

# University of Georgia

## Managing glyphosate-resistant Palmer amaranth in Roundup Ready and Liberty Link cotton.

Trial ID: C21-08

Study Dir.: Stanley Culpepper

Location: Macon County

Investigator: Stanley Culpepper

Reps: 3

Plots: 12 by 24 feet

Spray vol: 14.8 gal/ac

Mix size: 1.5 liters (min 1.1112)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Plot No. By Rep		
										1	2	3
1	DP 555 BRR									101	206	311
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx			
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx			
2	DP 555 BRR									102	205	320
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx			
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx			
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx			
3	DP 555 BRR									105	210	301
	Direx	4		L	2	PT/A	PRE	A	25.34 ml/mx			
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
4	DP 555 BRR									106	211	310
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	Dual Magnum	7.62		L	1	PT/A	POST 1	B	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx			
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx			
5	DP 555 BRR									110	202	306
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx			
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	Dual Magnum	7.62		L	1	PT/A	POST 1	B	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx			
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx			
6	DP 555 BRR									112	215	316
	Direx	4		L	2	PT/A	PRE	A	25.34 ml/mx			
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	Dual Magnum	7.62		L	1	PT/A	POST 1	B	12.67 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx			
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx			
7	DP 555 BRR									115	201	312
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx			
	Staple	3.2		L	1.7	OZ/A	POST 1	B	1.346 ml/mx			
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx			
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx			
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx			

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Reps: 3

Plots: 12 by 24 feet

Spray vol: 14.8 gal/ac

Mix size: 1.5 liters (min 1.1112)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Product	Plot No. By Rep		
											1	2	3
8	DP 555 BRR										116	212	315
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx				
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx				
	Staple	3.2		L	1.7	OZ/A	POST 1	B	1.346 ml/mx				
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx				
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx				
9	DP 555 BRR										120	216	302
	Direx	4		L	2	PT/A	PRE	A	25.34 ml/mx				
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx				
	WeatherMax	4.5		L	22	OZ/A	POST 1	B	17.42 ml/mx				
	Staple	3.2		L	1.7	OZ/A	POST 1	B	1.346 ml/mx				
	WeatherMax	4.5		L	22	OZ/A	POST 2	C	17.42 ml/mx				
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx				
10	DP 555 BRR										111	220	305
	No herbicide												
11	Liberty Link										103	219	314
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx				
12	Liberty Link										104	217	309
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx				
13	Liberty Link										107	218	303
	Direx	4		L	2	PT/A	PRE	A	25.34 ml/mx				
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 2	C	18.21 ml/mx				
14	Liberty Link										108	214	313
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Dual Magnum	7.62		L	1	PT/A	POST 1	B	12.67 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx				
15	Liberty Link										109	213	308
	Prowl H20	3.8		L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Dual Magnum	7.62		L	1	PT/A	POST 1	B	12.67 ml/mx				
	Ignite	2.34		L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Direx	4		L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6		L	2	LB A/A	PD	D	33.78 ml/mx				
16	Liberty Link										113	209	317
	Direx	4		L	2	PT/A	PRE	A	25.34 ml/mx				
	Reflex	2		L	1	PT/A	PRE	A	12.67 ml/mx				
	Ignite	2.34		L	29	OZ/A	POST1	B	22.96 ml/mx				
	Ignite	2.34		L	29	OZ/A	POST2	C	22.96 ml/mx				

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Reps: 3                      Plots: 12 by 24 feet  
 Spray vol: 14.8 gal/ac                      Mix size: 1.5 liters (min 1.1112)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Rate	Form Type	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep		
										1	2	3
17	Liberty Link									114	208	318
	Prowl H20	3.8	L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Ignite	2.34	L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Staple	3.2	L	1.7	OZ/A	POST 1	B	1.346 ml/mx				
	Ignite	2.34	L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Direx	4	L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6	L	2	LB A/A	PD	D	33.78 ml/mx				
18	Liberty Link									117	207	304
	Prowl H20	3.8	L	2.1	PT/A	PRE	A	26.6 ml/mx				
	Reflex	2	L	1	PT/A	PRE	A	12.67 ml/mx				
	Ignite	2.34	L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Staple	3.2	L	1.7	OZ/A	POST 1	B	1.346 ml/mx				
	Ignite	2.34	L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Direx	4	L	1	QT/A	PD	D	25.34 ml/mx				
	MSMA	6	L	2	LB A/A	PD	D	33.78 ml/mx				
19	Liberty Link									118	204	319
	Direx	4	L	2	PT/A	PRE	A	25.34 ml/mx				
	Reflex	2	L	1	PT/A	PRE	A	12.67 ml/mx				
	Ignite	2.34	L	23	OZ/A	POST 1	B	18.21 ml/mx				
	Ignite	2.34	L	23	OZ/A	POST 2	C	18.21 ml/mx				
	Ignite	2.34	L	29	OZ/A	PD	D	22.96 ml/mx				
20	Liberty Link									119	203	307
	No herbicide											

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
399.029	ml	Prowl H20	3.8	L	
391.946	ml	WeatherMax	4.5	L	
633.379	ml	Direx	4	L	
591.154	ml	MSMA	6	L	
190.014	ml	Reflex	2	L	
79.172	ml	Dual Magnum	7.62	L	
8.413	ml	Staple	3.2	L	
450.342	ml	Ignite	2.34	L	

\* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1.5 liters (mix size basis).  
 \* Product amount calculations increased 25 % for overage adjustment.

### Trial Comments

OBJECTIVE: Compare glyphosate-resistant Palmer amaranth response to RR and LL herbicide programs.

**VISUAL COTTON INJURY:**

1. Injury from PRE applied herbicides was not noted.
2. Injury from Ignite or Roundup applied to their respective cultivars was minimal.
3. Adding Staple or Dual in with either Ignite or Roundup generally increased injury 8 to 10%. Cotton recovered quickly.
4. At layby, no significant cotton injury was noted.

**PALMER AMARANTH RESPONSE:**

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1. Rainfall occurred 3 DAT.
2. Prowl alone provided fair control at 14 DAT. The addition of Reflex increased control to at least 97%. Control by Reflex plus Prowl or Direx was similar.
3. POST applications of Ignite applied to Palmer 2-3 inches tall or smaller provided complete control.
3. POST applications of glyphosate provided little to no control.
4. The addition of Dual with glyphosate POST had little impact on control as Palmer had escaped PRE treatments.
5. By late-season, the addition of Staple with glyphosate POST improved control approximately 40%.
6. All glyphosate programs provided less than 90% late-season control. The most effective program required Reflex + Prowl PRE fb Staple + Roundup fb Roundup fb Direx + MSMA (no ALS resistance in this study).
7. All Ignite based programs that included a layby treatment provided at least 90% control. All programs including Reflex PRE, Ignite POST, and Direx + MSMA at layby provided complete control.

#### PITTED MORNINGGLORY RESPONSE:

1. The only two programs not providing excellent late season control did not have a layby directed treatment.

#### SEED YIELD:

1. Cotton yields followed trends in Palmer control.
2. Greatest yields were noted with in LL programs including Reflex PRE, Ignite POST, and a layby.
3. Highest yielding glyphosate programs included Reflex PRE, Staple POST, and a layby.

#### CONCLUSIONS:

1. Ignite at 23 oz/A must be applied to Palmer 2 inches or less. Will recommend 29 oz to improve consistency.
2. Roundup Ready programs will not be effective if the at plant herbicides are not activated by rainfall or irrigation.
3. A layby directed application is required for season long control.

#### GENERAL COMMENTS:

1. Rainfall that occurred during the time of making herbicide applications includes the following:

#### Rainfall in Inches:

Apr 28	1 in
May 9	0.4 in
May 11	2.7 in
May 20	0.2 in
May 24	0.3 in
Jun 11	0.9 in
Jun 17	0.6 in
Jun 22	1 in
Jul 5	0.5 in
Jul 21	1 in





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Weed Code	INJURY	INJURY	INJURY	INJURY	AMAPA	AMAPA	AMAPA	AMAPA			
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	AMAPA	AMAPA	AMAPA	AMAPA			
Rating Data Type	control	control	control	control	control	control	control	control			
Rating Unit	%	%	%	%	%	%	%	%			
Rating Date	May-23-08	May-30-08	Jun-24-08	Jul-02-08	May-09-08	May-23-08	May-30-08	Jun-24-08			
Trt-Eval Interval	10 DA-B	4 DA-C	29 DA-C	5 DA-D	14 DA-A	10 DA-B	4 DA-C	29 DA-C			
ARM Action Codes											
# Subsamples, Dec.											
Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6	7	8
15	Liberty Link			9 a-e	7 ab	0 a	0 a	99 a	99 a	100 a	99 a
	Prowl H20	2.1	PT/A								
	Reflex	1	PT/A								
	Ignite	23	OZ/A								
	Dual Magnum	1	PT/A								
	Ignite	23	OZ/A								
	Direx	1	QT/A								
	MSMA	2	LB A/A								
16	Liberty Link			1 f	0 b	0 a	0 a	98 a	99 a	100 a	99 a
	Direx	2	PT/A								
	Reflex	1	PT/A								
	Ignite	29	OZ/A								
	Ignite	29	OZ/A								
17	Liberty Link			13 a	8 ab	0 a	0 a	83 ab	99 a	88 abc	99 a
	Prowl H20	2.1	PT/A								
	Ignite	23	OZ/A								
	Staple	1.7	OZ/A								
	Ignite	23	OZ/A								
	Direx	1	QT/A								
	MSMA	2	LB A/A								
18	Liberty Link			12 ab	0 b	0 a	0 a	98 a	99 a	100 a	99 a
	Prowl H20	2.1	PT/A								
	Reflex	1	PT/A								
	Ignite	23	OZ/A								
	Staple	1.7	OZ/A								
	Ignite	23	OZ/A								
	Direx	1	QT/A								
	MSMA	2	LB A/A								
19	Liberty Link			2 ef	0 b	0 a	0 a	97 a	99 a	100 a	99 a
	Direx	2	PT/A								
	Reflex	1	PT/A								
	Ignite	23	OZ/A								
	Ignite	23	OZ/A								
	Ignite	29	OZ/A								
20	Liberty Link			0 f	8 ab	0 a	0 a	22 c	0 c	0 g	0 i
	No herbicide										
LSD (P=.05)				6.3	8.7	0.0	0.0	14.4	3.2	10.1	9.3
Standard Deviation				3.8	5.3	0.0	0.0	8.7	2.0	6.1	5.6
CV				58.19	121.36	0.0	0.0	10.3	2.32	8.15	7.71
Bartlett's X2				16.877	13.249	0.0	0.0	116.842	1.004	11.402	9.734
P(Bartlett's X2)				0.463	0.351	.	.	0.001*	0.909	0.18	0.464

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Weed Code		AMAPA	AMAPA	IPOLA	IPOLA	IPOLA	IPOLA	GOSHI	GOSHI		
Crop Code								Yld	YIELD		
Rating Data Type		control	control	control	control	control	control	lb/plot	lb/acre		
Rating Unit		%	%	%	%	%	%				
Rating Date		Jul-14-08	Sep-09-08	May-30-08	Jun-24-08	Jul-14-08	Sep-09-08	Oct-17-08	Oct-17-08		
Trt-Eval Interval		17 DA-D	74 DA-D	4 DA-C	29 DA-C	17 DA-D	74 DA-D	175 DA-A	175 DA-A		
ARM Action Codes									TY1		
# Subsamples, Dec.									1		
Trt No.	Treatment Name	Rate	Unit	9	10	11	12	13	14	16	17
1	DP 555 BRR Prowl H20 WeatherMax WeatherMax Direx MSMA	2.1 22 22 1 2	PT/A OZ/A OZ/A QT/A LB A/A	0 f	0 f	100 a	99 a	98 a	99 a	0 h	0.0 h
2	DP 555 BRR Prowl H20 Reflex WeatherMax WeatherMax Direx MSMA	2.1 1 22 22 1 2	PT/A PT/A OZ/A OZ/A QT/A LB A/A	62 d	53 d	88 b	99 a	99 a	99 a	1 g	746.2 g
3	DP 555 BRR Direx Reflex WeatherMax WeatherMax	2 1 22 22	PT/A PT/A OZ/A OZ/A	42 e	42 e	95 ab	99 a	99 a	99 a	0 h	90.8 h
4	DP 555 BRR Prowl H20 WeatherMax Dual Magnum WeatherMax Direx MSMA	2.1 22 1 22 1 2	PT/A OZ/A PT/A OZ/A QT/A LB A/A	3 f	0 f	97 ab	96 b	99 a	99 a	0 h	0.0 h
5	DP 555 BRR Prowl H20 Reflex WeatherMax Dual Magnum WeatherMax Direx MSMA	2.1 1 22 1 22 1 2	PT/A PT/A OZ/A PT/A OZ/A QT/A LB A/A	79 bc	73 c	95 ab	98 ab	98 a	98 a	1 fg	857.1 fg
6	DP 555 BRR Direx Reflex WeatherMax Dual Magnum WeatherMax Direx MSMA	2 1 22 1 22 1 2	PT/A PT/A OZ/A PT/A OZ/A QT/A LB A/A	83 bc	76 c	95 ab	99 a	99 a	99 a	1 fg	887.3 fg
7	DP 555 BRR Prowl H20 WeatherMax Staple WeatherMax Direx MSMA	2.1 22 1.7 22 1 2	PT/A OZ/A OZ/A OZ/A QT/A LB A/A	48 e	36 e	98 ab	98 ab	98 a	98 a	1 h	312.6 h





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Weed Code	AMAPA	AMAPA	IPOLA	IPOLA	IPOLA	IPOLA	GOSHI	GOSHI			
Crop Code							yl	YIELD			
Rating Data Type	control	control	control	control	control	control	lb/plot	lb/acre			
Rating Unit	%	%	%	%	%	%					
Rating Date	Jul-14-08	Sep-09-08	May-30-08	Jun-24-08	Jul-14-08	Sep-09-08	Oct-17-08	Oct-17-08			
Trt-Eval Interval	17 DA-D	74 DA-D	4 DA-C	29 DA-C	17 DA-D	74 DA-D	175 DA-A	175 DA-A			
ARM Action Codes								TY1			
# Subsamples, Dec.								1			
Trt No.	Treatment Name	Rate	Unit	9	10	11	12	13	14	16	17
15	Liberty Link			99 a	99 a	100 a	98 ab	99 a	99 a	4 a	2117.5 a
	Prowl H20	2.1	PT/A								
	Reflex	1	PT/A								
	Ignite	23	OZ/A								
	Dual Magnum	1	PT/A								
	Ignite	23	OZ/A								
	Direx	1	QT/A								
	MSMA	2	LB A/A								
16	Liberty Link			91 ab	83 bc	98 ab	98 ab	91 b	88 b	2 de	1351.2 de
	Direx	2	PT/A								
	Reflex	1	PT/A								
	Ignite	29	OZ/A								
	Ignite	29	OZ/A								
17	Liberty Link			86 abc	96 a	98 ab	99 a	99 a	99 a	3 bcd	1522.6 bcd
	Prowl H20	2.1	PT/A								
	Ignite	23	OZ/A								
	Staple	1.7	OZ/A								
	Ignite	23	OZ/A								
	Direx	1	QT/A								
	MSMA	2	LB A/A								
18	Liberty Link			99 a	99 a	100 a	99 a	99 a	99 a	3 a	1966.3 a
	Prowl H20	2.1	PT/A								
	Reflex	1	PT/A								
	Ignite	23	OZ/A								
	Staple	1.7	OZ/A								
	Ignite	23	OZ/A								
	Direx	1	QT/A								
	MSMA	2	LB A/A								
19	Liberty Link			97 a	98 a	97 ab	99 a	97 a	98 a	3 ab	1835.2 ab
	Direx	2	PT/A								
	Reflex	1	PT/A								
	Ignite	23	OZ/A								
	Ignite	23	OZ/A								
	Ignite	29	OZ/A								
20	Liberty Link			0 f	0 f	0 c	0 c	0 d	0 d	0 h	0.0 h
	No herbicide										
LSD (P=.05)	12.0	10.1	8.9	2.1	3.2	1.9	0.5	328.20			
Standard Deviation	7.2	6.1	5.4	1.3	2.0	1.1	0.3	198.89			
CV	10.87	9.53	6.12	1.44	2.22	1.31	19.35	19.35			
Bartlett's X2	23.544	32.775	30.671	0.953	4.878	5.103	17.806	17.806			
P(Bartlett's X2)	0.023*	0.002*	0.004*	0.987	0.431	0.403	0.273	0.273			

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 16: TY1 = 605.0\*[16]



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## MAINTENANCE

Field Prep./Maintenance:

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

### SOIL DESCRIPTION

% Sand: 82	% OM: 2.0	Texture: loamy sand
% Silt: 14	pH: 6.3	Soil Name: _____
% Clay: 4	CEC: _____	Fert. Level: _____

### ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

### MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: dry

Closest Weather Station: \_\_\_\_\_ Distance: \_\_\_\_\_ Unit: \_\_\_\_

### APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Apr-25-08	May-13-08	May-26-08	Jun-27-08
Time of Day:	7:30	7:00 pm	7:00 am	8:00 am
Application Method:	broadcast	broadcast	broadcast	broadcast
Application Timing:	PRE	POST 1	POST 2	PD
Applic. Placement:	on soil	overtop	overtop	directed
Air Temp., Unit:	67 F	75 F	75 F	76 F
% Relative Humidity:	66	49	70	58
Wind Velocity, Unit:	0 mph	0 mph	0 mph	2 mph
Dew Presence (Y/N):	Y	N	Y	Y
Water Hardness:				
Soil Temp., Unit:	67 F	82 F	78 F	78 F
Soil Moisture:	fair	moist	fair	moist
% Cloud Cover:	0	100	100	0

### CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GOSHI PRE	GOSHI POST1	GOSHI POST2	GOSHI PD
Stage Scale:	not up	2 leaf	6 leaf	13 leaf
Height, Unit:	0 in	3 in	7 in	15 in

### WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	AMAPA PRE	AMAPA POST1	AMAPA POST2	AMAPA PD
Stage Scale:	not up	3 in	3 in	20 in
Density, Unit:	0 ydsq	25 ydsq	25 ydsq	25 ydsq
Weed 2 Code, Stage:	IPOLA PRE	IPOLA POST1	IPOLA POST2	IPOLA PD
Stage Scale:	not up	3 in	3 in	3 in
Density, Unit:	0 ydsq	2 ydsq	1 ydsq	3 ydsq

# University of Georgia

## APPLICATION EQUIPMENT

	A	B	C	D
<b>Appl. Equipment:</b>	backpack	backpack	backpack	backpack
<b>Operating Pressure:</b>	24	24	24	24
<b>Nozzle Type:</b>	flat fan	flat fan	flat fan	flat fan
<b>Nozzle Size:</b>	11002	11002	11002	11002
<b>Nozzle Spacing, Unit:</b>	18 in	18 in	18 in	12 in
<b>Nozzles/Row:</b>	2	2	2	3
<b>Band Width, Unit:</b>				
<b>Boom Length, Unit:</b>	4.5 ft	4.5 ft	4.5 ft	24 in
<b>Boom Height, Unit:</b>	15 in	15 in	15 in	12 in
<b>Ground Speed, Unit:</b>	3 mph	3 mph	3 mph	3 mph
<b>Incorporation Equip.:</b>				
<b>Hours to Incorp.:</b>				
<b>Incorp. Depth, Unit:</b>				
<b>Carrier:</b>	water	water	water	water
<b>Spray Volume, Unit:</b>	14.5 GPA	15 GPA	15 GPA	15 GPA
<b>Spray pH:</b>				
<b>Propellant:</b>	CO2	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	y	y	y	y

Trt No	Treatment Application Comment