

Ohio State University Horticulture and Crop Science

EFFICACY AND SELECTIVITY OF ALERT, CHA-019, AND CHA-021 WHEN APPLIED PRE

Title No. 2:
 Trial ID: 10PRES1 Protocol ID: 10PRES1
 Location: Western Branch F-8 Study Director: Bryan Reeb
 Project ID: 10PRES1 Investigator: Dr. Mark M. Loux
 Sponsor Contact: JAMES BARRENTINE, CHEMINOVA

General Trial Information

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Trial Location	
City: South Charleston	Latitude of LL Corner °: 39.86007 N
State/Prov.: Ohio	Longitude of LL Corner °: 83.66985 W
Postal Code: 45368	Altitude of LL Corner, Unit: 1080.00 FT
Country: USA	

Personnel

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: GLXMA Glycine max Soybean	Description: RR
Variety: AG3803	Planting Date: May-6-2010
BBCH Scale: BSOY	Rate, Unit: 196000 S/A
Planting Method: SEEDED seeded	
Depth, Unit: 0.75 IN	
Row Spacing, Unit: 15 IN	
Seed Bed: MEDIUM medium	
Soil Moisture: GOOD good	Emergence Date: May-18-2010

Pest Description

Pest 1 Type: W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail

Pest 2 Type: W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed

Pest 3 Type: W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters

Pest 4 Type: W **Code:** POLPY *Polygonum pensylvanicum*
Common Name: Pennsylvania smartweed

Pest 5 Type: W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed

Site and Design

Plot Width, Unit: 6.67 FT	Site Type: FIELD field
Plot Length, Unit: 30 FT	Experimental Unit: 1 PLOT plot
Plot Area, Unit: 200.1 FT ²	Tillage Type: CONTIL conventional-till
Replications: 3	Study Design: RACOB� Randomized Complete Block (RCB)
	Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: F-8 East	Texture: SICL silty clay loam
% OM: 2.4	Soil Name: Kokomo
pH: 6.2	Fert. Level: G good
CEC: 16	Soil Drainage: G good

No.	Date	Amount	Unit	Type	Type Description
1.	May-8-2010	0.5	IN	SPWACA	sprinkler - water cannon/traveling gun

Application Description

A

Application Date: May-6-2010
Time of Day: 12:00 PM
Application Method: SPRAY
Application Timing: PRE
Application Placement: BROFOL
Air Temperature, Unit: 62 F
% Relative Humidity: 58
Wind Velocity, Unit: 2.7 MPH
Wind Direction: SW
Dew Presence (Y/N): N no
Soil Temperature, Unit: 60 F
Soil Moisture: GOOD
% Cloud Cover: 2
Next Rain Occurred On: May-8-2010

Crop Stage At Each Application

A

Crop 1 Code, BBCH Scale: GLXMA BSOY

Pest Stage At Each Application

A

Pest 1 Code, Type, Scale: SETFA W
Density, Unit: 258.4 M2
Pest 2 Code, Type, Scale: AMBTR W
Density, Unit: 5.2 M2
Pest 3 Code, Type, Scale: CHEAL W
Density, Unit: 9.2 M2
Pest 4 Code, Type, Scale: POLPY W
Density, Unit: 4 M2
Pest 5 Code, Type, Scale: AMARE W
Density, Unit: 36 M2

Application Equipment

A

Appl. Equipment: Backpack
Equipment Type: SPRBAC
Operating Pressure, Unit: 52 PSI
Nozzle Type: DG
Nozzle Size: 8002
Nozzle Spacing, Unit: 18 IN
Boom Length, Unit: 6.67 FT
Boom Height, Unit: 18 IN
Ground Speed, Unit: 3 MPH
Carrier: WATER
Spray Volume, Unit: 20 gal/ac
Mix Size, Unit: 0.33 gallons
Propellant: COMCO2

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed							
Pest Code	SETFA	AMBTR	ABUTH	AMARE	SETFA							
Pest Scientific Name	Setaria faberi	Ambrosia trifi>	Abutilon theop>	Amaranthus ret>	Setaria faberi							
Pest Name	Giant foxtail	Giant ragweed	Velvetleaf	Redroot pigweed	Giant foxtail							
Crop Code	GLXMA											
BBCH Scale	BSOY											
Crop Scientific Name	Glycine max											
Crop Name	Soybean											
Rating Date	May-27-2010	May-27-2010	May-27-2010	May-27-2010	Jun-10-2010							
Rating Type	PHYGEN	CONTROL	CONTROL	CONTROL	CONTROL							
Rating Unit	%	%	%	%	%							
Number of Subsamples	1	1	1	1	1							
Days After First/Last Applic.	21 21	21 21	21 21	21 21	35 35							
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	21 DA-A	35 DA-A							
Plant-Eval Interval	21 DP-1	21 DP-1	21 DP-1	21 DP-1	35 DP-1							
Days After Emergence	9 DE-1	9 DE-1	9 DE-1	9 DE-1	23 DE-							
Number of Decimals	0	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate	Appl Unit Code	1	2	3	4	5	6
1	Alert	3 LB/GAL		16 oz/a		A	0	62	23	96	0	60
2	Alert	3 LB/GAL		21.3 oz/a		A	0	90	20	100	42	70
3	Alert	3 LB/GAL		32 oz/a		A	0	97	17	100	50	77
4	Alert	3 LB/GAL		42.7 oz/a		A	0	99	43	100	57	87
5	CHA-019	4.5 LB/GAL		21.3 oz/a		A	0	93	30	100	67	83
6	CHA-019	4.5 LB/GAL		32 oz/a		A	0	100	50	100	96	93
7	CHA-021	4 LB/GAL		32 oz/a		A	0	95	33	100	72	88
8	CHA-021	4 LB/GAL		48 oz/a		A	0	100	59	100	93	90
9	Alert	3 LB/GAL		21.3 oz/a		A	0	83	77	97	99	77
9	Dawn	2 LB/GAL		16 oz/a		A						
10	Alert	3 LB/GAL		21.3 oz/a		A	0	92	90	100	100	90
10	Dawn	2 LB/GAL		24 oz/a		A						
11	Alert	3 LB/GAL		32 oz/a		A	0	89	77	100	100	83
11	Dawn	2 LB/GAL		16 oz/a		A						
12	Alert	3 LB/GAL		32 oz/a		A	0	98	98	100	100	87
12	Dawn	2 LB/GAL		24 oz/a		A						
13	Sencor DF	75 %AW/W		12 oz/a		A	0	50	40	95	100	33
14	Dawn	2 LB/GAL		24 oz/a		A	0	40	98	73	100	27
15	Command	3 LB/GAL		3 pt/a		A	0	100	53	99	70	83
16	UTC						0	0	0	0	0	0
	LSD (P=.05)						0.0	12.0	26.2	5.6	18.7	15.4
	Standard Deviation						0.0	7.2	15.7	3.4	11.2	9.2
	CV						0.0	8.95	31.1	3.69	15.71	13.06
	Bartlett's X2						0.0	10.478	20.551	5.63	12.742	18.461
	P(Bartlett's X2)						.	0.488	0.082	0.229	0.121	0.141
	Replicate F						0.000	2.603	1.171	4.502	0.323	4.648
	Replicate Prob(F)						1.0000	0.0907	0.3240	0.0195	0.7266	0.0174
	Treatment F						0.000	46.797	11.153	168.306	28.003	26.115
	Treatment Prob(F)						1.0000	0.0001	0.0001	0.0001	0.0001	0.0001

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed						
Pest Code	AMARE	AMBTR	SETFA	AMARE	AMBTR						
Pest Scientific Name	Amaranthus ret>	Ambrosia trifi>	Setaria faberi	Amaranthus ret>	Ambrosia trifi>						
Pest Name	Redroot pigweed	Giant ragweed	Giant foxtail	Redroot pigweed	Giant ragweed						
Crop Code											
BBCH Scale											
Crop Scientific Name											
Crop Name											
Rating Date	Jun-10-2010	Jun-10-2010	Jun-25-2010	Jun-25-2010	Jun-25-2010						
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL						
Rating Unit	%	%	%	%	%						
Number of Subsamples	1	1	1	1	1						
Days After First/Last Applic.	35 35	35 35	50 50	50 50	50 50						
Trt-Eval Interval	35 DA-A	35 DA-A	50 DA-A	50 DA-A	50 DA-A						
Plant-Eval Interval	35 DP-1	35 DP-1	50 DP-1	50 DP-1	50 DP-1						
Days After Emergence	23 DE-	23 DE-	38 DE-	38 DE-	38 DE-						
Number of Decimals	0	0	0	0	0						
Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate	Appl Unit Code	7	8	9	10	11
1	Alert	3 LB/GAL		16 oz/a		A	0	10	60	0	0
2	Alert	3 LB/GAL		21.3 oz/a		A	27	3	87	37	3
3	Alert	3 LB/GAL		32 oz/a		A	40	3	90	50	5
4	Alert	3 LB/GAL		42.7 oz/a		A	53	13	95	68	13
5	CHA-019	4.5 LB/GAL		21.3 oz/a		A	47	7	83	47	20
6	CHA-019	4.5 LB/GAL		32 oz/a		A	70	20	96	68	30
7	CHA-021	4 LB/GAL		32 oz/a		A	53	13	90	57	27
8	CHA-021	4 LB/GAL		48 oz/a		A	77	37	95	82	38
9	Alert	3 LB/GAL		21.3 oz/a		A	83	57	82	73	63
9	Dawn	2 LB/GAL		16 oz/a		A					
10	Alert	3 LB/GAL		21.3 oz/a		A	93	82	88	92	77
10	Dawn	2 LB/GAL		24 oz/a		A					
11	Alert	3 LB/GAL		32 oz/a		A	77	60	80	82	63
11	Dawn	2 LB/GAL		16 oz/a		A					
12	Alert	3 LB/GAL		32 oz/a		A	92	60	90	92	78
12	Dawn	2 LB/GAL		24 oz/a		A					
13	Sencor DF	75 %AW/W		12 oz/a		A	87	23	35	77	23
14	Dawn	2 LB/GAL		24 oz/a		A	97	72	30	95	75
15	Command	3 LB/GAL		3 pt/a		A	53	43	93	50	57
16	UTC						0	0	0	0	0
LSD (P=.05)				23.5			23.5	20.1	19.9	20.2	15.8
Standard Deviation				14.1			14.1	12.0	11.9	12.1	9.5
CV				23.73			23.73	38.25	15.97	20.06	26.46
Bartlett's X2				15.476			15.476	21.03	29.07	14.59	14.489
P(Bartlett's X2)				0.216			0.216	0.072	0.001*	0.334	0.271
Replicate F				0.034			0.034	3.413	0.968	0.046	0.110
Replicate Prob(F)				0.9664			0.9664	0.0462	0.3914	0.9551	0.8961
Treatment F				14.537			14.537	15.289	17.135	17.502	27.958
Treatment Prob(F)				0.0001			0.0001	0.0001	0.0001	0.0001	0.0001

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Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

SETFA, Setaria faberi, = US
AMBTR, Ambrosia trifida, = US
ABUTH, Abutilon theophrasti, = US
AMARE, Amaranthus retroflexus, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Rating Type

PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent

Plant-Eval Interval

21 DP-1 = 1 May-6-2010
35 DP-1 = 1 May-6-2010
50 DP-1 = 1 May-6-2010