

University of Georgia

Evaluating the potential benefits from using fall Valor burndown applications

Trial ID: C1-05

Study Dir.: Culpepper

Location: Ponder (5120)

Investigator: Stanley Culpepper

Reps: 3

Plots: 12 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 2 liters (min 1.1575)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep		
									1	2	3
1	Valor	51	WDG	2	oz/a	Fall	A	2.024 g/mx	101	205	309
	Roundup WeatherMax	5.5	L	22	oz/a	Fall	A	23.23 ml/mx			
	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx			
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Cotton										
2	Valor	51	WDG	2	oz/a	Fall	A	2.024 g/mx	102	204	307
	Roundup WeatherMax	5.5	L	22	oz/a	Fall	A	23.23 ml/mx			
	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx			
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Corn										
3	Valor	51	WDG	2	oz/a	Fall	A	2.024 g/mx	103	206	308
	Roundup WeatherMax	5.5	L	22	oz/a	Fall	A	23.23 ml/mx			
	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx			
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Soybean										
4	Roundup WeatherMax	5.5	L	22	oz/a	Fall	A	23.23 ml/mx	104	207	306
	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx			
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Cotton										
5	Roundup WeatherMax	5.5	L	22	oz/a	Fall	A	23.23 ml/mx	105	209	304
	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx			
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Corn										
6	Roundup WeatherMax	5.5	L	22	oz/a	Fall	A	23.23 ml/mx	106	208	305
	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx			
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Soybean										
7	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx	107	202	303
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Cotton										
8	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx	108	203	301
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Corn										
9	Roundup WeatherMax	5.5	L	22	oz/a	1 WBP	B	23.23 ml/mx	109	201	302
	2,4-D	4	L	6	oz/a	1 WBP	B	6.334 ml/mx			
	Roundup Ready Soybean										

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Lot Code
7.590	g	Valor 51 WDG	
435.495	ml	Roundup WeatherMax 5.5 L	
71.263	ml	2,4-D 4 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.

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Trial Comments

OBJECTIVE: Determine if there is a benefit from applying Valor in the fall for a spring crop.

Nematode Response:

1. Nematode populations did not statistically vary among herbicide systems.

Soil Nitrate Nitrogen:

1. Soil nitrate nitrogen was not not impacted by herbicide system.

Plant Nitrogen (25 plant samples taken from each plot for each measurement):

1. Percent total nitrogen in the plant did not vary within a crop when comparing herbicide systems.

Soil temperature (one measurement taken from each plot):

1. Herbicide program had no impact on soil temperature at planting.

Stand counts (counts from 8 foot of row in each plot):

1. Herbicide program had no impact on stand counts.

Conclusion:

1. Applying Valor in the fall definitely reduced weed populations in the spring. However, applying Roundup plus 2,4-D (very low rate) one week before planting followed by running a strip rig eliminated much of the weed issue.

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Weed Code	Root-Knot	Ring	Soil Nitrate	Total Plant	Total Plant	soil temp	crop stand		
Crop Code	Juvenils	Nematode	Nitrogen	Nitrogen	Nitrogen	temp	cts		
Rating Data Type	#/100cc	#/100cc	lbs/A	%	%	F	#/8ft		
Rating Unit			Apr-04-05	May-02-05	May-18-05	Apr-04-05	Apr-21-05		
Rating Date			132 DA-A	160 DA-A	176 DA-A	132 DA-A	149 DA-A		
Trt-Eval Interval									
Trt No.	Treatment Name	Rate	1	2	3	4	5	6	7
		Unit							
1	Valor	2 oz/a	31	10	8	6	4	78	6
	Roundup WeatherMax	22 oz/a							
	Roundup WeatherMax	22 oz/a							
	2,4-D	6 oz/a							
	Roundup Ready Cotton								
2	Valor	2 oz/a				5	3	81	22
	Roundup WeatherMax	22 oz/a							
	Roundup WeatherMax	22 oz/a							
	2,4-D	6 oz/a							
	Roundup Ready Corn								
3	Valor	2 oz/a				6	3	78	54
	Roundup WeatherMax	22 oz/a							
	Roundup WeatherMax	22 oz/a							
	2,4-D	6 oz/a							
	Roundup Ready Soybean								
4	Roundup WeatherMax	22 oz/a	38	4	6	5	5	76	7
	Roundup WeatherMax	22 oz/a							
	2,4-D	6 oz/a							
	Roundup Ready Cotton								
5	Roundup WeatherMax	22 oz/a				5	2	79	21
	Roundup WeatherMax	22 oz/a							
	2,4-D	6 oz/a							
	Roundup Ready Corn								
6	Roundup WeatherMax	22 oz/a				7	3	76	53
	Roundup WeatherMax	22 oz/a							
	2,4-D	6 oz/a							
	Roundup Ready Soybean								
7	Roundup WeatherMax	22 oz/a	51	5	6	6	4	77	9
	2,4-D	6 oz/a							
	Roundup Ready Cotton								
8	Roundup WeatherMax	22 oz/a				5	2	79	22
	2,4-D	6 oz/a							
	Roundup Ready Corn								
9	Roundup WeatherMax	22 oz/a				7	4	76	55
	2,4-D	6 oz/a							
	Roundup Ready Soybean								
LSD (P=.05)			92.4	11.1	4.9	1.1	0.7	3.0	6.5
Standard Deviation			40.8	4.9	2.2	0.6	0.4	1.7	3.7
CV			102.53	77.08	32.45	10.7	11.03	2.22	13.47

Means followed by same letter do not significantly differ (P=.05, LSD)

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Weed Code			
Crop Code			crop
Rating Data Type			stand cts
Rating Unit			#/8ft
Rating Date			May-06-05
Trt-Eval Interval			164 DA-A
Trt No.	Treatment Name	Rate	
		Rate Unit	8
1	Valor	2 oz/a	11
	Roundup WeatherMax	22 oz/a	
	Roundup WeatherMax	22 oz/a	
	2,4-D	6 oz/a	
	Roundup Ready Cotton		
2	Valor	2 oz/a	21
	Roundup WeatherMax	22 oz/a	
	Roundup WeatherMax	22 oz/a	
	2,4-D	6 oz/a	
	Roundup Ready Corn		
3	Valor	2 oz/a	40
	Roundup WeatherMax	22 oz/a	
	Roundup WeatherMax	22 oz/a	
	2,4-D	6 oz/a	
	Roundup Ready Soybean		
4	Roundup WeatherMax	22 oz/a	15
	Roundup WeatherMax	22 oz/a	
	2,4-D	6 oz/a	
	Roundup Ready Cotton		
5	Roundup WeatherMax	22 oz/a	20
	Roundup WeatherMax	22 oz/a	
	2,4-D	6 oz/a	
	Roundup Ready Corn		
6	Roundup WeatherMax	22 oz/a	33
	Roundup WeatherMax	22 oz/a	
	2,4-D	6 oz/a	
	Roundup Ready Soybean		
7	Roundup WeatherMax	22 oz/a	11
	2,4-D	6 oz/a	
	Roundup Ready Cotton		
8	Roundup WeatherMax	22 oz/a	17
	2,4-D	6 oz/a	
	Roundup Ready Corn		
9	Roundup WeatherMax	22 oz/a	40
	2,4-D	6 oz/a	
	Roundup Ready Soybean		
LSD (P=.05)			14.8
Standard Deviation			8.6
CV			37.05

Means followed by same letter do not significantly differ (P=.05, LSD)

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SITE AND DESIGN

Plot Width, Unit: 12 FT Plot Length, Unit: 25 FT Reps: 3
 Site Type: research station
 Tillage Type: strip till Study Design: SPLIT-PLOT

Trial Initiation Comments:

	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: 94 % OM: 1.3 Texture: sand
 % Silt: 2 pH: 5.9 Soil Name: Tifton sandy loam
 % Clay: 4 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: .

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A	B
Application Date:	Nov-23-04	Mar-25-05
Time of Day:	9 am	11 am
Application Method:	broadcast	broadcast
Application Timing:	fall	1 WBP
Applic. Placement:	overtop	overtop
Air Temp., Unit:	67 F	74 F
% Relative Humidity:	80	46
Wind Velocity, Unit:	3 mph	3 mph
Dew Presence (Y/N):	n	n
Water Hardness:		
Soil Temp., Unit:	67 F	55 F
Soil Moisture:	wet	fair
% Cloud Cover:	100	100

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CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GOSHI fall	GOSHI 1 WBP
Stage Scale:	not up	not up
Height, Unit:	0. .	0 .
Crop 2 Code, Stage:	corn fall	corn 1 WBP
Stage Scale:	not up	not up
Height, Unit:	0. .	0 .
Crop 3 Code, Stage:	soybe fall	soybe 1 WBP
Stage Scale:	not up	not up
Height, Unit:	0. .	0 .

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	OEOLA fall	OEOLA 1 WBP
Stage Scale:	up to 8"	up to 18"
Density, Unit:	6 ydsq	7 ydsq
Weed 2 Code, Stage:	RAPRA fall	RAPRA 1 WBP
Stage Scale:	up to 12"	up to 24"
Density, Unit:	3 ydsq	3 ydsq

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	backpack	backpack
Operating Pressure:	23	23
Nozzle Type:	flat fan	flat fan
Nozzle Size:	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch
Nozzles/Row:	2	2
Band Width, Unit:		
Boom Length, Unit:	4.5 feet	4.5 feet
Boom Height, Unit:	15 inch	15 inch
Ground Speed, Unit:	3 mph	3 mph
Incorporation Equip.:		
Hours to Incorp.:		
Incorp. Depth, Unit:		
Carrier:	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA
Spray pH:		
Propellant:	CO2	CO2
Tank Mix (Y/N):	Y	Y

Trt No	Treatment Application Comment