



2007 State Extension Cotton Research 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 intended to address key production issues in the areas of variety selection, weed control, agronomics (plant population, tillage, fertility) and defoliation.

Fortunately, 2007 was a very different year compared to 2006. With ample winter and spring rainfall, soil moisture profiles were in very good condition by planting time. Temperatures were below normal (only 5 days above 85 degrees) for the month of May. This did delay much of the crop planted in early to mid-May. Rainfall for May-September totaled 13 inches. Irrigated acres began receiving water in mid-July and continued through August. September was very warm and dry which helped to finish many fields that were running behind due to a cooler than normal summer. A dry, mild October and November made for good harvest conditions. Due to frequent summer rainfall dryland yields were at record highs and the overall state average yield set a new record.

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 the implementation of any "off-label" use of any product.

We are very appreciative of the contributions made by the OSU Integrated Pest Management Program. 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 goes also to the following organizations, whose contributions make it possible to maintain and expand our research and demonstration programs and distribute results.

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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 <http://www.osu.altus.ok.us> and the NTOK website: www.ntokcotton.org

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Charles Shephard-Butler
Worrell Farms-Altus
Lee Ballard-Duke

Weather Records

Month Date	Apr.07 Air Temp.(F)			May.07 Air Temp. (F)			Jun.07 Air Temp. (F)		
	Max.	Min.	Precip.	Max.	Min.	Precip	Max.	Min.	Precip.
1	76	42	0	80	61	0.22	83	61	0.02
2	82	47	0	78	55	0.01	90	61	0.03
3	77	51	0	78	59	0	86	61	0
4	59	40	0	92	62	0	87	63	0.26
5	53	41	0	88	67	0	92	58	0
6	41	36	0	87	67	0	93	65	0
7	39	31	0	78	63	0.02	98	71	0
8	44	31	0	75	59	0.52	81	58	0
9	49	35	0	76	59	0.69	94	60	0
10	85	39	0.01	78	60	0.42	93	68	0.05
11	70	35	0	84	60	0.03	96	68	0
12	69	40	0	84	60	0.42	93	69	0
13	51	44	0.44	85	61	0	95	65	0.04
14	58	37	0	88	62	0	88	65	0
15	71	35	0	73	65	0	83	67	0
16	72	38	0	75	50	0.29	80	67	0.38
17	64	43	0.05	77	53	0	84	65	0.06
18	68	48	0.74	69	53	0	93	66	0.44
19	78	47	0	76	58	0.02	98	73	0
20	80	51	0	82	60	0.02	85	65	0.69
21	78	57	0	79	62	0	83	66	16
22	81	58	0	87	62	0	86	65	0.49
23	79	58	0	84	64	0	89	65	0.21
24	86	60	0	67	61	0.48	88	66	0.04
25	67	51	0	74	59	0	81	68	0
26	75	40	0	77	62	0	76	69	0
27	81	45	0	82	63	0.01	84	67	0.5
28	80	49	0	85	60	0	75	68	0.65
29	83	49	0	84	64	0	75	63	1.24
30	81	54	0	74	60	0.01	87	64	0.09
31				84	57	0			
Totals	69.2	44.4	1.24	80	60.2	3.16	87.2	65.2	5.35

Weather Records Cont.

Month Date	Jul.07 Air Temp.(F)			Aug.07 Air Temp. (F)			Sep.07 Air Temp. (F)		
	Max.	Min.	Precip.	Max.	Min.	Precip	Max.	Min.	Precip.
1	87	67	0	94	73	0	90	64	0
2	87	68	0	88	71	1.18	91	63	0
3	88	71	0.08	93	70	0.01	91	66	0
4	87	68	0	94	71	0	88	66	0
5	88	67	0.01	96	73	0	89	66	0
6	90	67	0.26	97	73	0	96	69	0
7	93	66	0	98	72	0	89	71	0.24
8	93	68	0	99	74	0	91	71	0
9	94	71	0	99	73	0	80	72	0
10	94	71	0	99	66	0	85	70	1.24
11	88	73	0	100	70	0	78	55	0
12	93	70	0.46	101	71	0	81	53	0
13	82	66	0.47	101	69	0	86	56	0
14	92	66	0.11	102	71	0	87	58	0
15	93	67	0	101	70	0	83	57	0
16	91	66	0	99	70	0	93	59	0
17	93	68	0	87	73	0	92	66	0
18	92	69	0	77	73	0.18	89	69	0
19	92	68	0	91	73	1.8	90	64	0.19
20	91	67	0	94	74	0	91	64	0
21	91	68	0	93	72	0	94	67	0
22	94	68	0	93	71	0	93	67	0
23	98	69	0	93	73	0	89	60	0
24	92	66	0.02	90	72	0	92	62	0
25	91	65	0	92	71	0.09	79	67	0
26	91	66	0	95	71	0	86	63	0
27	91	66	0	96	70	0	90	61	0
28	93	69	0	95	71	0	90	61	0
29	95	71	0	96	69	0	88	59	0.12
30	94	73	0	89	72	0	90	61	0
31	96	70	0	89	70	0			
Totals	91.4	68.2	1.41	94.5	71.5	3.26	88.3	63.5	1.79

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Variety Performance

Variety selection continues to be an important decision for cotton producers in Oklahoma. Although most newly released varieties have been tested prior to their commercial release, most cotton producers have had little experience with those varieties on their farms. Therefore, eleven variety trials were established throughout Oklahoma evaluating several newly released varieties. Six of these locations were under dryland production while the remaining five were irrigated sites.

Each irrigated location (3 in Jackson, 1 in Tillman and 1 in Beckham County) was a replicated trial comparing 16 varieties. All of these varieties contained either the Bollgard II or Widestrike insect resistance genes and the Roundup Ready Flex herbicide tolerance gene.

Results varied across location as a result of scattered rainfall patterns within the growing season and varying soil types. Overall, Fibermax's 1740 B2F ranked the highest compared to the other 16 irrigated varieties across all locations. DP 174 F had the highest average ranking across all of the dryland locations. The tables below show detailed information for each location mentioned above.

Irrigated Variety Performance

Location:		Jackson-WOSC			Plant Date:		5/16/2007	
Soil Type:		Clay Loam			Harvest Date:		11/1/2007	
Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre		Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	PHY 485 WRF	0.263	1894.9	a	4.6	1.14	83.6	31.8
2	FM 1740 B2F	0.27	1770.2	b	4.4	1.17	85.1	31.6
3	DP 143 B2F	0.274	1766.6	b	4.2	1.19	80.6	32
4	DP 141 B2F	0.274	1733.7	bc	3.8	1.23	81.2	33.6
5	FM 9180 B2F	0.268	1703.1	bcd	4.3	1.2	83.7	33.9
6	ST 5327 B2F	0.269	1646.4	cde	4.9	1.08	81	29.8
7	ST 4427 B2F	0.262	1623.5	cde	4.5	1.1	82.4	29.1
8	DP 164 B2F	0.256	1615.6	def	4.5	1.15	82.5	29.9
9	ST 4554 B2F	0.261	1596	def	4.7	1.12	82.1	30.7
10	FM 9063 B2F	0.262	1536.4	efg	4.1	1.22	82.7	33.6
11	AFD 5065 B2F	0.254	1506.1	fgh	4.6	1.17	83.6	30
12	DP 161 B2F	0.26	1473.7	gh	3.7	1.23	83.8	30.3
13	ST 4357 B2F	0.236	1450.8	gh	4.2	1.13	82.9	26.6
14	FM 1880 B2F	0.251	1391.2	hi	4.3	1.23	82.2	32.7
15	FM 1840 B2F	0.216	1299.6	ij	4.4	1.11	82.9	32
16	NG 3273 B2F	0.207	1204.9	j	4	1.09	81	26.9
LSD (P=.05)			116.12					
CV			5.16					

Irrigated Variety Performance (cont.)

Location:	Jackson-Felty	Plant Date:	5/18/2007
Soil Type:	Clay Loam	Harvest Date:	10/25/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	DP 143 B2F	0.277	1835.7 a	3.9	1.2	82.6	28.9
2	PHY 485 WRF	0.256	1815.2 ab	4.4	1.15	85	28.6
3	FM 1740 B2F	0.281	1770.4 abc	4.4	1.13	82.9	29.9
4	DP 141 B2F	0.257	1706 bcd	3.6	1.18	79.6	30.9
5	ST 4554 B2F	0.267	1670.5 cde	4.7	1.09	82.4	28.9
6	FM 9063 B2F	0.262	1647.8 def	4.5	1.21	84.4	30.7
7	ST 4427 B2F	0.266	1645.4 def	4.9	1.1	82.7	28.1
8	FM 9180 B2F	0.258	1572 efg	4.5	1.18	84.4	30.4
9	DP 164 B2F	0.259	1548.5 fg	4.4	1.14	82.2	29.6
10	FM 1880 B2F	0.258	1548.1 fg	4	1.17	83.1	29.6
11	ST 5327 B2F	0.257	1539.3 fgh	4.4	1.13	83.2	28.9
12	ST 4357 B2F	0.246	1498.9 gh	4.4	1.1	81.5	27.4
13	DP 161 B2F	0.249	1495.5 gh	4.2	1.15	81.6	27.9
14	AFD 5065 B2F	0.264	1471.9 gh	4.5	1.15	81.1	29.8
15	FM 1840 B2F	0.229	1430.3 h	4.3	1.15	83.2	29
16	NG 3273 B2F	0.220	1254.2 i	4.3	1.1	83	27.7
LSD (P=.05)			117.61				
CV			5.17				

Location:	Jackson-OSU-SWREC	Plant Date:	5/18/2007
Soil Type:	Clay Loam	Harvest Date:	10/24/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	DP 143 B2F	0.281	1369.1 a	4.5	1.17	81.2	28.3
2	FM 1740 B2F	0.295	1353.7 a	4.8	1.13	83.3	29.6
3	PHY 485 WRF	0.303	1317.8 a	4.8	1.11	82.6	32.3
4	DP 141 B2F	0.264	1293.5 a	4.5	1.14	78.8	29.8
5	FM 9063 B2F	0.278	1271.2 ab	4.6	1.15	81.2	32.6
6	FM 9180 B2F	0.279	1269.7 ab	4.7	1.15	80.5	29.8
7	DP 164 B2F	0.257	1133.1 bc	4.6	1.14	82	29.3
8	FM 1880 B2F	0.261	1113.8 c	4.3	1.15	82.2	30.4
9	DP 161 B2F	0.254	1110.2 c	4.4	1.14	83.1	31.6
10	ST 4427 B2F	0.27	1094.8 cd	4.4	1.1	81.3	28.3
11	ST 5327 B2F	0.283	1051.9 cde	4.8	1.09	82.8	30.7
12	ST 4554 B2F	0.241	948.3 def	4.5	1.12	81.5	31.1
13	AFD 5065 B2F	0.263	930.2 ef	4.6	1.08	80.6	30.1
14	FM 1840 B2F	0.232	910.4 ef	4.8	1.1	82.2	28.8
15	ST 4357 B2F	0.227	887 f	4.4	1.1	78.2	27.8
16	NG 3273 B2F	0.23	868.7 f	4.4	1.1	82.7	27.7
LSD (P=.05)			150.25				
CV			9.39				

Irrigated Variety Performance (cont.)

Location:	Beckham-Gamble	Plant Date:	5/23/2007
Soil Type:	Sandy Loam	Harvest Date:	11/6/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	FM 1740 B2F	0.282	1699.8	a	3.7	1.16	83.7
2	ST 4554 B2F	0.27	1523	ab	4.2	1.1	82.8
3	FM 9180 B2F	0.273	1517.6	ab	4.1	1.17	82.3
4	FM 9063 B2F	0.256	1430.1	bc	4	1.2	83.8
5	ST 4427 B2F	0.273	1410.5	bc	4.3	1.12	82.3
6	PHY 485 WRF	0.245	1406	bc	4.2	1.12	82.8
7	FM 1880 B2F	0.26	1391.5	bc	3.6	1.15	81.1
8	DP 143 B2F	0.273	1370.8	bc	2.8	1.25	81.5
9	DP 161 B2F	0.254	1366.3	bc	4	1.19	83.6
10	NG 3273 B2F	0.259	1359.3	bc	3.9	1.11	81.8
11	ST 4357 B2F	0.275	1338.4	bc	4	1.13	80.7
12	ST 5327 B2F	0.275	1320.4	bc	3.8	1.11	82.3
13	DP 141 B2F	0.263	1261.3	cd	2.9	1.18	79.8
14	AFD 5065 B2F	0.265	1253.6	cd	4.3	1.19	83.5
15	DP 164 B2F	0.247	1238.5	cd	4.1	1.13	82.3
16	FM 1840 B2F	0.195	1065.9	d	3	1.14	79
LSD (P=.05)			219.89				
CV			11.21				

Location:	Tillman-Schroeder	Plant Date:	5/22/2007
Soil Type:	Sandy Loam	Harvest Date:	10/30/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	ST 5327 B2F	0.292	1129.9	a	4.7	1.04	81.4
2	DP 143 B2F	0.26	1057.1	ab	3.8	1.13	80.7
3	FM 1740 B2F	0.271	1039.8	abc	4.7	1.1	82.6
4	FM 9180 B2F	0.268	1038.5	abc	4.9	1.12	82.8
5	PHY 485 WRF	0.267	970.6	bcd	4.7	1.13	83.6
6	ST 4554 B2F	0.25	934.7	bcd	4.7	1.08	83.2
7	FM 9063 B2F	0.267	906.6	cd	4.6	1.15	82.5
8	ST 4427 B2F	0.25	906.1	cd	4.7	1.09	79.6
9	AFD 5065 B2F	0.27	893.2	cd	4.8	1.06	81
10	DP 164 B2F	0.242	871.8	d	4.5	1.14	81
11	NG 3273 B2F	0.246	870.1	d	4.2	1.06	80.9
12	DP 161 B2F	0.246	868.8	d	3.8	1.15	81.6
13	DP 141 B2F	0.255	849.1	d	4	1.19	82.2
14	FM 1880 B2F	0.263	845.7	d	4.6	1.11	83.5
15	ST 4357 B2F	0.234	832.8	d	4.5	1.06	82.3
16	FM 1840 B2F	0.211	655.5	e	4.1	1.16	82.8
LSD (P=.05)			147.81				
CV			11.28				

Irrigated Variety Performance (cont.)

Yield Ranking By Location

Variety Name	Jackson OSU	Jackson WOSC	Jackson Felty	Tillman Schroeder	Beckham Gamble	Avg Rank Across Loc.
FM 1740 B2F	2	2	3	3	1	2.2
DP 143 B2F	1	3	1	2	8	3
PHY 485 WRF	3	1	2	5	6	3.4
FM 9180 B2F	6	5	8	4	3	5.2
FM 9063 B2F	5	10	6	7	4	6.4
ST 4554 B2F	12	9	5	6	2	6.8
ST 4427 B2F	10	7	7	8	5	7.4
DP 141 B2F	4	4	4	13	13	7.6
ST 5327 B2F	11	6	11	1	12	8.2
DP 164 B2F	7	8	9	10	15	9.8
FM 1880 B2F	8	14	10	14	7	10.6
DP 161 B2F	9	12	13	12	9	11
AFD 5065 B2F	13	11	14	9	14	12.2
ST 4357 B2F	15	13	12	15	11	13.2
NG 3273 B2F	16	16	16	11	10	13.8
FM 1840 B2F	14	15	15	16	16	15.2

Dryland Variety Performance

Location:	Jackson-WOSC	Plant Date:	5/16/2007
Soil Type:	Clay Loam	Harvest Date:	11/29/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre		Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	DP 174 F	0.299	599.7	a	5.1	1.02	80.7	25
2	FM 9068 F	0.248	591.1	a	4.7	1.02	81	28.5
3	AFD 5064 F	0.238	584.6	ab	4.7	1	78.9	26.4
4	FM 9058 F	0.26	547.9	abc	4.7	1.02	78.7	28.1
5	FM 1740 B2F	0.266	529.6	a-d	5	0.94	79.4	25.1
6	NG 3273 B2F	0.231	522	a-e	4.6	1.03	79.7	26.1
7	DP 141 B2F	0.285	519.8	a-e	4.9	1.04	77.3	26.3
8	NG 3550 F	0.24	507.5	a-e	5	1.07	80.4	28.9
9	PHY 125 F	0.209	507.3	a-e	4.4	1.02	80.5	31
10	PHY 485 WRF	0.247	499	a-f	4.9	0.98	78.3	30
11	DP 147 F	0.261	498.8	a-f	4.7	1.07	81.3	26.8
12	FM 9180 B2F	0.246	498.7	a-f	4.5	1.04	79	27.3
13	PHY 425 F	0.246	495.2	a-f	5	1.03	80	29
14	AFD 5065 B2F	0.225	480.7	b-g	4.4	1	80.2	29.5
15	FM 9063 B2F	0.241	458.8	c-h	4.6	0.97	77.7	28.3
16	ST 4554 B2F	0.244	448.6	c-h	4.8	0.94	79	27.7
17	DP 143 B2F	0.246	441.5	c-h	4.2	1.06	79.5	27.3
18	DP 167 F	0.215	425	d-i	4.6	1.01	79.7	26.9
19	ST 5327 B2F	0.248	416.3	e-i	4.5	0.96	79.7	27.2
20	DP 161 B2F	0.224	395.5	f-i	4.8	1.03	80.2	26.8
21	DP 164 B2F	0.228	387.7	ghi	4.5	0.99	78.2	24.5
22	ST 4427 B2F	0.227	384.3	ghi	4.4	0.95	79	23.2
23	ST 4357 B2F	0.219	369.2	hi	4.1	0.98	78.1	23.4
24	FM 1880 B2F	0.209	323.5	i	4.7	1	79.1	27
25	FM 1840 B2F	0.16	197.7	j	4.7	1	78.1	26.8
LSD (P=.05)			107.19					
CV			13.96					

Dryland Variety Performance (cont.)

Location:	Tillman-McKinley	Plant Date:	5/22/2007
Soil Type:	Sandy Loam	Harvest Date:	11/07/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	DP 174 F	0.318	1017.3	a	5.3	1.14	29
2	ST 4554 B2F	0.292	915.1	ab	4.8	1.09	30.4
3	DP 147 F	0.295	914.8	ab	4.7	1.09	29.7
4	FM 9180 B2F	0.299	901.1	bc	4.9	1.06	28.6
5	AFD 5064 F	0.274	885.5	bcd	4.7	1.09	27.9
6	FM 1740 B2F	0.293	881.5	bcd	4.5	1.1	32.2
7	DP 143 B2F	0.284	873	bcd	4.6	1.15	29.5
8	ST 4427 B2F	0.27	869.7	bcd	5	1.04	28.8
9	FM 9058 F	0.257	867	bcd	4.7	1.11	30.3
10	ST 4357 B2F	0.274	861.6	bcd	4.4	1.14	28.8
11	PHY 425 F	0.283	859.1	bcd	5.2	1.07	32.5
12	FM 9068 F	0.257	846	bcd	4.6	1.17	31.7
13	DP 141 B2F	0.265	844.9	bcd	4.7	1.12	27.2
14	DP 167 F	0.274	834.8	b-e	4.6	1.11	29.9
15	NG 3550 F	0.266	827.8	b-e	4.9	1.11	30.3
16	ST 5327 B2F	0.275	821.3	b-e	4.9	1.11	32
17	FM 1880 B2F	0.269	816.6	b-e	3.8	1.11	30.6
18	DP 164 B2F	0.284	790.9	c-f	5	1.11	27.1
19	FM 1840 B2F	0.258	790.2	c-f	4.9	1.12	29.9
20	FM 9063 B2F	0.235	786.4	d-g	4.7	1.14	32.2
21	AFD 5065 B2F	0.267	726.1	e-h	4.6	1.12	28.4
22	PHY 125 F	0.23	679.4	fgh	4.3	1.04	30.9
23	DP 161 B2F	0.222	675.1	gh	4.7	1.14	29.6
24	NG 3273 B2F	0.208	671.1	h	4.1	0.98	25
25	PHY 485 WRF	0.221	626.3	h	4.8	1.07	29.7
LSD (P=.05)			111.56				
CV			9.58				

Dryland Variety Performance (cont.)

Location:	Greer-Graumann	Plant Date:	5/23/2007
Soil Type:	Sandy Loam	Harvest Date:	11/29/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre		Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	FM 1740 B2F	0.314	741.6	a	5.2	0.95	79.5	27.2
2	NG 3550 F	0.248	600.1	b	5	1.01	80.1	26.8
3	FM 9058 F	0.277	597.8	b	4.5	0.98	78.1	24.7
4	AFD 5064 F	0.237	595.9	b	4.7	1.01	80.4	28.1
5	FM 9063 B2F	0.274	582.4	bc	4.4	0.99	78.1	27.4
6	FM 9068 F	0.265	581.6	bc	4.7	1.04	80.2	29.8
7	AFD 5065 B2F	0.221	574.5	bcd	4.1	1.04	80.5	28.7
8	FM 9180 B2F	0.238	562.9	b-e	4.7	1.01	78.5	25.5
9	DP 174 F	0.277	561.6	b-e	5	1.03	79.3	24.9
10	PHY 485 WRF	0.258	558.7	b-e	4.6	0.98	80	27
11	ST 4554 B2F	0.24	523.2	c-f	4.7	0.97	78.3	26.9
12	NG 3273 B2F	0.215	514.4	c-f	4	1.04	80.2	25.7
13	DP 161 B2F	0.257	512.6	c-f	5.1	0.96	78.6	26.5
14	ST 5327 B2F	0.247	508.8	def	4.7	0.97	81.4	27.3
15	PHY 125 F	0.217	506.2	def	4.5	1	79	31.1
16	DP 141 B2F	0.249	504.8	def	4.4	1.02	79.2	27.9
17	DP 143 B2F	0.251	499.3	efg	4.6	1.03	78.9	24.7
18	DP 164 B2F	0.262	496.9	efg	5	1.03	79.1	25.1
19	PHY 425 F	0.23	479.7	fg	5	0.94	78	26.7
20	DP 147 F	0.25	479.6	fg	4.7	1.05	78.6	26.4
21	ST 4427 B2F	0.238	457.9	fgh	4.8	0.94	79.7	25.8
22	FM 1880 B2F	0.24	430.3	gh	4.4	0.94	77.1	24.9
23	DP 167 F	0.221	405.9	hi	4.9	1.05	81.4	26.5
24	ST 4357 B2F	0.2	397.9	hi	4.1	0.99	78	24.4
25	FM 1840 B2F	0.219	352.1	i	4.9	0.97	79	28.2
LSD (P=.05)			70.98					
CV			9.63					

Dryland Variety Performance (cont.)

Location:		Washita-Johnson			Plant Date:		5/21/2007	
Soil Type:		Sandy Loam			Harvest Date:		11/27/2007	
Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre		Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	DP 174 F	0.263	1498.3	a	3.9	1.16	82	30.3
2	DP 167 F	0.297	1489.2	a	3.1	1.14	80.8	29.7
3	FM 9058 F	0.255	1484.3	a	3.4	1.19	81.5	31.3
4	AFD 5064 F	0.239	1391.1	ab	4.3	1.16	81.7	31.5
5	PHY 425 F	0.237	1378.2	abc	4	1.17	82.9	31.4
6	ST 4554 B2F	0.26	1371.7	abc	4.3	1.09	82.1	29.8
7	PHY 485 WRF	0.246	1356.8	abc	4.1	1.2	85	33.5
8	FM 9068 F	0.229	1315.4	a-d	4.2	1.14	82.3	32.3
9	DP 164 B2F	0.23	1312	a-d	4.4	1.15	83.4	32.2
10	FM 1740 B2F	0.262	1290.8	a-e	3.9	1.14	81.7	31.2
11	FM 9063 B2F	0.248	1288.1	a-e	4	1.19	82.4	34.4
12	DP 143 B2F	0.224	1284.3	a-e	3.5	1.21	81.3	28.9
13	DP 147 F	0.248	1254.3	a-e	3.7	1.15	78.7	29.6
14	PHY 125 F	0.219	1252.4	a-e	4.1	1.11	82.8	31.1
15	DP 161 B2F	0.226	1189	b-e	3.9	1.2	82.9	32
16	FM 9180 B2F	0.249	1188.8	b-e	4.1	1.18	83.3	30.8
17	ST 4427 B2F	0.241	1171.6	b-e	4.6	1.15	82.5	28.5
18	DP 141 B2F	0.215	1155.3	b-e	3.5	1.18	81.7	32.6
19	AFD 5065 B2F	0.227	1145.6	b-e	4.1	1.17	82.7	30.5
20	ST 5327 B2F	0.235	1142.4	b-e	3.7	1.14	82.8	30.9
21	FM 1880 B2F	0.245	1134.1	cde	3.2	1.15	81.2	32.9
22	NG 3550 F	0.206	1071.8	def	4.1	1.13	81.8	29.2
23	FM 1840 B2F	0.212	1047.6	ef	4.2	1.07	81.3	31.3
24	ST 4357 B2F	0.232	854.7	fg	3.9	1.13	82.7	31.7
25	NG 3273 B2F	0.184	747.1	g	3.7	1.14	83.1	29.2
LSD (P=.05)			251.73					
CV			14.44					

Dryland Variety Performance (cont.)

Location:	Custer-Shephard	Plant Date:	5/21/2007
Soil Type:	Sandy Loam	Harvest Date:	11/7/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre		Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	DP 174 F	0.258	1677.5	a	4.2	1.17	83.1	28.1
2	FM 1740 B2F	0.254	1661.2	a	3.9	1.15	83.6	29.5
3	FM 9180 B2F	0.254	1636.2	a	3.8	1.19	82.7	31
4	FM 9058 F	0.254	1553.2	ab	4.2	1.22	82.7	30.5
5	AFD 5064 F	0.256	1544.5	abc	4.6	1.08	80.3	29.5
6	FM 9068 F	0.233	1514.9	abc	4	1.18	83.7	29.9
7	FM 9063 B2F	0.249	1443.9	bcd	4.9	1.14	82.4	28.5
8	PHY 425 F	0.22	1424.4	bcd	4.4	1.16	83.3	29.9
9	PHY 485 WRF	0.21	1395.1	b-e	4.9	1.12	81.4	27.3
10	ST 5327 B2F	0.247	1378.5	b-f	4.3	1.11	83.1	29.7
11	DP 143 B2F	0.221	1365.8	c-g	3.7	1.2	82.4	27.1
12	ST 4554 B2F	0.232	1365.6	c-g	4.3	1.1	83.8	28.6
13	FM 1880 B2F	0.236	1319.6	d-h	4.7	1.04	75.5	31.3
14	NG 3550 F	0.226	1288.4	d-h	4.3	1.15	80.6	27.9
15	PHY 125 F	0.209	1225.6	e-i	4.5	1.07	82.1	28.3
16	DP 147 F	0.192	1220.1	e-i	3.3	1.23	81.9	27.3
17	DP 141 B2F	0.214	1215.3	e-i	3.8	1.17	80.4	29.1
18	ST 4357 B2F	0.199	1208.2	f-i	3.6	1.11	80.2	25.6
19	DP 164 B2F	0.202	1197.8	f-i	4	1.12	81.4	28.2
20	DP 161 B2F	0.196	1193.2	ghi	3.8	1.14	80.1	27.2
21	DP 167 F	0.198	1180.5	hi	3.5	1.14	80.4	28.7
22	ST 4427 B2F	0.19	1167	hi	3.8	1.05	81.3	27.4
23	AFD 5065 B2F	0.185	1096	ij	4	1.13	82.1	29.5
24	FM 1840 B2F	0.194	1084.8	ij	4	1.15	83.6	27.9
25	NG 3273 B2F	0.177	941.5	j	3.7	1.11	78.7	28.9
LSD (P=.05)			182.78					
CV			9.7					

Dryland Variety Performance (cont.)

Location:	Kiowa-Null	Plant Date:	5/21/2007
Soil Type:	Sandy Clay Loam	Harvest Date:	11/29/2007

Trt No.	Treatment Name	Gin %	Lint Yield lbs/Acre	a	Fiber Mic	Fiber Length	Fiber Uniformity	Fiber Strength
1	FM 9058 F	0.238	1198.5	a	4.9	1.09	78	26.3
2	DP 174 F	0.255	1065.9	ab	4.8	1.12	79.7	23.7
3	NG 3550 F	0.291	1042	bc	5	1.09	80.9	29.4
4	DP 141 B2F	0.231	1027.3	bcd	3.9	1.18	81.1	28
5	FM 9068 F	0.208	982.5	b-e	4.6	1.15	81	28.7
6	AFD 5065 B2F	0.198	966.9	b-e	4	1.15	82	28.8
7	FM 1740 B2F	0.23	958.9	b-e	4.8	1.11	82.5	28.9
8	FM 9063 B2F	0.203	913.1	c-f	4.1	1.22	83.1	30.2
9	FM 9180 B2F	0.215	907.7	c-f	4.5	1.14	82.7	29.6
10	ST 4427 B2F	0.197	891.8	d-g	4.7	1.03	78.9	25.1
11	DP 167 F	0.222	877.6	efg	4.7	1.11	80.8	28.7
12	PHY 425 F	0.215	871.8	efg	5	1.13	83.4	28.4
13	PHY 125 F	0.195	837.4	efg	4.7	1.05	80.8	31.8
14	ST 5327 B2F	0.205	807.8	fgh	4.4	1.05	78.8	27
15	FM 1880 B2F	0.197	789.1	fgh	4	1.13	81.5	28.6
16	AFD 5064 F	0.182	766.7	fgh	4.7	1.07	81.2	28.5
17	DP 143 B2F	0.202	754.5	gh	4.6	1.08	78.3	24.7
18	DP 164 B2F	0.18	673.9	hi	4.2	1.1	80.4	26.8
19	ST 4554 B2F	0.189	673	hi	4.4	1.07	80.2	29.6
20	DP 147 F	0.19	665.5	hij	4.5	1.11	80.9	29.3
21	DP 161 B2F	0.154	662.5	hij	4.4	1.11	80.2	28.8
22	FM 1840 B2F	0.164	581.6	ij	4	1.12	80.7	28.1
23	ST 4357 B2F	0.158	525.3	ij	4	1.09	80.7	25.9
24	PHY 485 WRF	0.155	520.4	j	4.6	1.07	81	28.1
25	NG 3273 B2F	0.154	520.4	j	3.5	1.09	79	24.8
LSD (P=.05)			149.58					
CV			12.91					

Dryland Variety Performance (cont.)

Yield Ranking By Location

Variety Name	Kiowa Null	Greer Graumann	Custer Shephard	Washita Johnson	Jackson WOSC	Tillman McKinley	Avg Rank Across Loc.
DP 174 F	2	9	1	1	1	1	2.5
FM 9058 F	1	3	4	3	4	9	4.0
FM 1740 B2F	7	1	2	10	5	6	5.2
AFD 5064 F	16	4	5	4	3	5	6.2
FM 9068 F	5	6	6	8	2	12	6.5
FM 9180 B2F	9	8	3	16	12	4	8.7
NG 3550 F	3	2	14	22	8	15	10.7
ST 4554 B2F	19	11	12	6	16	2	11.0
FM 9063 B2F	8	5	7	11	15	20	11.0
PHY 425 F	12	19	8	5	13	11	11.3
DP 141 B2F	4	16	17	18	7	13	12.5
DP 143 B2F	17	17	11	12	17	7	13.5
DP 147 F	20	20	16	13	11	3	13.8
PHY 485 WRF	24	10	9	7	10	25	14.2
PHY 125 F	13	15	15	14	9	22	14.7
DP 167 F	11	23	21	2	18	14	14.8
AFD 5065 B2F	6	7	23	19	14	21	15.0
ST 5327 B2F	14	14	10	20	19	16	15.5
ST 4427 B2F	10	21	22	17	22	8	16.7
DP 164 B2F	18	18	19	9	21	18	17.2
FM 1880 B2F	15	22	13	21	24	17	18.7
DP 161 B2F	21	13	20	15	20	23	18.7
NG 3273 B2F	25	12	25	25	6	24	19.5
ST 4357 B2F	23	24	18	24	23	10	20.3
FM 1840 B2F	22	25	24	23	25	19	23.0

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 and/or irrigation. The following projects address some of these areas.

Performance of Stance Plant Growth Regulator

Two rate regimes of Stance were compared to multiple low rate applications of Mepiquat Chloride. By August 22nd, all treatments reduced plant height compared to the untreated. At this date there were no differences in plant height when comparing the two rate structures of Stance to Mepex. Similarly, total nodes were also reduced by all treatments compared to the untreated, again with no difference between Stance and Mepex applications. Lint yield was significantly reduced by three applications of 3 oz/A of Stance compared to untreated plots. Lint yields from all other treatments were equal to the untreated. No plant growth regulator treatment increased yield or affected fiber quality compared to the untreated.

Planted: May 16 **Variety:** FM 9063 B2F **Soil Type:** Clay loam **Location:** OSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	7/17/2007		7/30/2007	
								Plant Ht Inches	# Nodes Total	Plant Ht Inches	# Nodes Total
1	UNTREATED							18.15 a	11.55 a	24.55 a	12.7 a
2	MEPEX	4.2	L	4	oz/a	MATCH SQ	A	18.25 a	11.6 a	22.15 b	12.75 a
	MEPEX	4.2	L	4	oz/a	10-14DAT	B				
	MEPEX	4.2	L	4	oz/a	EARBLM	C				
3	STANCE	110	L	2	oz/a	MATCH SQ	A	18.15 a	12.25 a	22.1 b	13.55 a
	STANCE	110	L	2	oz/a	10-14DAT	B				
	STANCE	110	L	2	oz/a	EARBLM	C				
4	STANCE	110	L	3	oz/a	MATCH SQ	A	16.65 a	11.3 a	19.55 c	12.15 a
	STANCE	110	L	3	oz/a	10-14DAT	B				
	STANCE	110	L	3	oz/a	EARBLM	C				
LSD (P=.05)								1.973	1.451	2.137	1.546
CV								6.93	7.77	6.05	7.56

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	8/22/2007		8/27/2007	10/4/2007
								Plant Ht Inches	# Nodes Total	NAWF #	NACB
1	UNTREATED							29.75 a	19.5 a	3.45 a	2.58 a
2	MEPEX	4.2	L	4	oz/a	MATCH SQ	A	25.9 b	18.35 b	2.8 b	2.08 a
	MEPEX	4.2	L	4	oz/a	10-14DAT	B				
	MEPEX	4.2	L	4	oz/a	EARBLM	C				
3	STANCE	110	L	2	oz/a	MATCH SQ	A	26.15 b	17.65 b	3.15 ab	1.65 a
	STANCE	110	L	2	oz/a	10-14DAT	B				
	STANCE	110	L	2	oz/a	EARBLM	C				
4	STANCE	110	L	3	oz/a	MATCH SQ	A	23.9 b	18.05 b	2.95 b	1.9 a
	STANCE	110	L	3	oz/a	10-14DAT	B				
	STANCE	110	L	3	oz/a	EARBLM	C				
LSD (P=.05)								2.377	1.096	0.421	1.098
CV								5.62	3.73	8.52	33.5

Performance of Stance Plant Growth Regulator (cont.)

Planted: May 16

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Growth Stage	Appl Code	11/1/2007		11/1/2007		11/1/2007		11/1/2007	
								Gin Percent	a	Lint Yield lbs/Acre	a	Fiber Data Mic	a	Fiber Data Length	a
1	UNTREATED							0.2873	a	1900.2	a	4.55	a	1.205	a
2	MEPEX	4.2	L	4	oz/a	MATCH SQ	A	0.2803	a	1879.2	a	4.43	a	1.248	a
	MEPEX	4.2	L	4	oz/a	10-14DAT	B								
	MEPEX	4.2	L	4	oz/a	EARBLM	C								
3	STANCE	110	L	2	oz/a	MATCH SQ	A	0.2855	a	1853	a	4.38	a	1.233	a
	STANCE	110	L	2	oz/a	10-14DAT	B								
	STANCE	110	L	2	oz/a	EARBLM	C								
4	STANCE	110	L	3	oz/a	MATCH SQ	A	0.2745	a	1721.4	b	4.43	a	1.255	a
	STANCE	110	L	3	oz/a	10-14DAT	B								
	STANCE	110	L	3	oz/a	EARBLM	C								
LSD (P=.05)								0.01553		107.98		0.379		0.0399	
CV								3.44		3.67		5.33		2.02	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Growth Stage	Appl Code	11/1/2007		11/1/2007	
								Fiber Data Uniform	a	Fiber Data Strength	a
1	UNTREATED							82.6	a	32	a
2	MEPEX	4.2	L	4	oz/a	MATCH SQ	A	83.13	a	32.9	a
	MEPEX	4.2	L	4	oz/a	10-14DAT	B				
	MEPEX	4.2	L	4	oz/a	EARBLM	C				
3	STANCE	110	L	2	oz/a	MATCH SQ	A	82.73	a	32.75	a
	STANCE	110	L	2	oz/a	10-14DAT	B				
	STANCE	110	L	2	oz/a	EARBLM	C				
4	STANCE	110	L	3	oz/a	MATCH SQ	A	83.03	a	32.08	a
	STANCE	110	L	3	oz/a	10-14DAT	B				
	STANCE	110	L	3	oz/a	EARBLM	C				
LSD (P=.05)								0.958		1.892	
CV								0.72		3.65	

Performance of Stance Plant Growth Regulator (cont.)

Planted: May 16 **Variety:** FM 9063 B2F **Soil Type:** Clay loam **Location:** OSU

Application Description

	A	B	C
Application Date:	7/2/2007	7/16/2007	8/8/2007
Time of Day:	9:00 AM	9:30 AM	10:00 AM
Application Method:	Spray	Spray	Spray
Application Timing:	Matchhead	14 DAIT	Bloom
Application Placement:	Broadcast	Broadcast	Broadcast
Applied By:	OSU	OSU	OSU
Air Temperature, Unit:	74 F	75 F	85 F
% Relative Humidity:	88	71	53
Wind Velocity, Unit:	4.1 MPH	5 MPH	6 MPH
Wind Direction:	NE	S	S
Soil Temperature, Unit:	77 F	81 F	92 F
Soil Moisture:	Good	Good	Good
% Cloud Cover:	60	20	15

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	Spider
Operating Pressure, Unit:	25 PSI	25 PSI	25 PSI
Nozzle Type:	TJTD	TJTD	TJTD
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	20 in	20 in	20 in
Nozzles/Row:	2	2	2
Ground Speed, Unit:	4 mph	4 mph	4 mph
Carrier:	water	water	water
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA

Beltwide Regional PGR Study

The mission of the Extension Cotton Specialist Working Group (ECSWG) is to serve as a multi-state team focusing on high priority needs of the cotton industry, and to be a central source of information dealing with current issues across all U.S. cotton producing areas. The ultimate objective of this group is increasing the profitability of the U.S. cotton producer. Conducting research protocols on a uniform basis can assist in the development of broad-based recommendations. This protocol originated from this group with the intent to address producer's options regarding the use of plant growth regulators. Six different treatments were compared to untreated plots. By the end of August all treatments effectively reduced plant height compared to untreated plots. No plant growth regulator treatment increased lint yield compared to untreated plots.

Planted: May 16th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	7/17/2007		7/24/2007					
						Plant ht Inches	# Nodes	Plant ht Inches	# Nodes				
1	MEPEX	8	oz/a	MATCH SQ	A	17	b	11.2	ab	18.93	b	11.9	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
2	MEPEX GINOUT	8	oz/a	MATCH SQ	A	18.53	ab	10.93	ab	20.67	ab	12.7	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX GINOUT	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
3	STANCE	1.5	oz/a	MATCH SQ	A	17.27	b	10.33	b	21.6	ab	13.1	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	2	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
4	STANCE	2	oz/a	MATCH SQ	A	18.2	ab	11.87	a	21.2	ab	13.3	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
5	PENTIA	8	oz/a	MATCH SQ	A	17.8	ab	10.9	ab	19.65	ab	12.7	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	PENTIA	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
6	STANCE	2	oz/a	MATCH SQ	A	17.4	b	10.65	ab	20.2	ab	12.6	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
	STANCE	3	oz/a	5NAWF	C								
	INDUCE	0.25	% v/v	5NAWF	C								
7	UNTREATED					19	ab	11.47	ab	22.6	a	14.5	a
	INDUCE	0.25	% v/v	MATCH SQ	A								
	INDUCE	0.25	% v/v	14DAIT	B								
8	UNTREATED					19.8	a	11.47	ab	21.27	ab	14.5	a
LSD (P=.05)						2.25		1.291		2.959		1.793	
CV						8.24		7.72		9.46		9.05	

Beltwide Regional PGR Study (cont.)

Planted: May 16th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	7/30/2007		7/30/2007		8/27/2007		8/27/2007	
						Plant ht Inches		# Nodes		Plant ht Inches		# Nodes	
1	MEPEX	8	oz/a	MATCH SQ	A	18.93	b	11.93	b	20.87	c	16.2	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
2	MEPEX GINOUT	8	oz/a	MATCH SQ	A	20.67	ab	12.67	b	24	b	16.6	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX GINOUT	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
3	STANCE	1.5	oz/a	MATCH SQ	A	21.6	ab	13.07	ab	24.07	b	16.8	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	2	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
4	STANCE	2	oz/a	MATCH SQ	A	21.2	ab	13.33	ab	23.47	b	17.3	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
5	PENTIA	8	oz/a	MATCH SQ	A	19.65	ab	12.65	b	21.8	bc	16.5	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	PENTIA	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
6	STANCE	2	oz/a	MATCH SQ	A	20.2	ab	12.55	b	23.3	bc	16.6	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
	STANCE	3	oz/a	5NAWF	C								
	INDUCE	0.25	% v/v	5NAWF	C								
7	UNTREATED					22.6	a	14.47	a	27.73	a	17.3	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	INDUCE	0.25	% v/v	14DAIT	B								
8	UNTREATED					21.27	ab	14.47	a	28.8	a	18.5	a
LSD (P=.05)						2.959		1.793		2.463		1.456	
CV						9.46		9.05		6.74		5.69	

Beltwide Regional PGR Study (cont.)

Planted: May 16th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	8/27/2007		10/4/2007		11/1/2007			
						NAWF #		NACB #		Gin Percent		Lint Yield lbs/Acre	
1	MEPEX	8	oz/a	MATCH SQ	A	2.93	b	1.77	abc	0.291	a	1745	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
2	MEPEX GINOUT	8	oz/a	MATCH SQ	A	3.47	ab	1.37	bc	0.282	a	1847	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX GINOUT	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
3	STANCE	1.5	oz/a	MATCH SQ	A	3.07	b	1.9	abc	0.291	a	1813	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	2	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
4	STANCE	2	oz/a	MATCH SQ	A	3.13	b	1.2	c	0.288	a	1850	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
5	PENTIA	8	oz/a	MATCH SQ	A	3.2	ab	1.9	abc	0.291	a	1936	a
	INDUCE	0.25	% v/v	MATCH SQ	A								
	PENTIA	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
6	STANCE	2	oz/a	MATCH SQ	A	3.1	b	1.08	c	0.283	a	1811	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
	STANCE	3	oz/a	5NAWF	C								
	INDUCE	0.25	% v/v	5NAWF	C								
7	UNTREATED					3.73	a	2.9	ab	0.299	a	1882	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	INDUCE	0.25	% v/v	14DAIT	B								
8	UNTREATED					3.33	ab	3.1	a	0.282	a	1837	ab
LSD (P=.05)						0.559		1.67		0.01814		143.62	
CV						11.43		58.3		4.17		5.18	

Beltwide Regional PGR Study (cont.)

Planted: May 16th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

11/1/2007													
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	Fiber Data Mic		Fiber Data Length		Fiber Data Uniform		Fiber Data Strength	
1	MEPEX	8	oz/a	MATCH SQ	A	4.63	a	1.2	b	83.27	ab	32.1	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
2	MEPEX GINOUT	8	oz/a	MATCH SQ	A	4.17	c	1.217	ab	81.97	b	32.7	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	MEPEX GINOUT	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
3	STANCE	1.5	oz/a	MATCH SQ	A	4.37	abc	1.22	ab	83.37	ab	32.1	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	2	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
4	STANCE	2	oz/a	MATCH SQ	A	4.73	a	1.247	a	84.23	a	34.4	a
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
5	PENTIA	8	oz/a	MATCH SQ	A	4.18	bc	1.25	a	83.68	a	33.5	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	PENTIA	10	oz/a	14DAIT	B								
	INDUCE	0.25	% v/v	14DAIT	B								
6	STANCE	2	oz/a	MATCH SQ	A	4.58	a	1.23	ab	83.73	a	33.9	ab
	INDUCE	0.25	% v/v	MATCH SQ	A								
	STANCE	3	oz/a	14 DAIT	B								
	INDUCE	0.25	% v/v	14 DAIT	B								
	STANCE	3	oz/a	5NAWF	C								
	INDUCE	0.25	% v/v	5NAWF	C								
7	UNTREATED					4.57	ab	1.23	ab	83.53	a	31.5	b
	INDUCE	0.25	% v/v	MATCH SQ	A								
	INDUCE	0.25	% v/v	14DAIT	B								
8	UNTREATED					4.67	a	1.21	ab	83.1	ab	32.4	ab
LSD (P=.05)						0.396		0.0423		1.468		2.753	
CV						5.86		2.29		1.17		5.57	

Beltwide Regional PGR Study (cont.)

Planted: May 16th **Variety:** FM 9063 B2F **Soil Type:** Clay loam **Location:** OSU

Application Description

	A	B	C
Application Date:	7/2/2007	7/16/2007	8/22/2007
Time of Day:	9:00 AM	9:30 AM	11:30 AM
Application Method:	Spray	Spray	Spray
Application Timing:	Matchhead	14 DAIT	5 NAWF
Application Placement:	Broadcast	Broadcast	Broadcast
Applied By:	OSU	OSU	OSU
Air Temperature, Unit:	74 F	75 F	85 F
% Relative Humidity:	88	71	60
Wind Velocity, Unit:	4.1 MPH	5 MPH	7 MPH
Wind Direction:	NE	S	
Soil Temperature, Unit:	77 F	81 F	92 F
Soil Moisture:	Good	Good	Good
% Cloud Cover:	60	20	15

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	Spider
Operating Pressure, Unit:	25 PSI	25 PSI	25 PSI
Nozzle Type:	TJTD	TJTD	TJTD
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	20 in	20 in	20 in
Nozzles/Row:	2	2	2
Ground Speed, Unit:	4 mph	4 mph	4 mph
Carrier:	water	water	water
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA

Agrimar PGR Study

Various combinations of experimental foliar fertilizer solutions were applied starting at 1st bloom to observe their effect on lint yields and fiber quality. These treatments were compared to a standard plant growth regulator regime as well as untreated plots. No treatment increased lint yields or affected fiber quality compared to the untreated.

Planted: May 16th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

											10/31/2007		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Gin %		Lint Yield lbs/Acre	Fiber Mic	Fiber Length	
1	MEPIQUAT CHLORIDE	4.2	L	8	oz/a	1STBLOOM	A	0.323	a	1826.3	a	1.09	
	MEPIQUAT CHLORIDE	4.2	L	8	oz/a	14DAIT	B						
2	HM0629	100	L	1	qt/a	1STBLOOM	A	0.348	a	2052.4	a	1.115	
3	HM9827A	100	L	1	gal/a	1STBLOOM	A	0.314	a	1824	a	1.095	
	HM9827A	100	L	1	gal/a	14DAIT	B						
4	HM0629	100	L	1	qt/a	1STBLOOM	A	0.321	a	2021.2	a	1.108	
	HM9827A	100	L	1	gal/a	1STBLOOM	A						
	HM9827A	100	L	1	gal/a	14DAIT	B						
5	HM0539	100	L	8	oz/a	1STBLOOM	A	0.33	a	2117.2	a	1.125	
	HM9827A	100	L	120	oz/a	1STBLOOM	A						
	HM9827A	100	L	1	gal/a	14DAIT	B						
6	UNTREATED CHECK							0.33	a	2082.2	a	1.1	
LSD (P=.05)								0.04323		406.61	0.341	0.0271	
CV								8.76		13.58	4.83	1.63	

											10/31/2007	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code		Fiber Uniform	Fiber Strength		
1	MEPIQUAT CHLORIDE	4.2	L	8	oz/a	1STBLOOM	A		82.28	a	29.68	
	MEPIQUAT CHLORIDE	4.2	L	8	oz/a	14DAIT	B					
2	HM0629	100	L	1	qt/a	1STBLOOM	A		82.05	a	30.68	
3	HM9827A	100	L	1	gal/a	1STBLOOM	A		81.6	a	30.35	
	HM9827A	100	L	1	gal/a	14DAIT	B					
4	HM0629	100	L	1	qt/a	1STBLOOM	A		82.35	a	29.98	
	HM9827A	100	L	1	gal/a	1STBLOOM	A					
	HM9827A	100	L	1	gal/a	14DAIT	B					
5	HM0539	100	L	8	oz/a	1STBLOOM	A		82.78	a	30.8	
	HM9827A	100	L	120	oz/a	1STBLOOM	A					
	HM9827A	100	L	1	gal/a	14DAIT	B					
6	UNTREATED CHECK								81.65	a	29.78	
LSD (P=.05)									1.333		1.292	
CV									1.08		2.84	

Agrimar PGR Study (cont.)

Planted: May 16th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Application Description

	A	B
Application Date:	7/16/2007	7/30/2007
Time of Day:	9:00 AM	10:00 AM
Application Method:	Spray	Spray
Application Timing:	1stBloom	14 DAIT
Application Placement:	Broadcast	Broadcast
Applied By:	OSU	OSU
Air Temperature, Unit:	75.7 F	85.6 F
% Relative Humidity:	76	60
Wind Velocity, Unit:	6.9 mph	0 mph
Wind Direction:	S	na
Soil Temperature, Unit:	81 F	82 F
Soil Moisture:	Good	Good
% Cloud Cover:	30	75

Application Equipment

	A	B
Appl. Equipment:	Spider	Spider
Operating Pressure, Unit:	25 PSI	25 PSI
Nozzle Type:	TJTD	TJTD
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

Using Temik in Addition to Seed Treatments

Variety testing occurs across the cotton belt every year. Often times it is difficult to get untreated seed for testing purposes. There has been speculation that some varieties with different seed treatments may have an unfair advantage over untreated varieties or varieties with different seed treatments. Furthermore, it has also been speculated that the addition of Temik in-furrow insecticide to these seed treatments may have an effect on lint yields or fiber quality. This project was initiated in order to observe any possible cumulative effects that may be present when combining Temik in-furrow treatments with other available seed treatments. Although there were differences between some treatments, no treatment significantly affected lint yield or fiber quality when compared to the untreated.

Planted: May 16th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	5/30/2007	6/19/2007		6/19/2007		Date of 1st Fruit June		
						Stand Plant/Ac	Thrips %Damage	Thrips #/plant					
1	UNTREATED					46079	a	1.3	ab	1.8	a	23.5	ab
2	TEMIK	15	G	3.5	lb/a	45262	a	1.3	ab	1.8	a	24.5	a
3	AVICTA CP					34314	a	0.5	b	1.5	a	22.8	b
4	AVICTA CP TEMIK	15	G	3.5	lb/a	40196	a	1.5	ab	2.8	a	23.5	ab
5	AERIS					32026	a	0.8	ab	1.5	a	24.3	ab
6	AERIS TEMIK	15	G	3.5	lb/a	36438	a	2	a	2.8	a	23	ab
7	CRUISER					41504	a	1.3	ab	1.5	a	23.5	ab
8	CRUISER TEMIK	15	G	3.5	lb/a	41830	a	1.5	ab	2.5	a	23.5	ab
LSD (P=.05)						14984.8		1.42		2.11		1.62	
CV						25.66		77.09		71.76		4.67	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	6/27/2007	Date of 1st Blm		8/10/2007		Date of 5 NAWF		
						1st Fruit Position	July	Total # Blms	August				
1	UNTREATED CHECK					6.8	a	22.5	a	12.8	ab	6	a
2	TEMIK	15	G	3.5	lb/a	6.95	a	22.5	a	9.5	b	6	a
3	AVICTA CP					6.85	a	22.3	a	12	ab	5.8	ab
4	AVICTA CP TEMIK	15	G	3.5	lb/a	6.85	a	23	a	12.3	ab	5	ab
5	AERIS					6.95	a	22	a	12.5	ab	4.5	b
6	AERIS TEMIK	15	G	3.5	lb/a	6.75	a	22.3	a	13.8	a	5.3	ab
7	CRUISER					6.9	a	22.8	a	12.5	ab	5.5	ab
8	CRUISER TEMIK	15	G	3.5	lb/a	6.8	a	23	a	12.5	ab	5.3	ab
LSD (P=.05)						0.387		1.05		3.58		1.49	
CV						3.84		3.16		19.92		18.78	

Using Temik in Addition to Seed Treatments (cont.)

Planted: May 16th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

11/5/2007													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Form Unit	Gin %	ab	Yield lbs/Acre	ab	Fiber Mic	ab	Fiber Length	a
1	UNTREATED CHECK					0.2578	ab	1080.7	ab	4.6	ab	1.148	a
2	TEMIK	15	G	3.5	lb/a	0.2468	ab	1071	b	4.58	ab	1.153	a
3	AVICTA CP					0.2693	a	1193.7	ab	4.7	a	1.153	a
4	AVICTA CP					0.2563	ab	1066.1	b	4.65	ab	1.185	a
	TEMIK	15	G	3.5	lb/a								
5	AERIS					0.2498	ab	1093.1	ab	4.65	ab	1.155	a
6	AERIS					0.2458	b	1036.5	b	4.58	ab	1.14	a
	TEMIK	15	G	3.5	lb/a								
7	CRUISER					0.266	ab	1238.3	a	4.63	ab	1.143	a
8	CRUISER					0.2543	ab	1122.9	ab	4.48	b	1.168	a
	TEMIK	15	G	3.5	lb/a								
LSD (P=.05)						0.02258		159.74		0.197		0.0538	
CV						6		9.76		2.91		3.17	

11/5/2007													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Form Unit	Rate	Unit	Fiber Uniform	ab	Fiber Strength	ab		
1	UNTREATED CHECK							81.65	ab	31.8	ab		
2	TEMIK	15	G	3.5	lb/a			80.55	b	31.53	ab		
3	AVICTA CP							81.78	ab	32.43	a		
4	AVICTA CP							82.6	a	32.1	a		
	TEMIK	15	G	3.5	lb/a								
5	AERIS							81.78	ab	31.85	ab		
6	AERIS							80.23	b	31.38	ab		
	TEMIK	15	G	3.5	lb/a								
7	CRUISER							81.65	ab	31.23	ab		
8	CRUISER							81.28	ab	30.03	b		
	TEMIK	15	G	3.5	lb/a								
LSD (P=.05)								1.893		1.972			
CV								1.58		4.25			

Evaluation of HM 625 & HM 652 In-furrow Applications

Two experimental in-furrow products were evaluated in combination with two rates of pre-plant nitrogen. Nitrogen (in the form of urea) was applied and incorporated prior to planting and then followed by one of two in-furrow products at either 4, 6, or 8 lbs/acre. The addition of either product to the 120 lb or 90 lb/acre rate of nitrogen did not increase lint yields compared to either nitrogen rate alone. Similarly, no treatment affected fiber quality. Previous research has shown that 50-60 lbs of nitrogen is required to produce a bale of cotton. The lack of statistical difference between the 90 and 120lb nitrogen rate confirms the presence of excess nitrogen in the subsoil profile.

Planted: May 17th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	6/12/2007		10/24/2007			
						Stand P/Ac		Gin %	Lint Yield lbs/Acre		
1	120 lbs N	261	lb/a	Preplant	A	36297	a	0.275	a	821	cd
2	90 lbs N	196	lb/a	Preplant	A	32700	a	0.286	a	967.6	abc
3	120 lbs N	261	lb/a	Preplant	A	27010	a	0.281	a	787.9	d
	HM 0625	4	lb/a	At Plant	B						
4	90 lbs N	196	lb/a	Preplant	A	37147	a	0.281	a	928.7	a-d
	HM 0625	4	lb/a	At Plant	B						
5	90 lbs N	196	lb/a	Preplant	A	29953	a	0.308	a	1053.5	a
	HM 0625	6	lb/a	At Plant	B						
6	90 lbs N	196	lb/a	Preplant	A	38782	a	0.273	a	852.8	bcd
	HM 0625	8	lb/a	At Plant	B						
7	120 lbs N	261	lb/a	Preplant	A	36624	a	0.287	a	926.7	a-d
	HM 652	4	lb/a	At Plant	B						
8	90 lbs N	196	lb/a	Preplant	A	39240	a	0.282	a	904.2	a-d
	HM 652	4	lb/a	At Plant	B						
9	90 lbs N	196	lb/a	Preplant	A	38782	a	0.280	a	903.8	a-d
	HM 652	6	lb/a	At Plant	B						
10	90 lbs N	196	lb/a	Preplant	A	41529	a	0.285	a	972.2	ab
	HM 652	8	lb/a	At Plant	B						
LSD (P=.05)						11556		0.022155		150.03	
CV						22.25		5.38		11.34	

Evaluation of HM 625 & HM 652 In-furrow Applications (cont.)

Planted: May 17th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength
1	120 lbs N	261	lb/a	Preplant	A	4.5	a 1.1	a 81.2	a 30.43
2	90 lbs N	196	lb/a	Preplant	A	4.63	a 1.105	a 82.2	a 30.33
3	120 lbs N	261	lb/a	Preplant	A	4.58	a 1.105	a 81.85	a 30.5
	HM 0625	4	lb/a	At Plant	B				
4	90 lbs N	196	lb/a	Preplant	A	4.9	a 1.098	a 81.93	a 29.93
	HM 0625	4	lb/a	At Plant	B				
5	90 lbs N	196	lb/a	Preplant	A	4.73	a 1.105	a 82.23	a 31.03
	HM 0625	6	lb/a	At Plant	B				
6	90 lbs N	196	lb/a	Preplant	A	4.83	a 1.085	a 81.23	a 30.5
	HM 0625	8	lb/a	At Plant	B				
7	120 lbs N	261	lb/a	Preplant	A	4.9	a 1.093	a 82.3	a 30.5
	HM 652	4	lb/a	At Plant	B				
8	90 lbs N	196	lb/a	Preplant	A	4.85	a 1.068	a 81.4	a 29.9
	HM 652	4	lb/a	At Plant	B				
9	90 lbs N	196	lb/a	Preplant	A	4.63	a 1.093	a 81.93	a 29.68
	HM 652	6	lb/a	At Plant	B				
10	90 lbs N	196	lb/a	Preplant	A	4.63	a 1.108	a 81.88	a 30.23
	HM 652	8	lb/a	At Plant	B				
LSD (P=.05)						0.296	0.0373	1.402	1.309
CV						4.33	2.35	1.18	2.98

Evaluation of Fulbor Foliar Applications

Several foliar products were applied beginning at pinhead square in comparison to untreated plots. No treatment increased lint yields or improved fiber quality compared to untreated plots.

Planted: May 17th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	6/12/2007		10/24/2007		10/24/2007	
						Stand p/Ac		Gin %		Lint Yield lbs/Acre	
1	UNTREATED CHECK					44254	a	0.277	a	1030.7	a
2	FULBOR	8	oz/a	PHSQ	A	48396	a	0.2758	a	1030.1	a
3	FULBOR	8	oz/a	PHSQ	A	43327.5	a	0.2845	a	1071.1	a
	HM9827A	1	gal/a	1STBLOOM	B						
	HM9827A	1	gal/a	10-20DAT	C						
4	FULBOR	8	oz/a	PHSQ	A	44472	a	0.2835	a	1087.9	a
	HM9827A	1	gal/a	1STBLOOM	B						
	HM0613	1	oz/a	1STBLOOM	B						
	HM9827A	1	gal/a	10-20DAT	C						
5	FULBOR	8	oz/a	PHSQ	A	43818	a	0.2843	a	1051	a
	HM9827A	1	gal/a	1STBLOOM	B						
	HM0629	1	qt/a	1STBLOOM	B						
	HM9827A	1	gal/a	10-20DAT	C						
LSD (P=.05)						6416.43		0.02108		128.62	
CV						9.19		4.82		7.84	

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	10/24/2007							
						Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength				
1	UNTREATED CHECK					4.77	a	1.13	a	83.33	a	30.07	a
2	FULBOR	8	oz/a	PHSQ	A	4.8	a	1.098	ab	81.23	b	31.15	a
3	FULBOR	8	oz/a	PHSQ	A	4.73	a	1.095	ab	82.05	ab	30.93	a
	HM9827A	1	gal/a	1STBLOOM	B								
	HM9827A	1	gal/a	10-20DAT	C								
4	FULBOR	8	oz/a	PHSQ	A	4.88	a	1.09	ab	81.78	b	30.9	a
	HM9827A	1	gal/a	1STBLOOM	B								
	HM0613	1	oz/a	1STBLOOM	B								
	HM9827A	1	gal/a	10-20DAT	C								
5	FULBOR	8	oz/a	PHSQ	A	4.83	a	1.078	b	80.95	b	30.05	a
	HM9827A	1	gal/a	1STBLOOM	B								
	HM0629	1	qt/a	1STBLOOM	B								
	HM9827A	1	gal/a	10-20DAT	C								
LSD (P=.05)						0.244		0.0412		1.46		1.244	
CV						3.27		2.41		1.15		2.61	

Evaluation of Fulbor Foliar Applications (cont.)

Planted: May 17th **Variety:** ST 4554 B2F **Soil Type:** Clay loam **Location:** OSU

Application Description

	A	B	C
Application Date:	7/3/2007	7/27/2007	8/8/2007
Time of Day:	9:45 AM	3:00 PM	8:15 AM
Application Method:	Spray	Spray	Spray
Application Timing:	Pinhead	1stBloom	14DALT
Application Placement:	Broadcast	Broadcast	Broadcast
Applied By:	OSU	OSU	OSU
Air Temperature, Unit:	78 F	87.8 F	81 F
% Relative Humidity:	67	52	62
Wind Velocity, Unit:	5 mph	9 mph	2.7 mph
Wind Direction:	SE	S	S
Soil Temperature, Unit:	84 F	88 F	84 F
Soil Moisture:	Good	Good	Good
% Cloud Cover:	75	75	0

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	Spider
Operating Pressure, Unit:	25 PSI	25 PSI	25 PSI
Nozzle Type:	TJTD	TJTD	TJTD
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	20 in	20 in	20 in
Nozzles/Row:	2	2	2
Ground Speed, Unit:	2.7 mph	2.7 mph	2.7 mph
Carrier:	water	water	water
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

Combinations of In-Furrow & Foliar Applications

In-furrow applications of an experimental product were followed by several foliar nitrogen applications and compared to untreated plots. No treatment combination increased lint yields or improved fiber quality compared to untreated plots.

Planted: May 17th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	6/12/2007		10/24/2007			
						Stand p/Ac		Gin %		Lint Yield lbs/Acre	
1	HM 9826A	8	oz/a	PHSQ	B	41529	b	0.287	a	1008.9	a
2	HM 9826A	8	oz/a	PHSQ	B	48069	a	0.287	a	1115.2	a
	HM 9827A	1	gal/a	1STBLOOM	C						
	HM 9827A	1	gal/a	14DALT	D						
3	HM 0625-IN FURROW	4	lb/a	AT PLANT	A	45780	ab	0.2803	a	1076.4	a
	HM 9826A	8	oz/a	PHSQ	B						
4	HM 0625-IN FURROW	4	lb/a	AT PLANT	A	46434	ab	0.294	a	1106.4	a
	HM 9826A	8	oz/a	PHSQ	B						
	HM 9827A	1	gal/a	1STBLOOM	C						
	HM 9827A	1	gal/a	14DALT	D						
5	HM 9826A	8	oz/a	PHSQ	B	44472	ab	0.2815	a	1041.3	a
	HM 9827A	1	gal/a	1STBLOOM	C						
	HM0629	1	qt/a	1STBLOOM	C						
	HM 9827A	1	gal/a	14DALT	D						
6	HM 0625-IN FURROW	4	lb/a	AT PLANT	A	47252	ab	0.282	a	1055.5	a
	HM 9826A	8	oz/a	PHSQ	B						
	HM 9827A	1	gal/a	1STBLOOM	C						
	HM0629	1	qt/a	1STBLOOM	C						
	HM 9827A	1	gal/a	14DALT	D						
7	Untreated Check					44254	ab	0.277	a	1030.7	a
LSD (P=.05)						6153.43		0.01727		154.3	
CV						9.08		4.07		9.74	

Combinations of In-Furrow & Foliar Applications (cont.)

Planted: May 17th

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	10/24/2007							
						Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength				
1	HM 9826A	8	oz/a	PHSQ	B	4.9	a	1.09	a	81.53	b	29.55	ab
2	HM 9826A	8	oz/a	PHSQ	B	4.75	ab	1.108	a	82.43	ab	29.48	ab
	HM 9827A	1	gal/a	1STBLOOM	C								
	HM 9827A	1	gal/a	14DALT	D								
3	HM 0625-IN FURROW	4	lb/a	AT PLANT	A	4.68	ab	1.1	a	81.8	b	30.5	a
	HM 9826A	8	oz/a	PHSQ	B								
4	HM 0625-IN FURROW	4	lb/a	AT PLANT	A	4.5	b	1.11	a	82.7	ab	28.93	b
	HM 9826A	8	oz/a	PHSQ	B								
	HM 9827A	1	gal/a	1STBLOOM	C								
	HM 9827A	1	gal/a	14DALT	D								
5	HM 9826A	8	oz/a	PHSQ	B	4.8	a	1.105	a	81.98	b	29.48	ab
	HM 9827A	1	gal/a	1STBLOOM	C								
	HM0629	1	qt/a	1STBLOOM	C								
	HM 9827A	1	gal/a	14DALT	D								
6	HM 0625-IN FURROW	4	lb/a	AT PLANT	A	4.65	ab	1.118	a	82.23	ab	30.43	a
	HM 9826A	8	oz/a	PHSQ	B								
	HM 9827A	1	gal/a	1STBLOOM	C								
	HM0629	1	qt/a	1STBLOOM	C								
	HM 9827A	1	gal/a	14DALT	D								
7	Untreated Check					4.77	ab	1.13	a	83.33	a	30.07	ab
LSD (P=.05)						0.283		0.0412		1.287		1.269	
CV						4.02		2.49		1.05		2.86	

Combinations of In-Furrow & Foliar Applications (cont.)

Planted: May 17th **Variety:** ST 4554 B2F **Soil Type:** Clay loam **Location:** OSU

Application Description

	A	B	C
Application Date:	7/3/2007	7/27/2007	8/8/2007
Time of Day:	9:45 AM	3:00 PM	8:15 AM
Application Method:	Spray	Spray	Spray
Application Timing:	Pinhead	1stBloom	14DALT
Application Placement:	Broadcast	Broadcast	Broadcast
Applied By:	OSU	OSU	OSU
Air Temperature, Unit:	78 F	87.8 F	81 F
% Relative Humidity:	67	52	62
Wind Velocity, Unit:	5 mph	9 mph	2.7 mph
Wind Direction:	SE	S	S
Soil Temperature, Unit:	84 F	88 F	84 F
Soil Moisture:	Good	Good	Good
% Cloud Cover:	75	75	0

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	Spider
Operating Pressure, Unit:	25 PSI	25 PSI	25 PSI
Nozzle Type:	TJTD	TJTD	TJTD
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	20 in	20 in	20 in
Nozzles/Row:	2	2	2
Ground Speed, Unit:	2.7 mph	2.7 mph	2.7 mph
Carrier:	water	water	water
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

No-till Demonstrations in Jackson and Tillman Counties

Funded by the Cotton Incorporated State Support Program

Jackson County Location

Prod. System: Cotton after wheat
Planting Date: 6/12/07
Variety: PM 3225 B2F
At Plant Insect: 2 lbs Temik-\$6/Ac
Pop. Planted: 31,363/acre-\$35/Ac
Final Stand: 30,000/acre or 2.3 plants per foot (40" spacing)
Equipment: JD 1710 Maxemerge Plus Vacuum
(Conventional attachments with disc closers)
Herb. Apps.: 1-32 oz/A Roundup Omax -\$8.50/Ac
Insect Apps: 2 oz/A Centric @ Pinhead-\$13.80/Ac
PGR Apps: None
Harvest Aid: None
Harvest Cost: \$0.10/lb-\$35.20/Ac
Yield: 352 lbs/Acre
Loan rate: \$0.5326
Gross Revenue: \$187.48/Acre

Total Input

Costs: \$98.50/Acre

Partial Net Return: \$88.98/Acre

Summary:

Paymaster 3225 B2F was planted on the 12th of June following wheat harvest. A JD 1710 Maxemerge Plus Vacuum planter with conventional attachments and disc closers were utilized. Soon after emergence rains began to set in which severely stunted and delayed what was already a late crop. Traditionally our bloom period occurs in the first two weeks of July. This crop did not begin to bloom until approximately the 10th of August. Due to the severe delay in maturity inputs were minimized with little hope of harvesting a crop. Fortunately, a very favorable fall resulted in the setting of some fruit. This limited fruit set resulted in a yield of 352 lbs/Acre. Fiber quality for this crop resulted in a loan price of \$0.5326 and in turn, a gross revenue of \$187.48/Acre. Partial net return totaled \$88.98/Acre. Despite the late planting date and maturity delays due to an abundance of early rain, the no-till production methods employed resulted in a successful crop.



No-till Demonstrations in Jackson and Tillman Counties (cont.)

Funded by the Cotton Incorporated State Support Program

Roger Fischer-Knttle



Tillman County Location

Prod. System: Cont. cotton
Planting Date: 5/22/07
Variety: ST 4357 B2F
At Plant Insect: 2 lbs Temik-\$6/Ac
Pop. Planted: 31,363/acre-\$34/Ac
Final Stand: 30,000/acre or 2.3 plants/ft (40" spacing)
Equipment: JD 1710 Maxemerge Plus Vacuum
(Conventional attachments with disc closers)
Fertility: 60-20-0-\$30/Ac
Herb. Apps.: 2 - App. Roundup Orig. Max + Stikezone + NIS-\$17/Ac
Insect Apps.: 6.4 oz/A Vydate-\$8.38/Ac
PGR Apps.: 12 oz/A Mepiquat-\$8.75/Ac
Harvest Aid: 1 pt/A Prep +1 pt/A Def fb 24 oz/A Gramoxone Inteon-\$18/Ac
Harvest Cost: \$0.10/lb-\$78.60/Ac
Yield: 786 lbs/Acre
Loan Rate: \$0.5734
Gross Revenue: \$450.69

Total Input
Costs: \$200.73

Partial Net Return: \$249.96

Summary:

Stoneville 4357 B2F was planted on the 22nd of May with a JD 1710 Maxemerge Plus Vacuum planter with conventional attachments and disc closers. The crop emerged approximately 6 days later. Two in-season applications of Roundup Original Max were applied in order to control weeds. Vydate was applied to control fleahoppers. The demonstration site received above average rainfall throughout the season and therefore 12 oz/A of Mepiquat Chloride was applied to control plant height. Prep plus Def followed by Gramoxone Inteon was applied as a harvest aid. 786 lbs/Acre was produced with a loan rate of \$0.5734 resulting in a gross revenue of \$450.69/Acre. Partial net returns totaled \$249.96/Acre.

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. We accomplish this through the generation of research-based information. As new options emerge producers often don't have the capability to experiment with them. The following trials attempt to address current or potential weed control issues important to Oklahoma cotton producers.

Weed Control Programs with ET

ET is a contact herbicide providing control of many broadleaf weeds. Due to its detrimental activity on cotton it must be utilized prior to cottons emergence or through a hooded sprayer (later in the season) eliminating contact with cotton foliage. ET was incorporated into a Roundup Ready system either before planting or at layby for the control of pitted morningglory. Common resistance management strategies often encourage tank-mix partners with different "modes of action" in order to prevent the development of resistance. The combination of ET with Roundup Weathermax did effectively control both early emerging (preplant) and late-season (at layby) flushes of pitted morningglory. However, the control from ET treatments was similar to the levels of control provided by Roundup Weathermax alone or layby treatments of Aim plus Direx.

Planted: May 29th

Variety: DP 143 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	% MG Control		
		Rate	Unit			6/14	7/2	7/16
1	ET	0.5	oz/a	ATPLANT	A	95 a	82.5 a	90 a
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A			
	DIREX	1	qt/a	ATPLANT	A			
	INDUCE	0.25	% v/v	ATPLANT	A			
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B			
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C			
	ET	1	oz/a	LAYBY	D			
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D			
	METOLACHLOR	8	oz/a	LAYBY	D			
2	ET	1	oz/a	ATPLANT	A	94 ab	81.3 a	80 ab
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A			
	DIREX	1	qt/a	ATPLANT	A			
	INDUCE	0.25	% v/v	ATPLANT	A			
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B			
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C			
	ET	1	oz/a	LAYBY	D			
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D			
	METOLACHLOR	8	oz/a	LAYBY	D			
3	ET	1	oz/a	ATPLANT	A	95 a	82.5 a	86 ab
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A			
	DIREX	1	qt/a	ATPLANT	A			
	INDUCE	0.25	% v/v	ATPLANT	A			
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B			
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C			
	ET	1	oz/a	LAYBY	D			
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D			
	METOLACHLOR	8	oz/a	LAYBY	D			

Weed Control Programs with ET (cont.)

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	% MG Control					
		Rate	Unit			6/14		7/2		7/16	
4	ET	0.5	oz/a	ATPLANT	A	95	a	73.8	b	86	ab
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	ET	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
	METOLACHLOR	8	oz/a	LAYBY	D						
5	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B	0	c	0	c	76	b
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
6	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A	93	b	81.3	a	79	ab
	DIREX	1	qt/a	ATPLANT	A						
	INDUCE	0.25	% v/v	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	AIM	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
7	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A	94	ab	75	b	79	ab
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	AIM	1	oz/a	LAYBY	D						
	DIREX	1	qt/a	LAYBY	D						
	CROP OIL CONCENTRATE	1	% v/v	LAYBY	D						
8	UNTREATED					0	c	0	c	0	c
LSD (P=.05)						2.12		4.44		11.28	
CV						2.04		5.07		10.65	

Weed Control Programs with ET (cont.)

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	% MG Control					
		Rate	Unit			7/31	8/14	8/23			
1	ET	0.5	oz/a	ATPLANT	A	88	ab	87.5	a	89	a
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A						
	DIREX	1	qt/a	ATPLANT	A						
	INDUCE	0.25	% v/v	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	ET	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
	METOLACHLOR	8	oz/a	LAYBY	D						
2	ET	1	oz/a	ATPLANT	A	79	ab	81.3	a	85	a
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A						
	DIREX	1	qt/a	ATPLANT	A						
	INDUCE	0.25	% v/v	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	ET	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
	METOLACHLOR	8	oz/a	LAYBY	D						
3	ET	1	oz/a	ATPLANT	A	85	ab	86.3	a	91	a
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A						
	DIREX	1	qt/a	ATPLANT	A						
	INDUCE	0.25	% v/v	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	ET	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
	METOLACHLOR	8	oz/a	LAYBY	D						
4	ET	0.5	oz/a	ATPLANT	A	83	ab	85	a	87	a
	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	ET	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
	METOLACHLOR	8	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B	78	b	67.5	b	60	b
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
6	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A	89	a	80	a	91	a
	DIREX	1	qt/a	ATPLANT	A						
	INDUCE	0.25	% v/v	ATPLANT	A						
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	AIM	1	oz/a	LAYBY	D						
	ROUNDUP WEATHERMAX	22	oz/a	LAYBY	D						
	CROP OIL CONCENTRATE	1	% v/v	LAYBY	D						

Weed Control Programs with ET (cont.)

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	% MG Control					
		Rate	Unit			7/31	8/14	8/23			
7	ROUNDUP WEATHERMAX	22	oz/a	ATPLANT	A	81	ab	82.5	a	91	a
	ROUNDUP WEATHERMAX	22	oz/a	1ST POST	B						
	ROUNDUP WEATHERMAX	22	oz/a	2ND POST	C						
	AIM	1	oz/a	LAYBY	D						
	DIREX	1	qt/a	LAYBY	D						
	CROP OIL CONCENTRATE	1	% v/v	LAYBY	D						
8	UNTREATED					0	c	0	c	0	c
LSD (P=.05)						11.08		10.49		7.96	
CV						10.37		10.01		7.29	

Application Description

	A	B	C	D	
Application Date:	5/30/2007	7/2/2007	7/31/2007	8/14/2007	
Time of Day:	5:00 pm	12:30 PM	11:30 AM	2:30 PM	
Application Method:	Spray	Spray	Spray	Spray	
Application Timing:	Preemerge	EP-4-5lf	MP-8lf	Layby	
Application Placement:	Broadcast	Broadcast	Broadcast	Directed	
Applied By:	OSU	OSU	OSU	OSU	
Air Temperature, Unit:	69 F	84.4 F	88 F	101 F	
% Relative Humidity:		78	60	55	31
Wind Velocity, Unit:	6.9 MPH	9 mph	3 MPH	11 MPH	
Wind Direction:	NNE	NE	SE	SSE	
Soil Temperature, Unit:	75 F	84 F	83 F	94 F	
Soil Moisture:	good	Good	Good	Good	
% Cloud Cover:		100	75	50	0

Application Equipment

	A	B	C	D
Appl. Equipment:	Spider	Spider	Spider	Redball
Operating Pressure, Unit:	25 PSI	25 PSI	25 PSI	28 PSI
Nozzle Type:	TJTD	TJTD	TJTD	TJTD
Nozzle Size:	11002	11002	11002	8001/003
Nozzle Spacing, Unit:	20 in	20 in	20 in	13 in
Nozzles/Row:	2	2	2	3
Ground Speed, Unit:	4 mph	4 mph	4 mph	4 mph
Carrier:	water	water	water	water
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	15 GPA

Pigweed Control Programs in Roundup Ready Flex

Pigweed resistance issues are quickly traveling across the cotton belt. This project re-visits some potential pre-plant control issues. Unfortunately a weak pigweed population to begin with combined with an accidental overspray in mid-July resulted in a limited amount of data. All preemergence applications (Reflex, Parrlay, Cotoran and Direx) effectively controlled pigweed two weeks after application.

Planted: May 18th **Variety:** DP 143 B2F **Soil Type:** Clay loam **Location:** OSU

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	% Pigweed Control					
		Rate	Unit			6/13	7/2	7/31			
1	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
	PARRLAY	1.33	pt/a	4-5LFCOT	B						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
2	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
3	REFLEX	0.25	lb ai/a	PRE	A	100	a	100	a	100	a
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B						
	PARRLAY	1.33	pt/a	4-5LFCOT	B						
4	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	REFLEX	0.25	lb ai/a	PRE	A	100	a	100	a	100	a
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B						
5	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	COTORAN	1	lb ai/a	PRE	A	93	b	100	a	100	a
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B						
6	PARRLAY	1.33	pt/a	4-5LFCOT	B						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	COTORAN	1	lb ai/a	PRE	A	100	a	100	a	100	a
7	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	DIREX	1	qt/a	PRE	A	100	a	100	a	100	a
8	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B						
	PARRLAY	1.33	pt/a	4-5LFCOT	B						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
9	DIREX	1	qt/a	PRE	A	100	a	100	a	100	a
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
10	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
11	PARRLAY	1.33	pt/a	4-5LFCOT	B						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
12	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
13	ROUNDUP WEATHERMAX	0.75	lb ae/a	8-10LFCOT	C						
	ROUNDUP WEATHERMAX	0.75	lb ae/a	4-5LFCOT	B	0	c	100	a	100	a
14	UNTREATED CHECK					0	c	0	b	100	a
LSD (P=.05)						5.18		0		0	
CV						7.28		0		0	

Pigweed Control Programs in Roundup Ready Flex (cont.)

Application Description

	A	B	C
Application Date:	5/18/2007	6/13/2007	7/17/2007
Time of Day:	8:00 AM	10:00 AM	9:15 PM
Application Method:	Spray	Spray	Spray
Application Timing:	Preemerge	EP4-5lf	Accidental
Application Placement:	Broadcast	Broadcast	Overspray
Applied By:	OSU	OSU	
Air Temperature, Unit:	60 F	85 F	
% Relative Humidity:		82	43
Wind Velocity, Unit:	5.8 mph	8 mph	
Wind Direction:	ESE	SE	
Soil Temperature, Unit:	68 F	80 F	
Soil Moisture:	Good	Good	
% Cloud Cover:		70	0

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	JD 6500
Operating Pressure, Unit:	25 PSI	25 PSI	35 PSI
Nozzle Type:	TJTD	TJTD	Hardi
Nozzle Size:	11002	11002	4110-14
Nozzle Spacing, Unit:	20 in	20 in	20 in
Nozzles/Row:	2	2	2
Ground Speed, Unit:	4 mph	4 mph	8 mph
Carrier:	water	water	water
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA

Staple Programs in Roundup Ready Flex

An important part of an effective resistance management strategy is alternating or combining different chemistries or “modes of action.” Staple LX also offers residual control of some broadleaf weed species in cotton. It is particularly effective at controlling morningglory. This project evaluates the effectiveness of incorporating Staple LX into a Roundup Flex system. Pitted morningglory was more effectively controlled by incorporating Staple LX into the Roundup Flex system earlier in the year rather than later.

Planted: May 29th **Variety:** DP 143 B2F **Soil Type:** Clay loam **Location:** OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Morningglory Control		
						6/14	7/2	7/16
1	STAPLE LX	0.68	oz ai/a	2-4LFCOT	B	0 b	0 b	88.3 a
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B			
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C			
	LAYBY PRO	16	oz ai/a	LAYBY	D			
	MSMA	24	oz ai/a	LAYBY	D			
	INDUCE	0.25	% v/v	LAYBY	D			
2	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	0 b	0 b	86.3 a
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C			
	STAPLE	0.68	oz ai/a	5-8LFCOT	C			
	LAYBY PRO	16	oz ai/a	LAYBY	D			
	MSMA	24	oz ai/a	LAYBY	D			
	INDUCE	0.25	% v/v	LAYBY	D			
3	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	0 b	0 b	82.5 a
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C			
	ROUNDUP WEATHERMAX	15	oz ai/a	LAYBY	D			
	STAPLE	0.68	oz ai/a	LAYBY	D			
4	STAPLE LX	0.34	oz ai/a	2-4LFCOT	B	0 b	0 b	88.8 a
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B			
	STAPLE LX	0.34	oz ai/a	5-8LFCOT	D			
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	D			
	LAYBY PRO	16	oz ai/a	LAYBY	D			
	MSMA	24	oz ai/a	LAYBY	D			
5	INDUCE	0.25	% v/v	LAYBY	D			
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	0 b	0 b	92.8 a
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C			
	ROUNDUP WEATHERMAX	15	oz ai/a	LAYBY	D			
6	COTORAN	16	oz ai/a	PRE	A	73.8 a	61.3 a	90.8 a
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B			
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C			
	STAPLE	0.68	oz ai/a	5-8LFCOT	C			
	LAYBY PRO	16	oz ai/a	LAYBY	D			
	MSMA	24	oz ai/a	LAYBY	D			
7	INDUCE	0.25	% v/v	LAYBY	D			
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	0 b	0 b	87 a
	ENVOKE	0.125	oz/a	5-8LFCOT	C			
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C			
8	SUPREND	1.25	lb/a	LAYBY	D			
	UNTREATED					0 b	0 b	0 b
LSD (P=.05)						2.49	4.44	11.21
CV						18.36	39.43	9.9

Staple Programs in Roundup Ready Flex (cont.)

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Morningglory Control					
						7/31	8/14	8/23			
1	STAPLE LX	0.68	oz ai/a	2-4LFCOT	B	91.5	ab	90.8	a	97.3	a
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B						
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C						
	LAYBY PRO	16	oz ai/a	LAYBY	D						
	MSMA	24	oz ai/a	LAYBY	D						
	INDUCE	0.25	% v/v	LAYBY	D						
2	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	82	b	80.8	b	83.8	cd
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C						
	STAPLE	0.68	oz ai/a	5-8LFCOT	C						
	LAYBY PRO	16	oz ai/a	LAYBY	D						
	MSMA	24	oz ai/a	LAYBY	D						
	INDUCE	0.25	% v/v	LAYBY	D						
3	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	81.3	b	70	c	75	d
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C						
	ROUNDUP WEATHERMAX	15	oz ai/a	LAYBY	D						
	STAPLE	0.68	oz ai/a	LAYBY	D						
4	STAPLE LX	0.34	oz ai/a	2-4LFCOT	B	90.8	ab	95.3	a	94	ab
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B						
	STAPLE LX	0.34	oz ai/a	5-8LFCOT	D						
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	D						
	LAYBY PRO	16	oz ai/a	LAYBY	D						
	MSMA	24	oz ai/a	LAYBY	D						
	INDUCE	0.25	% v/v	LAYBY	D						
5	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	96	a	98	a	91.3	abc
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C						
	ROUNDUP WEATHERMAX	15	oz ai/a	LAYBY	D						
6	COTORAN	16	oz ai/a	PRE	A	98	a	88.8	ab	94	ab
	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B						
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C						
	STAPLE	0.68	oz ai/a	5-8LFCOT	C						
	LAYBY PRO	16	oz ai/a	LAYBY	D						
	MSMA	24	oz ai/a	LAYBY	D						
	INDUCE	0.25	% v/v	LAYBY	D						
7	ROUNDUP WEATHERMAX	15	oz ai/a	2-4LFCOT	B	87	ab	89.5	ab	87.5	bc
	ENVOKE	0.125	oz/a	5-8LFCOT	C						
	ROUNDUP WEATHERMAX	15	oz ai/a	5-8LFCOT	C						
	SUPREND	1.25	lb/a	LAYBY	D						
8	UNTREATED					0	c	0	d	0	e
LSD (P=.05)						11.12		9.36		9.6	
CV						9.65		8.31		8.38	

Staple Programs in Roundup Ready Flex (cont.)

Application Description				
	A	B	C	D
Application Date:	5/30/2007	7/2/2007	7/19/2007	8/14/2007
Time of Day:	5:00 pm	11:00 AM	11:00 am	12:30 PM
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	Preemerge	EP-4-5lf	MP-8lf	Layby
Application Placement:	Broadcast	Broadcast	Broadcast	Directed
Applied By:	OSU	OSU	OSU	OSU
Air Temperature, Unit:	69 F	79 F	88 F	96 F
% Relative Humidity:	78	70	55	35
Wind Velocity, Unit:	6.9 MPH	8 mph	3 MPH	5.8 S
Wind Direction:	NNE	ENE	S	
Soil Temperature, Unit:	75 F	81 F	84 F	94 F
Soil Moisture:	good	Good	Good	Good
% Cloud Cover:	100	75	50	0

Application Equipment				
	A	B	C	D
Appl. Equipment:	Spider	Spider	Spider	Redball
Operating Pressure, Unit:	25 PSI	25 PSI	25 PSI	28 PSI
Nozzle Type:	TJTD	TJTD	TJTD	TJTD
Nozzle Size:	11002	11002	11002	8001/003
Nozzle Spacing, Unit:	20 in	20 in	20 in	13 in
Nozzles/Row:	2	2	2	3
Ground Speed, Unit:	4 mph	4 mph	4 mph	4 mph
Carrier:	water	water	water	water
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	15 GPA

Using Residuals in a Liberty Link System

The Liberty Link system utilizes cotton seed exhibiting tolerance to the herbicide Ignite 280. Ignite 280 is a contact herbicide that effectively controls many broadleaf weed species. The combination of residual materials often has the potential to extend control of some of these broadleaf weeds. This project evaluated the effectiveness of incorporating these residual herbicides when attempting to control pitted morningglory. Caparol and Direx applied preemergence provided approximately 60-70% control of pitted morningglory two weeks after planting. This control quickly diminished to unacceptable levels by July. Following these treatments with applications of Ignite 280 did effectively control the morningglory later in the season and these treatments were similar to Ignite 280 treated plots receiving no preemergence applications.

Planted: May 29th

Variety: FM 955 LLB2

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	% Morningglory Control		
		Rate	Unit			6/14/2007	7/2/2007	7/16/2007
1	UNTREATED					0 e	0 d	0 b
2	IGNITE 280	29	oz/a	EP	B	0 e	0 d	93.8 a
	IGNITE 280	29	oz/a	MP	C			
3	CAPAROL	3.2	pt/a	PRE	A	70 a	50 a	95 a
	IGNITE 280	29	oz/a	EP	B			
	IGNITE 280	29	oz/a	MP	C			
4	DIREX	1	qt/a	PRE	A	65 c	41.3 c	91.3 a
	IGNITE 280	29	oz/a	EP	B			
	IGNITE 280	29	oz/a	MP	C			
5	IGNITE 280	43	oz/a	EP	B	0 e	0 d	95 a
	IGNITE 280	43	oz/a	MP	C			
6	CAPAROL	3.2	pt/a	PRE	A	67.5 b	47.5 ab	95 a
	IGNITE 280	43	oz/a	EP	B			
	IGNITE 280	43	oz/a	MP	C			
7	DIREX	1	qt/a	PRE	A	62.5 d	45 bc	95 a
	IGNITE 280	43	oz/a	EP	B			
	IGNITE 280	43	oz/a	MP	C			
LSD (P=.05)						2.09	4.56	4.51
CV						3.72	11.7	3.76

Using Residuals in a Liberty Link System (cont.)

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Morningglory Control		
						7/31/2007	8/14/2007	8/23/2007
1	UNTREATED					0 b	0 b	0 d
2	IGNITE 280	29	oz/a	EP	B	88.3 a	81.3 a	94 a
	IGNITE 280	29	oz/a	MP	C			
3	CAPAROL	3.2	pt/a	PRE	A	90 a	83.8 a	96 a
	IGNITE 280	29	oz/a	EP	B			
	IGNITE 280	29	oz/a	MP	C			
4	DIREX	1	qt/a	PRE	A	85 a	70 a	90 ab
	IGNITE 280	29	oz/a	EP	B			
	IGNITE 280	29	oz/a	MP	C			
5	IGNITE 280	43	oz/a	EP	B	90 a	82.5 a	82 bc
	IGNITE 280	43	oz/a	MP	C			
6	CAPAROL	3.2	pt/a	PRE	A	87.5 a	80 a	77.5 c
	IGNITE 280	43	oz/a	EP	B			
	IGNITE 280	43	oz/a	MP	C			
7	DIREX	1	qt/a	PRE	A	89.5 a	84.5 a	82.5 bc
	IGNITE 280	43	oz/a	EP	B			
	IGNITE 280	43	oz/a	MP	C			
LSD (P=.05)						12.7	16.72	9.49
CV						11.28	16.34	8.56

Application Description

	A	B	C
Application Date:	5/30/2007	7/2/2007	8/15/2007
Time of Day:	5:00 pm	11:00 AM	10:00 AM
Application Method:	Spray	Spray	Spray
Application Timing:	Preemerge	EP 5 lf	LP 14lf
Application Placement:	Broadcast	Broadcast	Directed
Applied By:	OSU	OSU	OSU
Air Temperature, Unit:	69 F	79 F	86 F
% Relative Humidity:	78	70	53
Wind Velocity, Unit:	6.9 MPH	8 mph	4.6 mph
Wind Direction:	NNE	ENE	West
Soil Temperature, Unit:	75 F	81 F	84 F
Soil Moisture:	good	Good	Good
% Cloud Cover:	100	75	0

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	Redball
Operating Pressure, Unit:	25 PSI	25 PSI	28 PSI
Nozzle Type:	TJTD	TJTD	XRTJ
Nozzle Size:	11002	11002	8001/003
Nozzle Spacing, Unit:	20 in	20 in	13 in
Nozzles/Row:	2	2	3
Ground Speed, Unit:	4 mph	4 mph	4 mph
Carrier:	water	water	water
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

Using Residuals in a Roundup Flex System

The Roundup Flex system utilizes cotton seed exhibiting tolerance to Roundup Weathermax (glyphosate). The combination of residual materials often has the potential to extend control of some of these weeds. This project evaluated the effectiveness of incorporating these residual herbicides when attempting to control pitted morningglory. Caparol and Direx applied preemergence provided approximately 60-70% control of pitted morningglory two weeks after planting. Following these treatments with applications of Roundup Weathermax did effectively control the morningglory later in the season and these treatments were similar to Roundup Weathermax treated plots receiving no preemergence applications.

Planted: May 29th

Variety: FM 9063 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Morningglory Control		
						6/14/2007	7/16/2007	7/31/2007
1	UNTREATED					0 c	0 b	0 b
2	ROUNDUP WEATHERMAX	32	oz/a	EP	B	0 c	91.3 a	98 a
	ROUNDUP WEATHERMAX	22	oz/a	MP	B			
	ROUNDUP WEATHERMAX	22	oz/a	LP	C			
3	CAPAROL	3.2	pt/a	PRE	A	71.3 a	92.5 a	98 a
	ROUNDUP WEATHERMAX	32	oz/a	EP	B			
	ROUNDUP WEATHERMAX	22	oz/a	MP	B			
	ROUNDUP WEATHERMAX	22	oz/a	LP	C			
4	DIREX	1	qt/a	PRE	A	60 b	91.3 a	93 a
	ROUNDUP WEATHERMAX	32	oz/a	EP	B			
	ROUNDUP WEATHERMAX	22	oz/a	MP	B			
	ROUNDUP WEATHERMAX	22	oz/a	LP	C			
LSD (P=.05)						2	3.77	5.02
CV						3.81	3.43	4.34

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Morningglory Control	
						8/14/2007	8/23/2007
1	UNTREATED					0 b	0 b
2	ROUNDUP WEATHERMAX	32	oz/a	EP	B	87.5 a	93.3 a
	ROUNDUP WEATHERMAX	22	oz/a	MP	B		
	ROUNDUP WEATHERMAX	22	oz/a	LP	C		
3	CAPAROL	3.2	pt/a	PRE	A	83.8 a	86.3 a
	ROUNDUP WEATHERMAX	32	oz/a	EP	B		
	ROUNDUP WEATHERMAX	22	oz/a	MP	B		
	ROUNDUP WEATHERMAX	22	oz/a	LP	C		
4	DIREX	1	qt/a	PRE	A	83.8 a	92 a
	ROUNDUP WEATHERMAX	32	oz/a	EP	B		
	ROUNDUP WEATHERMAX	22	oz/a	MP	B		
	ROUNDUP WEATHERMAX	22	oz/a	LP	C		
LSD (P=.05)						7.54	12.32
CV						7.39	11.35

Using Residuals in a Roundup Flex System (cont.)

Application Description

	A	B	C
Application Date:	5/30/2007	7/2/2007	8/15/2007
Time of Day:	5:00 pm	11:00 AM	10:00 AM
Application Method:	Spray	Spray	Spray
Application Timing:	Preemerge	EP 5 lf	LP 14lf
Application Placement:	Broadcast	Broadcast	Directed
Applied By:	OSU	OSU	OSU
Air Temperature, Unit:	69 F	79 F	86 F
% Relative Humidity:	78	70	53
Wind Velocity, Unit:	6.9 MPH	8 mph	4.6 mph
Wind Direction:	NNE	ENE	West
Soil Temperature, Unit:	75 F	81 F	84 F
Soil Moisture:	good	Good	Good
% Cloud Cover:	100	75	0

Application Equipment

	A	B	C
Appl. Equipment:	Spider	Spider	Redball
Operating Pressure, Unit:	25 PSI	25 PSI	28 PSI
Nozzle Type:	TJTD	TJTD	XRTJ
Nozzle Size:	11002	11002	8001/003
Nozzle Spacing, Unit:	20 in	20 in	13 in
Nozzles/Row:	2	2	3
Ground Speed, Unit:	4 mph	4 mph	4 mph
Carrier:	water	water	water
Spray Volume, Unit:	10 GPA	10 GPA	15 GPA

Horseweed Control Demonstrations, Tillman and Washita Counties

Funded by the Cotton Incorporated State Support Program

As increasing acres of no-till or limited tillage cotton are grown in Oklahoma, producers have noticed a weed spectrum shift from annual weeds and grasses easily controlled by glyphosate, to weed species that are more difficult to control with this herbicide. No-till has many advantages for Oklahoma producers but if programs are not developed to economically control these weeds, producers will be forced to go back to tillage to gain control of the weed problem. A particularly difficult to control weed is horseweed (*Conyza canadensis*). This weed can be a problem to control with glyphosate, especially if it gains some height advantage over the cotton, and when conditions are dry and hot. The relatively small leaf surface and thick cuticle limits the amount of material that gets into the plant and even abnormally high rates of glyphosate are ineffective. The purpose of this project is to develop and demonstrate horseweed control programs prior to planting in no-till cotton production areas in Tillman and Washita counties of Oklahoma.

Two sites were selected that had demonstrated severe horseweed control problems in no-till cotton. The previous weed control programs in both areas consisted of primarily glyphosate in Roundup Ready cotton, and Roundup Flex cotton in recent years. Four early treatment applications of phenoxy herbicides and tank mixes were made in mid to late March to each location. Treatments at the Tillman County location were made on March 29, 2007 and are as follows:

1. 22 oz./A Roundup Original Max + 24 oz./A. 2,4-D (LV6), + 2 qt/100 Accuquest + 1 qt/100 NIS
2. 22 oz./A Roundup Original Max + 24 oz./A. 2,4-D (LV6), + 2 qt/100 Accuquest + 1 qt/100 NIS + 2 oz/A. Valor SX
3. 22 oz./A Roundup Original Max + 8 oz/A Banvel + 2 qt/100 Accuquest + 1 qt/100 NIS
4. 22 oz./A Roundup Original Max + 8 oz/A Banvel + 2 qt/100 Accuquest + 1 qt/100 NIS + 2 oz/A. Valor SX

The Washita County location had a wheat cover crop that was later terminated with a producer application of Roundup. Treatments were made to control broadleaf species on March 16, 2007 and are as follows:

1. 21 oz./A. 2,4-D (LV6) + 1 qt./100 Induce (NIS)
2. 21 oz./A. 2,4-D (LV6) + 1 qt./100 Induce (NIS) + 2 oz./A Valor SX
3. 8 oz./A Banvel + 1 qt./100 NIS
4. 8 oz./A Banvel + 1 qt./100 NIS + 2 oz./A. Valor SX

At planting applications of glyphosate were made to control small weeds that had become established since the phenoxy herbicide applications. After this time, the producer made the same applications to the test plots as were made to the rest of the field. Horseweed control was evaluated at 14 and 30 days following treatment. Cooperators at both locations managed in-season populations of horseweed with glyphosate.

Conclusions are as follows:

1. Timing should be keyed on weed size. Horseweed should be sprayed prior to six inches in height.
-Remember plantback interval for 2,4-D is 30 days, Banvel is 45 Days.
2. 2,4-D is as effective as Banvel on smaller horseweed but Banvel performs better on larger weeds, therefore timely application could save some money by using 2,4-D.
3. If grasses aren't an issue save the Glyphosate for later.

Horseweed Control Demonstrations, Tillman and Washita Counties (cont.)

Following are details of treatments and evaluations at each location:

Tillman County Location, Roger Fischer



Prior to Treatment



At Planting

Treatments Applied 3-29-07
15 GPA, 5 mph, 30PSI , XR-TJ -11003

Trt #	Product(s) Applied	Herb. \$	% Control 14 DAT	30 DAT
1	22 oz/A Roundup Original Max 24 oz/A 2,4-D (LV6) 2 qt/100 Accuquest (Amm.Sulf.) 1 qt/100 Induce (NIS)	\$11.46	80	100
2	22 oz/A Roundup Original Max 24 oz/A 2,4-D (LV6) 2 qt/100 Accuquest (Amm.Sulf.) 1 qt/100 Induce (NIS) 2 oz/A Valor SX	\$20.46	80	100
3	22 oz/A Roundup Original Max 8 oz/A Banvel 2 qt/100 Accuquest (Amm.Sulf.) 1 qt/100 Induce (NIS)	\$13.81	50	75
4	22 oz/A Roundup Original Max 8 oz/A Banvel 2 qt/100 Accuquest (Amm.Sulf.) 1 qt/100 Induce (NIS) 2 oz/A Valor SX	\$22.81	80	100

*Producer followed these treatments with an additional Roundup OM treatment prior to planting.

Horseweed Control Demonstrations, Tillman and Washita Counties (cont.)

Washita County Location, Doc and Danny Davis



Prior to Treatment



Cotton Emergence

Treatments Applied 3-16-07
15 GPA, 5 mph, 30PSI , XR-TJ -11003

Trt #	Product(s) Applied	Herb. \$	% Control	
			14 DAT	30 DAT
1	21 oz/A 2,4-D (LV6) 1 qt/100 Induce (NIS)	\$3.32	70	100
2	21 oz/A 2,4-D (LV6) 1 qt/100 Induce (NIS) 2 oz/A Valor SX	\$12.32	70	100
3	8 oz/A Banvel 1 qt/100 Induce (NIS)	\$6.06	70	100
4	8 oz/A Banvel 1 qt/100 Induce (NIS) 2 oz/A Valor SX	\$15.06	70	100

*Producer followed these treatments with Roundup Omax application to terminate wheat prior to planting.

**Demonstrations of Roundup Ready and Roundup Flex Systems for
Morningglory Control in Jackson County**

Funded by the Cotton Incorporated State Support Committee

*Roundup ready System-Robbins Farms
(West Garnett)*

Planting Date: 5/14/07
Variety: FM 960 B2R

Date	Product	Herbicide Cost
5-15	Broadcast at 10 GPA 32 oz/A Gramoxone Inteon 1 qt/100 Induce	\$7.25 \$0.45
5-23	Broadcast at 10 GPA 32 oz/A - Roundup Original Max 1.6oz/A - Bidrin 2 qt/100 - Accuquest	\$8.40 \$1.32
6-9	Broadcast at 10 GPA 22 oz/A - Roundup Original Max 1.6oz/A - Bidrin 2 qt/100 - Accuquest	\$5.77 \$1.32
6-19	Broadcast at 15 GPA 3.8 oz/A - Staple LX 8 oz/A - Vydate 1 gal/100 - Crop Oil	\$24.43 \$1.15
7-3	Cultivation-Lilliston	
7-18	Wylie Shielded Sprayer-15 GPA 1 oz/A - Aim 2 EC 40 oz/A - MSMA 6EC 1 gal/100 - Crop Oil	\$5.50 \$6.25 \$1.15
8-8	Wylie Shielded Sprayer-15 GPA 1 oz/A - Aim 2 EC 1.5 qt/A- Direx 4L 1 gal/100 - Crop Oil	\$5.50 \$5.00 \$1.15
	Seed + Technology	\$41.75

Total Herbicide System Cost
For Roundup Ready System: **\$116.40**

End of Season Weed Control Estimate 80%
Yield: 1560 lbs/Acre
Avg. Loan: \$0.5872
Gross Return: \$ 916.03

Net Return to herbicide program: **\$799.63**

*Roundup Ready Flex System-Winsett Farms
(McMahan)*

Planting Date: 5/18/07
Variety: DP 143 B2F

Date	Product	Herbicide Cost
5-20	Broadcast at 10 GPA 24 oz/A Roundup Original Max 1 oz/A Aim 2EC 1 gal/100 Crop Oil Concentrate 2 qt/100 – Accuquest	\$6.30 \$5.50 \$0.75 \$1.32
6-9	Broadcast at 10 GPA 32 oz/A Roundup Original Max 3.2 oz/A Acephate 2 qt/100 – Accuquest	\$8.40 \$1.32
6-25	Broadcast <u>by air</u> 22 oz/A Roundup Original Max 8 oz/A Vydate 2 qt/100 – Accuquest	\$5.77 \$1.32
7-18	Redball Hooded Sprayer-12 GPA 22 oz/A Roundup Original Max 1 oz/A Aim 2 EC 1 gal/100 Crop Oil Concentrate 2 qt/100 – Accuquest	\$5.77 \$5.50 \$0.92
7-23	Cultivation-Lilliston	
8-10	Redball Hooded Sprayer-12 GPA 1 oz/A Aim 2EC 1 qt/A Direx 4L 1 gal/100 Crop Oil Concentrate	\$5.50 \$5.00 \$0.92
	Seed + Technology	\$61.88

Total Herbicide System Cost
For Roundup Ready Flex System: **\$116.17**

End of Season Weed Control Estimate 95%

Yield: 1257 lbs/Acre
Avg Loan: \$0.5844
Gross Revenue: \$734.59

Net Returns to herbicide program: **\$618.42**

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.

Defoliation Demonstration with Finish 6 Pro, Ginstar and Prep in Irrigated Cotton-I

This strip demonstration was designed to familiarize growers with the effectiveness of Finish 6 Pro with Def or Ginstar compared to Prep. By two weeks after application, some slight differences in percent open bolls and defoliation were observed between treatments. It should be noted that this is not replicated data and these plots were established for demonstration purposes.

Planted: May 16th **Variety:** PHY 485 WRF **Soil Type:** Clay loam **Location:** Nichols

					9/27/2007			
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Open	% Defol.	% Desicc.
1	Finish 6 Pro	16	oz/a	65%Open	A	93	80	0
	Def	16	oz/a	65%Open	A			
2	Finish 6 Pro	24	oz/a	65%Open	A	83	90	0
	Def	16	oz/a	65%Open	A			
3	Finish 6 Pro	16	oz/a	65%Open	A	64	80	0
	Ginstar	6	oz/a	65%Open	A			
4	Finish 6 Pro	24	oz/a	65%Open	A	77	85	0
	Ginstar	6	oz/a	65%Open	A			
5	Finish 6 Pro	32	oz/a	65%Open	A	77	85	0
	Def	8	oz/a	65%Open	A			
6	Finish 6 Pro	32	oz/a	65%Open	A	85	80	0
7	Prep	32	oz/a	65%Open	A	64	75	0
	Def	16	oz/a	65%Open	A			
8	Prep	32	oz/a	65%Open	A	56	70	0
	Ginstar	6	oz/a	65%Open	A			

					10/5/2007			
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Open	% Defol.	% Desicc.
1	Finish 6 Pro	16	oz/a	65%Open	A	94	95	0
	Def	16	oz/a	65%Open	A			
2	Finish 6 Pro	24	oz/a	65%Open	A	94	98	0
	Def	16	oz/a	65%Open	A			
3	Finish 6 Pro	16	oz/a	65%Open	A	93	95	0
	Ginstar	6	oz/a	65%Open	A			
4	Finish 6 Pro	24	oz/a	65%Open	A	87	95	0
	Ginstar	6	oz/a	65%Open	A			
5	Finish 6 Pro	32	oz/a	65%Open	A	92	90	0
	Def	8	oz/a	65%Open	A			
6	Finish 6 Pro	32	oz/a	65%Open	A	93	85	0
7	Prep	32	oz/a	65%Open	A	89	85	0
	Def	16	oz/a	65%Open	A			
8	Prep	32	oz/a	65%Open	A	84	85	0
	Ginstar	6	oz/a	65%Open	A			

Defoliation Demonstration with Finish 6 Pro, Ginstar and Prep in Irrigated Cotton-I (cont.)

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	10/10/2007	
						% T.Reg.	% B.Reg.
1	Finish 6 Pro	16	oz/a	65%Open	A	60	40
	Def	16	oz/a	65%Open	A		
2	Finish 6 Pro	24	oz/a	65%Open	A	50	30
	Def	16	oz/a	65%Open	A		
3	Finish 6 Pro	16	oz/a	65%Open	A	10	15
	Ginstar	6	oz/a	65%Open	A		
4	Finish 6 Pro	24	oz/a	65%Open	A	15	15
	Ginstar	6	oz/a	65%Open	A		
5	Finish 6 Pro	32	oz/a	65%Open	A	40	30
	Def	8	oz/a	65%Open	A		
6	Finish 6 Pro	32	oz/a	65%Open	A	40	40
7	Prep	32	oz/a	65%Open	A	40	30
	Def	16	oz/a	65%Open	A		
8	Prep	32	oz/a	65%Open	A	15	15
	Ginstar	6	oz/a	65%Open	A		

Application Description

A

Application Date: 9/21/2007
 Time of Day: 9:00 AM
 Application Method: Spray
 Application Timing: 65%Open
 Application Placement: Broadcast
 Applied By: OSU
 Air Temperature, Unit: 73 F
 % Relative Humidity: 82
 Wind Velocity, Unit: 6 mph
 Wind Direction: SSW
 Soil Temperature, Unit: 74 F
 Soil Moisture: adequate
 % Cloud Cover: 0

Application Equipment

A

Appl. Equipment: Lee Spider
 Operating Pressure, Unit: 60 PSI
 Nozzle Type: Turbo TJ
 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

Defoliation Demonstration with Finish 6 Pro, Ginstar and Prep in Irrigated Cotton-II

This strip demonstration was designed to familiarize growers with the effectiveness of Finish 6 Pro with Def or Ginstar compared to Prep. By two weeks after application, some slight differences in percent open bolls and defoliation were observed between treatments. It should be noted that this is not replicated data and these plots were established for demonstration purposes.

Planted: May 16th **Variety:** DP 143 B2F **Soil Type:** Clay loam **Location:** Robbins

						9/27/2007		
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Open	% Defol.	% Desicc.
1	Finish 6 Pro	16	oz/a	65%Open	A	97	85	0
	Def	16	oz/a	65%Open	A			
2	Finish 6 Pro	24	oz/a	65%Open	A	89	85	0
	Def	16	oz/a	65%Open	A			
3	Finish 6 Pro	16	oz/a	65%Open	A	92	80	0
	Ginstar	6	oz/a	65%Open	A			
4	Finish 6 Pro	24	oz/a	65%Open	A	84	80	0
	Ginstar	6	oz/a	65%Open	A			
5	Finish 6 Pro	32	oz/a	65%Open	A	93	85	0
	Def	8	oz/a	65%Open	A			
6	Finish 6 Pro	32	oz/a	65%Open	A	75	80	0
7	Prep	32	oz/a	65%Open	A	87	80	0
	Def	16	oz/a	65%Open	A			
8	Prep	32	oz/a	65%Open	A	89	70	0
	Ginstar	6	oz/a	65%Open	A			

						10/5/2007		
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Open	% Defol.	% Desicc.
1	Finish 6 Pro	16	oz/a	65%Open	A	98	85	0
	Def	16	oz/a	65%Open	A			
2	Finish 6 Pro	24	oz/a	65%Open	A	93	90	0
	Def	16	oz/a	65%Open	A			
3	Finish 6 Pro	16	oz/a	65%Open	A	95	85	0
	Ginstar	6	oz/a	65%Open	A			
4	Finish 6 Pro	24	oz/a	65%Open	A	99	95	0
	Ginstar	6	oz/a	65%Open	A			
5	Finish 6 Pro	32	oz/a	65%Open	A	97	88	0
	Def	8	oz/a	65%Open	A			
6	Finish 6 Pro	32	oz/a	65%Open	A	86	90	0
7	Prep	32	oz/a	65%Open	A	89	88	0
	Def	16	oz/a	65%Open	A			
8	Prep	32	oz/a	65%Open	A	92	95	0
	Ginstar	6	oz/a	65%Open	A			

Defoliation Demonstration with Finish 6 Pro, Ginstar and Prep in Irrigated Cotton-II (cont.)

Application Description

A
Application Date: 9/21/2007
Time of Day: 9:30 AM
Application Method: Spray
Application Timing: 65% Open
Application Placement: Broadcast
Applied By: OSU
Air Temperature, Unit: 76 F
% Relative Humidity: 72
Wind Velocity, Unit: 7 mph
Wind Direction: SSW
Soil Temperature, Unit: 76 F
Soil Moisture: adequate
% Cloud Cover: 0

Application Equipment

A
Appl. Equipment: Lee Spider
Operating Pressure, Unit: 60 PSI
Nozzle Type: Turbo TJ
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

Blizzard Demonstration in Irrigated Cotton-I (Nichols)

Blizzard is a newly registered harvest aid material available to growers to aid in defoliation and conditioning of cotton prior to harvest. Blizzard was combined with either Ethephon, FirstPick or Finish 6 Pro and compared to Prep plus Def (the standard). By two weeks after application, all treatments opened bolls $\geq 92\%$ and completely (100%) defoliated the cotton. It should be noted that this is not replicated data and these plots were established for demonstration purposes.

Planted: May 16th **Variety:** PHY 485 WRF **Soil Type:** Clay loam **Location:** Nichols

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	10/3/2007		
						% Open	% Defol.	% Desicc.
1	Blizzard	0.5	oz/a	65%Open	A	85	85	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
2	Blizzard	0.5	oz/a	65%Open	A	98	95	0
	FirstPick	55	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
3	Blizzard	0.5	oz/a	65%Open	A	97	98	0
	Finish 6 Pro	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
4	Blizzard	0.5	oz/a	65%Open	A	79	90	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.6	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
5	Blizzard	0.5	oz/a	65%Open	A	81	90	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Firestorm	21	oz/a	5-7DAIT	B			
	NIS (Induce)	0.25	% v/v	5-7DAIT	B			
6	ET	1.5	oz/a	65%Open	A	96	90	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	ET	1.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
7	Def	16	oz/a	65%Open	A	83	90	0
	Ethephon	21	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	ET	2	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
8	Prep	21	oz/a	65%Open	A	73	90	0
	Def	16	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	Gramoxone Inteon	32	oz/a	5-7DAIT	B			
	NIS(Induce)	0.25	% v/v	5-7DAIT	B			

Blizzard Demonstration in Irrigated Cotton-I (Nichols) (cont.)

Trt No.	Treatment Name	Rate		Growth Stage	Appl Code	10/11/2007		
		Rate	Unit			% Open	% Defol.	% Desicc.
1	Blizzard	0.5	oz/a	65%Open	A	92	100	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
2	Blizzard	0.5	oz/a	65%Open	A	96	100	0
	FirstPick	55	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
3	Blizzard	0.5	oz/a	65%Open	A	99	100	0
	Finish 6 Pro	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
4	Blizzard	0.5	oz/a	65%Open	A	96	100	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.6	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
5	Blizzard	0.5	oz/a	65%Open	A	97	100	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Firestorm	21	oz/a	5-7DAIT	B			
	NIS (Induce)	0.25	% v/v	5-7DAIT	B			
6	ET	1.5	oz/a	65%Open	A	99	100	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	ET	1.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
7	Def	16	oz/a	65%Open	A	98	100	0
	Ethephon	21	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	ET	2	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
8	Prep	21	oz/a	65%Open	A	97	100	0
	Def	16	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	Gramoxone Inteon	32	oz/a	5-7DAIT	B			
	NIS(Induce)	0.25	% v/v	5-7DAIT	B			

Blizzard Demonstration in Irrigated Cotton-I (Nichols) (cont.)

Application Description

	A	B
Application Date:	9/26/2007	10/4/2007
Time of Day:	7:30 AM	7:00 AM
Application Method:	Spray	Spray
Application Timing:	70%Open	8DALT
Application Placement:	Broadcast	Broadcast
Applied By:	OSU	OSU
Air Temperature, Unit:	62 F	63 F
% Relative Humidity:	83	80
Wind Velocity, Unit:	5.8 mph	4.6 mph
Wind Direction:	NNE	NE
Soil Temperature, Unit:	69 F	64 F
Soil Moisture:	Adequate	Adequate
% Cloud Cover:	50	40

Application Equipment

	A	B
Appl. Equipment:	Lee Spider	Lee Spider
Operating Pressure, Unit:	60 PSI	60 PSI
Nozzle Type:	TurboTJ	TurboTJ
Nozzle Size:	110015	110015
Nozzle Spacing, Unit:	20 in	20 in
Nozzles/Row:	2	2
Ground Speed, Unit:	4 mph	4 mph
Carrier:	water	water
Spray Volume, Unit:	12 gpa	12 gpa

Blizzard Demonstration in Irrigated Cotton-II (WOSC)

Blizzard is a newly registered harvest aid material available to growers to aid in defoliation and conditioning of cotton prior to harvest. Blizzard was combined with either Ethephon, FirstPick or Finish 6 Pro and compared to Prep plus Def (the standard). By two weeks after application, all treatments opened bolls $\geq 90\%$ and defoliated the cotton 80-90%. It should be noted that this is not replicated data and these plots were established for demonstration purposes.

Planted: May 15th **Variety:** ST 4554 B2F **Soil Type:** Clay loam **Location:** WOSC

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	10/3/2007		
						% Open	% Defoliat	% Desicc.
1	Blizzard	0.5	oz/a	65%Open	A	81	60	10
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
2	Blizzard	0.5	oz/a	65%Open	A	90	70	10
	FirstPick	55	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
3	Blizzard	0.5	oz/a	65%Open	A	84	70	10
	Finish 6 Pro	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
4	Blizzard	0.5	oz/a	65%Open	A	91	70	10
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.6	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
5	Blizzard	0.5	oz/a	65%Open	A	90	70	10
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Firestorm	21	oz/a	5-7DAIT	B			
	NIS (Induce)	0.25	% v/v	5-7DAIT	B			
6	ET	1.5	oz/a	65%Open	A	85	60	10
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	ET	1.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
7	Def	16	oz/a	65%Open	A	82	75	0
	Ethephon	21	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	ET	2	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
8	Prep	21	oz/a	65%Open	A	76	70	0
	Def	16	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	Gramoxone Inteon	32	oz/a	5-7DAIT	B			
	NIS(Induce)	0.25	% v/v	5-7DAIT	B			

Blizzard Demonstration in Irrigated Cotton-II (WOSC) (cont.)

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	10/11/2007		
						% Open	% Defoliat	% Desicc.
1	Blizzard	0.5	oz/a	65%Open	A	94	80	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
2	Blizzard	0.5	oz/a	65%Open	A	97	90	0
	FirstPick	55	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
3	Blizzard	0.5	oz/a	65%Open	A	90	90	0
	Finish 6 Pro	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
4	Blizzard	0.5	oz/a	65%Open	A	98	90	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Blizzard	0.6	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
5	Blizzard	0.5	oz/a	65%Open	A	97	90	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	Firestorm	21	oz/a	5-7DAIT	B			
	NIS (Induce)	0.25	% v/v	5-7DAIT	B			
6	ET	1.5	oz/a	65%Open	A	94	85	0
	Ethephon	21	oz/a	65%Open	A			
	Crop Oil Concentrate	1	% v/v	65%Open	A			
	ET	1.5	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
7	Def	16	oz/a	65%Open	A	98	90	0
	Ethephon	21	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	ET	2	oz/a	5-7DAIT	B			
	Crop Oil Concentrate	1	% v/v	5-7DAIT	B			
8	Prep	21	oz/a	65%Open	A	98	90	0
	Def	16	oz/a	65%Open	A			
	NIS(Induce)	0.25	% v/v	65%Open	A			
	Gramoxone Inteon	32	oz/a	5-7DAIT	B			
	NIS(Induce)	0.25	% v/v	5-7DAIT	B			

Blizzard Demonstration in Irrigated Cotton-II (WOSC) (cont.)

Application Description

	A	B
Application Date:	9/26/2007	10/4/2007
Time of Day:	8:30 AM	7:45 AM
Application Method:	Spray	Spray
Application Timing:	70%Open	8DALT
Application Placement:	Broadcast	Broadcast
Applied By:	OSU	OSU
Air Temperature, Unit:	66 F	68 F
% Relative Humidity:	76	71
Wind Velocity, Unit:	6.4 mph	5.9 mph
Wind Direction:	NNE	NE
Soil Temperature, Unit:	72 F	68 F
Soil Moisture:	Adequate	Adequate
% Cloud Cover:	50	40

Application Equipment

	A	B
Appl. Equipment:	Lee Spider	Lee Spider
Operating Pressure, Unit:	60 PSI	60 PSI
Nozzle Type:	TurboTJ	TurboTJ
Nozzle Size:	110015	110015
Nozzle Spacing, Unit:	20 in	20 in
Nozzles/Row:	2	2
Ground Speed, Unit:	4 mph	4 mph
Carrier:	water	water
Spray Volume, Unit:	12 gpa	12 gpa

One-Pass Harvest Aid Programs with FirstPick

FirstPick is a harvest aid product used to increase the natural rate of boll opening in cotton prior to harvest. In this project it was tank-mixed with either Folex, ET, Resource, Ginstar or Aim and compared to Finish 6 Pro tank-mixed with either Folex or Ginstar. By two weeks after treatment FirstPick opened bolls slightly faster than Finish 6 Pro when either product was tank-mixed with low rates of Folex (8 oz/A). However, these same treatments defoliated the cotton in similar fashion. Also 1.5-2 qt/A FirstPick tank-mixed with 3 oz/A Ginstar open bolls and defoliated cotton similarly to 1.33 pt/A Finish 6 Pro tank-mixed with 5 oz/A Ginstar.

Planted: May 21

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Open	10/5/2007		
							% Defol.	% Desicc.	
1	Untreated Check					55.3 d	0 c	0 a	
2	FirstPick	1.5	qt/a	65%Open	A	83.7 ab	71.7 ab	0 a	
	Folex	8	oz/a	65%Open	A				
3	FirstPick	2	qt/a	65%Open	A	89 a	81.7 a	0 a	
	Folex	8	oz/a	65%Open	A				
4	Finish 6 Pro	1.33	pt/a	65%Open	A	71.3 c	51.7 b	0 a	
	Folex	8	oz/a	65%Open	A				
5	Finish 6 Pro	1.33	pt/a	65%Open	A	84.7 ab	85 a	0 a	
	Folex	16	oz/a	65%Open	A				
6	SuperBoll	1.5	pt/a	65%Open	A	79.7 abc	71.7 ab	0 a	
	Folex	8	oz/a	65%Open	A				
7	FirstPick	1.5	qt/a	65%Open	A	79.3 abc	73.3 ab	0 a	
	ET	1.5	oz/a	65%Open	A				
	Crop Oil Concentrate	0.5	% v/v	65%Open	A				
8	FirstPick	1.5	qt/a	65%Open	A	85 ab	81.7 a	0 a	
	Resource	6	oz/a	65%Open	A				
	Crop Oil Concentrate	0.5	% v/v	65%Open	A				
9	FirstPick	1.5	qt/a	65%Open	A	73.3 c	85 a	0 a	
	Ginstar	3	oz/a	65%Open	A				
10	FirstPick	2	qt/a	65%Open	A	78.7 bc	88.3 a	0 a	
	Ginstar	3	oz/a	65%Open	A				
11	Finish 6 Pro	1.33	pt/a	65%Open	A	86.7 ab	91.7 a	0 a	
	Ginstar	5	oz/a	65%Open	A				
12	FirstPick	2	qt/a	65%Open	A	85.3 ab	81.7 a	0 a	
	Aim	0.5	oz/a	65%Open	A				
	Crop Oil Concentrate	0.5	% v/v	65%Open	A				
LSD (P=.05)						9.71	22.54	0	
CV						7.23	18.5	0	

One-Pass Harvest Aid Programs with FirstPick (cont.)

Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	% Open	10/11/2007				
							% Defol.	%	%	%	
1	Untreated Check					77	d	0	f	0	a
2	FirstPick	1.5	qt/a	65%Open	A	92.7	ab	75	e	0	a
	Folex	8	oz/a	65%Open	A						
3	FirstPick	2	qt/a	65%Open	A	94.7	ab	83.3	abc	0	a
	Folex	8	oz/a	65%Open	A						
4	Finish 6 Pro	1.33	pt/a	65%Open	A	84.7	c	78.3	cde	0	a
	Folex	8	oz/a	65%Open	A						
5	Finish 6 Pro	1.33	pt/a	65%Open	A	94.3	ab	81.7	bcd	0	a
	Folex	16	oz/a	65%Open	A						
6	SuperBoll	1.5	pt/a	65%Open	A	90	abc	75	e	0	a
	Folex	8	oz/a	65%Open	A						
7	FirstPick	1.5	qt/a	65%Open	A	92.7	ab	76.7	de	0	a
	ET	1.5	oz/a	65%Open	A						
	Crop Oil Concentrate	0.5	% v/v	65%Open	A						
8	FirstPick	1.5	qt/a	65%Open	A	95.7	a	85	ab	0	a
	Resource	6	oz/a	65%Open	A						
	Crop Oil Concentrate	0.5	% v/v	65%Open	A						
9	FirstPick	1.5	qt/a	65%Open	A	88	bc	86	ab	0	a
	Ginstar	3	oz/a	65%Open	A						
10	FirstPick	2	qt/a	65%Open	A	93.3	ab	87.7	ab	0	a
	Ginstar	3	oz/a	65%Open	A						
11	Finish 6 Pro	1.33	pt/a	65%Open	A	93	ab	88.3	a	0	a
	Ginstar	5	oz/a	65%Open	A						
12	FirstPick	2	qt/a	65%Open	A	93	ab	86.7	ab	0	a
	Aim	0.5	oz/a	65%Open	A						
	Crop Oil Concentrate	0.5	% v/v	65%Open	A						
LSD (P=.05)						7.06		6.62		0	
CV						4.59		5.19		0	

One-Pass Harvest Aid Programs with FirstPick (cont.)

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	10/18/2007	
						% T.Reg.	% B.Reg.
1	Untreated Check					0 e	0 b
2	FirstPick	1.5	qt/a	65%Open	A	18.3 cd	30 a
	Folex	8	oz/a	65%Open	A		
3	FirstPick	2	qt/a	65%Open	A	18.3 cd	28.3 a
	Folex	8	oz/a	65%Open	A		
4	Finish 6 Pro	1.33	pt/a	65%Open	A	23.3 ab	28.3 a
	Folex	8	oz/a	65%Open	A		
5	Finish 6 Pro	1.33	pt/a	65%Open	A	25 a	28.3 a
	Folex	16	oz/a	65%Open	A		
6	SuperBoll	1.5	pt/a	65%Open	A	21.7 abc	23.3 a
	Folex	8	oz/a	65%Open	A		
7	FirstPick	1.5	qt/a	65%Open	A	23.3 ab	25 a
	ET	1.5	oz/a	65%Open	A		
	Crop Oil Concentrate	0.5	% v/v	65%Open	A		
8	FirstPick	1.5	qt/a	65%Open	A	23.3 ab	23.3 a
	Resource	6	oz/a	65%Open	A		
	Crop Oil Concentrate	0.5	% v/v	65%Open	A		
9	FirstPick	1.5	qt/a	65%Open	A	20 bcd	25 a
	Ginstar	3	oz/a	65%Open	A		
10	FirstPick	2	qt/a	65%Open	A	23.3 ab	28.3 a
	Ginstar	3	oz/a	65%Open	A		
11	Finish 6 Pro	1.33	pt/a	65%Open	A	16.7 d	26.7 a
	Ginstar	5	oz/a	65%Open	A		
12	FirstPick	2	qt/a	65%Open	A	21.7 abc	30 a
	Aim	0.5	oz/a	65%Open	A		
	Crop Oil Concentrate	0.5	% v/v	65%Open	A		
LSD (P=.05)						4.23	7.36
CV						12.77	17.57

One-Pass Harvest Aid Programs with FirstPick (cont.)

Application Description

A
Application Date: 9/27/2007
Time of Day: 10:00 am
Application Method: Spray
Application Timing: 65%Open
Application Placement: Broadcast
Applied By: OSU
Air Temperature, Unit: 75 F
% Relative Humidity: 69
Wind Velocity, Unit: 3 mph
Wind Direction: NE
Soil Temperature, Unit: 80 F
Soil Moisture: adequate
% Cloud Cover: 40

Application Equipment

A
Appl. Equipment: Spider
Operating Pressure, Unit: 60 PSI
Nozzle Type: TTJET
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 gallon

Effects of Early Termination of Cotton with Aim 2 EC

Aim 2 EC is currently available to cotton producers for late-season (layby), directed weed control and harvest aid applications. This project was established in order to evaluate the effects of early (15% open) pre-harvest applications of Aim on cotton lint yield and fiber quality. The 15 % open treatments were applied on September 21st. Approximately two weeks later (10/4) a normal harvest aid application was applied over the existing treatments. Plots were evaluated for open boll percentages, defoliation and desiccation. Plots were then harvested and ginned. Lint samples were taken in order to observe fiber quality differences. Although no differences were observed in ginning percentages there were some effects on lint yield. The highest rate of Aim and the Gramoxone Inteon treatments significantly reduced lint yields compared to the untreated plots. The Gramoxone Inteon treatment significantly reduced fiber length and uniformity compared to the untreated.

Planted: May 21

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	9/27/2007	
						% Defol.	% Desic.
1	Untreated check					0 c	0 d
	Prep	1	qt/a	65%Open	B		
	Def	1	pt/a	65%Open	B		
2	Aim 2 EC	0.004	lb ai/a	15%Open	A	1.3 c	5 c
	Crop Oil Concentrate	1	% v/v	15%Open	A		
	Prep	1	qt/a	65%Open	B		
	Def	1	pt/a	65%Open	B		
3	Aim 2 EC	0.006	lb ai/a	15%Open	A	8.8 b	6.3 bc
	Crop Oil Concentrate	1	% v/v	15%Open	A		
	Prep	1	qt/a	65%Open	B		
	Def	1	pt/a	65%Open	B		
4	Aim 2 EC	0.008	lb ai/a	15%Open	A	7.5 b	8.8 b
	Crop Oil Concentrate	1	% v/v	15%Open	A		
	Prep	1	qt/a	65%Open	B		
	Def	1	pt/a	65%Open	B		
5	Gramoxone Inteon	0.06	lb ai/a	15%Open	A	28.8 a	12.5 a
	NIS (Induce)	0.5	% v/v	15%Open	A		
	Prep	1	qt/a	65%Open	B		
	Def	1	pt/a	65%Open	B		
LSD (P=.05)						5.76	2.72
CV						40.39	27.2

Effects of Early Termination of Cotton with Aim (cont.)

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	10/4/2007			
						% Open	% Defol.	% Desic.	
1	Untreated check					51 c	0 b	0 d	
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
2	Aim 2 EC	0.004	lb ai/a	15%Open	A	53.5 bc	0 b	5 c	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
3	Aim 2 EC	0.006	lb ai/a	15%Open	A	60.3 abc	5 b	12.5 b	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
4	Aim 2 EC	0.008	lb ai/a	15%Open	A	64.8 ab	6.3 b	13.8 b	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
5	Gramoxone Inteon	0.06	lb ai/a	15%Open	A	68.3 a	42.5 a	20 a	
	NIS (Induce)	0.5	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
LSD (P=.05)						12.1	10.62	3.98	
CV						13.1	64.11	25.19	

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	10/10/2007			
						% Open	% Defol.	% Desic.	
1	Untreated check					85 ab	81.3 c	0 a	
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
2	Aim 2 EC	0.004	lb ai/a	15%Open	A	79.3 b	81.3 c	0 a	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
3	Aim 2 EC	0.006	lb ai/a	15%Open	A	87 ab	88.3 b	0 a	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
4	Aim 2 EC	0.008	lb ai/a	15%Open	A	92.8 a	90 b	0 a	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
5	Gramoxone Inteon	0.06	lb ai/a	15%Open	A	91.8 a	97.3 a	0 a	
	NIS (Induce)	0.5	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
LSD (P=.05)						9.85	5.82	0	
CV						7.34	4.31	0	

Effects of Early Termination of Cotton with Aim (cont.)

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	11/1/2007			
						Seed Cott. lbs/Acre	% Ginout	Lint Yield lbs/Acre	
1	Untreated check					4900 a	0.24 a	1166 a	
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
2	Aim 2 EC	0.004	lb ai/a	15%Open	A	4485 ab	0.25 a	1098 ab	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
3	Aim 2 EC	0.006	lb ai/a	15%Open	A	4175 b	0.26 a	1062 ab	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
4	Aim 2 EC	0.008	lb ai/a	15%Open	A	3973 b	0.24 a	957 b	
	Crop Oil Concentrate	1	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
5	Gramoxone Inteon	0.06	lb ai/a	15%Open	A	3924 b	0.25 a	972 b	
	NIS (Induce)	0.5	% v/v	15%Open	A				
	Prep	1	qt/a	65%Open	B				
	Def	1	pt/a	65%Open	B				
LSD (P=.05)						638.06	0.0192	174.03	
CV						9.65	5.09	10.75	

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	11/1/2007				
						Fiber Mic	Fiber Length	Fiber Uniform	Fiber Strength	
1	Untreated check					4.5 a	1.13 ab	83.2 a	29.5 a	
	Prep	1	qt/a	65%Open	B					
	Def	1	pt/a	65%Open	B					
2	Aim 2 EC	0.004	lb ai/a	15%Open	A	4.45 a	1.13 a	81.7 ab	28.7 a	
	Crop Oil Concentrate	1	% v/v	15%Open	A					
	Prep	1	qt/a	65%Open	B					
	Def	1	pt/a	65%Open	B					
3	Aim 2 EC	0.006	lb ai/a	15%Open	A	4.6 a	1.11 abc	81 b	29.5 a	
	Crop Oil Concentrate	1	% v/v	15%Open	A					
	Prep	1	qt/a	65%Open	B					
	Def	1	pt/a	65%Open	B					
4	Aim 2 EC	0.008	lb ai/a	15%Open	A	4.63 a	1.1 bc	81.9 ab	28.5 a	
	Crop Oil Concentrate	1	% v/v	15%Open	A					
	Prep	1	qt/a	65%Open	B					
	Def	1	pt/a	65%Open	B					
5	Gramoxone Inteon	0.06	lb ai/a	15%Open	A	4.63 a	1.08 c	80.9 b	29.1 a	
	NIS (Induce)	0.5	% v/v	15%Open	A					
	Prep	1	qt/a	65%Open	B					
	Def	1	pt/a	65%Open	B					
LSD (P=.05)						0.289	0.0349	1.537	1.371	
CV						4.11	2.05	1.22	3.06	

Effects of Early Termination of Cotton with Aim (cont.)

Application Description			
	A	B	
Application Date:	9/21/2007	10/4/2007	
Time of Day:	9:30 AM	9:00 AM	
Application Method:	Spray	Spray	
Application Timing:	15%Open	65%Open	
Application Placement:	Broadcast	Broadcast	
Applied By:	OSU	OSU	
Air Temperature, Unit:	76 F	68 F	
% Relative Humidity:		71	87
Wind Velocity, Unit:	7 MPH	6.5 MPH	
Wind Direction:	SSW	SSE	
Soil Temperature, Unit:	75 F	70 F	
Soil Moisture:	Adequate	Adequate	
% Cloud Cover:		25	30

Application Equipment			
	A	B	
Appl. Equipment:	Lee Spider	Lee Spider	
Operating Pressure, Unit:	60 PSI	60 PSI	
Nozzle Type:	TJTurdrop	TJTurdrop	
Nozzle Size:	110015	110015	
Nozzle Spacing, Unit:	20 in	20 in	
Nozzles/Row:		2	2
Ground Speed, Unit:	4 MPH	4 MPH	
Carrier:	water	water	
Spray Volume, Unit:	12 GPA	12 GPA	
Propellant:	Comp.Air	Comp.Air	

Defoliation Programs with ET

Tank-mixtures of ET and Ethephon were compared to the standard Prep plus Def treatment. Fourteen days after application all treatments increased boll opening compared to the untreated. Combinations of ET with Ethephon produced similar defoliation to that provided by Prep plus Def.

Planted: May 21

Variety: ST 4554 B2F

Soil Type: Clay loam

Location: OSU

										10/5/2007		
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	% Open	% Defol.	% Desic.				
1	Untreated Check					60 b	0 c	0 b				
2	Ethephon	32	oz/a	55%Open	A	86 a	83 a	0 b				
	ET	1.5	oz/a	55%Open	A							
	Crop Oil	1	% v/v	55%Open	A							
3	Ethephon	32	oz/a	55%Open	A	91 a	81 a	0 b				
	ET	2	oz/a	55%Open	A							
	Crop Oil	1	% v/v	55%Open	A							
4	ET	1	oz/a	55%Open	A	67 b	53 b	20 a				
	Gramoxone Inteon	6	oz/a	55%Open	A							
	NIS (Induce)	0.5	% v/v	55%Open	A							
5	Prep	32	oz/a	55%Open	A	82 a	83 a	0 b				
	Def	16	oz/a	55%Open	A							
	Induce	0.5	% v/v	55%Open	A							
LSD (P=.05)						13.26	4.45	0				
CV						11.11	4.83	0				

										10/11/2007		
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	% Open	% Defol.	% Desic.				
1	Untreated Check					73 c	0 c	0 b				
2	Ethephon	32	oz/a	55%Open	A	92 a	85 a	0 b				
	ET	1.5	oz/a	55%Open	A							
	Crop Oil	1	% v/v	55%Open	A							
3	Ethephon	32	oz/a	55%Open	A	95 a	84 a	0 b				
	ET	2	oz/a	55%Open	A							
	Crop Oil	1	% v/v	55%Open	A							
4	ET	1	oz/a	55%Open	A	85 b	68 b	10 a				
	Gramoxone Inteon	6	oz/a	55%Open	A							
	NIS (Induce)	0.5	% v/v	55%Open	A							
5	Prep	32	oz/a	55%Open	A	91 a	85 a	0 b				
	Def	16	oz/a	55%Open	A							
	Induce	0.5	% v/v	55%Open	A							
LSD (P=.05)						5.82	6.6	0				
CV						4.34	6.66	0				

Defoliation Programs with ET

Application Description

	A
Application Date:	9/27/2007
Time of Day:	10:30 AM
Application Method:	Spray
Application Timing:	60%Open
Application Placement:	Broadcast
Applied By:	OSU
Air Temperature, Unit:	77 F
% Relative Humidity:	62
Wind Velocity, Unit:	4 mph
Wind Direction:	NE
Soil Temperature, Unit:	80 F
Soil Moisture:	adequate
% Cloud Cover:	20

Application Equipment

	A
Appl. Equipment:	Lee Spider
Operating Pressure, Unit:	60 PSI
Nozzle Type:	Turbo TJ
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

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.