



2010 Extension Cotton Report

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An effective cotton integrated pest management program includes all aspects of production. This report contains summarized data from experiments and demonstrations that address key production issues in the areas of variety selection, weed control, agronomics (plant population, tillage, fertility) and defoliation.

2010 re-affirmed that weather patterns and/or cotton production is never the same twice. Many eyes watched the bleak rainfall received from January through March (only 1.7 inches) wondering when we would receive enough moisture to turn things around. By the end of March it was apparent that without substantial in-season rainfall good yields would be tough to come by if not near-impossible. However, in many cotton production areas approximately 3 inches of rain fell in April providing some much needed subsoil moisture and restoring grower confidence as we headed into May. Four inch soil temperatures for the first few days of May quickly reached the acceptable range (≥ 65 F) and the planters started rolling. Most irrigated fields were planted by the 25th and many of the dryland acres were "in-route." Cotton after wheat seemed to be more popular for 2010 compared to prior years. Many of these acres started out with tremendous potential in early June and the three and half inches we received kept fields looking great headed into July. Little did we know that 6-12 inches of rain in the first two weeks of July would replace our normal half inch on the 2nd. Fields lacking good drainage showed the results of the oxygen depleted environment we normally call our cotton fields. We definitely lost some nitrogen in sandier areas and quickly saw some verticillium wilt flair up where varietal tolerance was lacking. Once things dried out we were right back to the expected ...blistering heat with no rain in sight. August did bring about some helpful showers to some regions and many were key for dryland fields struggling to retain fruit. Unfortunately in the areas that didn't receive these rains (or earlier planted dryland acres that were past the point of no return) we witnessed our tremendous yield potential start to "circle the drain" so to speak. The 2010 dryland crop definitely showed the effects of well timed rainfall (or lack thereof). In many cases later planted dryland fields were better able to take advantage of the August rains and produced good yields while some of the early planted acres suffered. Overall, irrigated yields were tremendous while dryland production was mixed.

It should be emphasized that the data from only one year should not be used for major production decisions, and at least 2-3 year's results should be utilized before production practices should be modified. This report sometimes includes data generated from "off-label" applications or practices. Although this data is presented, OSU does not recommend any "off-label" product use or practice.

We are very appreciative of the contributions made by the OSU Integrated Pest Management Program and our local teammates Terry Pitts and Jerry Goodson. Without their support, much of this work would not be possible. We also appreciate the support from producers, County Extension Educators, OSU Agricultural Experiment Station and ginners. Cotton Incorporated, through the Oklahoma State Support Committee, has provided assistance through partial funding of several projects. The Oklahoma Cotton Council and the Oklahoma Center for the Advancement of Science and Technology (OCAST) have made tremendous contributions to our educational programs and we are grateful for their continued support. A special thanks also goes to the following organizations, whose contributions make it possible to maintain and expand our research and demonstration programs and distribute results.

Oklahoma Cotton Council
Cotton Growers Cooperative Altus, Ok
Dupont Chemical Co.
Delta and Pine Land Company
Bayer CropScience
Crop Protection Services

Chemtura
Nichino America
OSU Integrated Pest Management Program
BASF
Cotton Incorporated State Support Committee

Monsanto Company
Gowan Company
Dow AgroSciences
Worrell Farms
Helena Chemical

We appreciate the interest, cooperation and support of all those involved in the cotton industry in Oklahoma and encourage your comments and suggestions for the improvement of our programs. This report can be accessed on the web at our website <http://www.osu.altus.ok.us> and the NTOK website: www.ntokcotton.org

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Humphreys Cooperative
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Keith Graumann-Granite
Wayne, Gary & Luke Winsett-Altus
Brent White-Duke
Harvey Shcroeder-Oklahoma Cotton Council
Kevin Seddon-Hollis
Danny Davis-Canute

Cotton Growers Cooperative
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Mark Nichols-Altus
Brad McKinley-Tipton
Charles Shephard-Butler
Roger Fischer-Frederick
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Kelly Horton-Hollis

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Weather Records

MESONET CLIMATOLOGICAL DATA SUMMARY		April	2010	Time Zone: Midnight-Midnight CST			
(ALTU) Altus		Nearest City: 3.0 S Altus		County: Jackson			
Latitude: 34-35-13		Longitude: 99-20-17		Elevation: 1365 feet			

DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m ²)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	83	53	70.1	55.3	0	3	91	41	61	0	28.20	29.64	SSE	19.0	38.7	20.41	56.4	61.9	66	58
2	74	40	60.9	31.3	8	0	82	10	40	0.09	28.27	29.71	W	12.0	35.6	27.03	57.0	62.0	66	58
3	80	32	57.1	28.7	9	0	78	13	40	0	28.41	29.86	SSE	13.3	36.5	25.64	54.1	57.6	63	52
4	89	51	70.8	53.2	0	5	84	33	56	0	28.37	29.81	SSE	12.8	26.4	25.32	56.2	62.0	69	56
5	88	61	75.2	62.5	0	10	92	46	67	0	28.35	29.80	S	18.0	39.4	23.21	59.9	65.9	70	62
6	93	56	75.4	46.1	0	10	92	11	46	0	28.18	29.61	S	15.1	31.8	25.79	61.7	67.7	72	64
7	63	39	51.5	30.2	14	0	81	25	47	0	28.51	29.96	NNW	15.1	45.8	27.05	58.4	62.0	66	59
8	68	30	49.4	26.1	16	0	76	20	45	0	28.65	30.11	SE	7.5	17.1	27.87	55.6	59.1	66	53
9	81	36	59.3	31.0	6	0	83	13	40	0	28.54	29.99	SSE	14.2	35.4	27.63	55.8	59.7	65	54
10	79	46	62.9	46.3	2	0	81	40	56	0	28.57	30.02	SSE	14.2	28.6	27	56.9	61.6	67	56
11	82	56	67.9	57.6	0	4	95	46	72	0	28.64	30.09	SSE	12.6	31.3	20.74	59.2	64.3	69	60
12	81	60	68.2	57.7	0	6	91	43	71	0	28.63	30.08	SE	13.0	26.2	14.66	60.4	65.1	68	63
13	81	50	67.1	49.0	0	1	87	31	55	0	28.58	30.03	SSE	16.8	37.8	24.57	60.2	64.5	68	60
14	80	56	67.0	53.1	0	3	88	39	63	0	28.66	30.12	SE	14.0	29.9	23.02	60.9	65.7	70	62
15	77	52	65.9	56.2	0	0	95	51	72	0	28.69	30.15	SE	10.8	24.3	15.18	60.9	65.1	68	62
16	66	52	59.6	57.0	6	0	96	77	91	1	28.68	30.14	NE	17.1	42.5	4.25	60.7	62.9	65	59
17	53	50	51.5	49.8	13	0	96	91	94	1.3	28.63	30.08	NNE	18.3	33.8	2.91	57.5	56.6	59	55
18	55	51	52.4	50.1	12	0	97	85	92	0.03	28.64	30.09	ENE	10.1	21.9	4.29	56.3	55.4	57	54
19	55	48	51.3	47.9	14	0	97	77	89	0	28.67	30.12	E	4.6	10.9	8.22	56.3	56.0	59	54
20	59*	47*	54.4*	51.0	12*	0*	98*	78*	89*	0.00*	28.54*	29.99*	SSW*	6.1*	18.8*	8.26*	56.3*	56.2*	59*	54*
21	76	50	62.6	57.6	2	0	97	65	84	0	28.34	29.79	SE	10.3	19.9	19.25	57.7	59.8	66	54
22	71	57	64.9	61.6	1	0	96	78	89	0.03	28.17	29.60	SE	16.2	33.7	13.25	59.9	62.4	66	59
23	73	55	63.2	49.2	1	0	97	37	63	0.37	28.12	29.55	SSW	15.7	40.8	29.45	60.5	62.5	66	59
24	72	47	59.9	46.0	6	0	82	43	61	0	28.14	29.58	NW	17.4	38.1	28.89	59.0	60.1	66	54
25	79	50	62.7	43.9	1	0	81	22	55	0	28.36	29.80	NW	13.7	28.3	29.69	58.7	62.4	70	56
26	63	45	55.5	41.4	11	0	84	38	61	0	28.50	29.95	N	13.7	35.5	21.75	58.5	61.8	65	58
27	70	41	55.8	36.9	9	0	86	25	54	0	28.58	30.03	NNW	8.4	26.4	29.89	57.7	61.3	70	54
28	84	45	66.2	47.7	1	0	89	32	55	0	28.30	29.74	SSE	19.0	38.1	27.07	58.6	63.1	69	57
29	90	63	76.2	57.5	0	11	75	30	55	0	27.98	29.41	S	23.8	43.2	29.17	61.5	68.2	74	63
30	80	56	68.6	36.5	0	3	79	12	37	0	28.06	29.49	WSW	17.1	39.6	29.31	62.5	69.0	73	65

75* 49* 62.4* 47.3	<- Monthly Averages ->	28.43* 29.88*	SSE* 14.0* 45.8*	21.36*	58.5* 62.1* 67* 58*
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Temperature - Highest: 93*	Degree Days - Total HDD: 146*	Number of Days With:
Lowest: 30*	Total CDD: 55*	Tmax ? 90: 2* Rainfall ? 0.01 inch: 6*
		Tmax ? 32: 0* Rainfall ? 0.10 inch: 3*
		Tmin ? 32: 2* Avg Wind Speed ? 10 mph: 26*
		Tmin ? 0: 0* Max Wind Speed ? 30 mph: 18*
Rainfall: Monthly Total: 2.82* in.	Humidity - Highest: 98*	
Greatest 24 Hr: 1.30* in.	Lowest: 10*	

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY May 2010 Time Zone: Midnight-Midnight CST
 (ALTU) Altus Nearest City: 3.0 S Altus County: Jackson
 Latitude: 34-35-13 Longitude: 99-20-17 Elevation: 1365 feet

DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m ²)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	70	51	60.8	43.2	5	0	77	31	53	0	28.19	29.62	SSE	8.6	23.9	9.52	60.6	64.5	67	63
2	83	44	62.7	36.2	2	0	93	13	46	0	28.20	29.63	SSW	10.6	46.8	28.55	59.9	64.2	71	58
3	73	43	58.1	42.4	7	0	85	33	58	0	28.50	29.95	SSE	9.5	26.9	18.09	59.0	62.6	67	59
4	97	43	70.0	41.0	0	5	97	9	47	0	28.36	29.80	S	14.3	35.0	30.85	59.8	64.8	73	57
5	82	56	69.0	38.5	0	4	70	15	37	0	28.40	29.85	NNE	13.2	37.6	30.94	61.7	68.2	75	62
6	96	54	75.7	55.2	0	10	92	21	54	0	28.26	29.70	SSE	14.6	34.3	30.07	63.0	70.3	77	63
7	76	50	66.3	38.8	2	0	67	16	40	0	28.54	29.99	N	19.9	44.2	30.43	64.0	70.6	74	67
8	72	45	59.6	33.2	7	0	65	20	40	0	28.82	30.28	ESE	10.3	25.5	25.23	62.2	67.0	72	61
9	62	54	58.3	46.5	7	0	90	43	66	0.19	28.63	30.09	ESE	14.3	29.3	6.45	61.1	64.3	67	62
10	98	57	74.4	46.3	0	13	92	7	51	0	28.26	29.70	SE	20.0	47.7	27.04	61.9	67.2	75	61
11	91	47	72.3	54.4	0	4	84	34	55	0	28.28	29.72	SE	13.1	35.3	27.14	63.0	69.5	77	61
12	85	68	75.6	67.5	0	11	91	58	77	0.28	28.24	29.68	SSE	15.3	34.6	11.82	66.0	71.5	74	70
13	69	51	58.3	51.8	5	0	97	62	79	0.81	28.56	30.01	NE	13.8	53.4	20.43	64.0	65.7	69	62
14	64	57	59.0	56.2	5	0	97	85	91	0.83	28.66	30.12	NE	12.7	31.5	4.53	62.8	62.6	64	62
15	69	56	62.0	58.2	2	0	97	65	88	0.07	28.61	30.06	NNE	5.0	14.5	12.63	62.6	63.5	69	60
16	80	59	68.8	61.2	0	5	98	44	79	0.01	28.56	30.02	SSW	4.2	19.2	26.25	65.0	68.5	75	62
17	79	57	66.4	59.1	0	3	97	45	80	0	28.61	30.06	NNE	7.1	19.6	20.89	65.9	67.9	73	64
18	79	58	68.4	60.4	0	4	94	56	77	0	28.50	29.95	ESE	11.2	24.8	26.29	66.5	69.6	76	64
19	91	63	74.8	57.5	0	12	95	16	63	0	28.25	29.69	SE	13.2	26.6	26.56	67.7	73.0	80	67
20	83	56	69.7	54.0	0	5	89	34	60	0	28.37	29.82	NNW	7.0	19.1	31.16*	67.7	74.1	82	66
21	87	57	73.1	62.7	0	7	92	51	72	0	28.44	29.89	SE	12.2	26.7	NA	68.2	74.4	80	68
22	89	69	78.3	67.9	0	14	91	51	72	0	28.31	29.75	SSE	19.0	36.4	NA	69.5	75.6	79	72
23	91	70	79.4	66.5	0	15	92	40	67	0	28.36	29.81	SE	18.1	35.9	NA	70.2	76.4	81	72
24	88	72	78.3	67.4	0	15	89	51	70	0	28.39	29.83	SE	19.5	37.3	NA	70.6	76.4	80	73
25	86	66	75.7	63.0	0	11	90	44	66	0	28.49	29.94	SE	11.7	26.4	NA	70.8	76.8	82	72
26	87	61	71.2	64.1	0	9	97	47	80	0.93	28.56	30.01	SE	7.3	46.3	NA	70.2	74.8	80	71
27	89	62	75.4	63.4	0	10	96	35	70	0	28.57	30.02	S	5.5	15.9	NA	70.4	74.3	81	68
28	91	65	78.2	63.0	0	13	94	34	63	0	28.50	29.94	SSE	6.5	19.3	NA	72.2	76.3	82	70
29	94	65	80.1	62.2	0	14	95	29	59	0	28.38	29.82	ESE	9.2	20.0	NA	72.7	78.7	86	72
30	96	67	82.6	60.2	0	17	88	24	53	0	28.37	29.81	ESE	10.0	22.6	NA	73.2	81.0	89	74
31	96	68	81.5	62.3	0	17	89	26	56	0	28.47	29.92	NNE	11.0	26.1	NA	74.0	82.4	89	76
84 58 70.4 55.0				<- Monthly Averages ->				28.44 29.89		SE 11.9 53.4			22.24*		66.0 70.9 76 66					
Temperature - Highest: 98					Degree Days - Total HDD: 42					Number of Days With:										
Lowest: 43					Total CDD: 219					Tmax ? 90: 10 Rainfall ? 0.01 inch: 7										
										Tmax ? 32: 0 Rainfall ? 0.10 inch: 5										
										Tmin ? 32: 0 Avg Wind Speed ? 10 mph: 21										
										Tmin ? 0: 0 Max Wind Speed ? 30 mph: 14										
Rainfall: Monthly Total: 3.12 in.					Humidity - Highest: 98															
Greatest 24 Hr: 0.93 in.					Lowest: 7															

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY June 2010 Time Zone: Midnight-Midnight CST																				
(ALTU) Altus			Nearest City: 3.0 S Altus			County: Jackson														
Latitude: 34-35-13			Longitude: 99-20-17			Elevation: 1365 feet														
DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m ²)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	98	71	85.2	57.1	0	20	66	20	41	0	28.38	29.83	S	14.5	32.7	NA	74.2	82.9	89	77
2	97*	70*	83.0*	57.4	0*	19*	74*	22*	45*	0.00*	28.28*	29.72*	SSE*	10.8*	39.7*	NA	74.1*	83.5*	90*	77*
3	95	67	80.7	63.2	0	16	89	29	59	0	28.32	29.76	SE	6.7	18.7	28.53	74.7	83.8	90	78
4	98	66	83.3	61.6	0	17	89	26	53	0	28.32	29.77	SSE	10.8	25.7	30.47	75.3	84.1	90	78
5	103	69	86.8	63.4	0	21	80	27	50	0	28.29	29.73	S	14.1	30.2	30.69	75.6	84.2	90	78
6	99	73	86.4	67.5	0	21	80	31	56	0	28.48	29.92	ESE	11.5	26.7	26.38	76.4	85.4	91	80
7	97	72	85.0	68.7	0	20	94	35	62	0	28.48	29.93	SSE	13.4	34.1	23.73	76.6	84.6	89	80
8	99	75	86.9	66.4	0	22	83	31	54	0	28.40	29.84	SSE	15.5	31.6	27.88	77.0	84.9	90	80
9	96	70	83.3	66.1	0	18	88	34	59	0	28.44	29.89	SE	11.2	25.2	27.32	77.0	84.9	90	80
10	101	71	84.7	70.4	0	21	97	35	67	0.26	28.33	29.77	SSE	14.7	46.1	22.18	77.3	84.8	90	81
11	95	70	81.8	70.9	0	17	96	45	72	0.18	28.32	29.76	SSE	17.4	32.0	23.81	76.8	81.7	86	78
12	95	75	84.8	68.9	0	20	85	38	61	0	28.43	29.88	SSE	17.8	32.8	23.42	77.0	82.8	88	78
13	96	77	83.9	70.2	0	22	82	41	65	0	28.44	29.89	SSE	16.0	32.3	16.72	76.8	82.5	87	80
14	87	68	74.6	68.3	0	12	98	55	82	1.52	28.42	29.87	SE	8.7	45.8	7.01	75.4	78.4	81	74
15	88	66	76.2	67.7	0	12	99	47	77	0	28.51	29.96	SE	5.7	15.3	27.82	75.2	77.6	84	72
16	92	72	82.1	69.5	0	17	92	42	68	0	28.52	29.97	SSE	12.3	30.9	29.87	77.4	80.4	86	75
17	94	74	83.7	66.7	0	19	83	38	59	0	28.46	29.91	S	16.7	33.3	30	77.6	82.2	89	76
18	96	75	85.7	68.4	0	21	79	38	58	0	28.46	29.91	S	14.8	29.7	30.39	77.8	84.3	91	78
19	98	74	86.9	68.2	0	21	82	36	56	0	28.51	29.95	SSE	12.8	27.1	29.81	78.6	85.8	92	80
20	98	77	86.7	66.6	0	22	77	32	54	0	28.49	29.94	SSE	14.2	29.1	29.9	78.9	86.4	92	81
21	98	79	87.3	63.4	0	23	62	25	47	0	28.47	29.92	SSE	14.6	27.8	30.34	78.9	86.8	92	82
22	98	74	87.0	64.8	0	21	80	29	51	0	28.51	29.95	SSE	13.9	35.7	31.16	78.9	86.6	92	81
23	100	73	88.1	64.5	0	22	79	29	48	0	28.54	29.99	SSE	10.4	22.0	29.93	79.2	87.4	94	81
24	100	74	86.7	65.9	0	22	90	25	54	0.1	28.58	30.03	SSE	7.4	37.3	28.71	80.0	88.2	94	83
25	99	70	84.8	66.4	0	20	92	29	58	0	28.52	29.97	SSE	9.0	25.7	30.75	80.1	88.4	95	82
26	100	71	86.6	65.3	0	20	92	29	54	0	28.40	29.85	SSE	12.0	26.2	30.55	80.2	88.4	94	83
27	99	69	83.7	64.8	0	19	92	27	56	1.46	28.33	29.78	SSE	12.0	45.0	26.96	79.8	87.7	95	83
28	82	69	75.5	68.2	0	11	94	58	79	0.07	28.47	29.92	E	7.1	22.3	12.43	77.1	80.0	83	77
29	89	71	79.4	66.6	0	15	93	37	68	0	28.59	30.04	NE	10.8	28.6	29.85	78.2	80.3	85	76
30	91	66	79.1	62.4	0	13	95	30	61	0	28.64	30.09	E	8.9	23.2	30.09	78.0	81.8	90	75
<- Monthly Averages ->																				
96* 72* 83.7* 66.0								28.44* 29.89*				SSE* 12.2* 46.1*			26.67*		77.3* 84.0* 90* 79*			
Temperature - Highest: 103*						Degree Days - Total HDD: 0*						Number of Days With:								
Lowest: 66*						Total CDD: 564*						Tmax ? 90: 26* Rainfall ? 0.01 inch: 6*								
												Tmax ? 32: 0* Rainfall ? 0.10 inch: 5*								
												Tmin ? 32: 0* Avg Wind Speed ? 10 mph: 23*								
												Tmin ? 0: 0* Max Wind Speed ? 30 mph: 15*								
Rainfall: Monthly Total: 3.59* in.						Humidity - Highest: 99*														
Greatest 24 Hr: 1.52* in.						Lowest: 20*														

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY July 2010 Time Zone: Midnight-Midnight CST																				
(ALTU) Altus			Nearest City: 3.0 S Altus			County: Jackson														
Latitude: 34-35-13			Longitude: 99-20-17			Elevation: 1365 feet														
DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN	PRESSURE (in)		WIND SPEED (mph)			SOLAR	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG	(in)	STN	MSL	DIR	AVG	MAX	(MJ/m ²)	SOD	BARE	MAX	MIN
1	82	71	76.4	69.4	0	12	96	61	80	0.49	28.66	30.11	ESE	8.1	19.5	8.7	77.3	79.1	82	77
2	82	72	75.4	71.9	0	12	97	70	89	0.66	28.57	30.02	ESE	6.9	19.8	10.49	77.0	77.5	80	75
3	84	73	76.3	72.8	0	13	98	66	90	1.35	28.45	29.90	SSE	10.8	22.7	10.01	76.9	77.2	79	76
4	76	71	74.1	72.3	0	8	97	87	94	0.47	28.40	29.85	SSE	9.2	22.2	5.73	76.3	76.5	78	76
5	84	72	77.3	73.2	0	13	98	73	88	0.52	28.39	29.84	S	10.8	26.0	16.36	76.6	77.8	82	75
6	91	74	80.1	72.4	0	17	97	49	79	0	28.46	29.91	ESE	6.1	22.3	18.4	78.1	79.8	85	76
7	89	71	76.6	70.9	0	15	97	55	84	0.07	28.53	29.98	ENE	6.6	24.1	20.19	79.0	79.7	85	76
8	85	72	75.5	72.1	0	14	98	66	90	1.76	28.61	30.06	NNE	6.8	20.9	11.4	78.3	77.9	81	76
9	81	72	74.3	72.0	0	12	98	72	93	0.39	28.63	30.09	NE	5.1	19.0	10.04	77.2	77.7	80	76
10	86	73	77.7	73.2	0	14	98	67	87	0	28.56	30.01	S	5.4	21.6	21.75	78.3	80.2	86	76
11	92	71	81.3	73.3	0	16	99	55	78	0.41	28.40	29.84	S	9.7	29.4	28.19	80.0	80.9	86	76
12	87	71	78.3	72.8	0	14	98	63	84	0.24	28.33	29.77	S	9.1	26.9	21.69	79.9	80.6	85	77
13	94	74	84.3	75.4	0	19	97	54	76	0	28.36	29.80	SSE	8.6	19.4	29.99	81.2	82.4	88	77
14	92	76	84.1	75.3	0	19	93	58	76	0	28.46	29.91	S	10.5	21.1	24.37	82.1	82.6	86	79
15	92	76	83.7	74.3	0	19	92	57	74	0	28.51	29.96	S	8.9	20.2	22.97	82.1	81.9	86	78
16	94	74	84.0	73.3	0	19	97	42	73	0	28.54	29.99	SW	6.4	17.1	26.56	82.5	83.3	89	78
17	98	73	85.1	69.9	0	20	94	30	65	0	28.52	29.97	SW	6.4	15.0	30.42	82.9	86.3	95	79
18	98	71	85.3	66.9	0	19	89	30	58	0	28.49	29.94	S	7.1	17.5	30.4	82.8	87.6	95	80
19	97	73	85.9	68.8	0	20	89	37	60	0	28.47	29.92	SSE	8.6	21.7	29.45	82.9	88.4	95	82
20	96	76	86.2	69.8	0	21	83	40	60	0	28.49	29.94	SSE	11.0	23.5	28.75	82.9	88.7	94	83
21	95*	73*	84.9*	66.4	0*	19*	83*	33*	56*	0.00*	28.56*	30.01*	SSE*	10.9*	25.7*	27.27*	82.5*	88.5*	94*	83*
22	95	74	85.1	68.7	0	19	86	42	60	0	28.51	29.96	SSE	12.1	31.1	29.31	82.0	88.2	94	83
23	94	76	85.1	69.6	0	20	80	42	61	0	28.50	29.95	S	12.2	27.3	27.37	81.9	88.2	93	83
24	95	76	85.4	69.3	0	20	85	39	61	0	28.55	30.00	SSE	9.1	21.1	27.06	82.3	88.8	95	84
25	96	72	83.7	62.0	0	19	85	23	52	0	28.59	30.04	SSE	6.4	19.7	29.47	82.3	89.1	95	83
26	94	68	80.1	65.3	0	16	89	31	63	0.02	28.57	30.02	SSE	7.0	28.2	26.2	81.8	87.8	95	82
27	89	67	77.9	67.1	0	13	96	43	72	0	28.55	30.00	SSE	8.4	25.2	26.59	81.3	86.4	92	81
28	91	69	78.6	69.2	0	15	91	50	74	0	28.61	30.06	S	7.4	25.4	23.24	81.1	86.4	91	82
29	91	73	81.7	69.5	0	17	95	46	69	0	28.62	30.07	S	9.2	21.6	28.23	81.6	87.4	94	82
30	92	69	82.4	67.4	0	15	84	48	62	0	28.50	29.95	SSW	9.4	23.3	25.83	81.5	87.3	93	82
31	100	73	87.3	68.6	0	22	85	31	57	0	28.42	29.86	SSE	5.8	18.8	28.84	82.4	89.6	97	83
		91* 72* 81.1* 70.4		<- Monthly Averages ->						28.51* 29.96*		SSE* 8.4* 31.1*			22.75*	80.5* 83.7* 89* 79*				
Temperature - Highest: 100*				Degree Days - Total HDD: 0*				Number of Days With:												
Lowest: 67*				Total CDD: 513*				Tmax ? 90: 20*				Rainfall ? 0.01 inch: 11*								
								Tmax ? 32: 0*				Rainfall ? 0.10 inch: 9*								
								Tmin ? 32: 0*				Avg Wind Speed ? 10 mph: 7*								
								Tmin ? 0: 0*				Max Wind Speed ? 30 mph: 1*								
Rainfall: Monthly Total: 6.38* in.				Humidity - Highest: 99*																
Greatest 24 Hr: 1.76* in.				Lowest: 23*																

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY August 2010 Time Zone: Midnight-Midnight CST
 (ALTU) Altus Nearest City: 3.0 S Altus County: Jackson
 Latitude: 34-35-13 Longitude: 99-20-17 Elevation: 1365 feet

DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m ²)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	102	74	88.8	65.1	0	23	81	28	49	0	28.41	29.86	SSE	6.9	21.3	28.59	83.3	91.1	97	85
2	100	70	86.2	62.7	0	20	77	27	48	0	28.47	29.92	SSE	7.7	18.9	29.47	83.1	90.4	97	84
3	99	71	85.9	63.9	0	20	77	28	50	0	28.52	29.97	SSE	7.7	20.3	29.15	83.1	90.2	97	84
4	100	72	86.2	68.2	0	21	81	36	57	0	28.48	29.93	S	7.9	34.8	28.4	83.4	90.6	97	85
5	96	71	85.2	67.7	0	19	93	33	59	0	28.48	29.93	NE	6.9	30.4	27.96	83.2	90.7	97	85
6	95	75	84.4	69.3	0	20	83	38	62	0	28.48	29.92	N	6.6	20.7	22.54	83.2	90.3	95	86
7	97	73	85.0	69.7	0	20	87	39	63	0	28.41	29.86	SSE	6.4	17.1	26.12	83.5	90.3	97	85
8	98	74	86.7	69.1	0	21	84	37	58	0	28.39	29.84	S	8.4	21.3	26.28	84.1	90.9	96	86
9	98	75	86.7	68.3	0	21	79	36	56	0	28.42	29.87	SSE	8.3	21.6	27.21	84.3	91.2	97	86
10	96	72	83.9	69.6	0	19	88	37	64	0	28.47	29.92	SSE	6.4	24.7	21.77	83.8	90.3	95	86
11	100	74	86.2	69.1	0	22	79	30	59	0	28.45	29.90	S	5.9	22.3	28.41	84.2	91.2	98	85
12	99	75	87.1	68.8	0	22	87	31	57	0	28.38	29.83	SSE	6.2	17.4	27.02	84.8	92.0	98	86
13	98	76	87.2	68.0	0	22	77	33	54	0	28.32	29.76	SSW	9.1	21.1	26.83	84.9	91.9	98	87
14	100	73	87.5	67.0	0	22	80	30	53	0	28.38	29.83	SSE	7.6	20.2	27.29	84.8	91.9	98	86
15	102	76	85.4	68.3	0	24	80	29	59	0	28.52	29.97	NE	9.1	28.1	22.66	84.5	91.3	97	87
16	98	71	80.7	69.0	0	19	97	36	71	1.12	28.57	30.02	NE	10.0	39.9	24.37	82.8	89.5	96	85
17	89	71	78.7	71.7	0	15	95	52	80	0.38	28.50	29.95	NE	7.2	22.6	20	81.5	84.3	89	80
18	92	73	81.0	71.6	0	17	95	45	75	0	28.53	29.98	NE	6.2	15.8	25.66	82.3	84.3	90	80
19	93	72	82.4	72.3	0	17	97	46	74	0	28.41	29.85	SSE	6.8	16.9	27.4	83.0	86.0	94	79
20	94	75	84.1	72.2	0	19	89	50	69	0	28.32	29.76	SSW	9.4	22.8	26.07	83.3	88.0	95	82
21	99	74	85.2	70.4	0	22	83	35	63	0	28.44	29.89	SW	5.4	24.4	22.97	83.3	89.3	96	83
22	98	73	85.8	70.6	0	20	93	34	63	0	28.51	29.96	NE	4.7	16.2	26.45	83.5	90.2	98	84
23	100	74	87.3	69.7	0	22	88	33	58	0	28.44	29.89	E	4.8	12.4	26.88	84.1	91.3	98	85
24	86	74	79.4	65.8	0	15	75	51	64	0	28.59	30.04	NNE	16.0	34.5	14.1	81.7	87.3	91	84
25	87	66	75.6	49.5	0	12	62	23	42	0	28.73	30.19	NNE	12.2	27.3	27.32	77.7	84.1	90	80
26	88	55	72.0	51.3	0	7	91	17	54	0	28.70	30.15	NNE	5.1	12.9	27.62	76.9	82.8	90	76
27	90	62	76.9	56.0	0	11	79	30	50	0	28.55	30.00	ESE	7.4	15.9	26.65	77.7	83.5	91	77
28	91	62	78.0	54.3	0	12	79	26	48	0	28.45	29.90	SE	10.1	22.9	26.28	78.1	83.8	90	78
29	93	63	80.3	58.1	0	13	77	29	49	0	28.43	29.88	SE	10.6	26.7	25.69	78.1	84.1	90	78
30	93	73	83.2	68.1	0	18	83	41	62	0	28.48	29.93	S	11.8	26.1	20.93	79.1	85.3	90	81
31	92	73	82.6	69.7	0	18	86	51	66	0	28.48	29.93	SSW	11.9	24.9	19.9	79.8	85.8	91	82

96	71	83.4	66.3	<- Monthly Averages ->						28.47	29.92	SSE	8.1	39.9	25.42	82.3	88.5	95	83
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Temperature - Highest: 102				Degree Days - Total HDD: 0				Number of Days With:			
Lowest: 55				Total CDD: 573				Tmax ? 90: 27 Rainfall ? 0.01 inch: 2			
								Tmax ? 32: 0 Rainfall ? 0.10 inch: 2			
								Tmin ? 32: 0 Avg Wind Speed ? 10 mph: 7			
								Tmin ? 0: 0 Max Wind Speed ? 30 mph: 4			
Rainfall: Monthly Total: 1.50 in.				Humidity - Highest: 97							
Greatest 24 Hr: 1.12 in.				Lowest: 17							

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY September 2010 Time Zone: Midnight-Midnight CST																				
(ALTU) Altus			Nearest City: 3.0 S Altus				County: Jackson													
Latitude: 34-35-13			Longitude: 99-20-17				Elevation: 1365 feet													
DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m ²)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	94	70	80.1	68.7	0	17	93	39	71	0	28.41	29.85	S	9.6	33.5	24.33	80.2	86.4	93	81
2	94	66	77.6	67.7	0	15	97	47	74	0.26	28.46	29.91	SSW	10.4	61.0	23.97	79.8	85.7	93	81
3	82	58	69.8	51.5	0	5	94	28	57	0	28.75	30.21	NE	9.6	24.7	26.61	76.7	80.1	86	75
4	83	55	68.6	52.6	0	4	97	29	62	0	28.64	30.10	SE	6.7	16.5	26.44	74.8	79.1	87	72
5	92	58	75.6	57.6	0	10	89	30	58	0	28.39	29.83	S	11.9	31.9	25.95	75.1	80.0	87	74
6	92	67	79.6	61.7	0	15	85	28	57	0	28.35	29.79	S	13.5	35.3	25.72	76.0	81.8	87	77
7	86	71	77.4	69.5	0	13	95	59	77	0	28.55	30.00	SE	10.6	24.3	19.07	76.9	82.3	87	78
8	74	70	71.5	69.8	0	7	97	84	94	0.66	28.41	29.86	ENE	14.6	36.2	5.99	75.9	78.4	82	76
9	88	66	76.9	70.1	0	12	98	59	81	0	28.35	29.79	S	8.0	20.0	24.43	76.4	78.6	84	74
10	95	73	81.9	70.9	0	19	95	37	72	0	28.30	29.74	S	9.6	21.8	24.09	78.2	82.3	90	77
11	88	63	75.9	68.2	0	10	100	55	79	0	28.48	29.93	NE	10.2	29.6	17.94	77.5	80.9	86	76
12	90	69	77.6	69.1	0	14	92	56	76	0	28.62	30.07	NNE	6.1	18.6	21.77	77.9	82.8	91	77
13	92	69	79.3	71.0	0	16	97	46	78	0.56	28.58	30.03	S	8.1	47.1	19.64	78.7	83.8	89	79
14	93	71	80.7	70.7	0	17	95	46	74	0	28.51	29.95	SSE	8.2	17.2	19.47	78.4	81.7	86	78
15	92	71	81.4	70.4	0	16	97	44	72	0	28.45	29.90	S	10.1	22.7	23.34	78.9	81.4	87	77
16	92	70	77.8	69.0	0	16	93	48	76	0.3	28.51	29.96	E	9.6	40.4	19.5	78.7	82.1	89	77
17	86	68	76.1	69.0	0	12	96	57	79	0	28.55	30.00	SE	5.0	17.5	14.44	77.9	79.4	83	76
18	89	69	78.4	68.0	0	14	97	44	73	0	28.59	30.04	SSE	7.6	19.7	22.73	78.3	80.0	85	75
19	88	66	76.9	66.1	0	12	96	44	72	0	28.62	30.08	SSE	7.5	22.6	22.91	77.7	80.8	88	75
20	87	66	76.2	64.0	0	12	96	42	69	0	28.51	29.96	S	9.6	27.1	22.48	77.1	81.1	87	76
21	86	69	77.0	67.7	0	12	92	57	74	0	28.42	29.87	S	11.3	29.7	16.57	76.6	80.9	86	77
22	87	71	78.4	67.6	0	14	90	49	71	0	28.45	29.90	SSE	12.9	29.2	16.57	76.5	81.1	85	78
23	82	72	75.8	69.6	0	12	93	62	82	0.09	28.44	29.88	SSE	13.0	34.0	7.41	76.0	79.2	81	77
24	85	69	74.8	70.4	0	12	98	63	87	0	28.62	30.08	SE	7.9	17.5	13.96	76.0	78.1	83	75
25	86	68	74.2	66.5	0	12	99	42	79	0	28.62	30.08	E	4.4	19.7	16.8	76.3	79.2	85	75
26	77	54	65.6	48.0	0	1	86	28	56	0	28.65	30.10	NNE	12.3	33.1	23.45	74.6	77.1	82	72
27	78	45	61.0	48.6	3	0	95	34	67	0	28.58	30.03	SSE	4.8	11.6	22.82	71.8	74.0	81	68
28	89	52	69.8	50.2	0	5	92	25	55	0	28.47	29.92	NNE	6.7	31.1	22.16	72.0	75.0	82	69
29	88	52	69.6	51.5	0	5	90	26	58	0	28.41	29.86	SE	5.3	11.8	22.23	72.1	75.6	82	69
30	86	56	70.4	51.4	0	6	90	30	55	0	28.59	30.05	NE	9.2	24.0	21.02	72.4	75.7	81	71
87 65 75.2 63.9				<- Monthly Averages ->				28.51 29.96		S 9.1 61.0			20.46	76.5 80.1 86 75						
Temperature - Highest: 95					Degree Days - Total HDD: 3					Number of Days With:										
Lowest: 45					Total CDD: 335					Tmax ? 90: 10 Rainfall ? 0.01 inch: 5										
										Tmax ? 32: 0 Rainfall ? 0.10 inch: 4										
										Tmin ? 32: 0 Avg Wind Speed ? 10 mph: 11										
										Tmin ? 0: 0 Max Wind Speed ? 30 mph: 10										
Rainfall: Monthly Total: 1.87 in.					Humidity - Highest: 100															
Greatest 24 Hr: 0.66 in.					Lowest: 25															

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY October 2010 Time Zone: Midnight-Midnight CST
 (ALTU) Altus Nearest City: 3.0 S Altus County: Jackson
 Latitude: 34-35-13 Longitude: 99-20-17 Elevation: 1365 feet

DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m ²)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	82	54	68.1	47.2	0	3	83	27	50	0	28.68	30.14	ESE	5.4	14.6	19.55	72.1	75.5	81	71
2	84	52	67.5	44.9	0	3	87	26	48	0	28.73	30.19	NE	8.4	24.3	20.6	71.8	75.0	80	70
3	64	47	55.1	38.4	9	0	81	31	55	0	28.86	30.32	NE	4.8	14.3	9.85	69.3	70.2	73	68
4	75	44	59.3	40.0	5	0	83	28	53	0	28.80	30.27	SE	8.4	19.3	20.88	67.3	68.9	75	64
5	80	48	63.3	41.2	1	0	77	24	48	0	28.81	30.28	SE	10.0	20.4	19.98	67.5	70.2	76	65
6	85*	48*	64.8*	44.8	0*	1*	80*	24*	53*	0.00*	28.78*	30.24*	S	7.7*	16.9*	16.06*	67.9*	71.1*	77*	65*
7	89	52	69.2	46.0	0	5	80	22	48	0	28.71	30.17	SSE	6.6	17.0	20.39	68.6	72.2	79	67
8	87	52	69.0	43.0	0	5	75	17	44	0	28.62	30.07	SSE	7.4	21.3	20.91	69.0	72.7	79	67
9	89	49	68.6	44.6	0	4	76	22	47	0	28.55	30.00	SSE	6.7	20.5	20.22	68.8	72.6	79	67
10	89	55	70.2	52.3	0	7	85	26	57	0.01	28.44	29.89	S	10.2	26.2	16.68	69.2	72.9	77	68
11	82	50	64.1	47.1	0	1	98	22	62	0	28.46	29.91	NW	8.3	25.0	19.86	68.5	72.0	77	68
12	84	50	66.0	45.6	0	2	86	22	53	0	28.63	30.08	NNW	9.4	29.5	18.56	67.3	70.7	76	66
13	75	45	63.3	38.7	5	0	81	17	45	0	28.86	30.32	N	10.3	25.9	19.75	67.3	70.3	75	67
14	80	37	58.3	35.2	7	0	79	20	47	0	28.81	30.27	SSE	6.8	15.4	19.76	65.3	67.8	74	62
15	89	48	66.8	42.5	0	3	75	20	45	0	28.63	30.09	SSE	6.3	18.1	19.3	66.2	69.3	76	64
16	85	51	67.6	43.7	0	3	73	21	45	0	28.62	30.07	S	7.4	19.2	15.03	67.0	69.8	74	65
17	86	52	67.4	43.8	0	4	73	20	46	0	28.57	30.02	SSE	8.1	21.9	17.65	67.1	70.0	75	66
18	86	55	69.2	52.2	0	6	82	29	59	0	28.45	29.90	SSE	8.2	20.2	15.35	67.6	70.7	75	67
19	77	56	65.0	52.8	0	1	87	45	66	0	28.54	29.99	NE	8.9	21.9	17.62	67.7	70.9	76	67
20	81	46	63.1	47.9	1	0	94	24	63	0	28.61	30.06	SSE	5.2	11.0	18.37	67.0	70.1	76	65
21	85	52	68.1	54.4	0	4	98	36	64	0.99	28.51	29.96	SSE	10.9	38.6	13.3	67.2	70.0	74	66
22	70	57	62.3	60.3	1	0	99	82	93	0.98	28.41	29.86	ESE	10.3	28.8	5.94	65.9	67.0	70	65
23	67	59	62.3	58.1	2	0	95	71	86	0	28.36	29.80	S	12.5	33.1	6.78	65.7	64.8	66	63
24	76	53	63.1	53.2	1	0	92	40	72	0	28.30	29.74	SSW	5.8	16.6	17.43	65.2	64.5	70	60
25	86	53	67.0	47.8	0	4	91	24	55	0	27.97	29.40	SSW	13.5	39.0	11.24	64.8	62.9	65	60
26	73	42	57.8	37.9	7	0	95	15	55	0	28.25	29.69	W	8.7	24.9	18.57	63.5	61.8	67	57
27	72	42	57.7	33.3	8	0	81	15	46	0	28.57	30.02	N	8.3	25.7	16.9	62.2	61.4	67	57
28	66	36	51.0	31.5	14	0	89	20	53	0	29.02	30.49	NW	5.9	15.3	18.22	60.4	59.5	66	54
29	70	36	53.2	33.4	12	0	92	20	53	0	28.83	30.29	SSE	8.2	22.8	18.05	59.1	58.6	65	53
30	87	43	62.5	40.9	0	0	76	20	50	0	28.46	29.91	SSE	9.3	20.8	17.3	59.7	60.8	68	55
31	87	48	64.1	43.3	0	3	87	16	54	0	28.42	29.86	N	7.7	27.5	15.4	61.2	63.5	70	58

80*	49*	63.7*	44.7	<- Monthly Averages ->						28.59*	30.04*	SSE*	8.2*	39.0*	16.95*	66.4*	68.3*	73*	64*
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Temperature - Highest: 89*	Degree Days - Total HDD: 75*	Number of Days With:
Lowest: 36*	Total CDD: 60*	Tmax ? 90: 0* Rainfall ? 0.01 inch: 3*
		Tmax ? 32: 0* Rainfall ? 0.10 inch: 2*
		Tmin ? 32: 0* Avg Wind Speed ? 10 mph: 7*
		Tmin ? 0: 0* Max Wind Speed ? 30 mph: 3*
Rainfall: Monthly Total: 1.98* in.	Humidity - Highest: 99*	
Greatest 24 Hr: 0.99* in.	Lowest: 15*	

Weather Records (cont.)

MESONET CLIMATOLOGICAL DATA SUMMARY November 2010 Time Zone: Midnight-Midnight CST
 (ALTU) Altus Nearest City: 3.0 S Altus County: Jackson
 Latitude: 34-35-13 Longitude: 99-20-17 Elevation: 1365 feet

DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN	PRESSURE (in)		WIND SPEED (mph)			SOLAR	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG	(in)	STN	MSL	DIR	AVG	MAX	(MJ/m ²)	SOD	BARE	MAX	MIN
1	65	45	54.8	41.4	10	0	85	40	62	0	28.67	30.13	N	10.2	24.8	13.15	60.6	61.7	65	58
2	68	45	55.7	39.3	9	0	82	32	56	0.01	28.74	30.20	N	13.6	32.9	16.15	59.5	60.2	64	57
3	75	40	58.0	32.6	7	0	78	21	43	0	28.75	30.21	NNE	13.7	35.2	16.63	58.5	59.3	64	54
4	64	34	50.1	24.8	16	0	72	14	42	0	28.84	30.31	NNW	11.3	28.9	17.08	57.5	58.7	63	55
5	60	31	44.9	25.5	19	0	79	23	51	0	28.80	30.26	SE	5.9	12.4	16.6	55.8	55.8	62	51
6	71	35	52.3	30.9	12	0	79	23	48	0	28.78	30.24	SE	9.9	23.2	16.17	56.0	56.3	62	51
7	74	36	55.5	32.5	10	0	87	17	48	0	28.71	30.17	SSE	12.1	31.0	16.36	56.4	57.3	62	53
8	77	41	58.1	41.9	6	0	88	31	58	0	28.46	29.91	SSE	11.9	25.7	15.29	57.0	58.4	63	54
9	77	48	62.5	48.1	3	0	90	33	62	0	28.30	29.75	SSE	14.4	31.9	15.1	58.4	60.4	65	56
10	67	44	54.9	37.5	10	0	80	28	54	0	28.48	29.93	SSW	7.6	23.2	15.51	58.5	60.2	65	56
11	77	48	63.3	52.3	3	0	95	40	69	0	28.60	30.05	SE	12.7	28.2	11.27	58.8	60.9	65	57
12	65	39	51.5	48.6	13	0	96	80	90	0.56	28.65	30.11	NNW	16.7	54.1	2.5	59.1	59.1	63	53
13	57	33	44.1	35.4	20	0	97	33	75	0	28.75	30.21	NW	6.3	14.4	15.39	55.1	52.3	58	48
14	61	35	45.9	36.6	17	0	94	37	73	0	28.53	29.98	E	8.2	20.3	14.47	54.5	51.3	56	47
15	50	38	44.1	41.0	21	0	97	77	89	0.16	28.32	29.76	E	8.8	17.5	4.74	54.0	50.5	53	49
16	62	32	45.9	36.2	18	0	100	33	73	0	28.36	29.80	SSE	8.3	22.4	15.08	53.0	49.8	55	45
17	56	41	47.9	36.9	17	0	79	54	66	0	28.56	30.01	N	19.3	45.4	9.42	52.6	49.4	51	48
18	53	30	40.7	31.7	23	0	97	44	72	0	28.88	30.34	SSE	7.2	16.2	14.8	51.5	48.8	54	44
19	68	31	49.7	35.0	15	0	94	30	62	0	28.56	30.01	SSE	12.5	28.1	14.82	51.5	49.7	56	44
20	72	42	56.3	42.7	8	0	84	30	63	NA	28.46	29.90	SSE	11.0	21.6	11.64	52.9	53.0	58	48
21	80	53	64.0	53.0	0	1	96	35	71	NA	28.38	29.83	S	12.1	29.0	13.36	55.6	57.8	63	54
22	77	48	62.1	41.3	3	0	98	14	55	NA	28.40	29.84	WSW	10.0	25.3	14.55	56.9	59.2	64	56
23	61	37	48.4	38.2	16	0	93	42	70	NA	28.54	29.99	NNE	6.7	17.0	13.75	55.0	55.5	60	51
24	80	45	61.6	39.7	2	0	91	10	54	NA	28.23	29.67	SW	10.5	35.7	11.59	55.6	57.3	62	53
25	46	24	35.9	11.6	30	0	74	21	39	NA	28.57	30.03	NNE	16.3	41.9	8.98	52.3	52.4	58	48
26	55	17	35.1	16.3	29	0	89	17	53	NA	28.77	30.23	WSW	6.3	17.7	14.43	48.7	46.9	52	42
27	61	23	41.1	19.4	23	0	83	15	48	NA	28.65	30.11	SSE	7.7	24.6	14.19	48.6	47.5	53	43
28	64	32	48.4	30.4	17	0	76	34	51	NA	28.29	29.73	SSE	17.7	37.8	13.59	49.0	48.5	53	44
29	59	35	46.7	29.5	18	0	88	33	54	NA	28.36	29.80	NNW	12.8	29.8	13.51	50.1	50.9	55	47
30	49	27	36.6	13.5	27	0	65	19	41	NA	28.79	30.25	NW	12.2	29.5	13.92	47.6	47.3	51	44

65	37	50.5	34.8	<- Monthly Averages ->				28.57	30.03	SSE	11.1	54.1	13.47	54.7	54.5	59	50
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Temperature - Highest: 80		Degree Days - Total HDD: 421		Number of Days With:	
Lowest: 17		Total CDD: 1		Tmax ? 90: 0 Rainfall ? 0.01 inch: 3*	
				Tmax ? 32: 0 Rainfall ? 0.10 inch: 2*	
				Tmin ? 32: 9 Avg Wind Speed ? 10 mph: 19	
				Tmin ? 0: 0 Max Wind Speed ? 30 mph: 9	
Rainfall: Monthly Total: 0.73* in.		Humidity - Highest: 100			
Greatest 24 Hr: 0.56* in.		Lowest: 10			

*Identical weather summaries for counties of interest can be found at:
<http://agweather.mesonet.org/index.php/data/section/weather>



Variety Performance

Variety Performance

In recent years, cotton varieties are being developed, marketed, and replaced in a matter of only a few years. This makes it important for producers to be aware of new varieties that may be adapted to their area as soon as possible. In 2010, we established 16 county variety tests (9 dryland sites and 7 irrigated sites). All 16 trials were harvested.

All experiments were established on plots four rows by 30 feet, replicated four times. Plots were seeded with a John Deere 1760 four row planter outfitted with a four row cone unit. In early-season, alley areas between plots were tilled to facilitate harvesting, and plots were maintained by the producer the same as the rest of the field. Harvest aids were applied by the producer, and plots were harvested with a two row stripper equipped with a bagging system, scale, and data logger to record weights. Samples were taken and ginned on a small plot gin, and lint samples were analyzed by the Texas Tech Fiber Lab. Micronaire, fiber length, uniformity, and strength were determined for each variety.

The following tables show results from each test. It should be emphasized that in any single year or location, specific variety performance may vary due to its response to soil type and environmental conditions, stresses during the season, and location in the state. For this reason, it is better to look at multiple years of data on a variety, as well as soil type, location, and growing conditions in the test area as compared to your area. The same twenty varieties were planted at all irrigated locations and the same twenty varieties were planted at all dryland locations. The variety lists for both irrigated and dryland trials are presented below along with a generalization of how the plots were arranged at each locations.

2010 Variety Lists

Irrigated Varieties		Dryland Varieties	
Trt No.	Entry	Trt No.	Entry
1.	FM 9170B2F	1.	FM 9170B2F
2.	FM 1740B2F	2.	FM 1740B2F
3.	FM 9160B2F	3.	FM 9160B2F
4.	ST 4288B2F	4.	ST 4288B2F
5.	FM 9180B2F	5.	FM 9180B2F
6.	ST 5458B2F	6.	ST 5458B2F
7.	ST 5288B2F	7.	ST 5288B2F
8.	PHY 367WRF	8.	PHY 367WRF
9.	PHY 375WRF	9.	PHY 375WRF
10.	PHY 565WRF	10.	PHY 565WRF
11.	DP 1028B2F	11.	DP 1044B2F
12.	DP 1032B2F	12.	DP 1048B2F
13.	DP 0935B2F	13.	DP 0935B2F
14.	DP 0924B2F	14.	DP 1050B2F
15.	DP 1034B2F	15.	DP 1034B2F
16.	AT ApexB2F	16.	AT EpicRF
17.	AT 65207B2F	17.	AT 81158RF
18.	DG 2570B2F	18.	FM 9058F
19.	DP 1137 B2F	19.	DP 1137 B2F
20.	DP 1133 B2F	20.	DP 1133 B2F

Plot Layout Information:

Plots are 4 rows wide, by 30 ft long, replicated 4 times (each variety appears in 4 random areas within the trial). There are four ranges for each replication. Therefore the width of the entire trial was 20 rows wide (five varieties per range) and the length of the entire trial was 640 ft (this includes ten foot borders between ranges).

Test site Information:

Loc. No.	County Location	Closest Town	Grower Cooperator	Farm Designation	Planting Date	Production Method	Soil Type	Irrigated or Dry
1	Jackson	Altus	Felty	Wrecking Yard	5/4/2010	No-Till	Clay Loam	Drip Irrigated
2	Jackson	Altus	OSU	WOSC	5/5/2010	Conv. Till	Clay Loam	Furrow Irrigated
3	Jackson	Altus	OSU	SWREC (Office)	5/4/2010	Conv. Till	Clay Loam	Furrow Irrigated
4	Jackson	Altus	Winsett	Wallingford	5/5/2010	Conv. Till	Clay Loam	Furrow Irrigated
5	Tillman	Tipton	McKinly	Keith Pivot	5/12/2010	Conv. Till	Sandy Loam	Sprinkler Irrigated
6	Harmon	Hollis	Seddon	Lewis	5/8/2010	Conv. Till	Clay Loam	Furrow Irrigated
7	Beckham	Eric	Gamble		5/21/2010	Min. Till	Loamy Sand	Sprinkler Irrigated
8	Jackson	Altus	Felty	Irrig. District Office	6/20/2010	No-Till	Clay Loam	Dryland
9	Jackson	Altus	Winsett	McNeeley	5/8/2010	Conv. Till	Clay Loam	Dryland
10	Tillman	Tipton	McKinly	Grandads 80	5/25/2010	Min. Till	Sandy Loam	Dryland
11	Tillman	Hollister	Fischer	Fry	5/25/2010	No-Till	Clay Loam	Dryland
12	Harmon	Hollis	White	Bobs House	5/11/2010	No-Till	Clay Loam	Dryland
13	Beckham	Eric	Gamble	Home	5/21/2010	Conv. Till	Sandy Cl. Loam	Dryland
14	Washita	Elk City	Davis	Dolan 80	5/20/2010	Row Till	Sandy Loam	Dryland
15	Custer	Butler	Shephard	Dry Creek	5/20/2010	No-Till	Sandy Loam	Dryland
16	Greer	Granite	Grauman	Baumgart	6/3/2010	Conv. Till	Clay Loam	Dryland



Extension Cotton-2010 County Variety Trial Map-Irrigated


	7	14	3	19	12
Rep 4	16	18	10	15	FM 9170 B2F 1
	13	20	8	4	11
	2	17	5	6	9
Rep 3	19	14	17	12	FM 9170 B2F 1
	2	10	18	6	3
	8	5	9	20	16
	15	7	11	4	13
Rep 2	2	6	FM 9170 B2F 1	12	15
	9	5	14	10	18
	17	13	4	20	3
	11	19	16	7	8
Rep 1	AT Apex B2F 16	AT 65207 B2F 17	DG 2570 B2F 18	DP 09r619 B2F 19	DP 09r555 B2F 20
	DP 1028 B2F 11	DP 1032 B2F 12	DP 0935 B2F 13	DP 0924 B2F 14	DP 1034 B2F 15
	ST 5458 B2F 6	ST 5288 B2F 7	PHY 367 WRF 8	PHY 375 WRF 9	PHY 565 WRF 10
	FM 9170 B2F 1	FM 1740 B2F 2	FM 9160 B2F 3	ST 4288 B2F 4	FM 9180 B2F 5



Extension Cotton-2010 County Variety Trial Map-Dryland

	7	14	3	19	12
Rep 4	16	18	10	15	1
	13	20	8	4	DP 1044 B2F 11
	2	17	5	6	9
Rep 3	19	14	17	12	1
	2	10	18	6	3
	8	5	9	20	16
	15	7	DP 1044 B2F 11	4	13
Rep 2	2	6	1	12	15
	9	5	14	10	18
	17	13	4	20	3
	DP 1044 B2F 11	19	16	7	8
Rep 1	AT Epic RF 16	AT 81158 RF 17	FM 9058 F 18	DP 09r619 B2F 19	DP 09r555 B2F 20
	DP 1044 B2F 11	DP 1048 B2F 12	DP 0935 B2F 13	DP 1050 B2F 14	DP 1034 B2F 15
	ST 5458 B2F 6	ST 5288 B2F 7	PHY 367 WRF 8	PHY 375 WRF 9	PHY 565 WRF 10
	FM 9170 B2F 1	FM 1740 B2F 2	FM 9160 B2F 3	ST 4288 B2F 4	FM 9180 B2F 5

The tables below present the average turnout, yield, fiber data, loan value and \$/acre at each location. The detailed results of each location are presented in the tables that follow. All seven locations were planted from 5/4 to 5/21. Gin turnouts averaged from 24 to 28 percent and yield averaged from 1413 lbs/A to 1833 lbs/A. Loan values from these locations ranged from \$0.5222 to \$0.5401. The average revenue (\$)/acre from these trials ranged from \$763-981/acre. Nine dryland trials were harvested and produced gin turnout ranging from 22-26%. Average dryland yields ranged from 287-1382 lbs/acre. Loan values and revenue (\$)/acre were \$0.4916-\$0.5387 and \$141-\$740/acre respectively.

2010 Location Averages									
Irrigated									
									
Location	Plant	Gin	Yield	Fiber Data				Loan	Revenue
County-Cooperator	Date	%	lbs/Acre	Mic	Leng	Unif	Stren	Value	\$/Acre
Jackson-Felty	5/4	0.27	1644	5.00	1.15	83.8	31.4	0.5247	\$ 862
Jackson-WOSC	5/5	0.24	1833	4.78	1.19	84.5	33.9	0.5356	\$ 981
Tillman-McKinley	5/12	0.24	1628	4.49	1.20	83.9	33.6	0.5395	\$ 878
Jackson-Winsett	5/5	0.25	1683	5.04	1.17	83.9	32.4	0.5222	\$ 878
Harmon-Seddon	5/8	0.28	1698	3.78	1.17	82.8	31.2	0.5359	\$ 910
Beckham-Gamble	5/21	0.26	1413	4.26	1.15	83.6	32.0	0.5401	\$ 763
Jackson-OSUREC	5/4	0.27	1523	4.65	1.18	83.5	32.0	0.5352	\$ 815

Dryland									
Location	Plant	Gin	Yield	Fiber Data				Loan	Revenue
County-Cooperator	Date	%	lbs/Acre	Mic	Leng	Unif	Stren	Value	\$/Acre
Harmon-White	5/11	0.25	351	4.38	1.08	82.4	29.4	0.5248	\$ 184
Beckham-Gamble	5/21	0.24	1157	4.50	1.12	82.9	31.3	0.5351	\$ 619
Greer-Grauman	6/3	0.24	287	5.15	1.05	81.8	29.6	0.4916	\$ 141
Jackson-Winsett	5/8	0.22	586	3.96	1.09	81.3	29.4	0.5234	\$ 307
Jackson-Felty	6/20	0.23	622	4.15	1.14	82.7	31.1	0.5387	\$ 335
Tillman-McKinley	5/25	0.22	384	4.20	1.11	81.9	31.0	0.5297	\$ 204
Custer-Shephard	5/20	0.24	1382	4.14	1.14	82.7	30.5	0.5353	\$ 740
Washita-Davis	5/20	0.26	717	4.71	1.08	82.2	30.0	0.5204	\$ 373
Tillman-Fischer	5/25	0.24	469	4.83	1.13	82.7	31.7	0.5263	\$ 246



OKLAHOMA STATE UNIVERSITY

2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Base Value \$ 0.5200

Location:	Jackson-Felty	Plant Date:	5/4/2010	Tillage:	No-Till
Soil Type:	Clay Loam	Harvest Date:	10/7/2010	Irrigation:	Drip

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
1	1	FM 9170	B2F	0.274	1893.5 ab	4.9	1.17	83	33	\$ 0.5395	\$ 1,022
6	2	ST 5458	B2F	0.285	1969.5 a	5.3	1.14	82.3	32.7	\$ 0.5050	\$ 995
2	3	FM 1740	B2F	0.259	1720.7 c-f	4.8	1.12	84.2	31.4	\$ 0.5400	\$ 929
7	4	ST 5288	B2F	0.292	1795.1 bc	5.2	1.13	83.5	30.3	\$ 0.5160	\$ 926
10	5	Ph 565	WRF	0.27	1705.5 c-f	5.1	1.16	84.1	33.8	\$ 0.5185	\$ 884
13	6	DP 0935	B2F	0.286	1770.7 bcd	5.1	1.07	81.5	29.2	\$ 0.4980	\$ 882
12	7	DP 1032	B2F	0.26	1628.1 d-g	4.8	1.2	85.1	31.9	\$ 0.5415	\$ 882
11	8	DP 1028	B2F	0.292	1693.2 c-f	5	1.17	84.9	30.9	\$ 0.5195	\$ 880
4	9	ST 4288	B2F	0.269	1759.3 b-e	5.3	1.1	81.6	29	\$ 0.4960	\$ 873
9	10	Ph 375	WRF	0.259	1619 d-h	4.9	1.12	82.5	30.1	\$ 0.5370	\$ 869
3	11	FM 9160	B2F	0.246	1594.1 f-j	4.4	1.19	84.9	30.7	\$ 0.5415	\$ 863
14	12	DP 0924	B2F	0.267	1634.1 d-g	5.4	1.12	83.9	31.8	\$ 0.5075	\$ 829
18	13	DG 2570	B2F	0.29	1603.7 e-i	5.2	1.11	84.2	29.9	\$ 0.5160	\$ 828
8	14	Ph 367	WRF	0.262	1589.3 f-j	5.1	1.14	84.9	31.6	\$ 0.5195	\$ 826
20	15	DP 1133	B2F	0.274	1578.4 f-j	5.2	1.17	84.5	33.5	\$ 0.5195	\$ 820
5	16	FM 9180	B2F	0.226	1474.3 g-j	4.6	1.18	83.7	33	\$ 0.5405	\$ 797
15	17	DP 1034	B2F	0.269	1464.6 hij	4.8	1.19	84.5	31.5	\$ 0.5415	\$ 793
17	18	AT 65207	B2F	0.254	1508.9 g-j	5.2	1.14	84.2	32.6	\$ 0.5185	\$ 782
19	19	DP 1137	B2F	0.249	1438.5 j	4.9	1.16	84.6	30.9	\$ 0.5415	\$ 779
16	20	AT Apex	B2F	0.261	1448.1 ij	4.8	1.15	83.1	30.3	\$ 0.5375	\$ 778
LSD (P=.05)					159.94						
CV					6.88						
Test Average				0.267	1644	5	1.15	83.8	31.4	0.5247	862



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Location:	Jackson-WOSC	Plant Date:	5/5/2010	Tillage:	Conv-Till
Soil Type:	Clay Loam	Harvest Date:	10/19/2010	Irrigation:	Furrow

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
7	1	ST 5288	B2F	0.299	2416.6 a	5.1	1.17	83.5	32.7	\$ 0.5185	\$ 1,253
12	2	DP 1032	B2F	0.266	2041.2 b	4.9	1.23	83.5	34.2	\$ 0.5405	\$ 1,103
11	3	DP 1028	B2F	0.269	1977.7 bcd	4.7	1.21	85.4	33.2	\$ 0.5415	\$ 1,071
17	4	AT 65207	B2F	0.275	1949.9 b-e	4.9	1.15	85.3	32.2	\$ 0.5415	\$ 1,056
9	5	Ph 375	WRF	0.24	1935.8 b-f	4.8	1.16	85	32.6	\$ 0.5415	\$ 1,048
6	6	ST 5458	B2F	0.253	2006.2 bc	5.1	1.18	84.4	34.7	\$ 0.5185	\$ 1,040
13	7	DP 0935	B2F	0.249	1878.2 c-g	4.8	1.15	84.9	34.4	\$ 0.5415	\$ 1,017
1	8	FM 9170	B2F	0.244	1876.3 c-g	4.3	1.22	83.9	34.6	\$ 0.5405	\$ 1,014
15	9	DP 1034	B2F	0.249	1837.4 d-h	4.9	1.21	84.8	32.8	\$ 0.5415	\$ 995
20	10	DP 1133	B2F	0.24	1820.7 e-h	4.5	1.24	84.8	34.2	\$ 0.5415	\$ 986
18	11	DG 2570	B2F	0.266	1886.1 c-g	5.1	1.17	85	34.2	\$ 0.5195	\$ 980
8	12	Ph 367	WRF	0.24	1790.7 f-i	4.8	1.2	85.3	35.5	\$ 0.5415	\$ 970
10	13	Ph 565	WRF	0.225	1781.7 ghi	4.6	1.23	84.1	35.8	\$ 0.5405	\$ 963
3	14	FM 9160	B2F	0.225	1759.7 ghi	4.1	1.2	84.8	33.6	\$ 0.5430	\$ 956
14	15	DP 0924	B2F	0.242	1797.7 f-i	5.1	1.16	84.7	33.4	\$ 0.5195	\$ 934
2	16	FM 1740	B2F	0.24	1704.3 hij	4.9	1.17	83.9	34.6	\$ 0.5405	\$ 921
16	17	AT Apex	B2F	0.23	1658.4 ijk	5	1.19	82.7	32.4	\$ 0.5175	\$ 858
4	18	ST 4288	B2F	0.195	1585.6 jkl	4.7	1.23	84.4	33.4	\$ 0.5405	\$ 857
19	19	DP 1137	B2F	0.23	1513 kl	4.5	1.18	85	32.2	\$ 0.5415	\$ 819
5	20	FM 9180	B2F	0.207	1444 l	4.7	1.19	84.9	37.4	\$ 0.5415	\$ 782
LSD (P=.05)					150.37						
CV					5.8						
Test Average				0.244	1833	4.78	1.19	84.5	33.9	0.5356	981



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Location:	Jackson-Winsett	Plant Date:	5/5/2010	Tillage:	Conv-Till
Soil Type:	Clay Loam	Harvest Date:	10/18/2010	Irrigation:	Furrow

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
6	1	ST 5458	B2F	0.274	1944.3 a	5.2	1.16	83.1	33.5	\$ 0.5175	\$ 1,006
7	2	ST 5288	B2F	0.267	1961.5 a	5.4	1.13	82.8	31	\$ 0.5065	\$ 993
8	3	Ph 367	WRF	0.267	1776.7 abc	4.8	1.16	83.6	34.7	\$ 0.5405	\$ 960
12	4	DP 1032	B2F	0.266	1820.8 ab	5.3	1.17	84.5	32.6	\$ 0.5090	\$ 927
14	5	DP 0924	B2F	0.255	1809.5 ab	5.4	1.18	84.4	31.9	\$ 0.5080	\$ 919
13	6	DP 0935	B2F	0.258	1788.6 abc	5.2	1.13	82.4	30.2	\$ 0.5130	\$ 918
18	7	DG 2570	B2F	0.251	1664.8 b-e	4.9	1.18	85.3	32.9	\$ 0.5415	\$ 901
2	8	FM 1740	B2F	0.262	1766.3 abc	5.4	1.13	83.7	31.9	\$ 0.5075	\$ 896
10	9	Ph 565	WRF	0.246	1639.7 b-e	4.6	1.21	84.3	35.5	\$ 0.5405	\$ 886
20	10	DP 1133	B2F	0.263	1737.2 bcd	5.4	1.18	84.4	33.7	\$ 0.5080	\$ 882
3	11	FM 9160	B2F	0.236	1627 b-f	4.1	1.19	83.8	31.8	\$ 0.5420	\$ 882
4	12	ST 4288	B2F	0.231	1703.4 b-e	5.1	1.16	82.7	31.1	\$ 0.5175	\$ 882
1	13	FM 9170	B2F	0.234	1623.5 b-f	4.4	1.22	83.4	34.7	\$ 0.5395	\$ 876
19	14	DP 1137	B2F	0.264	1646 b-e	5	1.19	84.1	30.6	\$ 0.5185	\$ 853
17	15	AT 65207	B2F	0.266	1645.4 b-e	5.4	1.11	84.1	31.1	\$ 0.5075	\$ 835
16	16	AT Apex	B2F	0.235	1508.7 efg	4.8	1.19	83.4	32	\$ 0.5395	\$ 814
9	17	Ph 375	WRF	0.231	1595.1 c-g	5.4	1.14	83.6	30.4	\$ 0.5060	\$ 807
5	18	FM 9180	B2F	0.227	1544 d-g	5	1.21	85.1	34	\$ 0.5195	\$ 802
11	19	DP 1028	B2F	0.259	1431.3 fg	4.9	1.17	85.1	32.3	\$ 0.5415	\$ 775
15	20	DP 1034	B2F	0.244	1416.2 g	5.1	1.19	84.5	32	\$ 0.5195	\$ 736
		LSD (P=.05)			200.9						
		CV			8.44						
		Test Average		0.252	1683	5.04	1.17	83.9	32.4	0.5222	878



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Location:	Jackson-OSUREC	Plant Date:	5/4/2010	Tillage:	Conv-Till
Soil Type:	Clay Loam	Harvest Date:	10/29/2010	Irrigation:	Furrow

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
12	1	DP 1032	B2F	0.294	1736.9 a	4.7	1.16	83.4	31.4	\$ 0.5395	\$ 937
7	2	ST 5288	B2F	0.281	1732.1 a	5.1	1.18	83.4	32	\$ 0.5175	\$ 896
1	3	FM 9170	B2F	0.278	1630.2 ab	4.1	1.2	83.9	32.6	\$ 0.5420	\$ 884
9	4	Ph 375	WRF	0.287	1694 ab	5	1.15	82.9	30.3	\$ 0.5155	\$ 873
6	5	ST 5458	B2F	0.283	1681.2 ab	5.1	1.17	82.9	33.1	\$ 0.5175	\$ 870
2	6	FM 1740	B2F	0.286	1596.1 ab	4.9	1.15	84.2	32.2	\$ 0.5405	\$ 863
17	7	AT 65207	B2F	0.283	1565.5 abc	4.9	1.12	84.5	29	\$ 0.5365	\$ 840
18	8	DG 2570	B2F	0.274	1544.1 abc	4.7	1.16	83.3	31.8	\$ 0.5395	\$ 833
8	9	Ph 367	WRF	0.268	1540.9 abc	4.7	1.16	84	34.5	\$ 0.5405	\$ 833
20	10	DP 1133	B2F	0.272	1537.2 abc	4.7	1.21	84.8	33.1	\$ 0.5415	\$ 832
19	11	DP 1137	B2F	0.278	1537.8 abc	4.4	1.16	84.4	30	\$ 0.5385	\$ 828
13	12	DP 0935	B2F	0.273	1534 abc	4.3	1.14	82.9	32.7	\$ 0.5395	\$ 828
11	13	DP 1028	B2F	0.29	1523.6 abc	4.5	1.19	84.1	30.9	\$ 0.5405	\$ 824
3	14	FM 9160	B2F	0.267	1501.7 abc	4	1.21	84.5	33.1	\$ 0.5430	\$ 815
10	15	Ph 565	WRF	0.226	1458.3 bcd	4.4	1.22	82.7	34.4	\$ 0.5395	\$ 787
16	16	AT Apex	B2F	0.255	1460.6 bcd	4.8	1.2	81.2	31.2	\$ 0.5375	\$ 785
15	17	DP 1034	B2F	0.276	1451.6 bcd	4.5	1.19	82.1	30.9	\$ 0.5375	\$ 780
14	18	DP 0924	B2F	0.222	1316.4 cde	5.1	1.14	84.6	31.7	\$ 0.5195	\$ 684
4	19	ST 4288	B2F	0.241	1229.4 de	4.5	1.2	81.5	32.3	\$ 0.5375	\$ 661
5	20	FM 9180	B2F	0.24	1183.7 e	4.6	1.2	84.1	33.3	\$ 0.5405	\$ 640
LSD (P=.05)					261.17						
CV					12.13						
Test Average				0.269	1523	4.65	1.18	83.5	32.0	0.5352	815



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Location:	Tillman-McKinley	Plant Date:	5/12/2010	Tillage:	Min-Till
Soil Type:	Sandy loam	Harvest Date:	10/14/2010	Irrigation:	Sprinkler

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
12	1	DP 1032	B2F	0.267	2008.1 a	4.3	1.25	83.7	34.9	\$ 0.5405	\$ 1,085
6	2	ST 5458	B2F	0.243	1870 ab	4.5	1.18	81.5	34.3	\$ 0.5375	\$ 1,005
1	3	FM 9170	B2F	0.259	1765.8 bc	4.3	1.26	85	34.4	\$ 0.5415	\$ 956
9	4	Ph 375	WRF	0.257	1766.2 bc	4.7	1.16	83	31.3	\$ 0.5395	\$ 953
7	5	ST 5288	B2F	0.245	1739.8 bcd	4.7	1.16	82.9	33.3	\$ 0.5395	\$ 939
20	6	DP 1133	B2F	0.256	1695.2 b-e	4	1.25	85.8	35.2	\$ 0.5440	\$ 922
11	7	DP 1028	B2F	0.252	1663.2 c-f	4.4	1.21	84.2	32.7	\$ 0.5405	\$ 899
18	8	DG 2570	B2F	0.236	1630.9 c-g	4.4	1.18	84.5	33.2	\$ 0.5415	\$ 883
17	9	AT 65207	B2F	0.24	1627.2 c-g	4.7	1.17	84.5	33	\$ 0.5415	\$ 881
3	10	FM 9160	B2F	0.238	1592.8 c-g	4.2	1.19	84	32.6	\$ 0.5420	\$ 863
15	11	DP 1034	B2F	0.233	1589.9 c-g	4.5	1.19	83	31.5	\$ 0.5395	\$ 858
13	12	DP 0935	B2F	0.232	1578 c-h	4.7	1.2	84.3	34.7	\$ 0.5405	\$ 853
14	13	DP 0924	B2F	0.241	1636.6 c-f	5	1.19	85	33.1	\$ 0.5195	\$ 850
10	14	Ph 565	WRF	0.237	1562.9 c-h	4.3	1.23	84.4	34.7	\$ 0.5405	\$ 845
2	15	FM 1740	B2F	0.248	1539.5 d-h	4.8	1.16	82.5	33.8	\$ 0.5395	\$ 831
4	16	ST 4288	B2F	0.222	1507.5 e-h	4.9	1.18	83.3	32.7	\$ 0.5395	\$ 813
8	17	Ph 367	WRF	0.22	1498.8 e-h	4.3	1.21	84.1	35.1	\$ 0.5405	\$ 810
19	18	DP 1137	B2F	0.245	1475.5 fgh	4.4	1.18	83.2	33.8	\$ 0.5395	\$ 796
16	19	AT Apex	B2F	0.215	1429.5 gh	4.5	1.24	84.5	32.3	\$ 0.5415	\$ 774
5	20	FM 9180	B2F	0.209	1380.5 h	4.2	1.2	84.3	34.7	\$ 0.5420	\$ 748
		LSD (P=.05)			205.73						
		CV			8.94						
		Test Average		0.240	1628	4.49	1.20	83.9	33.6	0.5395	878



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Location:	Harmon-Seddon	Plant Date:	5/8/2010	Tillage:	Min-Till
Soil Type:	Clay Loam	Harvest Date:	11/2/2010	Irrigation:	Furrow

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
6	1	ST 5458	B2F	0.274	1968.2 a	3.8	1.13	79.8	31.4	\$ 0.5385	\$ 1,060
4	2	ST 4288	B2F	0.274	1930.8 ab	4.4	1.18	83.4	31.7	\$ 0.5395	\$ 1,042
9	3	Ph 375	WRF	0.284	1885.2 a-d	3.8	1.14	81.2	29.9	\$ 0.5370	\$ 1,012
7	4	ST 5288	B2F	0.287	1897.3 abc	4.3	1.15	81.1	29.2	\$ 0.5330	\$ 1,011
2	5	FM 1740	B2F	0.288	1828.6 a-e	4	1.16	82.9	32.2	\$ 0.5410	\$ 989
20	6	DP 1133	B2F	0.292	1809.4 a-e	4.2	1.18	83.2	31.6	\$ 0.5410	\$ 979
13	7	DP 0935	B2F	0.282	1778.2 a-f	3.6	1.14	82.9	33.5	\$ 0.5395	\$ 959
8	8	Ph 367	WRF	0.263	1831.8 a-e	3.4	1.15	82.2	32.2	\$ 0.5195	\$ 952
11	9	DP 1028	B2F	0.293	1764.5 a-f	4.1	1.17	85	29.5	\$ 0.5385	\$ 950
3	10	FM 9160	B2F	0.288	1623 c-g	3.6	1.2	83	31.7	\$ 0.5395	\$ 876
5	11	FM 9180	B2F	0.245	1607.6 d-g	3.6	1.2	83.4	32.5	\$ 0.5395	\$ 867
1	12	FM 9170	B2F	0.271	1663 b-f	3.4	1.22	82.5	32.4	\$ 0.5215	\$ 867
10	13	Ph 565	WRF	0.269	1596.5 efg	3.5	1.21	83.6	32.7	\$ 0.5405	\$ 863
19	14	DP 1137	B2F	0.286	1593 efg	3.8	1.14	83.7	28.9	\$ 0.5375	\$ 856
14	15	DP 0924	B2F	0.284	1581.9 efg	4	1.14	83.2	29.1	\$ 0.5365	\$ 849
18	16	DG 2570	B2F	0.257	1558.9 efg	3.6	1.17	83.7	32	\$ 0.5405	\$ 843
17	17	AT 65207	B2F	0.277	1554.9 efg	3.6	1.15	81.9	30.8	\$ 0.5375	\$ 836
12	18	DP 1032	B2F	0.285	1590.5 efg	3.4	1.21	83.8	31.7	\$ 0.5225	\$ 831
16	19	AT Apex	B2F	0.231	1518.3 fg	3.5	1.22	82.3	31	\$ 0.5375	\$ 816
15	20	DP 1034	B2F	0.277	1369.3 g	3.9	1.18	82.5	29	\$ 0.5365	\$ 735
		LSD (P=.05)			284.28						
		CV			11.84						
		Test Average		0.275	1698	3.78	1.17	82.8	31.2	0.5359	910



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Irrigated

Location:	Beckham-Gamble	Plant Date:	5/12/2010	Tillage:	Min-Till
Soil Type:	Sand	Harvest Date:	10/28/2010	Irrigation:	Sprinkler

Trt #	Rank	Treatment	Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre	
					Mic	Length	Uniformity	Strength			
18	1	DG 2570	B2F	0.267	1669.1 a	4.4	1.13	84.5	31.8	\$ 0.5410	\$ 903
9	2	Ph 375	WRF	0.262	1636.4 ab	4.1	1.18	83.3	32.5	\$ 0.5410	\$ 885
14	3	DP 0924	B2F	0.267	1568.7 abc	4.6	1.11	82.7	31.2	\$ 0.5390	\$ 846
20	4	DP 1133	B2F	0.273	1557.3 a-d	4.9	1.15	86	34.5	\$ 0.5425	\$ 845
10	5	Ph 565	WRF	0.239	1512.3 a-e	3.9	1.16	84.9	34.2	\$ 0.5430	\$ 821
8	6	Ph 367	WRF	0.256	1501.2 a-e	4.4	1.16	82.6	33.7	\$ 0.5395	\$ 810
15	7	DP 1034	B2F	0.281	1490.1 a-e	4.3	1.17	85.4	30.6	\$ 0.5415	\$ 807
7	8	ST 5288	B2F	0.257	1472.1 a-e	4.1	1.13	81.7	30.6	\$ 0.5385	\$ 793
6	9	ST 5458	B2F	0.257	1462.3 a-f	4.4	1.15	83	32.6	\$ 0.5395	\$ 789
12	10	DP 1032	B2F	0.271	1428.2 b-g	4.4	1.19	82.9	33.3	\$ 0.5395	\$ 771
19	11	DP 1137	B2F	0.278	1375.7 c-h	4.4	1.14	84.6	31	\$ 0.5415	\$ 745
11	12	DP 1028	B2F	0.276	1373.3 c-h	4.6	1.15	85.4	31	\$ 0.5415	\$ 744
2	13	FM 1740	B2F	0.257	1346 d-h	4.4	1.14	83.5	32.2	\$ 0.5405	\$ 728
1	14	FM 9170	B2F	0.26	1319.2 e-h	3.7	1.15	82.2	31.7	\$ 0.5390	\$ 711
3	15	FM 9160	B2F	0.249	1313.6 e-h	3.7	1.15	83	30.3	\$ 0.5390	\$ 708
4	16	ST 4288	B2F	0.235	1312.8 e-h	4.4	1.15	82.2	30.4	\$ 0.5355	\$ 703
5	17	FM 9180	B2F	0.229	1251.8 fgh	4	1.16	82.6	32	\$ 0.5410	\$ 677
13	18	DP 0935	B2F	0.26	1245.1 fgh	4.1	1.1	83	32.5	\$ 0.5365	\$ 668
16	19	AT Apex	B2F	0.215	1223.3 gh	4.3	1.16	84.1	30.1	\$ 0.5385	\$ 659
17	20	AT 65207	B2F	0.252	1203.1 h	4.1	1.16	85.1	33.6	\$ 0.5430	\$ 653
LSD (P=.05)					219.23						
CV					10.97						
Test Average				0.257	1413	4.26	1.15	83.6	32.0	0.5401	763



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Harmon-White	Plant Date:	5/11/2010	Tillage:	No-Till
Soil Type:	Clay Loam	Harvest Date:	10/18/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
6	1	ST 5458	B2F	0.273	409.2 a	4.5	1.1	81.4	29.6	\$ 0.5310	\$ 217
11	2	DP 1044	B2F	0.256	404.6 a	4.1	1.08	82.6	30.1	\$ 0.5345	\$ 216
14	3	DP 1050	B2F	0.279	409 a	4.5	1.08	82	28.4	\$ 0.5285	\$ 216
8	4	Ph 367	WRF	0.246	396.8 ab	4.4	1.09	82.8	28.8	\$ 0.5305	\$ 211
17	5	AT 81158	RF	0.261	392.6 abc	4.5	1.06	82	29.8	\$ 0.5225	\$ 205
7	6	ST 5288	B2F	0.253	387.5 abc	4.4	1.09	81.7	27.5	\$ 0.5285	\$ 205
10	7	Ph 565	WRF	0.240	375.4 abc	4.4	1.11	84.4	32.2	\$ 0.5400	\$ 203
15	8	DP 1034	B2F	0.248	374.4 abc	4.2	1.09	83.1	30.3	\$ 0.5345	\$ 200
2	9	FM 1740	B2F	0.251	373.5 abc	4.5	1.07	82.8	29.4	\$ 0.5220	\$ 195
20	10	DP 1133	B2F	0.274	380.8 abc	4.9	1.04	82.4	29.6	\$ 0.5025	\$ 191
4	11	ST 4288	B2F	0.218	357.6 abc	4.6	1.1	82.7	29.8	\$ 0.5330	\$ 191
9	12	Ph 375	WRF	0.245	373.9 abc	4.4	1.01	81.4	26.4	\$ 0.4895	\$ 183
16	13	AT Epic	RF	0.233	341.6 abc	4.3	1.1	82.9	30.8	\$ 0.5350	\$ 183
13	14	DP 0935	B2F	0.236	357.6 abc	4.3	1.04	82	29.4	\$ 0.5000	\$ 179
1	15	FM 9170	B2F	0.249	318.9 cd	4.2	1.11	82.5	31.7	\$ 0.5405	\$ 172
19	16	DP 1137	B2F	0.255	321 bcd	4.4	1.07	82.2	27.3	\$ 0.5200	\$ 167
12	17	DP 1048	B2F	0.241	316.5 cd	4.3	1.06	82.7	28.5	\$ 0.5220	\$ 165
3	18	FM 9160	B2F	0.239	261.8 de	4.3	1.08	81.8	28.9	\$ 0.5285	\$ 138
18	19	FM 9058	F	0.227	257.3 de	4	1.1	81.6	29.3	\$ 0.5300	\$ 136
5	20	FM 9180	B2F	0.204	212.4 e	4.3	1.06	82.3	30.5	\$ 0.5225	\$ 111
		LSD (P=.05)			77.81						
		CV			15.67						
		Test Average		0.246	351	4.38	1.08	82.4	29.4	0.5248	184



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Beckham-Gamble	Plant Date:	5/21/2010	Tillage:	Min-Till
Soil Type:	Clay Loam	Harvest Date:	11/20/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
6	1	ST 5458	B2F	0.240	1405.7 a	4.5	1.14	82.6	33	\$ 0.5395	\$ 758
1	2	FM 9170	B2F	0.235	1392.2 ab	4	1.18	83.9	33.5	\$ 0.5420	\$ 755
2	3	FM 1740	B2F	0.244	1421.6 a	5	1.12	83.9	32.2	\$ 0.5180	\$ 736
7	4	ST 5288	B2F	0.230	1264.8 abc	4	1.09	81.3	30.6	\$ 0.5345	\$ 676
10	5	Ph 565	WRF	0.240	1251.8 abc	4.4	1.15	83.2	32.9	\$ 0.5395	\$ 675
11	6	DP 1044	B2F	0.246	1214.7 abc	4.6	1.09	83	30.6	\$ 0.5350	\$ 650
8	7	Ph 367	WRF	0.221	1193.6 abc	4.2	1.11	82.7	31.2	\$ 0.5405	\$ 645
20	8	DP 1133	B2F	0.239	1182.7 abc	4.9	1.15	84.3	33.5	\$ 0.5405	\$ 639
9	9	Ph 375	WRF	0.242	1180.4 abc	4.4	1.1	82	29.2	\$ 0.5285	\$ 624
13	10	DP 0935	B2F	0.251	1192.9 abc	4.5	1.07	82.2	30	\$ 0.5225	\$ 623
16	11	AT Epic	RF	0.227	1136.9 abc	4.4	1.11	82.6	30.2	\$ 0.5370	\$ 611
15	12	DP 1034	B2F	0.248	1093.4 bc	4.9	1.15	82.8	31.6	\$ 0.5395	\$ 590
5	13	FM 9180	B2F	0.221	1061.1 c	4.5	1.15	82.9	32.8	\$ 0.5395	\$ 572
18	14	FM 9058	F	0.219	1052.7 c	4.6	1.14	82.2	32.3	\$ 0.5375	\$ 566
19	15	DP 1137	B2F	0.251	1038.3 c	4.7	1.11	83	30.9	\$ 0.5390	\$ 560
4	16	ST 4288	B2F	0.216	1050.1 c	4.5	1.09	82.9	28.9	\$ 0.5305	\$ 557
17	17	AT 81158	RF	0.240	1054.2 c	4.7	1.06	82.9	29.5	\$ 0.5220	\$ 550
3	18	FM 9160	B2F	0.218	1006.3 c	4.3	1.17	83.5	31.5	\$ 0.5405	\$ 544
14	19	DP 1050	B2F	0.236	989.1 c	4.4	1.11	82.9	31.1	\$ 0.5390	\$ 533
12	20	DP 1048	B2F	0.242	967.2 c	4.5	1.15	82.8	30.2	\$ 0.5375	\$ 520
		LSD (P=.05)			298.98						
		CV			18.26						
		Test Average		0.235	1157	4.5	1.12	82.9	31.3	0.5351	619



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Greer-Grauman	Plant Date:	6/3/2010	Tillage:	No-Till
Soil Type:	Clay Loam	Harvest Date:	11/20/2010		

Trt #	Rank	Treatment	Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre	
					Mic	Length	Uniformity	Strength			
16	1	AT Epic	RF	0.241	357.3 a	5.4	1.06	81.1	30.1	\$ 0.4900	\$ 175
19	2	DP 1137	B2F	0.237	312.6 abc	4.9	1.09	82.6	30.1	\$ 0.5330	\$ 167
3	3	FM 9160	B2F	0.256	305.1 a-d	4.6	1.1	83.2	30.3	\$ 0.5330	\$ 163
12	4	DP 1048	B2F	0.235	309.1 a-d	4.9	1.07	83.1	30	\$ 0.5245	\$ 162
1	5	FM 9170	B2F	0.241	302.1 b-e	4.6	1.08	80.1	31	\$ 0.5330	\$ 161
17	6	AT 81158	RF	0.24	349.2 ab	5.3	1	83.2	28.5	\$ 0.4590	\$ 160
13	7	DP 0935	B2F	0.258	324.8 abc	5.4	1.03	81.5	29.8	\$ 0.4700	\$ 153
2	8	FM 1740	B2F	0.243	316.5 abc	5	1.01	81.2	30.5	\$ 0.4700	\$ 149
15	9	DP 1034	B2F	0.234	304.4 b-e	5.3	1.03	81.2	28.3	\$ 0.4675	\$ 142
14	10	DP 1050	B2F	0.225	282.9 c-f	5.1	1.06	83.4	28.7	\$ 0.5000	\$ 141
7	11	ST 5288	B2F	0.254	297.2 b-e	5.4	0.97	80.5	26.6	\$ 0.4560	\$ 136
5	12	FM 9180	B2F	0.22	252.6 ef	4.9	1.09	80.5	31.1	\$ 0.5330	\$ 135
6	13	ST 5458	B2F	0.255	289.1 c-f	5.5	1	80.3	28.2	\$ 0.4570	\$ 132
9	14	Ph 375	WRF	0.233	260.3 def	5.1	1.05	82.6	30.2	\$ 0.5025	\$ 131
10	15	Ph 565	WRF	0.237	273.8 c-f	5.4	1.04	82.9	30.7	\$ 0.4740	\$ 130
18	16	FM 9058	F	0.214	258.1 def	5.2	1.05	80.4	29.8	\$ 0.5005	\$ 129
11	17	DP 1044	B2F	0.23	259.5 def	5.3	1.04	80.2	29.5	\$ 0.4675	\$ 121
20	18	DP 1133	B2F	0.239	244.9 fg	5.3	1.05	83.9	30.3	\$ 0.4930	\$ 121
8	19	Ph 367	WRF	0.235	240.8 fg	5	1.04	81.6	30.4	\$ 0.4805	\$ 116
4	20	ST 4288	B2F	0.216	198.9 g	5.3	1.05	82.1	27.7	\$ 0.4875	\$ 97
		LSD (P=.05)			52.22						
		CV			12.73						
		Test Average		0.237	287	5.15	1.05	81.8	29.6	0.4916	141



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Jackson-Winsett	Plant Date:	5/8/2010	Tillage:	Min-Till
Soil Type:	Clay Loam	Harvest Date:	11/30/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
17	1	AT 81158	RF	0.258	879.3 a	4.3	1.07	82.3	31.6	\$ 0.5245	\$ 461
13	2	DP 0935	B2F	0.257	702.2 b	4.6	1.06	81.4	29.9	\$ 0.5225	\$ 367
9	3	Ph 375	WRF	0.229	662.3 bc	3.5	1.05	80.3	26.6	\$ 0.5200	\$ 344
7	4	ST 5288	B2F	0.212	640.9 bc	4	1.12	81.8	29.1	\$ 0.5340	\$ 342
16	5	AT Epic	RF	0.216	654.5 bc	3.7	1.06	80.3	28.8	\$ 0.5215	\$ 341
3	6	FM 9160	B2F	0.232	630.5 bc	4.1	1.15	82.4	31.3	\$ 0.5390	\$ 340
10	7	Ph 565	WRF	0.225	603.3 cd	4.2	1.13	81.6	30	\$ 0.5365	\$ 324
19	8	DP 1137	B2F	0.219	592 cde	4.4	1.08	81.6	28.1	\$ 0.5285	\$ 313
8	9	Ph 367	WRF	0.227	580.6 cde	3.5	1.09	81.5	30.1	\$ 0.5310	\$ 308
20	10	DP 1133	B2F	0.232	574.9 cde	4.4	1.1	82.1	31.4	\$ 0.5330	\$ 306
6	11	ST 5458	B2F	0.232	585 cde	4	1.06	79.1	26.9	\$ 0.5140	\$ 301
11	12	DP 1044	B2F	0.242	597.9 cde	4.4	1.04	81.2	30.3	\$ 0.5025	\$ 300
1	13	FM 9170	B2F	0.206	532.9 def	3.9	1.16	80.8	33.4	\$ 0.5390	\$ 287
12	14	DP 1048	B2F	0.216	533.7 def	3.8	1.08	80	27.3	\$ 0.5300	\$ 283
18	15	FM 9058	F	0.208	509.4 ef	3.6	1.14	81.9	30.6	\$ 0.5375	\$ 274
14	16	DP 1050	B2F	0.236	512.8 ef	4.1	1.09	82	27.1	\$ 0.5300	\$ 272
5	17	FM 9180	B2F	0.183	514.6 def	3.3	1.13	81.5	32.1	\$ 0.5190	\$ 267
15	18	DP 1034	B2F	0.208	484 fg	4.3	1.09	82.2	29.1	\$ 0.5285	\$ 256
2	19	FM 1740	B2F	0.195	521.5 def	3.2	1	79.6	26.5	\$ 0.4555	\$ 238
4	20	ST 4288	B2F	0.174	404.6 g	3.8	1.07	81.6	27.1	\$ 0.5215	\$ 211
		LSD (P=.05)			89.3						
		CV			10.67						
		Test Average		0.220	586	3.96	1.09	81.3	29.4	0.5234	307



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Jackson-Felty	Plant Date:	6/20/2010	Tillage:	No-Till
Soil Type:	Clay Loam	Harvest Date:	11/22/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
2	1	FM 1740	B2F	0.233	720 a	4.2	1.12	82.3	30.3	\$ 0.5365	\$ 386
9	2	Ph 375	WRF	0.238	696.5 ab	3.9	1.15	81.1	30.1	\$ 0.5370	\$ 374
6	3	ST 5458	B2F	0.241	656.7 abc	4.5	1.17	82.5	32.4	\$ 0.5395	\$ 354
14	4	DP 1050	B2F	0.252	649.6 abc	4.1	1.19	83	31	\$ 0.5410	\$ 351
13	5	DP 0935	B2F	0.238	655 abc	4.2	1.11	81.8	30.1	\$ 0.5365	\$ 351
7	6	ST 5288	B2F	0.248	651.5 abc	4.5	1.09	83	30.1	\$ 0.5330	\$ 347
15	7	DP 1034	B2F	0.239	639.6 abc	4.1	1.16	84.6	29.2	\$ 0.5385	\$ 344
19	8	DP 1137	B2F	0.234	637.7 abc	4.3	1.13	84	30.2	\$ 0.5380	\$ 343
1	9	FM 9170	B2F	0.237	630.3 a-d	3.9	1.2	83.7	33.8	\$ 0.5420	\$ 342
11	10	DP 1044	B2F	0.220	627.1 a-d	4.2	1.13	83.6	30.4	\$ 0.5395	\$ 338
12	11	DP 1048	B2F	0.239	610.9 a-d	4.1	1.17	84.3	30.5	\$ 0.5400	\$ 330
18	12	FM 9058	F	0.231	610.6 a-d	4	1.15	80.9	30.8	\$ 0.5390	\$ 329
8	13	Ph 367	WRF	0.216	600.4 bcd	3.8	1.16	83.5	31.3	\$ 0.5420	\$ 325
20	14	DP 1133	B2F	0.255	599 bcd	4.5	1.18	84.5	32.9	\$ 0.5415	\$ 324
16	15	AT Epic	RF	0.200	599.5 bcd	4	1.11	80.4	31.9	\$ 0.5385	\$ 323
17	16	AT 81158	RF	0.226	592.4 bcd	4.3	1.11	83.5	30.2	\$ 0.5380	\$ 319
4	17	ST 4288	B2F	0.227	587.6 bcd	4.4	1.15	82.2	30.5	\$ 0.5355	\$ 315
10	18	Ph 565	WRF	0.251	578.6 cd	4.1	1.15	82.7	33.1	\$ 0.5410	\$ 313
5	19	FM 9180	B2F	0.216	570.9 cd	4.1	1.14	81.2	32.5	\$ 0.5390	\$ 308
3	20	FM 9160	B2F	0.231	525 d	3.8	1.12	81.1	30.8	\$ 0.5385	\$ 283
		LSD (P=.05)			109.5						
		CV			12.45						
		Test Average		0.234	622	4.15	1.14	82.7	31.1	0.5387	335



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Tillman-McKinley	Plant Date:	5/25/2010	Tillage:	Min-Till
Soil Type:	Sandy Loam	Harvest Date:	11/29/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
11	1	DP 1044	B2F	0.256	483.7 a	4.7	1.13	81.2	32.8	\$ 0.5370	\$ 260
17	2	AT 81158	RF	0.223	424.2 abc	4.1	1.12	82.7	31.8	\$ 0.5405	\$ 229
19	3	DP 1137	B2F	0.206	441.6 ab	3.4	1.13	80.9	29.3	\$ 0.5145	\$ 227
13	4	DP 0935	B2F	0.247	427.2 abc	4.6	1.09	81.7	30	\$ 0.5310	\$ 227
2	5	FM 1740	B2F	0.241	432.6 ab	4.3	1.05	79.9	28.1	\$ 0.5200	\$ 225
16	6	AT Epic	RF	0.233	419.9 abc	4.1	1.08	80.7	29.6	\$ 0.5325	\$ 224
14	7	DP 1050	B2F	0.23	414.5 abc	4.2	1.11	81.8	29.4	\$ 0.5340	\$ 221
10	8	Ph 565	WRF	0.236	406.4 abc	4.6	1.14	82.9	35	\$ 0.5395	\$ 219
6	9	ST 5458	B2F	0.242	408 abc	4.6	1.06	79.5	30.7	\$ 0.5245	\$ 214
15	10	DP 1034	B2F	0.228	394.3 bcd	4.3	1.15	82.3	31.3	\$ 0.5375	\$ 212
9	11	Ph 375	WRF	0.227	394.2 bcd	4.1	1.08	81.9	29.4	\$ 0.5300	\$ 209
12	12	DP 1048	B2F	0.219	380.7 b-e	4.2	1.13	83.7	31.1	\$ 0.5415	\$ 206
8	13	Ph 367	WRF	0.205	370.9 b-f	4.5	1.11	82.8	30.6	\$ 0.5390	\$ 200
20	14	DP 1133	B2F	0.236	367.9 b-f	5.1	1.14	84	33.8	\$ 0.5185	\$ 191
7	15	ST 5288	B2F	0.232	355.7 b-f	3.9	1.1	81.4	28.7	\$ 0.5300	\$ 189
18	16	FM 9058	F	0.216	340.6 c-f	3.9	1.11	82.7	30.6	\$ 0.5405	\$ 184
5	17	FM 9180	B2F	0.202	312.7 def	4.4	1.08	81.7	31.6	\$ 0.5330	\$ 167
4	18	ST 4288	B2F	0.178	301.4 ef	4.2	1.12	81.8	31.7	\$ 0.5385	\$ 162
3	19	FM 9160	B2F	0.223	288.4 f	4.1	1.15	82.4	31.4	\$ 0.5390	\$ 155
1	20	FM 9170	B2F	0.2	315.4 def	2.7	1.18	81.1	32.7	\$ 0.4730	\$ 149
		LSD (P=.05)			88.12						
		CV			16.06						
		Test Average		0.224	384	4.2	1.11	81.9	31.0	0.5297	204



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Custer-Shephard	Plant Date:	5/20/2010	Tillage:	No-Till
Soil Type:	Sandy Loam	Harvest Date:	10/19/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
2	1	FM 1740	B2F	0.255	1662.1 a	4.7	1.08	82.8	30.4	\$ 0.5330	\$ 886
8	2	Ph 367	WRF	0.241	1545.9 ab	4.1	1.14	83.3	31.1	\$ 0.5410	\$ 836
1	3	FM 9170	B2F	0.256	1525 abc	4.1	1.18	82.7	33.2	\$ 0.5410	\$ 825
20	4	DP 1133	B2F	0.268	1486.9 bc	4.6	1.15	83.6	31.8	\$ 0.5405	\$ 804
17	5	AT 81158	RF	0.256	1477.5 bcd	4.4	1.13	83.6	30.5	\$ 0.5380	\$ 795
9	6	Ph 375	WRF	0.249	1518.5 abc	4.5	1.07	81.1	27.8	\$ 0.5200	\$ 790
7	7	ST 5288	B2F	0.251	1456.9 bcd	4.7	1.13	82.6	28.1	\$ 0.5345	\$ 779
11	8	DP 1044	B2F	0.250	1436.1 bcd	3.6	1.18	82.3	32.6	\$ 0.5375	\$ 772
13	9	DP 0935	B2F	0.244	1392.3 c-f	3.7	1.14	81.1	29.9	\$ 0.5370	\$ 748
15	10	DP 1034	B2F	0.251	1378.9 c-g	3.9	1.16	84.6	30	\$ 0.5410	\$ 746
16	11	AT Epic	RF	0.239	1406.8 b-e	3.8	1.1	81.8	28.4	\$ 0.5300	\$ 746
14	12	DP 1050	B2F	0.256	1332.4 d-h	4.3	1.15	83.9	30.3	\$ 0.5385	\$ 717
18	13	FM 9058	F	0.229	1330.4 d-h	3.9	1.18	82.4	31.8	\$ 0.5390	\$ 717
12	14	DP 1048	B2F	0.238	1271.2 e-h	4.1	1.16	82.8	30.2	\$ 0.5390	\$ 685
3	15	FM 9160	B2F	0.232	1245.4 fgh	3.6	1.14	83	30	\$ 0.5375	\$ 669
6	16	ST 5458	B2F	0.222	1243.8 fgh	3.5	1.14	80.8	29.9	\$ 0.5355	\$ 666
5	17	FM 9180	B2F	0.224	1233 gh	4.2	1.16	82.4	33.5	\$ 0.5390	\$ 665
19	18	DP 1137	B2F	0.235	1232.1 gh	4.3	1.14	83.8	28.7	\$ 0.5360	\$ 660
4	19	ST 4288	B2F	0.224	1280.6 e-h	5.1	1.09	80.7	28.7	\$ 0.5065	\$ 649
10	20	Ph 565	WRF	0.203	1191.5 h	3.6	1.2	84	33.5	\$ 0.5405	\$ 644
		LSD (P=.05)			151.54						
		CV			7.75						
		Test Average		0.241	1382	4.14	1.14	82.7	30.5	0.5353	740



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2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Washita-Davis	Plant Date:	5/20/2010	Tillage:	Row-Till
Soil Type:	Sandy Clay Loam	Harvest Date:	10/15/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
9	1	Ph 375	WRF	0.279	822.6 a	4.7	1.08	82.4	31.3	\$ 0.5330	\$ 438
11	2	DP 1044	B2F	0.273	769.2 ab	4.8	1.12	84	33.1	\$ 0.5400	\$ 415
1	3	FM 9170	B2F	0.284	772.4 ab	4.9	1.1	82.5	29.3	\$ 0.5305	\$ 410
15	4	DP 1034	B2F	0.289	779.6 ab	4.9	1.07	83.5	29.2	\$ 0.5230	\$ 408
3	5	FM 9160	B2F	0.260	773.7 ab	5.1	1.11	82.4	29.9	\$ 0.5130	\$ 397
8	6	Ph 367	WRF	0.280	746.2 a-d	4.2	1.07	81.5	30.9	\$ 0.5260	\$ 393
13	7	DP 0935	B2F	0.286	770 ab	4.9	1.02	81.1	28	\$ 0.5000	\$ 385
16	8	AT Epic	RF	0.270	732.8 a-d	4.6	1.06	81.4	31.3	\$ 0.5245	\$ 384
5	9	FM 9180	B2F	0.241	721.1 a-d	4.3	1.08	82	31.2	\$ 0.5330	\$ 384
7	10	ST 5288	B2F	0.264	713.6 a-d	4.8	1.1	82.8	30.5	\$ 0.5330	\$ 380
4	11	ST 4288	B2F	0.240	748.2 a-d	5	1.08	80.8	29.2	\$ 0.5065	\$ 379
20	12	DP 1133	B2F	0.266	713.3 a-d	5	1.1	82.9	33.4	\$ 0.5130	\$ 366
12	13	DP 1048	B2F	0.276	758.1 abc	5.2	1	82.2	28.2	\$ 0.4675	\$ 354
2	14	FM 1740	B2F	0.251	668.9 b-e	4.8	1.08	82.3	28.5	\$ 0.5285	\$ 354
10	15	Ph 565	WRF	0.276	681.4 b-e	5.2	1.09	82.7	32.4	\$ 0.5130	\$ 350
19	16	DP 1137	B2F	0.270	666.6 b-e	4.9	1.07	83.2	28.6	\$ 0.5220	\$ 348
17	17	AT 81158	RF	0.258	656.6 b-e	4.6	1.05	81.7	29	\$ 0.5200	\$ 341
18	18	FM 9058	F	0.235	631.4 de	4.1	1.09	80.7	29.2	\$ 0.5300	\$ 335
14	19	DP 1050	B2F	0.257	635.9 cde	4.4	1.06	83	27.6	\$ 0.5220	\$ 332
6	20	ST 5458	B2F	0.233	582.9 e	3.8	1.09	81.4	29.5	\$ 0.5300	\$ 309
		LSD (P=.05)			126.65						
		CV			12.49						
		Test Average		0.264	717	4.71	1.08	82.2	30.0	0.5204	373



OKLAHOMA STATE UNIVERSITY

2010 EXTENSION COTTON VARIETY TRIAL RESULTS

Dryland

Location:	Tillman-Fischer	Plant Date:	5/25/2010	Tillage:	No-Till
Soil Type:	Clay Loam	Harvest Date:	11/30/2010		

Trt #	Rank	Treatment		Gin %	Lint Yield lbs/Acre	Fiber Quality				Loan Value	\$/Acre
						Mic	Length	Uniformity	Strength		
13	1	DP 0935	B2F	0.281	573.8 ab	5.1	1.14	82.5	33.2	\$ 0.5175	\$ 297
7	2	ST 5288	B2F	0.263	588.6 a	5.4	1.1	81	29.8	\$ 0.4985	\$ 293
15	3	DP 1034	B2F	0.247	515.1 bcd	4.8	1.14	83.8	32.1	\$ 0.5405	\$ 278
17	4	AT 81158	RF	0.247	533.1 abc	5.2	1.11	83.6	31.8	\$ 0.5180	\$ 276
11	5	DP 1044	B2F	0.257	532.2 abc	5.2	1.13	82.6	31.6	\$ 0.5170	\$ 275
3	6	FM 9160	B2F	0.249	513 bcd	5	1.21	84	31.6	\$ 0.5185	\$ 266
19	7	DP 1137	B2F	0.246	495.2 cde	4.6	1.1	83.9	29.4	\$ 0.5315	\$ 263
10	8	Ph 565	WRF	0.253	494.5 cde	5.1	1.14	84.6	34.2	\$ 0.5195	\$ 257
5	9	FM 9180	B2F	0.236	475 c-f	4.9	1.17	81.4	32.8	\$ 0.5375	\$ 255
12	10	DP 1048	B2F	0.234	467.6 def	4.7	1.13	82.6	30.8	\$ 0.5390	\$ 252
14	11	DP 1050	B2F	0.248	461.3 d-g	4.7	1.17	83.9	32.1	\$ 0.5405	\$ 249
9	12	Ph 375	WRF	0.232	477.1 c-f	4.4	1.07	81.9	27.1	\$ 0.5200	\$ 248
20	13	DP 1133	B2F	0.242	443.2 e-h	4.9	1.16	83.9	33.4	\$ 0.5405	\$ 240
16	14	AT Epic	RF	0.206	432.6 e-h	4.2	1.12	82.4	32.1	\$ 0.5385	\$ 233
6	15	ST 5458	B2F	0.25	446.9 e-h	5.4	1.14	82	32	\$ 0.5050	\$ 226
1	16	FM 9170	B2F	0.215	417.1 f-i	4.6	1.21	83.3	35.9	\$ 0.5395	\$ 225
2	17	FM 1740	B2F	0.205	388.8 hij	4.6	1.15	82.7	32.3	\$ 0.5395	\$ 210
4	18	ST 4288	B2F	0.225	402.2 g-j	4.5	1.04	79.1	27.4	\$ 0.4925	\$ 198
8	19	Ph 367	WRF	0.193	367.4 ij	4.7	1.08	82.5	30.4	\$ 0.5330	\$ 196
18	20	FM 9058	F	0.194	346.8 j	4.6	1.16	82.8	34.2	\$ 0.5395	\$ 187
LSD (P=.05)					64.32						
CV					9.6						
Test Average				0.236	469	4.83	1.13	82.7	31.7	0.5263	246



Agronomic Projects

This section of the report presents the results of various agronomic projects. Cotton producers face numerous in-season management decisions concerning fertility, tillage, plant growth regulators, precision agriculture and/or irrigation. The following projects address some of these areas.

Performance of Four Plant Populations in Dryland and Irrigated Cotton

Plant population or seeding rate questions continue to be explored by Oklahoma producers. Rising seed costs and technology fees motivate growers to continually attempt to adjust rates downward in order to reduce cut costs as much as possible. In an attempt to address these issues we initiated 6 plant population studies in 2010. Three locations were dryland and three were irrigated. For all of these studies individual seeds were counted for each plot by a custom made John Deere MaxEmerge vaccum planting unit engineered specifically for packaging seed. Populations of 22, 32, 42 and 52,000 seeds per acre were packaged and planted in a randomized complete block design and replicated 4 times. Dryland planting dates ranged from 5/11 to 6/20/10. Across all three dryland locations no treatment was statistically greater than any other. Therefore the lowest populations produced equally as much lint per acre as the highest populations. For the purposes of these trials seed costs have been estimated at \$325/bag (200,000 seed bags). Based on these figures the costs of the populations planted ranged from \$36/acre (22k planting rate) to \$86/acre (52k planting rate). Given the fact that there were no statistical differences in yield the potential for saving a significant amount on seed costs does exist. However, since 22,000 plants per acre borderlines the traditional minimum acceptable stand it is more reasonable to recommend the 32,000 population. This planting rate still offers the potential to save over \$30/acre compared to the 52,000 population. The tables below present the detailed information for each dryland location.

Harmon County Dryland-White

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	22k	0.25	327 a	4	1.16	84.2	34.7
2	32k	0.276	383.6 a	3.7	1.16	83.2	33.8
3	42k	0.253	286.8 a	3.8	1.1	81.9	31.2
4	52k	0.242	307.3 a	4.1	1.12	82.3	32.1
LSD (P=.05)			93.31				
CV			17.89				

Tillman County Dryland-McKinley

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	22k	0.263	484.5 a	5.0	1.18	81.7	34.2
2	32k	0.242	499.9 a	5.1	1.19	81.7	33.9
3	42k	0.265	596.5 a	5.0	1.18	83.8	35.1
4	52k	0.254	616 a	5.1	1.18	83.4	34.3
LSD (P=.05)			205.56				
CV			23.4				

Jackson County Dryland-Winsett

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	22k	0.176	506.5 a	3.7	1.06	80.6	28.3
2	32k	0.217	584.2 a	3.7	1.11	80.9	28.3
3	42k	0.226	597.4 a	3.5	1.15	80.8	31.1
4	52k	0.2	527.6 a	3.4	1.13	81.2	29.4
LSD (P=.05)			129.73				
CV			14.64				

The irrigated planting dates were 5/4 and 5/8/10. Similar to the dryland trials there were no real statistical differences between the lower populations and the higher populations. At both locations the 32,000 population produced the highest numerical lint yield per acre. This data suggests that planting rates above 42,000 plants per acre are not necessary (given planting conditions are appropriate).

Tillman County Irrigated-McKinley

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	22k	0.255	1824.7 a	3.6	1.25	84.0	33.6
2	32k	0.254	1974 a	4.2	1.27	84.8	35.3
3	42k	0.249	1884.9 a	4.1	1.25	84.6	35.8
4	52k	0.261	1961.6 a	4.4	1.26	83.0	35.2
LSD (P=.05)			122.09				
CV			3.99				

Jackson County Irrigated-Felty

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	22k	0.273	1559.3 a	4.8	1.2	84.2	35.4
2	32k	0.284	1715 a	4.6	1.2	83.1	33
3	42k	0.278	1590.9 a	4.7	1.19	83.5	33.5
4	52k	0.267	1613.8 a	4.6	1.23	85.2	33.8
LSD (P=.05)			130.89				
CV			5.05				

Beltwide Regional Nitrogen Study (Seed Size and Nitrogen Use Efficiency)

In 2009 and 2010 Oklahoma participated (as one of 10 locations) in a national protocol funded through Cotton Incorporated and the Extension Cotton Specialists Working Group (ECSWG) to explore potential issues or any correlation that may exist between cotton seed size and nitrogen use efficiency. Oklahoma's nitrogen trial location was planted at the Altus station on May 5th. Soil Samples were taken on May 6th. We used 32-0-0 with a coulter-style applicator to apply the treatments on June 8th (the cotton was approximately 5 leaf). Results of the combined soil NO₃-N, plant measurements and yield data are presented in the tables below. The three varieties planted were FM 9180 B2F, DP 0924 B2F, and ST 5288 B2F. Each variety's performance was observed under 0, 40, 80 and 120 lb nitrogen application regimes for a total of 12 treatments (3 varieties x 4 nitrogen treatments). Plots were replicated 4 times and arranged in a randomized complete block. Plant stands were taken approximately two weeks after planting. All plots or treatments achieved stands of approximately 3-4 plants per foot of row (table 1). Soil samples were taken from each plot and residual nitrates ranged from 22 to 29 lbs per acre with approximately 50-60% of this nitrogen coming from the deeper (6-24 inch) samples (presented below in table 1). Plant heights, total nodes and nodes above white flower (nawf) were taken at first bloom (7/12/10). Table 2 presents this data along with the subsequent weekly nawf measurements. Plant heights at first bloom ranged from 19-27 inches while total nodes ranged from 13 to 15. A definite trend was observed with both the plant height and the total node data. Both seem to be increasing with the increasing nitrogen application rates. Nodes above white flower at first bloom (7/12/10) ranged from 6 to 9 across all treatments. As expected there was a trend suggesting that longer season varieties tend to have higher nawf at first bloom. The final nawf measurement occurred on 8/17/10. The plant measurements clearly show that both nawf and nacb increase with nitrogen application rate. Plots were harvested on October 28th with a John Deere 482 brush-type stripper equipped with electronic scales and a data logger. Lint yields (presented in table 4) ranged from 461-1492 lbs/Acre. An obvious trend was observed with lint yields increasing as the nitrogen application rate increased. Taking into account the average residual nitrogen within each plot (approx. 25 lbs to a depth of 24 inches), the adjusted (treatment plus average residual) nitrogen rates would be as follows: 25, 65, 105, and 145 lbs per acre. Fibermax 9180 produced 461 lbs/Acre from the 25 # N (nitrogen) rate, 756 lbs/Acre from the 65# N rate, 951 lbs/Acre from the 105# N rate and 1070 lbs/Acre from the 145# N rate. Deltapine 0924 produced 578 lbs/Acre from the 25# N rate, 836 lbs/Acre from the 65# N rate, 1201 lbs/Acre from the 105# rate and 1341 lbs/Acre from the 145# N rate. Stoneville 5288 produced 578 lbs/Acre from the 25# N rate, 1115 lbs/Acre from the 65# N rate, 1273 lbs/Acre from the 105# N rate and 1492 lbs/Acre from the 145# N rate. Although the lowest yields produced by each variety (from the 25# N rate) were statistically equal, the highest yields (from 145# N rate) produced from DP 0924 and ST 5288 were statistically greater than the yield produced from FM 9180. It is not unusual to see longer season varieties out-yield shorter season varieties when late-season weather permits. This late-season weather pattern did occur for us in 2010. September and October were very warm in Oklahoma and this is most likely why those varieties produced higher yields. Additional soil sampling for residual soil nitrogen within these plots would help us determine whether these yield differences were attributable to actual differences in varietal nitrogen use efficiencies or the result of complimentary weather patterns. In addition, 100 seed sample weights were recorded and are also presented in table 4. Weights ranged from 9 to 11 grams. There did seem to be a slight trend with the two longer season varieties. For DP 0924 and ST 5288, seed weights seem to increase slightly as nitrogen application rates increased. This trend was not observed with FM 9180. The HVI fiber data is presented below in table 5. For all varieties fiber length was reduced when no nitrogen was applied. In fact the average fiber length for the zero nitrogen treatments across all three varieties was 1.12. The average fiber length for all 3 varieties with the 120# application rate was 1.16. On average the 120# nitrogen application increased fiber length by 0.04. In addition, a slight micronaire trend was observed with DP 0924 and ST 5288. As nitrogen application rates increased from zero to 120 lbs/Acre, micronaire seemed to trend downward. Both

uniformity and strength readings are slightly less or (trend towards slightly less) for the zero nitrogen application rates as compared to the 40, 80 or 120# rates across all varieties.

Table 1. Stand Counts and Residual Nitrogen

Rating Timing		5/19/2010	5/6/2010	5/6/2010	5/6/2010
Trt	Treatment	Stand Count	NO3-N 0-6"	NO3-N 6-24"	Total NO3-N
No.	Name	Avg/10ft	lbs/A	lbs/A	lbs/A
1	0 lbs Nitrogen FM 9180	35.1 a	10.8 a	16 a	27 a
2	40 lbs Nitrogen FM 9180	38.4 a	10.8 a	17.5 a	28 a
3	80 lbs Nitrogen FM 9180	39 a	12.3 a	13 a	25 a
4	120 lbs Nitrogen FM 9180	35.3 a	9 a	13.5 a	23 a
5	0 lbs Nitrogen DP 0924	39 a	10 a	11.5 a	22 a
6	40 lbs Nitrogen DP 0924	35.5 a	9.3 a	15 a	24 a
7	80 lbs Nitrogen DP 0924	30.1 a	10.5 a	13.5 a	24 a
8	120 lbs Nitrogen DP 0924	31.5 a	9.8 a	14 a	24 a
9	0 lbs Nitrogen ST 5288	35.4 a	8.5 a	13.5 a	22 a
10	40 lbs Nitrogen ST 5288	38 a	11.8 a	11.5 a	23 a
11	80 lbs Nitrogen ST 5288	30.4 a	15 a	13.5 a	29 a
12	120 lbs Nitrogen ST 5288	29.3 a	12.3 a	13 a	25 a
LSD (P=.05)		8.63	5.41	7.95	10.4
CV		17.2	34.64	39.93	29.26
Grand Mean		34.74	10.81	13.79	24.6

Table 2. Plant Heights, Total Nodes and Nawf

Rating Timing		7/12/2010	7/12/2010	7/12/2010	7/20/2010
Trt	Treatment	Plant Ht-In	Total Nodes	NAWF	NAWF
No.	Name	10PAvg	10PAvg	10P Avg	10P Avg
1	0 lbs Nitrogen FM 9180	19.2 f	13.3 d	6.2 e	4.5 e
2	40 lbs Nitrogen FM 9180	23.4 e	13.9 cd	7.2 de	6.3 cd
3	80 lbs Nitrogen FM 9180	25.3 cd	14.9 a	7.5 cd	6.7 bcd
4	120 lbs Nitrogen FM 9180	24.8 cde	14.8 ab	7.6 bcd	6.8 a-d
5	0 lbs Nitrogen DP 0924	24.3 de	13.8 cd	7.3 d	5.9 d
6	40 lbs Nitrogen DP 0924	25.8 bcd	14.5 abc	7.6 bcd	7.2 abc
7	80 lbs Nitrogen DP 0924	27.9 a	15 a	9 a	7.8 ab
8	120 lbs Nitrogen DP 0924	25.9 bcd	15 a	7.8 bcd	7.8 ab
9	0 lbs Nitrogen ST 5288	23.6 e	14.1 bc	7.7 bcd	6.3 cd
10	40 lbs Nitrogen ST 5288	26.3 abc	14.5 abc	7.9 bcd	7.3 abc
11	80 lbs Nitrogen ST 5288	27.6 a	14.8 ab	8.5 ab	7.3 abc
12	120 lbs Nitrogen ST 5288	27 ab	14.8 ab	8.3 abc	7.9 a
LSD (P=.05)		1.69	0.73	0.97	1.12
CV		4.67	3.52	8.73	11.44
Grand Mean		25.07	14.44	7.71	6.8

Table 3. Nawf and Nach

Rating Timing		7/27/2010	8/5/2010	8/9/2010	8/17/2010	9/20/2010
Trt	Treatment	NAWF	NAWF	NAWF	NAWF	NACB
No.	Name	10P AVG	10PAVG	10P AVG	10P AVG	10P Avg
1	0 lbs Nitrogen FM 9180	3.3 e	1.3 g	0.4 e	0 c	0.5 g
2	40 lbs Nitrogen FM 9180	4.1 cde	1.9 d-g	0.7 cde	0 c	1.8 def
3	80 lbs Nitrogen FM 9180	4.4 cd	2.3 a-e	0.8 cde	0 c	2.3 de
4	120 lbs Nitrogen FM 9180	4.7 bc	2.2 b-e	1.3 bc	0.2 abc	4.6 ab
5	0 lbs Nitrogen DP 0924	3.7 de	1.7 efg	0.6 de	0.1 c	0.8 fg
6	40 lbs Nitrogen DP 0924	4.4 cd	2 c-f	0.8 cde	0.1 bc	1.5 efg
7	80 lbs Nitrogen DP 0924	6 a	2.5 abc	1.9 ab	0.3 ab	3.6 bc
8	120 lbs Nitrogen DP 0924	6.3 a	2.8 ab	1.7 ab	0.4 a	5.4 a
9	0 lbs Nitrogen ST 5288	3.6 de	1.6 fg	0.5 de	0 c	0.9 fg
10	40 lbs Nitrogen ST 5288	5 bc	2.1 c-f	1 cd	0.1 bc	1.5 efg
11	80 lbs Nitrogen ST 5288	6 a	2.4 a-d	1.9 a	0.2 abc	2.6 cd
12	120 lbs Nitrogen ST 5288	5.5 ab	2.8 a	2.2 a	0.4 a	4.9 a
LSD (P=.05)		0.9	0.58	0.58	0.23	1.07
CV		13.16	18.98	35.41	120.24	29.6
Grand Mean		4.75	2.13	1.13	0.13	2.51

Table 4. Yield and Seed Weights

Rating Timing		10/28/2010	10/28/2010	10/28/2010	10/28/2010
Trt	Treatment	SeedCotton	Gin	Lint Yield	Seed wt.
No.	Name	lbs/Acre	%	lbs/Acre	CWT-AVG
1	0 lbs Nitrogen FM 9180	1820.5 d	0.253 de	461.1 g	10.183 abc
2	40 lbs Nitrogen FM 9180	2968.9 c	0.254 de	755.5 ef	10.858 ab
3	80 lbs Nitrogen FM 9180	3823.7 b	0.249 ef	951.4 de	11.18 a
4	120 lbs Nitrogen FM 9180	4502.3 ab	0.240 f	1070.3 cd	10.99 ab
5	0 lbs Nitrogen DP 0924	2035.8 d	0.283 ab	578 fg	9.375 cde
6	40 lbs Nitrogen DP 0924	3001.5 c	0.279 bc	836.4 e	10.083 a-d
7	80 lbs Nitrogen DP 0924	4456.6 ab	0.270 c	1201.2 bc	10.135 a-d
8	120 lbs Nitrogen DP 0924	5043.8 a	0.266 cd	1340.9 ab	11.01 ab
9	0 lbs Nitrogen ST 5288	2003.2 d	0.293 a	587 fg	8.115 f
10	40 lbs Nitrogen ST 5288	3862.8 b	0.289 ab	1115.4 cd	8.883 ef
11	80 lbs Nitrogen ST 5288	4463.1 ab	0.286 ab	1273.6 bc	9.043 def
12	120 lbs Nitrogen ST 5288	5220 a	0.286 ab	1492.1 a	10.068 bcd
LSD (P=.05)		794.33	0.013209093	207.69	1.1046
CV		15.28	3.38	14.8	7.66
Grand Mean		3600.17	0.27	971.93	9.99

Table 5. HVI Fiber Data

Trt No.	Treatment Name	Fiber Data			
		Mic	Length	Uniform	Strength
1	0 lbs Nitrogen FM9180	4.65 e	1.133 def	82.73 e	29.13 c-f
2	40 lbs Nitrogen FM9180	5.05 d	1.165 bc	83.98 cd	30.2 cd
3	80 lbs Nitrogen FM9180	4.75 e	1.198 a	85.45 a	31.78 ab
4	120 lbs Nitrogen FM9180	4.83 e	1.183 ab	84.68 a-d	31.98 a
5	0 lbs Nitrogen DP 0924	5.4 ab	1.11 f	84 cd	28.08 fg
6	40 lbs Nitrogen DP 0924	5.38 ab	1.13 def	84.45 bcd	30.25 cd
7	80 lbs Nitrogen DP 0924	5.35 abc	1.135 def	84.73 a-d	30 cde
8	120 lbs Nitrogen DP 0924	5.2 bcd	1.148 cd	84.88 abc	30.43 bc
9	0 lbs Nitrogen ST 5288	5.43 a	1.12 ef	82.8 e	27.75 g
10	40 lbs Nitrogen ST 5288	5.45 a	1.145 cde	84.53 a-d	28.55 fg
11	80 lbs Nitrogen ST 5288	5.28 abc	1.153 cd	85.08 ab	28.93 d-g
12	120 lbs Nitrogen ST 5288	5.15 cd	1.153 cd	83.88 d	28.78 efg
LSD (P=.05)		0.214	0.0257	0.995	1.352
CV		2.87	1.55	0.82	3.16

Performance of Plant Growth Regulators in a Post-Bloom Environment

Typically plant growth regulators are recommended for use prior to or at 1st bloom. Earlier applications often prove more effective than late applications. Oftentimes growers tend to wait until their crop has reached an unacceptable size before initiating the first application. In these instances it is usually impossible to achieve the desired results due to the late start. This protocol was designed to address a unique situation (weather pattern) we experienced in 2010. In 2010 most cotton planted prior to mid-May began to bloom in early July. At approximately the same time (early July) we received an unusually high amount of rainfall (9-12 inches). This historically high rainfall coupled with many soils with high nitrogen (growers aiming for 3.5-4 bale yields) resulted in tremendous plant growth. In response to this situation we attempted to control our plant height and increase earliness with these PGR applications. Some of these treatments are “off-label” and often times can be detrimental to a cotton crop. These applications were made in this instance strictly for research purposes and are definitely not recommended for growers in any situation. Following label guidelines is strictly recommended. Fibermax 9170 B2F was planted for this study on May 10th into a clay loam soil. The average plant height prior to the first application was approximately 30 inches. The initial applications were made on July 21st with the follow up applications one week later on July 28th. Typically we recommend waiting a minimum of 10 days between applications but in this intense growing environment we shortened our interval between applications in hopes of triggering a greater response. Plant measurement and yield data are presented in the table below. The highest numerical yield achieved (from two applications of 12 oz/A of mepiquat chloride) was not statistically different from the untreated check or several other treatments evaluated. Plant heights were taken approximately three weeks after the initial application. No treatment was statistically different than the untreated. In addition no statistical differences were noticed between the NAWF of treated versus untreated plots. This data suggests or rather reinforces prior findings that greater responses to PGR applications are most likely when applications start prior to bloom.

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Growth Stage	Appl Code	8/9/2010	8/9/2010	Gin %	Lint Yield		Fiber			
							Plant Ht Inches	NAWF #		lbs/Acre	Mic	Length	Uniform	Strength	
1	untreated check						36.6 a	2.35 a	0.271	1601.9	a-e	4.6	1.22	83.9	35.1
2	Mepiquat Chloride	0.35 L		12 oz/a	EarBloom	A	35.3 a	2.5 a	0.248	1516.6	de	4.6	1.22	83.5	33.5
3	Mepiquat Chloride	0.35 L		16 oz/a	EarBloom	A	36.45 a	1.9 a	0.250	1676.9	abc	4.4	1.23	83.6	35.4
4	Mepiquat Chloride	0.35 L		24 oz/a	EarBloom	A	36.05 a	2.05 a	0.257	1637.8	a-d	4.9	1.2	83.9	37.3
5	Pentia	0.82 L		12 oz/a	EarBloom	A	36.55 a	1.85 a	0.271	1749.1	ab	4.7	1.23	84.2	35.2
6	Pentia	0.82 L		16 oz/a	EarBloom	A	36.3 a	1.75 a	0.254	1531.5	cde	4.7	1.21	83.2	35.7
7	Pentia	0.82 L		24 oz/a	EarBloom	A	35.35 a	1.9 a	0.254	1593.7	cde	4.6	1.24	85.5	37.1
8	Stance	0.736 L		2 oz/a	EarBloom	A	37 a	2.2 a	0.251	1598.5	b-e	4.7	1.23	83	34.3
9	Stance	0.736 L		3 oz/a	EarBloom	A	37.4 a	2.05 a	0.247	1587.1	cde	4.7	1.25	82.4	34.9
10	Stance	0.736 L		4 oz/a	EarBloom	A	37.8 a	2.15 a	0.242	1561.9	cde	4.6	1.27	83.2	35.3
11	Mepiquat Chloride	0.35 L		12 oz/a	EarBloom	A	37.8 a	2.1 a	0.256	1752.7	a	4.5	1.23	84.7	33.8
	Mepiquat Chloride	0.35 L		12 oz/a	10-14DAT	B									
12	Pentia	0.82 L		12 oz/a	EarBloom	A	35.8 a	1.85 a	0.259	1616.6	a-e	4.8	1.23	84.4	34.4
	Pentia	0.82 L		12 oz/a	10-14DAT	B									
13	Stance	0.736 L		3 oz/a	EarBloom	A	37.05 a	2.5 a	0.255	1621.9	a-e	4.7	1.26	84.8	36.6
	Stance	0.736 L		3 oz/a	10-14DAT	B									
14	Stance	0.736 L		4 oz/a	EarBloom	A	36.4 a	2.3 a	0.238	1541	cde	4.9	1.23	84	33.8
	Stance	0.736 L		4 oz/a	10-14DAT	B									
15	Stance	0.736 L		5 oz/a	EarBloom	A	35.3 a	2.25 a	0.250	1630.9	a-e	4.9	1.23	82.8	35.5
	Stance	0.736 L		5 oz/a	10-14DAT	B									
16	Stance	0.736 L		8 oz/a	EarBloom	A	35.3 a	2.35 a	0.239	1481.1	e	4.9	1.26	83.7	34.6
LSD (P=.05)							2.253	0.634		152.62					
CV							4.33	20.83		6.65					

Application Description

	A	B
Application Date:	7/21/2010	7/28/2010
Time of Day:	7:00 AM	8:30 AM
Application Method:	Spray	Spray
Application Timing:	10DAB	7DAIT
Application Placement:	Broadcast	Broadcast
Applied By:	OSU	OSU
Air Temperature, Unit:	78 F	84 F
% Relative Humidity:	74	64
Wind Velocity, Unit:	5 mph	4 mph
Wind Direction:	S	S
Dew Presence (Y/N):	n	n
Soil Temperature, Unit:	76 F	82 F
Soil Moisture:	Good	Good
% Cloud Cover:	20	0

Application Equipment

	A	B
Appl. Equipment:	Spider	Spider
Operating Pressure, Unit:	26 PSI	26 PSI
Nozzle Type:	TurboTee	TurboTee
Nozzle Size:	11002	11002
Nozzle Spacing, Unit:	20 in	20 in
Nozzles/Row:	2	2
Ground Speed, Unit:	4 mph	4 mph
Carrier:	water	water
Spray Volume, Unit:	10 GPA	10 GPA
Mix Size, Unit:	1 gal	1 gal
Propellant:	comp. air	comp. air

Weed Control Projects

Weed control decisions continue to be an important part of cotton production in Oklahoma. The introduction of new herbicides and new seed technologies are increasing producer's options and maximizing efficiency of their operations. Our purpose is to identify the best options available to Oklahoma producers and help adapt those programs to their operation. The following trials attempt to address current or potential weed control issues important to Oklahoma cotton producers.

Horseweed Control In Limited Tillage Cotton



Widespread adoption of no-till cotton production (typically including glyphosate based weed control programs) has magnified the difficulty producers experience when trying to control horseweed with chemical applications. The lack of pre-season tillage and ineffectiveness of glyphosate has led producers to primarily depend on hormone-type herbicides (2,4-D or dicamba) for effective pre-plant control of horseweed. Currently there are very few effective chemical options for controlling horseweed pre-plant in cotton. In addition even the most effective hormone-based programs begin to lose effectiveness as weed size at application increases. This suggests that there may be a benefit from the addition of tank-mix partners that have the potential to improve horseweed control. Sharpen (saflufenacil) is a new PPO (protoporphyrinogen) inhibitor introduced by BASF which has the potential to provide effective burn-down (post-emergence) activity on horseweed. Unlike other PPO inhibitors

that provide burn-down activity (such as ET or Aim) Sharpen has the potential to also provide residual activity on some weed species. In addition, Sharpen belongs to a class of chemistry (pyrimidinediones) which currently has no documented cases of chemical resistance. Two replicated experiments were conducted in the spring of 2010 in order to explore the effectiveness of this product on horseweed when tank-mixed with either ET, Aim, Glyphos X-tra, 2,4-D or Clarity. The objectives of these studies were to (1) Compare the effectiveness of Sharpen tank-mixes to tank-mixes with other PPO inhibitors (ET or Aim) for pre-plant control of horseweed in limited tillage cotton and (2) Compare standard horseweed control programs (hormone based) to programs including Sharpen (saflufenacil) herbicide applied prior to cotton planting. Field studies were conducted in 2010 in Jackson county in order to evaluate the effectiveness of Sharpen (saflufenacil) herbicide for the control of horseweed in limited tillage cotton. Treatments were arranged in a randomized complete block design with four replications on Clay Loam soils. Broadcast over-the-top herbicide applications were made with a compressed air, high-clearance, sprayer applying 12 gallons of water per acre at 4 mph. Eight treatments were applied on April 3rd, 2010 at the Western Jackson County location. The horseweed was slightly beyond the rosette stage (2-4 inches) at the time of application. The objective of this trial was to compare the effectiveness of Sharpen/growth regulator tank-mixes to tank-mixes with other PPO inhibitors (ET or Aim) commonly used for pre-plant burndown applications in Oklahoma cotton. In addition, eight additional treatments were applied on April 8th, 2010 at an Eastern Jackson county location. The horseweed had begun to bolt and was 1-2 inches at application timing. The objective at this location was to determine the effectiveness of Sharpen tank-mixed with either dicamba, 2,4-D or glyphosate and applied on horseweed prior to cotton planting. The treatments for each location are listed in figure 1. Horseweed control evaluations were taken at 7, 14 & 30 days after treatment at each location. Observations were made at each location at 7, 14 and 30 days after each treatment. The results of these observations are presented separately by location in the graphs above. At the Jackson County West location 7 days after treatment (DAT) only treatments including Sharpen (Saflufenacil) provided acceptable control (>90%). However by the 30 day evaluation treatments 1-4 (the full rate of Clarity alone or 1/2 rates of Clarity combined with either ET, Sharpen or Aim) controlled horseweed 87-94%, while treatment 5 (2,4-D alone at 1.0 lb ai/A) provided 82% control. Treatments 6-8 (1/2 rate of 2,4-D combined with either ET, Sharpen or Aim) only provided 61-73% control 30 days after treatment. At the Jackson County East location 7 DAT, only treatments including Sharpen (treatments 3, 6 and 7) controlled horseweed >90%. All other treatments observed 7 DAT controlled horseweed \leq 75%. By 30 days after application treatments 1-7 controlled horseweed 96-100%. Treatment 8 (32 oz/A of Glyphos X-tra applied alone) only controlled horseweed 50%. Based on these findings, dicamba (Clarity) appears to provide a better foundation for controlling horseweed when tank-mixing with PPO inhibitors as compared to 2,4-D (LV6). In addition, the standard recommendations of either 0.25 lb ai/A of dicamba (8 oz/A) or 1.0 lb ai/A of 2,4-D effectively controlled horseweed 30 DAT when applied alone or tank-mixed with either Sharpen or Glyphos-Xtra. Further studies will be conducted in 2011 to continue evaluations of Sharpen for the pre-plant control of horseweed in limited tillage Oklahoma cotton.

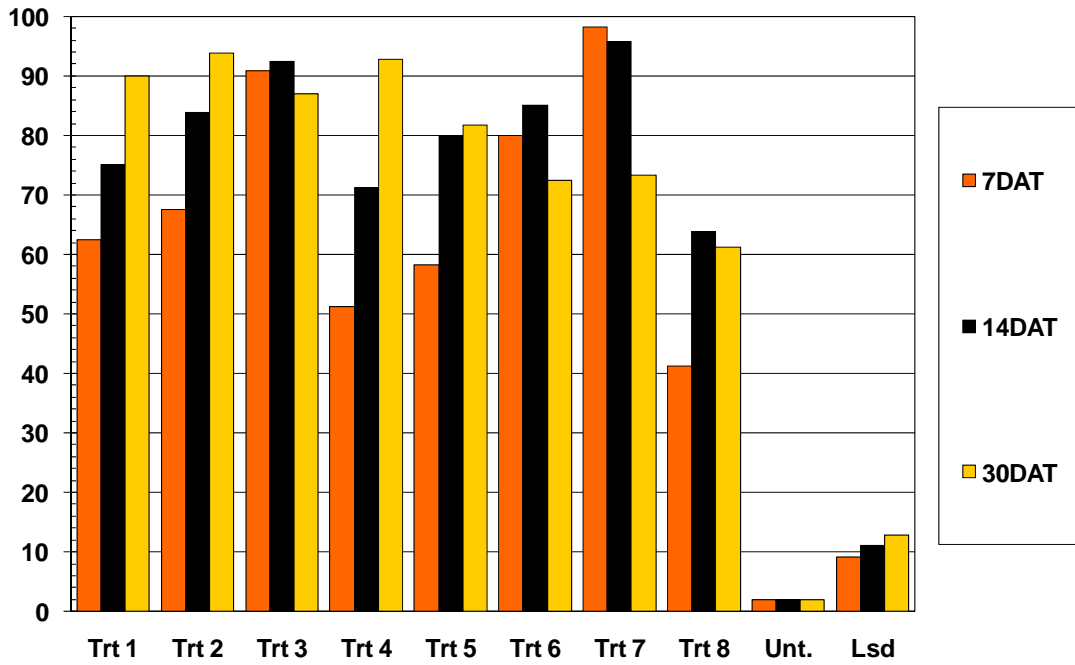
Jackson County (West Location)

1. Clarity + NIS	8oz/A + 0.25% v/v
2. Clarity+ET + Crop Oil	4 oz/A+ 2 oz/A + 1% v/v
3. Clarity+ Sharpen + MSO	4 oz/A + 1 oz/A + 1% v/v
4. Clarity+ Aim + Crop Oil	4 oz/A + 1 oz/A + 1% v/v
5. 2,4-D (LV6) + NIS	21 oz/A + 0.25% v/v
6. 2,4-D (LV6) + ET + Crop Oil	11 oz/A + 2 oz/A + 1% v/v
7. 2,4-D (LV6) + Sharpen + MSO	11 oz/A + 1 oz/A + 1% v/v
8. 2,4-D (LV6) + Aim + Crop Oil	11 oz/A + 1 oz/A + 1% v/v

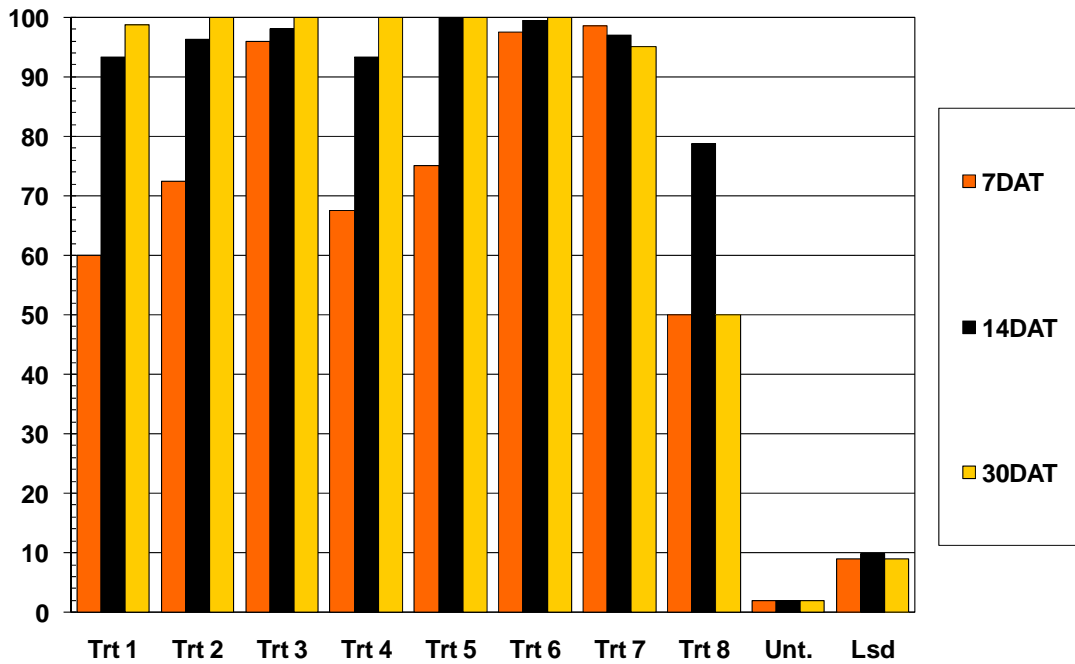
Jackson County (East Location)

1. Clarity+ NIS	8 oz/A + 0.25% v/v
2. Clarity+ Glyphos X-tra + NIS	8 oz/A + 32 oz/A + 0.25% v/v
3. Clarity+ Sharpen + MSO	8 oz/A + 1 oz/A + 1% v/v
4. 2,4-D (LV6) + NIS	21 oz/A + 0.25% v/v
5. 2,4-D (LV6) + Glyphos X-tra + NIS	21 oz/A + 32 oz/A + 0.25 % v/v
6. 2,4-D (LV6) + Sharpen + MSO	21 oz/A + 1 oz/A + 1% v/v
7. Glyphos X-tra + Sharpen + MSO	32 oz/A + 1 oz/A 1% v/v
8. Glyphos X-tra + NIS	32 ozA + 0.25% v/v

Horseweed Control-Jackson-West



Horseweed Control-Jackson-East



Controlling Volunteer Glyphosate Tolerant Cotton



Volunteer glyphosate tolerant cotton has gradually become a legitimate problem for cotton producers adopting no-till production practices. In fact, circumstances often make it impossible for growers to control volunteer without some form of tillage. As is the case with certain weed control situations, volunteer cotton germinates and emerges at the same time planted cotton emerges leaving producers with very few options. The lack of height differential between the crop and the volunteer make it almost impossible to safely and effectively control the volunteer with hooded or shielded applications. For this reason it is imperative that no-till producers make every attempt to control any volunteer present prior to planting in hopes of avoiding this situation. Prior work from both OSU and other universities has confirmed that volunteer glyphosate tolerant cotton under the four leaf stage can be controlled relatively easily (with several chemical options). However, at the same time they also concluded that larger cotton quickly becomes more difficult to control. Therefore the 2010 study was focused on targeting volunteer cotton in the 6-8 leaf stage. The treatments applied and observation data from that project are presented below. In 2010 the targeted 6-8 leaf stage was missed due to weather. The actual stage of the volunteer at application was closer to 8-9 leaf. Treatments were applied in 15 gallons of water with TurboTee nozzles at 26 PSI. Detailed information is presented in the table above. At the 7 day (DAT) observation all treatments except the lower rates of Ignite and ET controlled volunteer glyphosate tolerant cotton greater than 80%. However by 14 days after treatment many of the treatments began to show reduced effectiveness. Only Gramoxone Inteon, Aim, and the higher rate of ET controlled volunteer greater than 90% 14 days after treatment. However by 30 days after treatment, only Gramoxone Inteon and the 2 oz/A rate of Aim effectively controlled volunteer (greater than 90%). Treatment 5 (1.5 oz/A of Aim) controlled volunteer 77.5%. All other treatments provided 41-64% control 30 days after treatment. Future studies will continue to target larger volunteer due to the recognized effectiveness of many herbicides applied to small volunteer (≤ 5 leaf).

Controlling Volunteer Glyphosate Tolerant Cotton (cont.)

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Appl Code	6/23/2010	6/30/2010	7/30/2010
								Vol Control %	Vol Control %	Vol Control %
								7DAT	14DAT	30DAT
1	Untreated Check							0 e	0 e	0 f
2	Gramoxone Inteon	2	SL	48	oz/a	8-9lf	A	100 a	99.5 a	97.8 a
	Induce	100	L	0.5	% v/v	8-9lf	A			
3	Ignite 280	2.34	SL	22	oz/a	8-9lf	A	77.5 d	67.5 d	41.3 e
	Induce	100	L	0.5	% v/v	8-9lf	A			
4	Ignite 280	2.34	SL	29	oz/a	8-9lf	A	82.5 c	82.5 c	53.8 d
	Induce	100	L	0.5	% v/v	8-9lf	A			
5	Aim	2	EC	1.5	oz/a	8-9lf	A	96.5 a	95.8 ab	77.5 b
	Crop Oil Concentrate	100	L	1	% v/v	8-9lf	A			
6	Aim	2	EC	2	oz/a	8-9lf	A	99 a	96.8 ab	91 a
	Crop Oil	100	L	1	% v/v	8-9lf	A			
7	ET	0.2	EC	2	oz/a	8-9lf	A	76.3 d	70 d	43.8 e
	Crop Oil Concentrate	100	L	1	% v/v	8-9lf	A			
8	ET	0.2	EC	2.5	oz/a	8-9lf	A	96.5 a	93.3 b	63.8 c
	Crop Oil	100	L	1	% v/v	8-9lf	A			
9	Valor	50	WDG	1	oz/a	8-9lf	A	79.5 cd	83.3 c	57.5 cd
	Crop Oil Concentrate	100	L	1	% v/v	8-9lf	A			
10	Valor	50	WDG	2	oz/a	8-9lf	A	87 b	86.3 c	58.8 cd
	Crop Oil	100	L	1	% v/v	8-9lf	A			
LSD (P=.05)								4.44	4.48	7.21
CV								3.85	3.99	8.49

Utilizing the Glytol/LL System for Morningglory Control in Furrow Irrigated Cotton

Morningglory continues to be a problem for irrigated cotton producers in Oklahoma. Despite the continued problems with morningglory Oklahoma's cotton producers have quickly adopted glyphosate tolerant varieties because they feel that this system is the best overall option currently available. As transgenic seed costs continue to rise producers are reconsidering the costs of these weed control systems and their potential profitability. At the same time the issue of weed resistance continues to make headlines in most agriculturally based magazines and newspapers. One continual and common theme in the fight against resistance is the need for the use of residuals within these glyphosate tolerant systems. In addition Bayer CropScience is releasing their own version of glyphosate tolerant cotton which also may be combined with ignite tolerance (Liberty Link). This combination of herbicide tolerance traits provides growers with a valuable platform to help fight against glyphosate resistant weed populations and herbicide resistance in general. The treatments below were applied in order to evaluate morningglory control provided by each system. The tables below present the detailed performance of each treatment. FM 9250 GT/LL was planted on the 12th of May, 2010 into 4 row by 30 foot plots. Thrips and fleahoppers were controlled in-season with Temik and Vydate, respectively. Each block received six three inch irrigations between July 1st and September 1st. Due to regulations surrounding the release of this new technology no yield samples were taken. All treatments received a burn-down application of Glyphosate just prior to planting (referred to as preemergence treatment with application code A) on May 11th. Early postemergence treatments of Ignite alone, Ignite + Staple LX, Glyphosate alone or Glyphosate + Staple LX were applied on June 9th. Mid-postemergence treatments of Ignite, Glyphosate or combinations of these herbicides with Staple LX were applied on July 26th. Due to wet conditions late in the season a final (late) postemergence application of Glyphosate was applied by air over all treatments in an attempt to maintain effective control of the pitted morningglory. All treatments other than Glyphosate alone provided $\geq 80\%$ control of pitted morningglory. Treatments including Staple LX provided the greatest morningglory control at the end of the season ($>90\%$).

Application Description

	A	B	C	D
Application Date:	5/11/2010	6/9/2010	7/26/2010	8/17/2010
Time of Day:	10:00 AM	7:00 AM	10:00 AM	5:00 PM
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	At-plant	EP	MP	LP
Application Placement:	Broadcast	Broadcast	Broadcast	Broadcast
Air Temperature, Unit:	68 F	71 F	82 F	90 F
% Relative Humidity:	43	90	61	56
Wind Velocity, Unit:	6.9 MPH	8 MPH	3.5 MPH	5 MPH
Wind Direction:	ENE	ESE	SSE	S
Soil Temperature, Unit:	72 F	73 F	78 F	92 F
Soil Moisture:	Good	Good	Good	Good
% Cloud Cover:	0	0	0	25

Utilizing the Glytol/LL System for Morningglory Control in Furrow Irrigated Cotton (cont.)

Weed Control and Seed Cotton Yields

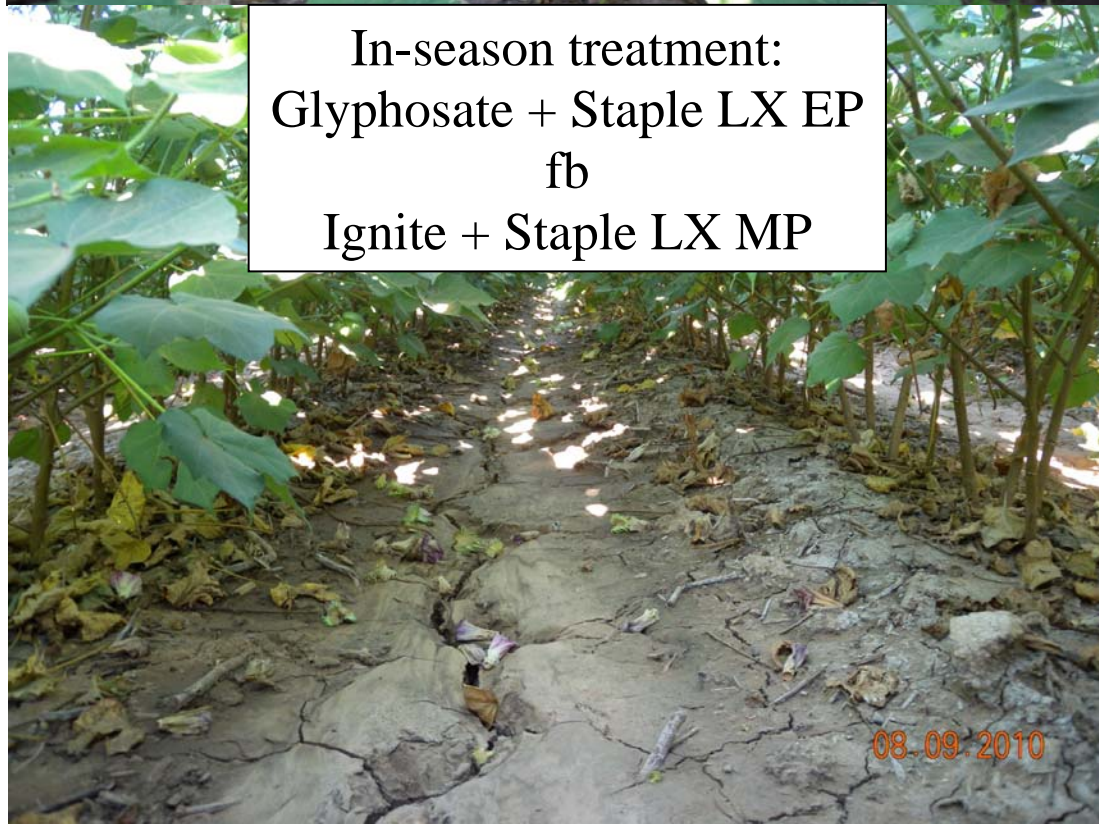
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Growth Stage	Appl Code	6/30/2010	7/15/2010	7/26/2010	8/10/2010
							MG Control %	MG Control %	MG Control %	MG Control %
1	Glyfos Extra	4	L	48 oz/a	At Plant	A	0 d	0 d	0 e	0 e
	Untreated Check									
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
2	Glyfos Extra	4	L	48 oz/a	At Plant	A	100 a	76.7 b	56.7 c	86.7 b
	Ignite 280	2.34	SL	29 oz/a	EP&MP	BC				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
3	Glyfos Extra	4	L	48 oz/a	At Plant	A	100 a	90 a	75 a	85 bc
	Ignite 280	2.34	SL	22 oz/a	EP	B				
	Staple LX	3.2	L	2 oz/a	EP	B				
	Roundup Powermax	5.5	SL	32 oz/a	MP	C				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
4	Glyfos Extra	4	L	48 oz/a	At Plant	A	83.3 c	65 c	50 d	56.7 d
	Roundup Powermax	5.5	SL	22 oz/a	EP&MP	BC				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
5	Glyfos Extra	4	L	48 oz/a	At Plant	A	94.3 ab	86 a	71.7 b	93.3 a
	Roundup Powermax	5.5	SL	22 oz/a	EP	B				
	Staple LX	3.2	L	2 oz/a	EP	B				
	Ignite 280	2.34	SL	29 oz/a	MP	C				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
6	Glyfos Extra	4	L	48 oz/a	At Plant	A	96.7 ab	86.7 a	71.7 b	95 a
	Roundup Powermax	5.5	SL	22 oz/a	EP	B				
	Staple LX	3.2	L	1.7 oz/a	EP	B				
	Ignite 280	2.34	SL	29 oz/a	MP	C				
	Staple LX	3.2	L	1.7 oz/a	MP	C				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
7	Glyfos Extra	4	L	48 oz/a	At Plant	A	88.3 bc	63.3 c	50 d	93.3 a
	Roundup Powermax	5.5	SL	32 oz/a	EPorMP	B				
	Ignite 280	2.34	SL	22 oz/a	MP	C				
	Staple LX	3.2	L	2 oz/a	MP	C				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
8	Glyfos Extra	4	L	48 oz/a	At Plant	A	96.3 ab	86.7 a	70 b	80 c
	Ignite 280	2.34	SL	22 oz/a	EP	B				
	Staple LX	3.2	L	1.7 oz/a	EP	B				
	Roundup Powermax	5.5	SL	32 oz/a	MP	C				
	Staple LX	3.2	L	1.7 oz/a	MP	C				
	Glyfos Extra	4	L	48 oz/a	LatePost	D				
LSD (P=.05)							8.41	6.47	3.31	5.69
CV							5.83	5.33	3.4	4.41

Utilizing the Glytol/LL System for Morningglory Control in Furrow Irrigated Cotton
(cont.)



Untreated Check

08.09.2010



In-season treatment:
Glyphosate + Staple LX EP
fb
Ignite + Staple LX MP

08.09.2010

Prowl H2O Applied Over-the-Top in Roundup Flex Cotton

The label of Prowl H2O allows for postemergence over-the-top applications to cotton in between the 4 and 8 leaf growth stages. Part of an effective glyphosate resistance management program includes the use or inclusion of residual and/or alternate chemistries. Utilizing these techniques has proven to prevent or at least delay the occurrence of glyphosate resistance and therefore is highly recommended. This study focused primarily on the safety of these applications and their potential effect on cotton lint yields. The data below indicates that properly timed applications of Prowl H2O tankmixed with Roundup Powermax had no effect or impact on cotton lint yields or fiber quality.

Trt No.	Treatment Name	Rate		Appl Code	Cotton	Pigweed	Cotton	Pigweed	Pigweed
		Rate	Unit		% Injury 7 DAT	%Control 7 DAT	% Injury 14 DAT	%Control 14 DAT	%Control 28 DAT
1	Roundup Powermax	22	oz/a	A	0 a	100 a	0 a	100 a	100 a
2	Roundup Powermax Prowl H2O	22	oz/a	A	0 a	100 a	0 a	100 a	100 a
		1	lb ai/a	A					
3	Roundup Powermax Dual Magnum	22	oz/a	A	0 a	100 a	0 a	100 a	100 a
		1.33	pt/a	A					

LSD (P=.05)

CV

Trt No.	Treatment Name	Rate		Appl Code	Gin %	Lint Yield lbs/Acre	Fiber Data			
		Rate	Unit				Mic	Length	Uniformity	Strength
1	Roundup Powermax	22	oz/a	A	0.2678 a	1188.9 a	4.55 a	1.233 a	83.95 a	34.45 a
2	Roundup Powermax Prowl H2O	22	oz/a	A	0.2715 a	1233.7 a	4.63 a	1.235 a	83.58 a	34.03 a
		1	lb ai/a	A						
3	Roundup Powermax Dual Magnum	22	oz/a	A	0.2673 a	1121.9 a	4.73 a	1.258 a	83.65 a	34.48 a
		1.33	pt/a	A						
LSD (P=.05)					0.01258	327.52	0.264	0.0274	0.928	0.851
CV					2.92	17.33	3.56	1.38	0.69	1.55

Application Description

A

Application Date:	6/24/2009
Time of Day:	9:00 AM
Application Method:	Spray
Application Timing:	6-8 lf
Application Placement:	Broadcast
Applied By:	OSU
Air Temperature, Unit:	81 F
% Relative Humidity:	56
Wind Velocity, Unit:	4 mph
Wind Direction:	ESE
Soil Temperature, Unit:	74 F
Soil Moisture:	Good
% Cloud Cover:	0
Next Rain Occurred On:	6/28/2009

Application Equipment

A

Appl. Equipment:	Lee Spider
Operating Pressure, Unit:	26 PSI
Nozzle Type:	Flat Fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	20 in
Nozzles/Row:	2
Boom Length, Unit:	13.3 ft
Ground Speed, Unit:	4 mph
Carrier:	water
Spray Volume, Unit:	10 GPA
Mix Size, Unit:	1 gallon
Propellant:	Comp. Air
Tank Mix (Y/N):	y

Preplant Burndown Control of Horseweed and Common Groundsel in No-Till Cotton

In addition to the prior horseweed control work presented an additional trial was initiated for preplant burndown weed control in cotton production. This study focused on both horseweed and common groundsel a newly emerging problem for growers in a limited tillage or no-till production environment. The fourteen treatments applied included combinations with 2,4-D, Banvel, Sharpen, Glyphosate and some numbered compounds from Gowan Company. The table below presents the detailed weed control information for each treatment.

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	4/14/2010	4/27/2010	5/18/2010	4/14/2010	4/27/2010	5/20/2010
		Rate	Unit			HW Control %	HW Control %	HW Control %	C Groundsel %	C Groundsel %	Cotton Inj. %
						7 DAT	14 DAT	30 DAT	7 DAT	14 DAT	14DAP
1	Untreated Check					0 g	0 e	0 d	0 d	0 e	0 a
2	Banvel	0.25 lb ai/a		Preplant	A	60 d	93.3 ab	98.8 a	33.8 c	12.5 de	0 a
	Induce (NIS)	0.25 % v/v		Preplant	A						
3	Banvel	0.25 lb ai/a		Preplant	A	72.5 bc	96.3 a	100 a	70 b	100 a	0 a
	Glyphosate	32 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Induce (NIS)	0.25 % v/v		Preplant	A						
4	Banvel	0.25 lb ai/a		Preplant	A	98 a	96 a	100 a	91.3 a	76.3 b	0 a
	Sharpen	1 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	MISO (Methylated Seed Oil)	1 % v/v		Preplant	A						
5	Glyphosate	32 oz/a		Preplant	A	98.5 a	97 a	95 a	93.3 a	96.3 a	0 a
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Sharpen	1 oz/a		Preplant	A						
	MISO (Methylated Seed Oil)	1 % v/v		Preplant	A						
6	2,4-D	1 lb ai/a		Preplant	A	67.5 cd	93.3 ab	100 a	31.3 c	57.5 c	0 a
	Induce (NIS)	0.25 % v/v		Preplant	A						
7	2,4-D	1 lb ai/a		Preplant	A	75 bc	100 a	100 a	61.3 b	100 a	0 a
	Glyphosate	32 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Induce (NIS)	0.25 % v/v		Preplant	A						
8	2,4-D	1 lb ai/a		Preplant	A	97.5 a	99.5 a	100 a	95.8 a	100 a	0 a
	Sharpen	1 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	MISO (Methylated Seed Oil)	1 % v/v		Preplant	A						
9	Banvel	0.25 lb ai/a		Preplant	A	80 b	98.8 a	100 a	42.5 c	25 d	0 a
	Valor	2 oz/a		Preplant	A						
	MISO (Methylated Seed Oil)	1 % v/v		Preplant	A						
10	2,4-D	1 lb ai/a		Preplant	A	66.3 cd	83.3 c	45 b	67.5 b	76.3 b	0 a
	Valor	2 oz/a		Preplant	A						
	MISO (Methylated Seed Oil)	1 % v/v		Preplant	A						
11	Glyphosate	32 oz/a		Preplant	A	50 e	78.8 c	50 b	61.3 b	100 a	0 a
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Induce (NIS)	0.25 % v/v		Preplant	A						
12	GWN-9794	0.5 oz/a		Preplant	A	40 f	65 d	27.5 c	70 b	100 a	0 a
	Glyphosate	32 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Induce (NIS)	0.25 % v/v		Preplant	A						
13	GWN-9795	3.5 oz/a		Preplant	A	58.8 de	95.8 a	100 a	57.5 b	100 a	0 a
	Glyphosate	32 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Induce (NIS)	0.25 % v/v		Preplant	A						
14	TNT	0.5 oz/a		Preplant	A	61.3 d	83.8 bc	47.5 b	66.3 b	100 a	0 a
	Glyphosate	32 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	Induce (NIS)	0.25 % v/v		Preplant	A						
15	2,4-D	0.5 lb ai/a		Preplant	A	100 a	100 a	100 a	95.8 a	97.8 a	0 a
	Sharpen	1 oz/a		Preplant	A						
	Ammonium Sulfate	17 lb/100 gal		Preplant	A						
	MISO (Methylated Seed Oil)	1 % v/v		Preplant	A						
LSD (P=.05)						9.03	9.9	8.9	14.23	13.21	0
CV						9.25	8.11	8.03	15.94	12.15	0

Application Description

	A
Application Date:	4/8/2010
Time of Day:	11:30 AM
Application Method:	Spray
Application Timing:	Preplant
Application Placement:	Broadcast
Applied By:	OSU
Air Temperature, Unit:	57 F
% Relative Humidity:	30
Wind Velocity, Unit:	4 mph
Wind Direction:	NW
Soil Temperature, Unit:	52 F
Soil Moisture:	Adequate
% Cloud Cover:	0
Next Rain Occurred On:	4/16/2010

Application Equipment

	A
Appl. Equipment:	Lee Spider
Operating Pressure, Unit:	26 PSI
Nozzle Type:	TurboTee
Nozzle Size:	11002
Nozzle Spacing, Unit:	20 in
Nozzles/Row:	2
Ground Speed, Unit:	4 mph
Carrier:	Water
Spray Volume, Unit:	10 GPA
Mix Size, Unit:	1 gal
Propellant:	Comp. Air
Horseweed Size At App.	3-4" Rosettes to 3-4" Vertical
Common Groundsel @ App.	3-6"



Defoliation Projects

Conditioning cotton for harvest is a subjective issue. Yield potential and harvest method are some of the factors to be considered when developing an effective harvest aid strategy. The following projects attempt to address questions producers currently have in regards to defoliation. Four replicated defoliation projects were initiated in 2010. Typically we evaluate defoliation products by observing three things: boll opening speed at 7 and 14 DAT, defoliation at 7 and 14 DAT (leaf removal), and re-growth control at 21-28 DAT. Unfortunately drift from neighboring applications made after the 14 day evaluations prevented us from making any useful re-growth observations. Therefore only boll opening and defoliation ratings are presented for each trial.

The first project focused on the evaluation of a new product recently released by BASF in the herbicide market. This herbicide known as Kixor or Sharpen has proven very effective for controlling weeds. It has very good burndown or postemergent activity on many broad-leaf weeds. It is for this reason that we decided to evaluate the defoliation properties of this herbicide. The table below lists the treatments evaluated and their adjacent performance. Defoliation, desiccation and open bolls were evaluated at 7 and 14 days after treatment. The product is listed within the table as "BAS 80004H." Seven days after treatment BAS80004H combined with prep defoliated cotton equally as well as Finish + Def (considered a local standard). No differences in open boll percentages were observed at this evaluation. By fourteen days after treatment Prep combined with BAS 80004H performed similar to treatments of Prep + Def or Finish + Def. All treatments opened bolls >88% compared to the untreated (71.5%).

Cotton Defoliation with Sharpen (BAS 80004H)

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Growth Stage	Appl Code	10/7/2010			10/13/2010		
								Defoliation %	Desicc %	Open Bolls %	Defoliation %	Desicc %	Open Bolls %
1	untreated check							0 f	0 f	74 a	0 e	0 c	71.5 c
2	BAS 80004H	2.85 L		1	oz/a	60% Open	A	62.5 e	11.3 b	79.5 a	83.3 cd	3 a	88.5 b
	Crop Oil	100 L		1	% v/v	60% Open	A						
3	BAS 80004H	2.85 L		1.5	oz/a	60% Open	A	70 de	8.8 bc	78.5 a	86.8 bcd	3 a	89 b
	Crop Oil	100 L		1	% v/v	60% Open	A						
4	BAS 80004H	2.85 L		2	oz/a	60% Open	A	70 de	18.8 a	79 a	90.8 ab	3 a	92.5 ab
	Crop Oil	100 L		1	% v/v	60% Open	A						
5	BAS 80004H	2.85 L		1	oz/a	60% Open	A	72.5 cd	20 a	80.5 a	93.5 a	3 a	92.5 ab
	Methylated Seed Oil	100 L		1	pt/a	60% Open	A						
	Amm. Sulfate	100 DG		17	lb/100 gal	60% Open	A						
6	BAS 80004H	2.85 L		1	oz/a	60% Open	A	76.3 a-d	3.8 def	86 a	86.3 bcd	0 c	94 ab
	Crop Oil	100 L		1	% v/v	60% Open	A						
	Prep	6 L		21	oz/a	60% Open	A						
7	BAS 80004H	2.85 L		1.5	oz/a	60% Open	A	76.3 a-d	3.8 def	81 a	84.5 cd	0.5 bc	93 ab
	Crop Oil	100 L		1	% v/v	60% Open	A						
	Prep	6 L		21	oz/a	60% Open	A						
8	BAS 80004H	2.85 L		2	oz/a	60% Open	A	75 a-d	5 cde	86 a	81.8 d	0 c	89 b
	Crop Oil	100 L		1	% v/v	60% Open	A						
	Prep	6 L		21	oz/a	60% Open	A						
9	BAS 80004H	2.85 L		1	oz/a	60% Open	A	78.8 abc	3.8 def	85.5 a	86 bcd	0 c	93.5 ab
	Methylated Seed Oil	100 L		1	pt/a	60% Open	A						
	Prep	6 L		21	oz/a	60% Open	A						
	Amm. Sulfate	100 DG		17	lb/100 gal	60% Open	A						
10	BAS 80004H	2.85 L		0.75	oz/a	60% Open	A	81.3 ab	10 b	81 a	93 a	2 ab	95.5 a
	Crop Oil	100 L		1	% v/v	60% Open	A						
	Prep	6 L		21	oz/a	60% Open	A						
	Def	6 L		16	oz/a	60% Open	A						
11	BAS 80004H	2.85 L		1	oz/a	60% Open	A	82.5 a	7.5 bcd	83.5 a	93.5 a	1.5 abc	94 ab
	Crop Oil	100 L		1	% v/v	60% Open	A						
	Prep	6 L		21	oz/a	60% Open	A						
	Def	6 L		16	oz/a	60% Open	A						
12	Prep	6 L		21	oz/a	60% Open	A	78.8 abc	1.3 ef	83 a	89 abc	0 c	89 b
	Def	6 L		16	oz/a	60% Open	A						
13	Finish	6 L		21	oz/a	60% Open	A	80 abc	3.8 def	82 a	87.5 a-d	0 c	89 b
	Def	6 L		16	oz/a	60% Open	A						
14	Prep	6 L		21	oz/a	60% Open	A	73.8 bcd	5 cde	81 a	86.3 bcd	1 bc	95.5 a
	ET	0.208 EC		2	oz/a	60% Open	A						
	Crop Oil	100 L		1	% v/v	60% Open	A						
15	Prep	6 L		21	oz/a	60% Open	A	73.8 bcd	2.5 ef	88 a	84.3 cd	0 c	92 ab
	Blizzard	0.91 EC		0.6	oz/a	60% Open	A						
	Crop Oil	100 L		1	% v/v	60% Open	A						
LSD (P=.05)								7.97	4.28	9.15	6.16	1.73	6.07
CV								7.95	42.78	7.82	5.27	106.97	4.69

Application Description

A

Application Date: 9/29/2010
Time of Day: 9:00 AM
Application Method: Spray
Application Timing: 60-65%Ope
Application Placement: Broadcast
Applied By: OSU
Air Temperature, Unit: 63 F
% Relative Humidity: 65
Wind Velocity, Unit: 5.5 mph
Wind Direction: SE
Soil Temperature, Unit: 76 F
Soil Moisture: Adequate
% Cloud Cover: 0
Next Rain Occurred On: 10/21/2010

Application Equipment

A

Appl. Equipment: Lee Spider
Operating Pressure, Unit: 60 PSI
Nozzle Type: TurboTee
Nozzle Size: 110015
Nozzle Spacing, Unit: 20 in
Nozzles/Row: 2
Ground Speed, Unit: 4 mph
Carrier: water
Spray Volume, Unit: 12 gpa
Mix Size, Unit: 1
Propellant: comp.air

PPO alternatives to Def for Defoliation in Irrigated Cotton

The second defoliation project focused on comparing the performance of some of the PPO inhibitor products to our standards (Def or Ginstar). Finish and Prep were combined with Def, Ginstar, ET, or Blizzard and evaluated at 7 and 14 days after treatment. The treatments observed and their respective performance are presented in the table below. Finish or Prep plus Def defoliated cotton greater than all other treatments 7 DAT (85%). No differences in open bolls were observed between any treatment at this observation. By 14 days after treatment all treatments except those including Blizzard defoliated cotton > 94%. Combinations with Blizzard defoliated cotton 90-90.8%. All treatments improved boll opening compared to the untreated at this observation. However there were no statistical differences in boll opening between the treatments applied (87-90%).

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	10/7/2010			10/13/2010		
								Defoliation %	Desicc %	Open Bolls %	Defoliation %	Desicc %	Open Bolls %
1	untreated check							0 d	0 c	65 a	0 c	0 a	78 b
2	Finish	6 L		24	oz/a	60%Open	A	85 a	2.5 bc	74.5 a	94.8 a	0 a	89.5 a
	Def	6 L		16	oz/a	60%Open	A						
3	Prep	6 L		24	oz/a	60%Open	A	85 a	5 ab	73 a	95.8 a	0 a	89.5 a
	Def	6 L		16	oz/a	60%Open	A						
4	Finish	6 L		24	oz/a	60%Open	A	78.8 bc	3.8 ab	70.5 a	94.5 a	0 a	90 a
	Ginstar	1.5 EC		6	oz/a	60%Open	A						
5	Prep	6 L		24	oz/a	60%Open	A	77.5 bc	3.8 ab	71.5 a	96.5 a	0 a	90 a
	Ginstar	1.5 EC		6	oz/a	60%Open	A						
6	Finish	6 L		24	oz/a	60%Open	A	81.3 ab	5 ab	70.5 a	94 a	0 a	92 a
	ET	0.208 EC		2	oz/a	60%Open	A						
	Crop Oil	100 L		1	% v/v	60%Open	A						
7	Prep	6 L		24	oz/a	60%Open	A	78.8 bc	6.3 a	74 a	95.3 a	0 a	91.5 a
	ET	0.208 EC		2	oz/a	60%Open	A						
	Crop Oil	100 L		1	% v/v	60%Open	A						
8	Finish	6 L		24	oz/a	60%Open	A	78.8 bc	5 ab	78 a	90.8 b	0 a	89.5 a
	Blizzard	0.91 EC		0.6	oz/a	60%Open	A						
	Crop Oil	100 L		1	% v/v	60%Open	A						
9	Prep	6 L		24	oz/a	60%Open	A	73.8 c	5 ab	70 a	90 b	0 a	87.5 a
	Blizzard	0.91 EC		0.6	oz/a	60%Open	A						
	Crop Oil	100 L		1	% v/v	60%Open	A						
LSD (P=.05)								5.66	2.56	7.07	2.86	0	4.97
CV								5.47	43.48	6.74	2.35	0	3.84

Application Description

A

Application Date:	9/30/2010
Time of Day:	11:00 AM
Application Method:	Spray
Application Timing:	60% Open
Application Placement:	Broadcast
Applied By:	OSU
Air Temperature, Unit:	68 F
% Relative Humidity:	60
Wind Velocity, Unit:	7 MPH
Wind Direction:	NE
Soil Temperature, Unit:	73 F
Soil Moisture:	Dry
% Cloud Cover:	5
Next Rain Occurred On:	10/21/2010

Application Equipment

A

Appl. Equipment:	Lee Spider
Operating Pressure, Unit:	60 PSI
Nozzle Type:	TurboTee
Nozzle Size:	110015
Nozzle Spacing, Unit:	20 in
Nozzles/Row:	2
Ground Speed, Unit:	4 mph
Carrier:	water
Spray Volume, Unit:	12 gpa
Mix Size, Unit:	1
Propellant:	comp.air

High Rates of Blizzard for One-Pass Stripper Harvesting

The third defoliation project focused on the performance of Blizzard. Blizzard has been available to producers for defoliation for several years now but only at rates that may in some cases be insufficient for desirable results. This study focuses on higher “off-label” rates. OSU does not recommend “off-label” practices or applications. Chemtura’s interest in modifying their label prompted us to evaluate the performance of Blizzard at these higher rates. Seven days after treatment Finish + Def provided the greatest amount of defoliation (87.5%). All treatments opened bolls 81-92% at the 7DAT observation. By 14DAT Finish + Def defoliated cotton 97.3% while all other treatments provided 88-92% defoliation. All treatments increased boll opening by 14DAT (93-97%).

Trt No.	Treatment Name	Rate Unit	Growth Stage	Appl Code	Defol. 10/7/2010	Desicc 10/7/2010	Open % 10/7/2010	Defol. 10/13/2010	Desicc 10/13/2010	Open % 10/13/2010
1	Untreated check				0 d	0 d	75.5 c	0 d	0 f	79.5 b
2	Finish 6 Pro	21 oz/a	60%Open	A	78.8 bc	11.3 b	84 abc	91.8 bc	4.8 abc	96 a
	Blizzard	1.25 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
3	Finish 6 Pro	21 oz/a	60%Open	A	80 bc	8.8 bc	86.5 ab	88.3 c	5.5 ab	96 a
	Blizzard	1 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
4	Finish 6 Pro	21 oz/a	60%Open	A	82.5 ab	8.8 bc	88.5 ab	91.8 bc	3.5 bcd	97 a
	Blizzard	0.9 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
5	Ethephon	21 oz/a	60%Open	A	75 c	16.3 a	92 a	89 c	6.3 a	97 a
	Blizzard	1.25 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
6	Ethephon	21 oz/a	60%Open	A	78.8 bc	10 b	84 abc	93.3 b	2.5 c-f	93 a
	Blizzard	1 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
7	Ethephon	21 oz/a	60%Open	A	76.3 bc	8.8 bc	84.8 ab	90.5 bc	3 b-e	93 a
	Blizzard	0.9 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
8	Ethephon	21 oz/a	60%Open	A	73.8 c	7.5 bc	86.5 ab	89.5 bc	2 def	94 a
	Blizzard	0.6 oz/a	60%Open	A						
	Crop Oil Concentrate	1 % v/v	60%Open	A						
9	Finish 6 Pro	21 oz/a	60%Open	A	87.5 a	5 c	81.5 bc	97.3 a	0.5 ef	94 a
	Def	16 oz/a	60%Open	A						
	Induce	0.5 % v/v	60%Open	A						
LSD (P=.05)					7.09	3.97	8.56	3.93	2.64	5.58
CV					6.91	32.12	6.92	3.32	58.17	4.1

Application Description

A

Application Date:	9/29/2010
Time of Day:	3:00 pm
Application Method:	Spray
Application Timing:	60-65%Ope
Application Placement:	Broadcast
Applied By:	OSU
Air Temperature, Unit:	85 F
% Relative Humidity:	30
Wind Velocity, Unit:	5.5 mph
Wind Direction:	SSW
Soil Temperature, Unit:	84 F
Soil Moisture:	Adequate
% Cloud Cover:	0
Next Rain Occurred On:	10/21/2010

Application Equipment

A

Appl. Equipment:	Lee Spider
Operating Pressure, Unit:	60 PSI
Nozzle Type:	TurboTee
Nozzle Size:	110015
Nozzle Spacing, Unit:	20 in
Nozzles/Row:	2
Ground Speed, Unit:	4 mph
Carrier:	water
Spray Volume, Unit:	12 gpa
Mix Size, Unit:	1
Propellant:	comp.air

Evaluation of new formulation of Finish 6 Pro

The fourth harvest aid project focused on the evaluation of a new Finish 6 Pro formulation. The new formulation is expressed within the table as "Finish WOC" which represents the new product without one of the traditional compatibility agents. No differences in boll opening or defoliation were observed between the new and old formulations of Finish 6 Pro.

Trt No.	Treatment Name	Rate		Appl Code	10/7/2010	10/7/2010	10/7/2010	10/13/2010	10/13/2010	10/13/2010
		Rate	Unit		Open Bolls %	Defoliation %	Desicc. %	Open Bolls %	Defoliation %	Desicc. %
1	Untreated				61 c	0 c	0 c	76 b	0 c	0 a
2	Finish 6 Pro	1.5	pt/a	A	67.5 abc	83.8 a	5 a	91.5 a	96 a	0 a
	Def	1	pt/a	A						
	NIS (Induce)	0.5	% v/v	A						
3	Finish WOC	1.5	pt/a	A	70.5 abc	82.5 a	5 a	89.5 a	94.3 ab	0 a
	Def	1	pt/a	A						
	NIS (Induce)	0.5	% v/v	A						
4	Finish 6 Pro	1.5	pt/a	A	64.5 bc	73.8 b	2.5 b	89.5 a	94.3 ab	0 a
	Ginstar	8	oz/a	A						
	NIS (Induce)	0.5	% v/v	A						
5	Finish WOC	1.5	pt/a	A	74.5 ab	75 b	2.5 b	91 a	93.8 ab	0 a
	Ginstar	8	oz/a	A						
	NIS (Induce)	0.5	% v/v	A						
6	Finish 6 Pro	1.5	pt/a	A	79 a	73.8 b	6.3 a	92 a	92.8 b	0 a
	ET	2	oz/a	A						
	Crop Oil Conc.	1	% v/v	A						
7	Finish WOC	1.5	pt/a	A	76.5 ab	71.3 b	5 a	92.5 a	92.5 b	0 a
	ET	2	oz/a	A						
	Crop Oil Conc.	1	% v/v	A						
8	Finish 6 Pro	1.5	pt/a	A	74 ab	75 b	5 a	92 a	91.3 b	0 a
	Blizzard	0.6	oz/a	A						
	Crop Oil Conc.	1	% v/v	A						
9	Finish WOC	1.5	pt/a	A	67.5 abc	72.5 b	5 a	90.5 a	93.3 ab	0 a
	Blizzard	0.6	oz/a	A						
	Crop Oil Conc.	1	% v/v	A						
LSD (P=.05)					12.19	4.71	2.11	4.9	3.03	
CV					11.84	4.78	35.84	3.75	2.5	

Application Description

A

Application Date:	10/1/2010
Time of Day:	8:30 AM
Application Method:	Spray
Application Timing:	60%Open
Application Placement:	Broadcast
Applied By:	OSU
Air Temperature, Unit:	62 F
% Relative Humidity:	64
Wind Velocity, Unit:	4 mph
Wind Direction:	NNE
Soil Temperature, Unit:	73 F
Soil Moisture:	Adequate
% Cloud Cover:	25
Next Rain Occurred On:	10/21/2010

Application Equipment

A

Appl. Equipment:	Lee SPider
Operating Pressure, Unit:	60 PSI
Nozzle Type:	Turbotee
Nozzle Size:	110015
Nozzle Spacing, Unit:	20 in
Nozzles/Row:	2
Ground Speed, Unit:	4 mph
Carrier:	water
Spray Volume, Unit:	12 GPA
Mix Size, Unit:	1 gal
Propellant:	comp. air

Evaluating Field Trial Data

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Field Trials can provide helpful information to producers as they compare products and practices for their operations. But field trials must be evaluated carefully to make sure results are scientifically sound, not misleading and indicate realistic expectations for on-farm performance.

This fact sheet is designed to give you the tools to help you determine whether data from a field trial is science fact or science fiction.

What are the best sources of field trial data?

Field trials are conducted by a broad range of individuals and institutions, including universities, ag input suppliers, chemical and seed companies and growers themselves. All are potentially good sources of information.

What are the common types of field trials?

Most field trials fall into one of two categories: side-by-side trials (often referred to as strip trials) or small-plot replicated trials. Side-by-side trials are the most common form of on-farm tests. As the name suggests, these trials involve testing practices or products against one another in plots arrayed across a field, often in strips the width of the harvesting equipment.

These strips should be replicated across the field or repeated at several locations to increase reliability. Small-plot replicated trials often are conducted by universities and companies at central locations because of the complexity of managing them and the special planting and harvesting equipment often required.

Replicated treatments increase the reliability of an experiment. They compare practices or products against one another multiple times under uniform growing conditions in several randomized small plots in the same field or location.

Small-plot replicated trials also may be conducted on farmers' fields where special conditions exist, for example, a weed infestation that does not occur on an experiment station.

Are side-by-side plots more valuable than small-plot replicated trials, or vice versa?

Both types of plots can provide good information. The key is to evaluate the reliability of the data. It is also important to consider the applicability of the trial to your farming operation.

When is plot data valid, and when isn't it?

There isn't a black-and-white answer to that questions. But there are good rules of thumb that can help guide you. Consider these three field trial scenarios:

Scenario 1:

A single on-farm side-by-side trial comparing 10 varieties. Each variety is planted in one strip the width of the harvesting equipment and is 250 to 300 feet long.

What you can learn:

This trial will allow you to get a general feel for each variety or hybrid in the test, including how it grows and develops during the season.

However, this trial, by itself, probably won't be able to reliably measure differences in yield. This is because variability within the field, even if it appears to be relatively uniform, may be large enough to cause yield variations that mask genetic difference among the varieties. Other varietal characteristics, such as maturity or micronaire in cotton, can also be masked by soil variation.

Scenario 2:

Yield data from side-by-side variety trials conducted on the same varieties on multiple farms in your region.

What you can learn:

When data from multiple side-by-side trials are considered together, reliability increases. In this case, the more trials comparing the same varieties, the better. As you go from three to five to 10 or more locations, the certainty goes up that yield differences represent genetic differences and not field variability. Be aware, however, that small differences between treatments (in this case varieties) may still be within the margin of random variability of the combined trial and may not indicate actual genetic differences. One treatment will almost always be numerically higher. Statistical analysis helps determine if differences are significant (consistent).

Scenario 3:

A university-style small-block replicated trial comparing the same 10 varieties.

What can you learn:

Data from such trials, if they are designed well and carried out precisely, generally are reliable. This is, the results

generally determine the yield potential of crop varieties. However, it is still important to consider whether results are applicable to your farming operation and are consistent with other research.

How do I know whether differences in yield, for example, are real and not caused by field variability or sloppy research?

Scientists use statistical analysis to help determine whether differences are real or are the result of experimental error, such as field variation. The two most commonly used statistics are **Least Significant Difference (LSD)** and the **Coefficient of Variation (CV)**, both of which can provide insight on the validity of trial data. If these values aren't provided with trial results, ask for them.

Least Significant Difference (LSD) is the minimum amount that two varieties must differ to be considered significantly different. Consider a trial where the LSD for yield is four bushels per acre. If one variety yields 45 bushels per acre and another yields 43 bushels per acre, the two are not statistically different in yield. The difference in their yields is due to normal field variation, not to their genetics. In this example, a variety that yields 45 bushels per acre is significantly better than those yielding less than 41 bushels per acre. In many research trials, LSDs are calculated at confidence level of 75 to 95 percent. For example, a confidence level of 95 percent means you can be 95 percent certain that yield differences greater than the LSD amount are due to genetics and not to plot variability.

Coefficient of Variation (CV) measures the relative amount of random experimental variability not accounted for in the design of a test. It is expressed as a percent of the overall average of the test.

For measuring yield differences, CV's of up to five percent are considered excellent; 5.1 to 10 percent are considered good; and 10.1 to 15 percent are fair.

A high CV means there must be larger differences among treatments to conclude that significant differences exist. The bottom line: When considering yield test data, be skeptical when the CV exceeds 15 percent.

Is a one-year test valid, or are several years of results necessary to know whether one product or practice is superior to another?

In an ideal world, having several years of tests to verify use of a practice or product is best. But where changes are rapid, such as with crop varieties, having university data from multiple years isn't always possible.

When multi-year university data aren't available, pay more careful attention to statistical measures like CV and LSD, and the number of locations and testing environments.

Multi-year data on yield and performance can also be requested from the developers of new products prior to university testing. In either case, be cautious about making major production changes and trying large acreages of a given variety based on one year's data.

How should I evaluate trial results that are markedly different from other research in my area?

When research results are at odds with the preponderance of scientific evidence, examine the new research with extra care.

Pay special attention to factors that might have influenced the outcome, such as soil type, planting date, soil moisture and other environmental conditions, and disease, insect and weed pressures. For example, was the growing season unusually wet or unusually dry? When was it dry or wet? What was the crop growth stage when it was wet or dry?

Was there a disease that affected one variety or hybrid more than another one? Were there insect problems? Could this have influenced the trial's outcome and its applicability to your operation? If you determine that unusual circumstances affected the outcome, be cautious about how you use the results.