

University of Georgia

**Resistant Palmer amaranth Roundup Ready sustainability study.
Year 2**

Trial ID: C15-07

Study Dir.: MacRae, Culpepper

Location: Macon County

Investigator: Stanley Culpepper

Reps: 4

Plots: 24 by 100 feet

Spray vol: 14.8 gal/ac

Mix size: 4 gallons (min 3.2617)

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	4
1	RRF COTTON 2006 DRYLAND										103	215	315	407
	Prowl H20	3.8	L		2.1	PT/A	PRE		268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	Direx	4	L		2	PT/A	LPD		255.7	ml/mx				
	MSMA	6	L		2	LB A/A	LPD		341.0	ml/mx				
	NIS		L		0.25	% V/V	LPD		37.85	ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A	268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE	A	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C	175.8	ml/mx				
2	RRF COTTON 2006 DRYLAND										104	216	316	408
	Prowl H20	3.8	L		2.1	PT/A	PRE		268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	Direx	4	L		2	PT/A	LPD		255.7	ml/mx				
	MSMA	6	L		2	LB A/A	LPD		341.0	ml/mx				
	NIS		L		0.25	% V/V	LPD		37.85	ml/mx				
	RR CORN 2007 DRYLAND													
	Atrazine	4	L		1	QT/A	PRE	A	255.7	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1	B	383.6	ml/mx				
3	RRF COTTON 2006 DRYLAND										107	211	311	415
	Prowl H20	3.8	L		2.1	PT/A	PRE		268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	Direx	4	L		2	PT/A	LPD		255.7	ml/mx				
	MSMA	6	L		2	LB A/A	LPD		341.0	ml/mx				
	NIS		L		0.25	% V/V	LPD		37.85	ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A	268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE	A	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C	175.8	ml/mx				

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Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Grow Unit	Appl Stg	Code	Amt to Measure	Product	Plot No. By Rep			
											1	2	3	4
4	RRF COTTON 2006										108	212	312	416
	DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE		268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	Direx	4	L		2	PT/A	LPD		255.7	ml/mx				
	MSMA	6	L		2	LB A/A	LPD		341.0	ml/mx				
	NIS		L		0.25	% V/V	LPD		37.85	ml/mx				
	RR CORN 2007													
	DRYLAND													
	Atrazine	4	L		1	QT/A	PRE	A	255.7	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1	B	383.6	ml/mx				
5	RRF COTTON 2006										111	219	307	419
	DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE		268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST 3		175.8	ml/mx				
	Staple	3.2	L		1.7	OZ/A	POST 3		13.59	ml/mx				
	RRF COTTON 2007													
	DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A	268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE	A	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C	175.8	ml/mx				
6	RRF COTTON 2006										112	220	308	420
	DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE		268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1		127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST 3		175.8	ml/mx				
	Staple	3.2	L		1.7	OZ/A	POST 3		13.59	ml/mx				
	RR CORN 2007													
	DRYLAND													
	Atrazine	4	L		1	QT/A	PRE	A	255.7	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1	B	383.6	ml/mx				

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Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Grow Stg	Appl Code	Amt to Measure	Product	Plot No. By Rep			
										1	2	3	4
7	RRF COTTON 2006 DRYLAND									115	207	303	411
	Reflex	2	L		1 PT/A	PRE		127.9 ml/mx					
	Prowl H2O	3.8	L		2.1 PT/A	PRE		268.5 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST1		175.8 ml/mx					
	Dual Magnum	7.62	L		1 PT/A	POST1		127.9 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST2		175.8 ml/mx					
	Direx	4	L		1 QT/A	LPD		255.7 ml/mx					
	MSMA	6	L		2.4 PT/A	LPD		306.9 ml/mx					
	NIS		L		0.25 % V/V	LPD		37.85 ml/mx					
	RRF COTTON 2007 DRYLAND												
	Reflex	2	L		1 PT/A	PRE	A	127.9 ml/mx					
	Direx	4	L		1 QT/A	PRE	A	255.7 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST1	B	175.8 ml/mx					
	Dual Magnum	7.62	L		0.0625 PT/A	POST1	B	7.992 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST2	C	175.8 ml/mx					
8	RRF COTTON 2006 DRYLAND									116	208	304	412
	Reflex	2	L		1 PT/A	PRE		127.9 ml/mx					
	Prowl	3.8	L		1 QT/A	PRE		255.7 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST1		175.8 ml/mx					
	Dual Magnum	7.62	L		1 PT/A	POST1		127.9 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST2		175.8 ml/mx					
	Direx	4	L		1 QT/A	LPD		255.7 ml/mx					
	MSMA	6	L		2.4 PT/A	LPD		306.9 ml/mx					
	NIS		L		0.25 % V/V	LPD		37.85 ml/mx					
	RR CORN 2007 DRYLAND												
	Atrazine	4	L		1 QT/A	PRE	A	255.7 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST1	B	175.8 ml/mx					
	Atrazine	4	L		1.5 QT/A	POST1	B	383.6 ml/mx					
9	RRF COTTON 2006 DRYLAND									119	203	319	403
	Prowl H2O	3.8	L		2.1 PT/A	PRE		268.5 ml/mx					
	Reflex	2	L		1 PT/A	PRE		127.9 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST1		175.8 ml/mx					
	Dual Magnum	7.62	L		1 PT/A	POST1		127.9 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST2		175.8 ml/mx					
	Direx	4	L		2 PT/A	LPD		255.7 ml/mx					
	MSMA	6	L		2 LB A/A	LPD		341.0 ml/mx					
	NIS		L		0.25 % V/V	LPD		37.85 ml/mx					
	RRF COTTON 2007 IRRIGATED												
	Prowl H2O	3.8	L		2.1 PT/A	PRE	A	268.5 ml/mx					
	Reflex	2	L		1 PT/A	PRE	A	127.9 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST1	B	175.8 ml/mx					
	Dual Magnum	7.62	L		1 PT/A	POST1	B	127.9 ml/mx					
	Roundup WeatherMax	4.5	L		22 OZ/A	POST2	C	175.8 ml/mx					

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											1	2	3	4
10	RRF COTTON 2006 DRYLAND										120	204	320	404
	Prowl H20	3.8	L		2.1	PT/A	PRE			268.5 ml/mx				
	Reflex	2	L		1	PT/A	PRE			127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1			175.8 ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1			127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2			175.8 ml/mx				
	Direx	4	L		2	PT/A	LPD			255.7 ml/mx				
	MSMA	6	L		2	LB A/A	LPD			341.0 ml/mx				
	NIS		L		0.25	% V/V	LPD			37.85 ml/mx				
	RR CORN 2007 IRRIGATED													
	Atrazine	4	L		1	QT/A	PRE	A		255.7 ml/mx				
	Atrazine	5.5	L		1	QT/A	POST1	B		255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B		175.8 ml/mx				
	WeatherMax if needed	4.5	L		22	OZ/A	POST2	C		175.8 ml/mx				
11	RR CORN 2006 DRYLAND										101	217	313	409
	Atrazine	4	L		1	QT/A	PRE			255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1			175.8 ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1			383.6 ml/mx				
	2,4-D as needed	4	L		1	QT/A	After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A		268.5 ml/mx				
	Reflex	2	L		1	PT/A	PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C		175.8 ml/mx				
12	RR CORN 2006 DRYLAND										102	218	314	410
	Atrazine	4	L		1	QT/A	PRE			255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1			175.8 ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1			383.6 ml/mx				
	2,4-D as needed	4	L		1	QT/A	After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A		268.5 ml/mx				
	Reflex	2	L		1	PT/A	PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C		175.8 ml/mx				
13	RR CORN 2006 DRYLAND										105	209	309	405
	Atrazine	4	L		1	QT/A	PRE			255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1			175.8 ml/mx				
	Harness Xtra	5.6	L		1.2	QT/A	POST1			306.9 ml/mx				
	WeatherMax if needed	4.5	L		22	OZ/A	POST2			175.8 ml/mx				
	2,4-D as needed	4	L		1	QT/A	After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A		268.5 ml/mx				
	Reflex	2	L		1	PT/A	PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C		175.8 ml/mx				

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											1	2	3	4
14	RR CORN 2006 DRYLAND										106	210	310	406
	Atrazine	4	L		1 QT/A		PRE			255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1			175.8 ml/mx				
	Harness Xtra	5.6	L		1.2 QT/A		POST1			306.9 ml/mx				
	WeatherMax if needed	4.5	L		22 OZ/A		POST2			175.8 ml/mx				
	2,4-D as needed	4	L		1 QT/A		After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1 PT/A		PRE	A		268.5 ml/mx				
	Reflex	2	L		1 PT/A		PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1 PT/A		POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST2	C		175.8 ml/mx				
15	RR CORN DRYLAND										109	213	301	417
	Atrazine	4	L		1 QT/A		PRE			255.7 ml/mx				
	Bicep II Magnum	5.5	L		1 QT/A		POST1			255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1			175.8 ml/mx				
	WeatherMax if needed	4.5	L		22 OZ/A		POST2			175.8 ml/mx				
	2,4-D as needed	4	L		1 QT/A		After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1 PT/A		PRE	A		268.5 ml/mx				
	Reflex	2	L		1 PT/A		PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1 PT/A		POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST2	C		175.8 ml/mx				
16	RR CORN DRYLAND										110	214	302	418
	Atrazine	4	L		1 QT/A		PRE			255.7 ml/mx				
	Bicep II Magnum	5.5	L		1 QT/A		POST1			255.7 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1			175.8 ml/mx				
	WeatherMax if needed	4.5	L		22 OZ/A		POST2			175.8 ml/mx				
	2,4-D as needed	4	L		1 QT/A		After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1 PT/A		PRE	A		268.5 ml/mx				
	Reflex	2	L		1 PT/A		PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1 PT/A		POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST2	C		175.8 ml/mx				
17	RR CORN 2006 DRYLAND										113	205	305	413
	Atrazine	4	L		1 QT/A		PRE			255.7 ml/mx				
	Lexar	3.7	L		1.5 QT/A		POST1			383.6 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1			175.8 ml/mx				
	WeatherMax if needed	4.5	L		22 OZ/A		POST2			175.8 ml/mx				
	2,4-D as needed	4	L		1 QT/A		After Ha			255.7 ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1 PT/A		PRE	A		268.5 ml/mx				
	Reflex	2	L		1 PT/A		PRE	A		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST1	B		175.8 ml/mx				
	Dual Magnum	7.62	L		1 PT/A		POST1	B		127.9 ml/mx				
	Roundup WeatherMax	4.5	L		22 OZ/A		POST2	C		175.8 ml/mx				

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											1	2	3	4
18	RR CORN 2006 DRYLAND										114	206	306	414
	Atrazine	4	L		1	QT/A	PRE		255.7	ml/mx				
	Lexar	3.7	L		1.5	QT/A	POST1		383.6	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	WeatherMax if needed	4.5	L		22	OZ/A	POST2		175.8	ml/mx				
	2,4-D as needed	4	L		1	QT/A	After Ha		255.7	ml/mx				
	RRF COTTON 2007 DRYLAND													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A	268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE	A	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C	175.8	ml/mx				
19	RR CORN 2006 DRY LAND										117	201	317	401
	Atrazine	4	L		1	QT/A	PRE		255.7	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1		383.6	ml/mx				
	2,4-D after harvest	4	L		1	QT/A	After Ha		255.7	ml/mx				
	RRF COTTON 2007 IRRIGATED													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A	268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE	A	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C	175.8	ml/mx				
20	RR CORN 2006 DRY LAND										118	202	318	402
	Atrazine	4	L		1	QT/A	PRE		255.7	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1		175.8	ml/mx				
	Atrazine	4	L		1.5	QT/A	POST1		383.6	ml/mx				
	2,4-D after harvest	4	L		1	QT/A	After Ha		255.7	ml/mx				
	RRF COTTON 2007 IRRIGATED													
	Prowl H20	3.8	L		2.1	PT/A	PRE	A	268.5	ml/mx				
	Reflex	2	L		1	PT/A	PRE	A	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST1	B	175.8	ml/mx				
	Dual Magnum	7.62	L		1	PT/A	POST1	B	127.9	ml/mx				
	Roundup WeatherMax	4.5	L		22	OZ/A	POST2	C	175.8	ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
7,720.251	ml	Prowl H20	3.8	L	
3,995.989	ml	Reflex	2	L	
14,726.798	ml	Roundup WeatherMax	4.5	L	
2,877.112	ml	Direx	4	L	
3,324.663	ml	MSMA	6	L	
378.500	ml	NIS		L	
8,631.337	ml	Atrazine	4	L	
3,366.621	ml	Dual Magnum	7.62	L	

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Reps: 4 Plots: 24 by 100 feet
 Spray vol: 14.8 gal/ac Mix size: 4 gallons (min 3.2617)

Trt No.	Tr> N>	Form Conc	Form Unit	Form Type	Rate	Plot No. By Rep
---------	--------	-----------	-----------	-----------	------	-----------------

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
33.970	ml	Staple	3.2	L	
319.679	ml	Prowl	3.8	L	
319.679	ml	Atrazine	5.5	L	
1,538.621	ml	WeatherMax if needed	4.5	L	
2,557.433	ml	2,4-D as needed	4	L	
767.230	ml	Harness Xtra	5.6	L	
639.358	ml	Bicep II Magnum	5.5	L	
959.037	ml	Lexar	3.7	L	
639.358	ml	2,4-D after harvest	4	L	

- * 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 4 gallons (mix size basis).
- * Product amount calculations increased 25 % for overage adjustment.
- * 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 4 gallons.

Trial Comments

OBJECTIVE: Determine the most effective management tactics for Palmer amaranth in Georgia.

Note: Rainfall did not occur until 17 DAP; however, the crops and 8-10 Palmer amaranth per square yard emerged within a week of planting. POST corn applications and POST1 and POST 2 cotton applications were made however layby cotton applications were not made because the entire crop was lost to extremely large Palmer amaranth.

CROP INJURY: No injury was noted as no rainfall occurred at planting.

Palmer Control:

1. Cotton: All herbicide programs provided very poor and similar control. The crop was essentially lost within a week of planting as the Palmer plants emerging at planting could not be controlled with postemergence treatments. The greatest level of control was provided by cultivation regardless of the herbicide program; however without control in the row, Palmer amaranth eventually grew to the point one could not see down the row and the crop was destroyed.
2. Similar to last year, weed control in corn was more effective than that in cotton; however, without rainfall the herbicide programs were far less effective with few real differences providing control around 70% in mid may. Cultivating the corn crop did clean up most of the Palmer plants escaping the at plant residual herbicides with excellent control noted with most corn programs when cultivation was implemented.
3. There did tend to be a slight trend for cotton weed control to be better when following corn treatments that included a 2,4-D burndown of fall emerging pigweed in 2006.

GENERAL COMMENTS:

Cultivations was implemented on May 20 and June 1.

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Resistant Palmer amaranth Roundup Ready sustainability study. Year 2

Trial ID: C15-07

Study Dir.: MacRae, Culpepper

Location: Macon County

Investigator: Stanley Culpepper

Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA		
Part Rated				culitv		culitv		
Rating Data Type		%	%	%	%	%		
Rating Unit		control	control	control	control	control		
Rating Date		May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07		
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5
1	RRF COTTON 2006 DRYLAND Prowl H20 Reflex Roundup WeatherMax Roundup WeatherMax Direx MSMA NIS RRF COTTON 2007 DRYLAND Prowl H20 Reflex Roundup WeatherMax Roundup WeatherMax			32 cde	19 b-e	60 b-e	0 c	20 e
		2.1	PT/A					
		1	PT/A					
		22	OZ/A					
		22	OZ/A					
		2	PT/A					
		2	LB A/A					
		0.25	% V/V					
		2.1	PT/A					
		1	PT/A					
		22	OZ/A					
		22	OZ/A					
2	RRF COTTON 2006 DRYLAND Prowl H20 Reflex Roundup WeatherMax Roundup WeatherMax Direx MSMA NIS RR CORN 2007 DRYLAND Atrazine Roundup WeatherMax Atrazine			74 a	64 a	98 a	54 a	90 d
		2.1	PT/A					
		1	PT/A					
		22	OZ/A					
		22	OZ/A					
		2	PT/A					
		2	LB A/A					
		0.25	% V/V					
		1	QT/A					
		22	OZ/A					
		1.5	QT/A					
3	RRF COTTON 2006 DRYLAND Prowl H20 Reflex Roundup WeatherMax Dual Magnum Roundup WeatherMax Direx MSMA NIS RRF COTTON 2007 DRYLAND Prowl H20 Reflex Roundup WeatherMax Dual Magnum Roundup WeatherMax			26 e	11 de	56 def	0 c	20 e
		2.1	PT/A					
		1	PT/A					
		22	OZ/A					
		1	PT/A					
		22	OZ/A					
		2	PT/A					
		2	LB A/A					
		0.25	% V/V					
		2.1	PT/A					
		1	PT/A					
		22	OZ/A					
		1	PT/A					
		22	OZ/A					

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Weed Code			AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Part Rated					culitiv		culitiv
Rating Data Type			%	%	%	%	%
Rating Unit			control	control	control	control	control
Rating Date			May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07
Trt No.	Treatment Name	Rate Unit	1	2	3	4	5
4	RRF COTTON 2006 DRYLAND		73 a	64 a	98 a	48 b	91 cd
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Direx	2 PT/A					
	MSMA	2 LB A/A					
	NIS	0.25 % V/V					
	RR CORN 2007 DRYLAND						
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	Atrazine	1.5 QT/A					
5	RRF COTTON 2006 DRYLAND		31 cde	19 b-e	54 def	0 c	20 e
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Roundup WeatherMax	22 OZ/A					
	Staple	1.7 OZ/A					
	RRF COTTON 2007 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
6	RRF COTTON 2006 DRYLAND		76 a	63 a	98 a	50 ab	93 bc
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Roundup WeatherMax	22 OZ/A					
	Staple	1.7 OZ/A					
	RR CORN 2007 DRYLAND						
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	Atrazine	1.5 QT/A					

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Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Part Rated				culitiv		culitiv
Rating Data Type		%	%	%	%	%
Rating Unit		control	control	control	control	control
Rating Date		May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate
		Unit	Unit	Unit	Unit	Unit
		1	2	3	4	5
7	RRF COTTON 2006 DRYLAND					
	Reflex	1 PT/A				
	Prowl H20	2.1 PT/A				
	Roundup WeatherMax	22 OZ/A				
	Dual Magnum	1 PT/A				
	Roundup WeatherMax	22 OZ/A				
	Direx	1 QT/A				
	MSMA	2.4 PT/A				
	NIS	0.25 % V/V				
	RRF COTTON 2007 DRYLAND					
	Reflex	1 PT/A				
	Direx	1 QT/A				
	Roundup WeatherMax	22 OZ/A				
	Dual Magnum	0.0625 PT/A				
	Roundup WeatherMax	22 OZ/A				
8	RRF COTTON 2006 DRYLAND					
	Reflex	1 PT/A				
	Prowl	1 QT/A				
	Roundup WeatherMax	22 OZ/A				
	Dual Magnum	1 PT/A				
	Roundup WeatherMax	22 OZ/A				
	Direx	1 QT/A				
	MSMA	2.4 PT/A				
	NIS	0.25 % V/V				
	RR CORN 2007 DRYLAND					
	Atrazine	1 QT/A				
	Roundup WeatherMax	22 OZ/A				
	Atrazine	1.5 QT/A				
9	RRF COTTON 2006 DRYLAND					
	Prowl H20	2.1 PT/A				
	Reflex	1 PT/A				
	Roundup WeatherMax	22 OZ/A				
	Dual Magnum	1 PT/A				
	Roundup WeatherMax	22 OZ/A				
	Direx	2 PT/A				
	MSMA	2 LB A/A				
	NIS	0.25 % V/V				
	RRF COTTON 2007 IRRIGATED					
	Prowl H20	2.1 PT/A				
	Reflex	1 PT/A				
	Roundup WeatherMax	22 OZ/A				
	Dual Magnum	1 PT/A				
	Roundup WeatherMax	22 OZ/A				

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Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	
Part Rated				culitiv		culitiv	
Rating Data Type		%	%	%	%	%	
Rating Unit		control	control	control	control	control	
Rating Date		May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	
		Unit	Unit	Unit	Unit	Unit	
		1	2	3	4	5	
10	RRF COTTON 2006 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Direx	2 PT/A					
	MSMA	2 LB A/A					
	NIS	0.25 % V/V					
	RR CORN 2007 IRRIGATED						
	Atrazine	1 QT/A					
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	WeatherMax if needed	22 OZ/A					
			70 a	61 a	99 a	53 ab	98 a
11	RR CORN 2006 DRYLAND						
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	Atrazine	1.5 QT/A					
	2,4-D as needed	1 QT/A					
	RRF COTTON 2007 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
			55 b	53 a	69 bc	0 c	20 e
12	RR CORN 2006 DRYLAND						
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	Atrazine	1.5 QT/A					
	2,4-D as needed	1 QT/A					
	RRF COTTON 2007 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
			38 cd	30 bcd	60 b-e	0 c	19 e

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Weed Code			AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Part Rated					culitiv		culitiv
Rating Data Type			%	%	%	%	%
Rating Unit			control	control	control	control	control
Rating Date			May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07
Trt No.	Treatment Name	Rate Unit	1	2	3	4	5
13	RR CORN 2006 DRYLAND		25 e	11 de	49 ef	0 c	20 e
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	Harness Xtra	1.2 QT/A					
	WeatherMax if needed	22 OZ/A					
	2,4-D as needed	1 QT/A					
	RRF COTTON 2007 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
14	RR CORN 2006 DRYLAND		28 e	8 e	50 ef	0 c	20 e
	Atrazine	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	Harness Xtra	1.2 QT/A					
	WeatherMax if needed	22 OZ/A					
	2,4-D as needed	1 QT/A					
	RRF COTTON 2007 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
15	RR CORN DRYLAND		34 cde	21 b-e	46 f	0 c	20 e
	Atrazine	1 QT/A					
	Bicep II Magnum	1 QT/A					
	Roundup WeatherMax	22 OZ/A					
	WeatherMax if needed	22 OZ/A					
	2,4-D as needed	1 QT/A					
	RRF COTTON 2007 DRYLAND						
	Prowl H20	2.1 PT/A					
	Reflex	1 PT/A					
	Roundup WeatherMax	22 OZ/A					
	Dual Magnum	1 PT/A					
	Roundup WeatherMax	22 OZ/A					

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Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA		
Part Rated				culitiv		culitiv		
Rating Data Type		%	%	%	%	%		
Rating Unit		control	control	control	control	control		
Rating Date		May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07		
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5
16	RR CORN DRYLAND			33 cde	14 de	50 ef	0 c	20 e
	Atrazine	1	QT/A					
	Bicep II Magnum	1	QT/A					
	Roundup WeatherMax	22	OZ/A					
	WeatherMax if needed	22	OZ/A					
	2,4-D as needed	1	QT/A					
	RRF COTTON 2007 DRYLAND							
	Prowl H20	2.1	PT/A					
	Reflex	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
17	RR CORN 2006 DRYLAND			34 cde	15 de	45 f	0 c	20 e
	Atrazine	1	QT/A					
	Lexar	1.5	QT/A					
	Roundup WeatherMax	22	OZ/A					
	WeatherMax if needed	22	OZ/A					
	2,4-D as needed	1	QT/A					
	RRF COTTON 2007 DRYLAND							
	Prowl H20	2.1	PT/A					
	Reflex	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
18	RR CORN 2006 DRYLAND			34 cde	11 de	58 c-f	0 c	20 e
	Atrazine	1	QT/A					
	Lexar	1.5	QT/A					
	Roundup WeatherMax	22	OZ/A					
	WeatherMax if needed	22	OZ/A					
	2,4-D as needed	1	QT/A					
	RRF COTTON 2007 DRYLAND							
	Prowl H20	2.1	PT/A					
	Reflex	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	1	PT/A					
	Roundup WeatherMax	22	OZ/A					

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Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA		
Part Rated				culitiv		culitiv		
Rating Data Type		%	%	%	%	%		
Rating Unit		control	control	control	control	control		
Rating Date		May-15-07	Jun-19-07	Jun-19-07	Jul-15-07	Jul-15-07		
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5
19	RR CORN 2006 DRY LAND			40 c	35 bc	65 bcd	0 c	20 e
	Atrazine	1	QT/A					
	Roundup WeatherMax	22	OZ/A					
	Atrazine	1.5	QT/A					
	2,4-D after harvest	1	QT/A					
	RRF COTTON 2007 IRRIGATED							
	Prowl H20	2.1	PT/A					
	Reflex	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
20	RR CORN 2006 DRY LAND			38 cd	36 b	70 b	0 c	20 e
	Atrazine	1	QT/A					
	Roundup WeatherMax	22	OZ/A					
	Atrazine	1.5	QT/A					
	2,4-D after harvest	1	QT/A					
	RRF COTTON 2007 IRRIGATED							
	Prowl H20	2.1	PT/A					
	Reflex	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	1	PT/A					
	Roundup WeatherMax	22	OZ/A					
	LSD (P=.05)			8.4	16.1	10.8	4.9	1.8
	Standard Deviation			5.9	11.4	7.6	3.5	1.2
	CV			13.68	36.47	11.46	26.95	3.26
	Bartlett's X2			31.529	28.95	40.644	8.104	0.385
	P(Bartlett's X2)			0.017*	0.067	0.001*	0.044*	0.984

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

University of Georgia

Resistant Palmer amaranth Roundup Ready sustainability study. Year 2

Trial ID: C15-07 Study Dir.: MacRae, Culpepper
Location: Macon County Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794
Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Macon Co **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: _____ **Initiation Date:** Apr-17-07
Country: USA **Planned Completion Date:** _____
E-Longitude of LL Corner °: _____ **N-Latitude of LL Corner °:** _____
Altitude of LL Corner: _____ **Unit:** _____ **Angle y-axis to North °:** _____
Directions:

COOPERATOR/LANDOWNER

Cooperator: _____ **Country:** _____
Org: _____ **Phone No:** _____
Address 1: _____ **Fax No:** _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N
Guidelines: _____ **Guideline Description:** _____

Objective:

Conclusions:

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	AMAPA	Palmer amaranth	

Crop 1: GOSHI COTTON, SHORT STAPLE **Variety:** DP 143 B2RF
Planting Date: Apr-17-07 **Planting Method:** hill drop
Rate: 2 8 in **Depth:** 0.75 in **Perennial Age:** _____
Row Spacing: 36 in **Spacing Within Row:** _____ **Seed Bed:** bedded
Soil Temperature: 75 F **Soil Moisture:** moist **Emergence Date:** Apr-23-07

Crop 2: ZEAMX CORN, FIELD **Variety:** .
Planting Date: Apr-17-07 **Planting Method:** seeded
Rate: 1 5 in **Depth:** 1 in **Perennial Age:** _____
Row Spacing: 36 in **Spacing Within Row:** 5 inch **Seed Bed:** bedded
Soil Temperature: 75 F **Soil Moisture:** moist **Emergence Date:** Apr-22-07

SITE AND DESIGN

Plot Width, Unit: 24 FT **Plot Length, Unit:** 100 FT **Reps:** 4
Site Type: on farm
Tillage Type: conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments:

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	Previous Crops	Previous Pesticides	Year
1.			

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: _____
% 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.							
2.							
3.							
4.							

Overall Moisture Conditions: dry

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A	B	C
Application Date:	Apr-18-07	May-12-07	May-25-07
Time of Day:	10:00 am	9:00 am	9:00 am
Application Method:	broadcast	broadcast	broadcast
Application Timing:	PRE	POST 1	POST 2
Applic. Placement:	on soil	overtop	overtop
Air Temp., Unit:	65 F	82 F	80 F
% Relative Humidity:	52	40	44
Wind Velocity, Unit:	3 mph	3 mph	3 mph
Dew Presence (Y/N):	N	N	n
Water Hardness:			
Soil Temp., Unit:	63 F	80 F	80 F
Soil Moisture:	moist	fair	fair
% Cloud Cover:	100	100	70

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GOSHI PRE	GOSHI POST 1	GOSHI POST 2
Stage Scale:	not up	1 leaf	5 leaf
Height, Unit:	0 inch	1.5 inch	5 inch
Crop 2 Code, Stage:	ZEAMX PRE	ZEAMX POST 1	ZEAMX .
Stage Scale:	not up	5 leaf	.
Height, Unit:	0 inch	6 inch	0. .

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WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	AMAPA PRE	AMAPA POST 1	AMAPA POST 2
Stage Scale:	not up	3.5 inch	12 inch
Density, Unit:	0 ydsq	5 ydsq	50 ydsq

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	tractor	tractor	tractor
Operating Pressure:	24	24	24
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch	18 inch
Nozzles/Row:	2	2	2
Band Width, Unit:			
Boom Length, Unit:	18 ft	18 ft	18 ft
Boom Height, Unit:	18 inch	18 inch	18 inch
Ground Speed, Unit:	3 mph	3 mph	3 mph
Incorporation Equip.:			
Hours to Incorp.:			
Incorp. Depth, Unit:			
Carrier:	water	water	water
Spray Volume, Unit:	15 GPA	14.8 GPA	14.8 GPA
Spray pH:			
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	Y	Y	Y

Trt No	Treatment Application Comment