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Does Prowl H2O or Dual Magnum antagonize Roundup Original MAX?

Trial ID: C9-06

Study Dir.: Stanley Culpepper

Location: Attapulgus

Investigator: Stanley Culpepper

Reps: 4

Plots: 12 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 2 liters (min 1.5434)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
1	Roundup Original MAX	4.5		L	0.56	LB A/A	POST	A	16.82 ml/mx	101	209	310	405
	Prowl H2O	3.8		L	0.95	LB A/A	POST	A	33.78 ml/mx				
2	Roundup Original MAX	4.5		L	0.75	LB A/A	POST	A	22.52 ml/mx	102	206	307	402
	Prowl H2O	3.8		L	0.95	LB A/A	POST	A	33.78 ml/mx				
3	Roundup Original MAX	4.5		L	1.125	LB A/A	POST	A	33.78 ml/mx	103	210	306	407
	Prowl H2O	3.8		L	0.95	LB A/A	POST	A	33.78 ml/mx				
4	Roundup Original MAX	4.5		L	0.56	LB A/A	POST	A	16.82 ml/mx	104	203	301	403
	Dual Magnum	7.64		L	0.95	LB A/A	POST	A	16.8 ml/mx				
5	Roundup Original MAX	4.5		L	0.75	LB A/A	POST	A	22.52 ml/mx	105	204	308	406
	Dual Magnum	7.64		L	0.95	LB A/A	POST	A	16.8 ml/mx				
6	Roundup Original MAX	4.5		L	1.125	LB A/A	POST	A	33.78 ml/mx	106	208	304	401
	Dual Magnum	7.64		L	0.95	LB A/A	POST	A	16.8 ml/mx				
7	Roundup Original MAX	4.5		L	0.56	LB A/A	POST	A	16.82 ml/mx	107	202	305	404
8	Roundup Original MAX	4.5		L	0.75	LB A/A	POST	A	22.52 ml/mx	108	205	309	410
9	Roundup Original MAX	4.5		L	1.125	LB A/A	POST	A	33.78 ml/mx	109	201	302	409
10	Non-treated									110	207	303	408

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
274.183	ml	Roundup Original MAX	4.5	L	
126.676	ml	Prowl H2O	3.8	L	
63.006	ml	Dual Magnum	7.64	L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 2 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

Trial Comments

OBJECTIVE: Determine if mixing Prowl H2O or Dual Magnum with Original Max impacts weed control.

VISUAL CROP RESPONSE:

1. Applying Prowl H2O plus Original Max overtop of 8 leaf cotton caused less than 3% splotching.
2. Applying Dual Mag. plus Original Max overtop of cotton caused 9 to 10% speckling at 5 DAT. Rate of Original Max did not impact injury. No injury was noted by 14 DAT.

VISUAL WEED CONTROL ESTIMATES:

Sicklepod:

1. At 5, 14, and 18 DAT mixing Prowl H2O with all rates of Original Max reduced control. By 41 DAT, reduced control was still noted with 0.56 lb of Original Max.
2. Dual Magnum did not impact control by Original Max.

Texas Panicum:

1. At 5 DAT, mixing Prowl H2O with all rates of Original Max reduced control.

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2. At 14, 18, and 41 DAT, mixing Prowl H2O with the low and mid rates of Original Max reduced control (as much as 43% with the low rate and 20% with the mid rate of 0.75 lb ae/A).

3. Dual Magnum did not impact control by Original Max

Smallflower Morningglory:

1. At 14, 18, and 41 DAT, mixing Prowl H2O with all rates of Original Max reduced control(11 to 30% at 41 DAT).

2. Dual Magnum did not impact control by Original Max

SEED COTTON YIELD:

1. Compared to Original Max alone, mixing Prowl H2O with 0.56 and 0.75 lb of Original Max reduced yield 50% and 18%, respectively. Mixing Prowl H2O with Original Max at 1.125 lb did not impact yield.

2. Dual Magnum did not impact yield with trends for greater yields in systems using Dual Magnum.

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Study Dir.: Stanley Culpepper

Location: Attapulgus

Investigator: Stanley Culpepper

Weed Code			CASOB	CASOB	CASOB	CASOB	PANTE	PANTE		
Crop Code	GOSHI	GOSHI								
Rating Data Type	injury	injury	control	control	control	control	control	control		
Rating Unit	%	%	%	%	%	%	%	%		
Rating Date	Jun-27-06	Jul-06-06	Jun-27-06	Jul-06-06	Jul-10-06	Aug-02-06	Jun-27-06	Jul-06-06		
Assessed By	SC	SC	SC	SC	SC	SC	SC	SC		
Trt-Eval Interval	5 DA-A	14 DA-A	5 DA-A	14 DA-A	18 DA-A	41 DA-A	5 DA-A	14 DA-A		
ARM Action Codes										
# Subsamples, Dec.										
Trt Treatment	Rate	Rate								
No. Name	Rate	Unit	1	2	3	4	5	6	7	8
1 Roundup Original MAX	0.56	LB A/A	0 b	0 a	36 d	54 f	59 d	81 b	33 e	78 c
Prowl H20	0.95	LB A/A								
2 Roundup Original MAX	0.75	LB A/A	3 b	0 a	51 c	64 e	74 c	94 a	44 d	89 b
Prowl H20	0.95	LB A/A								
3 Roundup Original MAX	1.125	LB A/A	2 b	0 a	57 bc	70 de	85 b	95 a	53 c	97 a
Prowl H20	0.95	LB A/A								
4 Roundup Original MAX	0.56	LB A/A	10 a	0 a	60 abc	75 cd	84 b	95 a	55 c	97 a
Dual Magnum	0.95	LB A/A								
5 Roundup Original MAX	0.75	LB A/A	10 a	0 a	62 ab	78 bc	89 ab	95 a	61 abc	99 a
Dual Magnum	0.95	LB A/A								
6 Roundup Original MAX	1.125	LB A/A	9 a	0 a	69 a	89 a	94 a	97 a	69 a	99 a
Dual Magnum	0.95	LB A/A								
7 Roundup Original MAX	0.56	LB A/A	1 b	0 a	60 abc	77 cd	76 c	96 a	60 bc	98 a
8 Roundup Original MAX	0.75	LB A/A	2 b	0 a	64 ab	73 cd	85 b	96 a	65 ab	99 a
9 Roundup Original MAX	1.125	LB A/A	1 b	0 a	67 a	85 ab	92 a	97 a	67 ab	99 a
10 Non-treated			0 b	0 a	0 e	0 g	0 e	0 c	0 f	0 d
LSD (P=.05)	2.5		2.5	0.0	8.3	7.7	6.5	5.7	8.3	4.5
Standard Deviation	1.7		1.7	0.0	5.7	5.3	4.5	3.9	5.7	3.1
CV	47.27		47.27	0.0	10.93	8.02	6.05	4.64	11.3	3.65
Bartlett's X2	2.699		2.699	0.0	14.527	6.332	4.344	22.695	7.291	4.205
P(Bartlett's X2)	0.911		0.911	.	0.069	0.61	0.825	0.001*	0.506	0.379

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

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Weed Code	PANTE	PANTE	IAQTA	IAQTA	IAQTQ	IAQTA	Seed YLD		
Crop Code							GOSHI		
Rating Data Type	control	control	control	control	control	control	wt		
Rating Unit	%	%	%	%	%	%	lb/plot		
Rating Date	Jul-10-06	Aug-02-06	Jun-27-06	Jul-06-06	Jul-10-06	Aug-02-06	Oct-20-06		
Assessed By	SC	SC	SC	SC	SC	SC			
Trt-Eval Interval	18 DA-A	41 DA-A	5 DA-A	14 DA-A	18 DA-A	41 DA-A	120 DA-A		
ARM Action Codes									
# Subsamples, Dec.									
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate	Rate		
No. Name	Rate	Unit	9	10	11	12	13	14	15
1 Roundup Original MAX Prowl H20	0.56 0.95	LB A/A LB A/A	68 c	53 c	44 d	53 e	50 d	44 f	7 c
2 Roundup Original MAX Prowl H20	0.75 0.95	LB A/A LB A/A	84 b	80 b	54 c	60 de	56 d	64 e	12 b
3 Roundup Original MAX Prowl H20	1.125 0.95	LB A/A LB A/A	99 a	99 a	56 bc	64 cd	74 bc	80 cd	14 a
4 Roundup Original MAX Dual Magnum	0.56 0.95	LB A/A LB A/A	97 a	95 a	59 abc	63 cd	74 bc	82 bcd	15 a
5 Roundup Original MAX Dual Magnum	0.75 0.95	LB A/A LB A/A	98 a	98 a	62 ab	75 ab	83 ab	91 ab	15 a
6 Roundup Original MAX Dual Magnum	1.125 0.95	LB A/A LB A/A	99 a	99 a	64 a	80 a	88 a	96 a	16 a
7 Roundup Original MAX	0.56	LB A/A	97 a	96 a	60 abc	64 cd	67 c	75 d	14 a
8 Roundup Original MAX	0.75	LB A/A	98 a	99 a	62 ab	71 bc	75 bc	89 abc	15 a
9 Roundup Original MAX	1.125	LB A/A	99 a	98 a	63 ab	80 a	88 a	91 ab	14 a
10 Non-treated			0 d	0 d	0 e	0 f	0 e	0 g	1 d
LSD (P=.05)	4.8		4.8	8.7	6.8	7.6	8.8	10.2	1.5
Standard Deviation	3.3		3.3	6.0	4.7	5.3	6.1	7.0	1.0
CV	3.91		3.91	7.33	8.98	8.68	9.31	9.84	8.29
Bartlett's X2	11.057		11.057	41.453	7.962	5.335	7.668	14.85	12.817
P(Bartlett's X2)	0.05		0.05	0.001*	0.336	0.721	0.363	0.038*	0.171

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

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Weed Code	Seed YLD
Crop Code	GOSHI
Rating Data Type	YIELD
Rating Unit	LB/A
Rating Date	Oct-20-06
Assessed By	
Trt-Eval Interval	120 DA-A
ARM Action Codes	TY1
# Subsamples, Dec.	1
Trt Treatment	Rate
No. Name	Rate Unit
	16
1 Roundup Original MAX	0.56 LB A/A
Prowl H20	0.95 LB A/A
2 Roundup Original MAX	0.75 LB A/A
Prowl H20	0.95 LB A/A
3 Roundup Original MAX	1.125 LB A/A
Prowl H20	0.95 LB A/A
4 Roundup Original MAX	0.56 LB A/A
Dual Magnum	0.95 LB A/A
5 Roundup Original MAX	0.75 LB A/A
Dual Magnum	0.95 LB A/A
6 Roundup Original MAX	1.125 LB A/A
Dual Magnum	0.95 LB A/A
7 Roundup Original MAX	0.56 LB A/A
8 Roundup Original MAX	0.75 LB A/A
9 Roundup Original MAX	1.125 LB A/A
10 Non-treated	
LSD (P=.05)	431.65
Standard Deviation	297.49
CV	8.29
Bartlett's X2	12.817
P(Bartlett's X2)	0.171

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

Column 16: TY1 = 290.4*[C15]

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Trial ID: C9-06 Study Dir.: Stanley Culpepper
 Location: Attapulcus Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

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

TRIAL LOCATION

City: Attapuulgus **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Postal Code: _____ **Initiation Date:** May-19-06
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.	CASOB	sicklepod	
2.	IAQTA	smallflower mg	
3.	PANTE	Texas pancium	

Crop 1: GOSHI COTTON, SHORT STAPLE **Variety:** WR 485 Flex
Planting Date: May-19-06 **Planting Method:** SEEDED
Rate: 3 ft **Depth:** 0.5 in **Perennial Age:** _____
Row Spacing: 3 Ft **Spacing Within Row:** 4 in **Seed Bed:** flat
Soil Temperature: 78 F **Soil Moisture:** fair **Emergence Date:** May-24-06

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: Attapulcus Research Farm
Tillage Type: Conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

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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: 84	% OM: 6	Texture: Loamy sandy
% Silt: 8	pH: 1.3	Soil Name: _____
% Clay: 8	CEC: _____	Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: overhead irrigation

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A
Application Date:	Jun-22-06
Time of Day:	2:00pm
Application Method:	Broadcast
Application Timing:	POST
Applic. Placement:	overtop
Air Temp., Unit:	101 F
% Relative Humidity:	39
Wind Velocity, Unit:	0 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	101 F
Soil Moisture:	good
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI POST
Stage Scale:	8 lf
Height, Unit:	10 inch

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WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	CASOB POST
Stage Scale:	up to 8"
Density, Unit:	6 ydsq
Weed 2 Code, Stage:	IAQTA POST
Stage Scale:	up to 6"
Density, Unit:	6 ydsq
Weed 3 Code, Stage:	PANTE POST
Stage Scale:	up to 10"
Density, Unit:	14 ydsq

APPLICATION EQUIPMENT

A	
Appl. Equipment:	backpack
Operating Pressure:	24
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 inch
Nozzles/Row:	2
Band Width, Unit:	
Boom Length, Unit:	4.5 ft
Boom Height, Unit:	15 inch
Ground Speed, Unit:	3 mph
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	water
Spray Volume, Unit:	14.8 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	Y

Trt No	Treatment Application Comment