93	80
28	87	72	77.8	72.9	0	15	99	62	86	0.91	28.31	29.95	S	7.7	17.2	15.66	80.6	81.1	86	78
29	97	72	82.0	72.1	0	19	97	40	75	0.15	28.25	29.89	S	10.4	23.2	24.06	81.4	81.7	88	77
30	94	71	79.3	70.0	0	18	96	45	75	0.12	28.27	29.91	S	8.7	32.8	22.98	81.7	81.3	89	76
31	87	64	75.0	62.3	0	11	92	36	68	0.00	28.39	30.04	N	11.2	26.2	28.70	80.7	80.1	88	73
	96*	73*	83.4*	69.1*	<- Monthly Averages ->					28.30*	29.95*	S *	10.9*	44.6*	23.70*	81.9*	87.1*	94*	81*	
Temperature - Highest: 108* Lowest: 64*					Degree Days - Total HDD: 0* Total CDD: 601*					Number of Days With: Tmax ≥ 90: 28* Rainfall ≥ 0.01 inch: 11* Tmax ≤ 32: 0* Rainfall ≥ 0.10 inch: 7* Tmin ≤ 32: 0* Avg Wind Speed ≥ 10 mph: 17* Tmin ≤ 0: 0* Max Wind Speed ≥ 30 mph: 15*										
Rainfall: Monthly Total: 4.03* in. Greatest 24 Hr: 2.01* in.					Humidity - Highest: 100* Lowest: 19*															

MESONET CLIMATOLOGICAL DATA SUMMARY (HOBA) Hobart Latitude: 34-59-22								August 2020 Nearest City: 4.0 SE Hobart Longitude: 99-03-10						Time Zone: Midnight-Midnight CST County: Kiowa Elevation: 1552 feet						
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND DIR	SPEED (mph)	SOLAR (MJ/m2)	4" SOIL TEMPERATURES				
	MAX	MIN	AVG	DEWPt	HDD	CDD	MAX	MIN	AVG		STN	MSL				SOD	BARE	MAX	MIN	
1	90	60	75.2	61.5	0	10	96	31	66	0.00	28.39	30.04	NW	6.2	18.5	28.01	79.6	81.9	93	72
2	90	65	76.6	65.0	0	12	94	40	70	0.01	28.40	30.04	ENE	5.1	20.0	24.36	79.6	84.1	94	76
3	86	65	75.0	62.1	0	11	87	47	65	0.00	28.44	30.09	ENE	8.2	16.8	24.36	79.3	84.3	93	77
4	84	65	74.3	62.8	0	9	96	51	69	0.90	28.41	30.06	ESE	11.4	25.1	25.88	78.0	79.6	85	74
5	85	63	73.1	65.8	0	9	97	55	79	0.03	28.37	30.02	ESE	9.6	26.8	21.52	78.2	77.2	84	72
6	93	69	80.4	68.6	0	16	98	39	71	0.00	28.29	29.94	SSE	12.0	27.2	17.49	78.6	78.8	84	75
7	96	74	85.0	65.6	0	20	71	35	53	0.00	28.30	29.94	S	17.1	33.9	25.01	78.8	83.0	92	75
8	97	75	86.2	65.5	0	21	73	34	51	0.00	28.34	29.99	S	15.4	31.3	23.76	79.1	85.9	95	79
9	98	73	86.1	64.8	0	21	71	33	51	0.00	28.34	29.98	S	14.8	29.4	27.14	79.3	87.2	96	79
10	97*	72*	85.8*	64.0*	0*	20*	84*	30*	50*	0.40*	28.30*	29.94*	S *	15.5*	64.5*	NA	79.7*	88.4*	97*	81*
11	98	67	81.9	68.2	0	17	97	33	67	0.02	28.28	29.93	E	7.2	47.5	26.46	79.6	84.6	91	77
12	99	69	84.4	68.9	0	19	99	31	64	0.00	28.26	29.90	SSE	10.0	27.0	21.76	80.5	85.1	94	78
13	103	75	88.6	63.7	0	24	72	23	47	0.00	28.22	29.86	S	13.2	33.0	25.18	80.4	87.7	97	80
14	98	66	83.1	67.7	0	17	88	38	62	0.00	28.23	29.87	E	8.9	20.0	25.76	80.1	88.4	99	79
15	96	73	84.2	71.8	0	20	94	39	69	0.00	28.34	29.98	ENE	9.8	22.4	26.16	81.0	90.1	99	82
16	92	66	79.0	68.0	0	14	95	33	72	0.00	28.43	30.08	ENE	10.5	37.5	17.70	80.8	87.9	95	83
17	94	64	78.4	63.8	0	14	94	35	64	0.00	28.50	30.15	ENE	6.7	19.5	25.53	79.6	86.6	97	78
18	94	65	78.2	57.8	0	14	90	22	55	0.00	28.45	30.10	E	6.2	22.0	26.54	79.4	87.5	97	79
19	93	60	76.1	56.3	0	12	83	29	54	0.00	28.37	30.01	E	5.1	18.0	22.65	78.5	85.5	94	77
20	93	66	78.5	57.1	0	15	80	26	51	0.00	28.29	29.93	SSE	6.9	22.6	24.50	78.8	86.4	95	79
21	93	67	77.7	59.7	0	15	73	30	56	0.00	28.27	29.91	S	10.6	34.1	19.11	78.7	84.8	91	79
22	96	64	80.2	58.2	0	15	91	27	51	0.00	28.29	29.94	SE	7.1	19.2	25.23	78.9	85.6	94	78
23	96	64	81.4	57.0	0	15	79	25	46	0.00	28.36	30.01	SSE	8.4	21.1	24.89	79.2	85.9	94	78
24	96	65	81.2	58.5	0	16	79	28	49	0.00	28.41	30.05	SSE	9.0	21.4	25.15	79.4	86.1	94	79
25	95	64	79.9	57.0	0	15	76	22	49	0.00	28.38	30.02	SE	7.3	21.0	25.22	79.5	86.2	95	78
26	96	65	80.7	62.3	0	16	83	25	58	0.00	28.29	29.93	SSE	8.9	24.2	24.19	79.5	86.3	94	79
27	96	67	80.6	66.6	0	16	97	33	66	0.00	28.22	29.86	SSE	8.6	23.5	24.50	80.4	87.2	95	80
28	108	69	88.3	59.9	0	23	82	16	44	0.00	28.15	29.79	S	10.4	23.0	24.65	80.8	88.0	96	81
29	94	73	83.7	65.7	0	19	83	42	56	0.00	28.22	29.86	NE	13.8	39.1	22.66	81.4	89.3	97	84
30	92	69	79.8	70.7	0	16	97	50	76	0.53	28.14	29.78	SSW	8.4	24.3	22.68	81.0	85.9	93	79
31	97	72	83.4	70.1	0	20	89	44	66	0.00	28.12	29.75	S	10.7	31.6	17.23	81.2	85.8	94	79
	95*	68*	80.9*	63.7*	<- Monthly Averages ->					28.32*	29.96*	S *	9.8*	64.5*	23.84*	79.6*	85.5*	94*	78*	
Temperature - Highest: 108* Lowest: 60*					Degree Days - Total HDD: 0* Total CDD: 500*					Number of Days With: Tmax ≥ 90: 28* Rainfall ≥ 0.01 inch: 6* Tmax ≤ 32: 0* Rainfall ≥ 0.10 inch: 3* Tmin ≤ 32: 0* Avg Wind Speed ≥ 10 mph: 13* Tmin ≤ 0: 0* Max Wind Speed ≥ 30 mph: 9*										
Rainfall: Monthly Total: 1.89* in. Greatest 24 Hr: 0.90* in.					Humidity - Highest: 99* Lowest: 16*															

MESONET CLIMATOLOGICAL DATA SUMMARY (HOBA) Hobart Latitude: 34-59-22								September 2020 Nearest City: 4.0 SE Hobart Longitude: 99-03-10						Time Zone: Midnight-Midnight CST County: Kiowa Elevation: 1552 feet						
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)	SOLAR (MJ/m2)	4" SOIL TEMPERATURES					
	MAX	MIN	AVG	DEWPt	HDD	CDD	MAX	MIN	AVG		STN	MSL			SOD	BARE	MAX	MIN		
1	78	70	73.7	71.0	0	9	98	81	91	0.06	28.17	29.80	SE	10.3	28.7	9.70	80.0	81.2	84	78
2	86	66	72.4	68.3	0	11	99	56	89	2.27	28.27	29.91	NE	6.3	49.3	12.35	77.1	77.5	88	74
3	91	63	76.1	67.1	0	12	100	41	77	0.01	28.33	29.97	S	5.0	12.4	24.72	76.1	78.3	88	70
4	90	68	78.2	69.2	0	14	99	46	77	0.00	28.49	30.14	SSE	6.3	14.8	23.59	78.2	80.9	89	74
5	89	68	78.1	68.8	0	14	98	47	76	0.00	28.60	30.25	S	8.1	21.5	23.35	78.7	82.2	92	75
6	93	68	80.3	65.6	0	15	93	37	64	0.00	28.42	30.07	S	13.8	30.6	23.54	78.5	83.5	93	75
7	93	69	81.1	63.9	0	16	90	32	59	0.00	28.18	29.81	S	15.6	31.7	21.83	78.1	83.5	92	76
8	86	51	69.3	62.1	0	3	99	58	79	2.68	28.22	29.85	SSE	16.6	62.9	10.69	75.2	78.1	85	68
9	50	47	48.2	46.5	16	0	97	89	94	1.03	28.51	30.17	N	17.1	31.8	3.21	66.3	62.2	68	59
10	62	49	54.7	50.1	10	0	96	70	85	0.02	28.63	30.29	N	10.8	25.2	13.05	64.0	62.4	68	58
11	71	55	60.9	55.8	2	0	98	62	84	0.01	28.52	30.17	S	4.9	16.3	17.48	66.2	67.5	76	63
12	80	57	66.9	62.5	0	4	100	59	87	0.01	28.37	30.01	S	5.9	15.1	16.92	68.4	69.6	77	63
13	82	60	70.3	64.5	0	6	99	55	84	0.01	28.47	30.12	ENE	4.9	13.6	17.23	69.8	72.4	81	65
14	77	59	66.7	59.1	0	3	97	47	79	0.00	28.58	30.23	NE	7.4	20.8	17.40	70.3	72.5	79	67
15	83	61	70.3	61.6	0	7	97	42	77	0.00	28.50	30.15	SSE	5.0	11.6	18.51	70.6	73.2	82	67
16	84	61	71.6	63.2	0	8	100	45	78	0.00	28.42	30.07	E	4.5	14.0	19.80	71.5	74.7	83	68
17	85	64	72.1	61.9	0	9	94	44	73	0.00	28.47	30.12	NNE	7.2	19.3	20.19	71.9	75.6	84	69
18	80	56	66.8	56.5	0	3	96	36	73	0.01	28.54	30.19	ENE	7.2	17.2	19.10	71.5	73.5	82	67
19	78	54	64.7	56.3	0	1	95	46	77	0.00	28.53	30.19	SSE	6.7	18.9	18.87	70.3	70.4	78	64
20	79	52	64.0	54.2	0	1	98	40	74	0.00	28.52	30.17	SSE	6.3	17.5	20.04	69.7	69.0	77	62
21	80	54	66.1	57.3	0	2	96	47	76	0.00	28.51	30.17	ESE	4.8	18.5	15.13	69.3	69.7	77	63
22	77	56	66.5	61.5	0	1	98	62	85	0.01	28.44	30.09	E	5.9	16.7	12.93	69.5	71.5	79	65
23	76	57	66.3	62.2	0	1	99	63	87	0.00	28.38	30.02	E	4.6	16.2	8.46	70.2	71.6	76	69
24	86	52	68.6	59.9	0	4	100	43	77	0.00	28.31	29.95	S	7.6	19.9	20.81	69.7	72.5	83	64
25	88	61	73.4	61.5	0	10	94	39	70	0.00	28.26	29.90	S	14.1	28.5	20.77	70.6	74.7	83	68
26	89	64	75.9	63.5	0	12	96	40	69	0.00	28.17	29.80	S	15.7	31.6	20.79	71.2	76.2	85	69
27	84	60	70.2	59.3	0	7	88	50	69	0.00	28.14	29.77	NNE	19.1	52.3	16.25	71.7	76.8	85	71
28	74	45	60.7	34.9	5	0	70	17	42	0.00	28.54	30.19	N	13.1	37.6	21.83	69.7	73.5	82	67
29	83	40	61.5	31.7	4	0	73	12	39	0.00	28.48	30.13	WNW	9.1	27.8	21.66	67.7	70.5	81	62
30	92	46	69.2	41.3	0	4	73	15	41	0.00	28.39	30.04	ENE	6.7	20.6	20.06	67.9	71.9	82	63
	82	58	68.8	58.7	<- Monthly Averages ->				28.41	30.06	S	9.0	62.9	17.68	71.7	73.9	82	67		
Temperature - Highest: 93 Lowest: 40					Degree Days - Total HDD: 37 Total CDD: 178					Number of Days With: Tmax ≥ 90: 5 Rainfall ≥ 0.01 inch: 11 Tmax ≤ 32: 0 Rainfall ≥ 0.10 inch: 3 Tmin ≤ 32: 0 Avg Wind Speed ≥ 10 mph: 10 Tmin ≤ 0: 0 Max Wind Speed ≥ 30 mph: 8										
Rainfall: Monthly Total: 6.12 in. Greatest 24 Hr: 2.68 in.					Humidity - Highest: 100 Lowest: 12															

MESONET CLIMATOLOGICAL DATA SUMMARY (HOBA) Hobart Latitude: 34-59-22								October 2020 Nearest City: 4.0 SE Hobart Longitude: 99-03-10						Time Zone: Midnight-Midnight CST County: Kiowa Elevation: 1552 feet						
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND DIR	SPEED (mph)	SOLAR (MJ/m2)	4" SOIL TEMPERATURES				
	MAX	MIN	AVG	DEWPt	HDD	CDD	MAX	MIN	AVG		STN	MSL				SOD	BARE	MAX	MIN	
1	75	48	62.1	36.0	3	0	62	20	41	0.00	28.62	30.28	NE	10.5	24.4	19.45	68.1	72.3	81	66
2	74	42	58.9	37.7	7	0	82	27	48	0.00	28.52	30.17	S	9.9	27.5	16.99	66.2	68.1	74	62
3	76	50	61.6	43.1	2	0	75	27	53	0.00	28.43	30.07	NE	10.3	29.4	18.29	66.5	69.7	78	63
4	76	43	58.8	42.2	6	0	87	29	58	0.00	28.58	30.23	ENE	7.4	16.6	19.99	65.9	69.3	79	62
5	80	49	64.7	48.0	1	0	82	37	57	0.00	28.44	30.09	S	12.4	29.7	19.51	66.0	69.2	77	63
6	85	51	66.7	54.6	0	3	92	39	67	0.00	28.40	30.05	SSE	4.5	18.0	18.43	66.9	71.1	80	64
7	89	50	69.7	55.6	0	5	95	30	65	0.00	28.38	30.02	SSE	6.6	20.2	18.90	67.2	71.6	81	64
8	87	60	72.4	57.1	0	8	87	32	62	0.00	28.36	30.00	SSE	11.4	21.8	18.32	68.5	73.2	81	68
9	83	57	68.6	60.2	0	5	94	48	76	0.00	28.26	29.90	S	11.7	25.2	14.06	68.5	71.5	77	67
10	86	60	70.5	63.4	0	8	100	46	81	0.00	28.22	29.85	SSE	7.8	17.6	15.71	69.4	73.5	81	69
11	94	59	75.6	52.6	0	12	95	13	53	0.00	28.11	29.74	SSW	13.7	47.2	19.10	69.6	73.9	82	69
12	77	51	64.1	33.1	1	0	55	16	33	0.00	28.43	30.07	N	9.8	43.4	19.86	68.5	72.4	81	66
13	84	46	64.8	37.7	0	0	69	21	39	0.00	28.44	30.09	S	11.6	28.7	18.94	66.8	69.6	77	63
14	95	57	73.7	49.5	0	11	65	21	45	0.00	28.17	29.80	S	15.4	31.6	18.05	67.4	71.3	79	65
15	70	48	61.8	32.6	6	0	56	22	34	0.00	28.46	30.11	NNE	17.9	42.8	17.07	67.2	70.5	77	65
16	68	37	52.5	30.7	13	0	84	21	48	0.00	28.64	30.30	S	7.8	25.0	18.27	65.1	66.7	75	60
17	80	49	63.1	42.0	1	0	78	29	48	0.00	28.27	29.91	S	16.8	39.0	18.06	64.5	66.4	73	61
18	68	45	53.7	48.3	9	0	97	73	82	0.00	28.33	29.97	NNE	16.2	38.6	4.23	65.0	65.0	67	62
19	61	44	51.6	40.8	13	0	82	50	67	0.00	28.43	30.08	NNE	6.4	17.6	11.84	63.5	64.5	71	60
20	78	47	59.9	53.5	2	0	98	57	80	0.00	28.33	29.97	ENE	8.3	22.4	8.64	64.1	65.4	69	63
21	87	54	69.9	57.8	0	5	96	42	69	0.00	28.32	29.96	S	15.0	32.3	14.40	65.4	68.0	75	62
22	86	58	74.0	62.1	0	7	93	45	69	0.00	28.21	29.85	S	19.8	38.0	15.91	67.3	71.0	77	67
23	58	36	44.0	36.0	18	0	95	54	74	0.48	28.58	30.23	NNE	17.5	38.8	5.64	64.0	61.5	71	55
24	56	30	42.0	34.1	22	0	94	49	76	0.00	28.44	30.09	NNE	6.7	17.7	16.51	60.8	55.7	64	49
25	44	33	40.7	39.4	27	0	98	87	95	0.06	28.38	30.02	NE	15.3	30.6	2.56	59.5	53.2	55	51
26	33	26	28.5	27.1	36	0	96	92	94	0.13	28.59	30.25	NNE*	NA	33.6*	1.90	54.6	45.4	51	42
27	31	25	29.3	28.2	37	0	98	92	96	0.06	28.55	30.20	NA	NA	NA	3.24	51.1	40.5	42	40
28	35	31	32.8	32.2	32	0	99	94	98	0.83	28.30	29.94	W*	NA	13.6*	4.60	49.1	42.2	45	41
29	57	35	44.9	36.7	19	0	99	43	76	1.37	28.47	30.12	NNW	14.7	37.0	16.22	49.2	47.9	58	42
30	65	31	47.4	37.7	17	0	96	40	73	0.00	28.58	30.24	S	7.0	16.8	16.58	51.4	49.8	59	42
31	72	42	53.8	41.3	8	0	84	36	65	0.00	28.47	30.12	S	10.2	24.8	15.31	53.4	52.2	60	46
	71	45	57.5	43.6	<- Monthly Averages ->				28.41	30.06	S * 11.5* 47.2*	14.41	63.3	63.9	71	59				
Temperature - Highest: 95 Lowest: 25					Degree Days - Total HDD: 278 Total CDD: 64					Number of Days With: Tmax ≥ 90: 2 Rainfall ≥ 0.01 inch: 6 Tmax ≤ 32: 1 Rainfall ≥ 0.10 inch: 4 Tmin ≤ 32: 5 Avg Wind Speed ≥ 10 mph: 17* Tmin ≤ 0: 0 Max Wind Speed ≥ 30 mph: 12*										
Rainfall: Monthly Total: 2.93 in. Greatest 24 Hr: 1.37 in.					Humidity - Highest: 100 Lowest: 13															