

Panther Pro (NUP-15008) formulation validation

Trial ID: 15 PRES1 Location: F-7 EAST END Trial Year: 2015
Protocol ID: 15 PRES1 Investigator: Dr. Mark M. Loux
Project ID: H 2015 108 OH Study Director: Bryan Reeb
Sponsor Contact: Bob Bruss, Nufarm

General Trial Information

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

Latitude of LL Corner °: 39.86026 N
Longitude of LL Corner °: 83.67127 W

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

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

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: SCS 9363
Description: RoundUp Ready

Planting Date: 5-7-2015
Planting Method: PLANTD planted
Planting Equipment: KINZE
Emergence Date: 5-15-2015

Planting Rate, Unit: 180000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 IN
Soil Temperature, Unit: 70 F
Soil Moisture: GOOD good
Seed Bed: MEDIUM medium

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:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed
- Pest 4 Type:** W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters
- Pest 5 Type:** W **Code:** SIDSP *Sida spinosa*
Common Name: Prickly sida
- Pest 6 Type:** W **Code:** ABUTH *Abutilon theophrasti*
Common Name: velvetleaf

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT2 **Treatments:** 10
Replications: 3

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB� Randomized Complete Block (RCB)

Soil Description

Description Name: F-7 East
% OM: 1.8 **Texture:** SIL silt loam
pH: 5.7 **Soil Name:** Crosby
CEC: 16.2 **Fert. Level:** G good
Soil Drainage: G good

Application Description

A

Application Date: 5-8-2015
Appl. Start Time: 9:00 AM
Appl. Stop Time: 10:00 AM
Application Method: SPRAY
Application Timing: PRE ATPL
Application Placement: BROSOI
Air Temperature, Unit: 73 F
% Relative Humidity: 66
Wind Velocity, Unit: 1.3 MPH
Wind Direction: S
Dew Presence (Y/N): N no
Soil Temperature, Unit: 61 F
Soil Moisture: DRY
% Cloud Cover: 10
Next Moisture Occurred On: 5-11-2015
Time to Next Moisture, Unit: 3 DAY

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: 35.33 M2
Pest 2 Code, Type, Scale: AMBTR W
Density, Unit: 2 M2
Pest 3 Code, Type, Scale: AMARE W
Density, Unit: 5.67 M2
Pest 4 Code, Type, Scale: CHEAL W
Density, Unit: 11.33 M2
Pest 5 Code, Type, Scale: SIDSP W
Density, Unit: 0.33 M2
Pest 6 Code, Type, Scale: ABUTH W
Density, Unit: 2 M2

Application Equipment

A

Appl. Equipment: 6' BACKPACK
Equipment Type: BACCAI
Operation Pressure, Unit: 44 PSI
Nozzle Type: AIXR
Nozzle Size: 11015
Nozzle Spacing, Unit: 18 IN
Nozzles/Row: 4
Boom Length, Unit: 6.67 FT
Boom Height, Unit: 20 IN
Ground Speed, Unit: 3 MPH
Carrier: WATER
Spray Volume, Unit: 15 gal/ac
Mix Size, Unit: 1 liters
Propellant: COMCO2

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Pest Type		W Weed	W Weed	W Weed
Pest Code		SETFA	AMBTR	CHEAL
Pest Scientific Name		Setaria faberi	Ambrosia trifi>	Chenopodium al>
Pest Name		Giant foxtail	Giant ragweed	Common lambsqu>
Crop Code	GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Crop Variety	SCS 9363			
Description	RR			
Part Rated	PLANT C			
Rating Date	6-4-2015	6-4-2015	6-4-2015	6-4-2015
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	27 27	27 27	27 27	27 27
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	28 DP-1	28 DP-1	28 DP-1	28 DP-1
Days After Emergence	20 DE-1	20 DE-1	20 DE-1	20 DE-1

Trt	Treatment	Other	Other	Appl	Appl					
No.	Name	Rate	Rate	Unit	Code	Description	1	2	3	4
1	UTC						0.0 a	0.0 a	0.0 a	0.0 d
2	Panther	2.5 oz/a		A	PRE		5.7 a	33.3 a	33.3 a	80.0 bc
3	Pursuit	4 oz/a		A	PRE		0.0 a	48.3 a	10.0 a	83.3 abc
4	Sencor DF	7.5 oz/a		A	PRE		0.0 a	33.3 a	6.7 a	66.7 c
5	NUP-15008	12 oz/a		A	PRE		3.3 a	38.3 a	16.7 a	100.0 a
6	NUP-15008	15 oz/a		A	PRE		9.0 a	70.0 a	46.7 a	100.0 a
7	Panther	2.0 oz/a		A	PRE		0.7 a	48.3 a	23.3 a	99.0 ab
7	Pursuit	3.2 oz/a		A	PRE					
7	Sencor DF	6.0 oz/a		A	PRE					
8	Panther	2.5 oz/a		A	PRE		1.7 a	61.7 a	20.0 a	100.0 a
8	Pursuit	4 oz/a		A	PRE					
8	Sencor DF	7.5 oz/a		A	PRE					
9	Authority Assist	8 oz/a		A	PRE		1.7 a	53.3 a	13.3 a	93.3 ab
10	OpTill	1.5 oz/a		A	PRE		0.0 a	13.3 a	0.0 a	70.0 c
LSD	P=.05						6.90	40.97	28.65	19.31
	Standard Deviation						4.02	23.88	16.70	11.26
	CV						182.87	59.71	98.24	14.21
	Grand Mean						2.20	40.00	17.00	79.23
	Bartlett's X2						9.51	4.134	3.695	7.841
	P(Bartlett's X2)						0.09	0.845	0.814	0.165
	Skewness						2.8753*	0.1359	1.0749*	-1.7503*
	Kurtosis						8.6661*	-0.9383	0.2156	2.2745*
Replicate	F						2.471	1.196	3.908	1.481
	Prob(F)						0.1126	0.3252	0.0389	0.2539
Treatment	F						1.685	2.389	2.323	22.155
	Prob(F)						0.1654	0.0553	0.0612	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Trt	Treatment	Other	Other	Appl	Appl	5	6	7	8	
No.	Name	Rate	Rate	Unit	Code	Description				
	1 UTC						0.0 b	0.0 c	0.0 b	0.0 c
	2 Panther	2.5 oz/a		A		PRE	100.0 a	95.0 ab	90.0 a	93.3 ab
	3 Pursuit	4 oz/a		A		PRE	90.0 a	88.3 b	90.0 a	88.3 ab
	4 Sencor DF	7.5 oz/a		A		PRE	100.0 a	91.7 ab	100.0 a	100.0 a
	5 NUP-15008	12 oz/a		A		PRE	100.0 a	100.0 a	100.0 a	100.0 a
	6 NUP-15008	15 oz/a		A		PRE	100.0 a	100.0 a	100.0 a	100.0 a
	7 Panther	2.0 oz/a		A		PRE	100.0 a	100.0 a	98.3 a	99.3 a
	7 Pursuit	3.2 oz/a		A		PRE				
	7 Sencor DF	6.0 oz/a		A		PRE				
	8 Panther	2.5 oz/a		A		PRE	100.0 a	100.0 a	96.7 a	100.0 a
	8 Pursuit	4 oz/a		A		PRE				
	8 Sencor DF	7.5 oz/a		A		PRE				
	9 Authority Assist	8 oz/a		A		PRE	100.0 a	95.0 ab	91.7 a	96.7 ab
	10 OpTill	1.5 oz/a		A		PRE	93.3 a	90.0 b	86.7 a	86.7 b
	LSD P=.05						10.23	8.47	15.26	11.98
	Standard Deviation						5.96	4.93	8.90	6.98
	CV						6.75	5.74	10.43	8.08
	Grand Mean						88.33	86.00	85.33	86.43
	Bartlett's X2						1.993	1.755	6.24	8.147
	P(Bartlett's X2)						0.158	0.781	0.284	0.086
	Skewness						-2.6451*	-2.5891*	-2.3716*	-2.53*
	Kurtosis						5.6172*	5.4786*	4.5596*	5.2015*
	Replicate F						0.375	4.004	3.421	0.423
	Replicate Prob(F)						0.6925	0.0364	0.0550	0.6614
	Treatment F						82.344	114.920	34.989	58.283
	Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001

Trt No.	Treatment Name	Other Rate	Other Rate	Unit	Appl Code	Appl Description	9	10	11	12
	1 UTC						0.0 a	0.0 a	0.0 a	0.0 e
	2 Panther	2.5 oz/a			A	PRE	1.7 a	33.3 a	13.3 a	73.3 cd
	3 Pursuit	4 oz/a			A	PRE	1.0 a	50.0 a	26.7 a	76.7 bcd
	4 Sencor DF	7.5 oz/a			A	PRE	0.0 a	33.3 a	0.0 a	60.0 d
	5 NUP-15008	12 oz/a			A	PRE	2.7 a	43.3 a	13.3 a	100.0 a
	6 NUP-15008	15 oz/a			A	PRE	4.7 a	60.0 a	36.7 a	98.3 a
	7 Panther	2.0 oz/a			A	PRE	0.0 a	33.3 a	16.7 a	93.3 ab
	7 Pursuit	3.2 oz/a			A	PRE				
	7 Sencor DF	6.0 oz/a			A	PRE				
	8 Panther	2.5 oz/a			A	PRE	2.0 a	60.0 a	23.3 a	99.0 a
	8 Pursuit	4 oz/a			A	PRE				
	8 Sencor DF	7.5 oz/a			A	PRE				
	9 Authority Assist	8 oz/a			A	PRE	0.0 a	40.0 a	6.7 a	90.0 abc
	10 OpTill	1.5 oz/a			A	PRE	0.7 a	16.7 a	0.0 a	76.7 bcd
	LSD P=.05						3.71	42.39	25.76	18.50
	Standard Deviation						2.16	24.71	15.02	10.79
	CV						170.75	66.79	109.89	14.06
	Grand Mean						1.27	37.00	13.67	76.73
	Bartlett's X2						4.119	3.165	3.613	13.258
	P(Bartlett's X2)						0.532	0.924	0.729	0.066
	Skewness						1.9162*	0.2735	1.0445*	-1.5511*
	Kurtosis						3.5968*	-0.7152	-0.2537	1.8755*
	Replicate F						0.050	0.933	3.118	3.418
	Replicate Prob(F)						0.9515	0.4115	0.0687	0.0552
	Treatment F						1.501	1.691	2.084	23.308
	Treatment Prob(F)						0.2211	0.1637	0.0884	0.0001

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	AMARE	HIBTR	POLPY	ABUTH
Pest Scientific Name	Amaranthus ret>	Hibiscus trion>	Persicaria pen>	Abutilon theop>
Pest Name	Redroot pigweed	Venice mallow	Pennsylvania s>	velvetleaf
Crop Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Description				
Part Rated				
Rating Date	6-18-2015	6-18-2015	6-18-2015	6-18-2015
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	41 41	41 41	41 41	41 41
Trt-Eval Interval	41 DA-A	41 DA-A	41 DA-A	41 DA-A
Plant-Eval Interval	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence	34 DE-1	34 DE-1	34 DE-1	34 DE-1
Trt Treatment	Other Other	Appl Appl		
No. Name	Rate Rate	Unit Code	Description	
				13
				14
				15
				16
1 UTC				0.0 b
2 Panther	2.5 oz/a	A	PRE	100.0 a
3 Pursuit	4 oz/a	A	PRE	90.0 a
4 Sencor DF	7.5 oz/a	A	PRE	96.7 a
5 NUP-15008	12 oz/a	A	PRE	100.0 a
6 NUP-15008	15 oz/a	A	PRE	100.0 a
7 Panther	2.0 oz/a	A	PRE	100.0 a
7 Pursuit	3.2 oz/a	A	PRE	100.0 a
7 Sencor DF	6.0 oz/a	A	PRE	100.0 a
8 Panther	2.5 oz/a	A	PRE	100.0 a
8 Pursuit	4 oz/a	A	PRE	100.0 a
8 Sencor DF	7.5 oz/a	A	PRE	100.0 a
9 Authority Assist	8 oz/a	A	PRE	100.0 a
10 OpTill	1.5 oz/a	A	PRE	96.7 a
LSD P=.05				10.60
Standard Deviation				6.18
CV				6.99
Grand Mean				88.33
Bartlett's X2				3.257
P(Bartlett's X2)				0.196
Skewness				-2.6451*
Kurtosis				5.6172*
Replicate F				0.612
Replicate Prob(F)				0.5534
Treatment F				76.553
Treatment Prob(F)				0.0001
				0.000
				1.0000
				111.486
				0.0001
				1.541
				0.2412
				70.459
				0.0001
				3.462
				0.0535
				121.000
				0.0001

Pest Type	W Weed
Pest Code	ECHCG
Pest Scientific Name	Echinochloa cr>
Pest Name	Common barnyar>
Crop Code	
BBCH Scale	
Crop Scientific Name	
Crop Name	
Crop Variety	
Description	
Part Rated	
Rating Date	6-18-2015
Rating Type	CONTRO
Rating Unit	%
Number of Subsamples	1
Days After First/Last Applic.	41 41
Trt-Eval Interval	41 DA-A
Plant-Eval Interval	42 DP-1
Days After Emergence	34 DE-1

Trt No.	Treatment Name	Other Rate	Other Rate	Unit	Appl Code	Appl Description	
							17
1	UTC						0.0 c
2	Panther	2.5 oz/a			A	PRE	26.7 bc
3	Pursuit	4 oz/a			A	PRE	50.0 ab
4	Sencor DF	7.5 oz/a			A	PRE	30.0 abc
5	NUP-15008	12 oz/a			A	PRE	46.7 ab
6	NUP-15008	15 oz/a			A	PRE	66.7 a
7	Panther	2.0 oz/a			A	PRE	26.7 bc
7	Pursuit	3.2 oz/a			A	PRE	
7	Sencor DF	6.0 oz/a			A	PRE	
8	Panther	2.5 oz/a			A	PRE	60.0 ab
8	Pursuit	4 oz/a			A	PRE	
8	Sencor DF	7.5 oz/a			A	PRE	
9	Authority Assist	8 oz/a			A	PRE	46.7 ab
10	OpTill	1.5 oz/a			A	PRE	26.7 bc
	LSD P=.05						37.14
	Standard Deviation						21.65
	CV						56.98
	Grand Mean						38.00
	Bartlett's X2						0.894
	P(Bartlett's X2)						0.996
	Skewness						0.0484
	Kurtosis						-0.8324
	Replicate F						1.024
	Replicate Prob(F)						0.3793
	Treatment F						2.483
	Treatment Prob(F)						0.0480

