

**2011**

**WEED SCIENCE**

**FIELD RESEARCH REPORT**

Department of Entomology, Plant Pathology  
and Weed Science



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## INTRODUCTION

The Annual Report is a partial summary of field crop research conducted to study the efficacy of traditional herbicides with new chemicals or combination of chemicals used to control weeds in crops grown in the region. The results are provided to assist extension personnel, cooperators and others who have an interest in New Mexico agriculture in choosing the most economical and effective weed control for this area. *It does not contain recommendations for the use of these herbicides or imply that these herbicides are registered for use on commercial crops.*

The information in this report is not a formal release, it is not to be duplicated or published in any form without the written consent of Dr. Jill Schroeder, Professor, or Dr. Jamshid Ashigh, Assistant Professor.

Disk copies of the information in this report are available upon request. Please direct any questions about this report to Dr. Jill Schroeder at (575)-646-2328 or Dr. Jamshid Ashigh (575)-646-2888.

## ACKNOWLEDGMENTS

As always, we appreciated the cooperation and assistance of the personnel at the Leyendecker Plant Science Research Center (PSRC). We owe a special thanks to Mark Pacheco, Farm Manager for his expertise and assistance in crop production. The crew working at PSRC provides the labor and machinery for field preparation, planting and irrigation. Without their assistance, we would not be able to complete our research. We also appreciate the cooperation with Thomas R. Salopek for providing young pecan tree for the penoxsulam study.

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## PROJECT PERSONNEL

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Roberto E. Garcia, Grounds Keeper  
Paul Maese, Laborer, Sr.  
Wade Robinson, Laborer

Theresa Martinez, Department Secretary  
Ralph Trevino, Equipment Mechanic  
Laurence Grooms, Laborer, Sr.  
Don Verrett, Laborer

## General Trial Information

### Trial Chemicals

Trade Name	Formulation Concentration	Common Name
Aim EC	240 Gai/L	carfentrazone
Chateau WDG	510 Gai/Kg	flumioxazin
Durango SL	480 Gae/L	glyphosate
Gallery 75 DF	750 Gai/Kg	isoxaben
GF-443 SC	240 Gai/L	penoxsulam
GF-2214	485.16 Gai/L	oxyfluorfen+penoxsulam
GF-2358	781.2 Gai/L	isoxaben + penoxsulam
GoalTender	480 Gai/L	oxyfluorfen
Harness Xtra	720 Gai/L	acetochlor + atrazine
Matrix	250 Gai/Kg	rimsulfuron
Prowl H2O	456 Gai/L	pendimethalin
Roundup PowerMax	660 Gai/L	glyphosate
Sandea 75 WG	750 Gai/Kg	halosulfuron
Sharpen SC	342 Gai/L	saflufenacil
Spartan	480 Gai/L	sulfentrazone
Surflan AS	480 Gai/L	oryzalin
Treevix WG	700 Gai/Kg	saflufenacil
V-10142 WG	750 Gai/Kg	imazosulfuron
Zuidu	850 Gai/Kg	pyroxasulfon

### Adjuvants

Agri-Dex	crop oil concentrate (COC)
Ammonium sulfate (AMS)	ammonium sulfate (AMS)
Dyna-A-Pak	surfactant
Preference	no foam non-ionic spray adjuvant (NIS)

## Crops

Code	Common Name	Binomial
CPSAN	chile	<i>Capsicum annuum</i>
CYAIL	pecan	<i>Carya illinoensis</i>
ZEAMX	corn	<i>Zea mays</i>

## Pest Descriptions

Bayer Code	Common name	Binomial
AMAPA	Palmer amaranth	<i>Amaranthus palmeri</i>
AMAPO	Powell amaranth	<i>Amaranthus powellii</i>
ANVCR	spurred anoda	<i>Anoda cristata</i>
BROLFSP	Broadleaf species	
CHEAL	common lambsquarter	<i>Chenopodium album</i>
CYPES	yellow nutsedge	<i>Cyperus esculentus</i>
DATQF	oakleaf thornapple	<i>Datura quercifolia</i>
ECHCG	barnyardgrass	<i>Echinochloa crus-galli</i>
ECHCO	junglerice	<i>Echinochloa colona</i>
ECHSPP	junglerice or barnyardgrass seedling	<i>Echinochloa species</i>
ERAME	stinkgrass	<i>Eragrostis cilianensis</i>
IPOSPP	morningglory species	<i>Ipomoea species</i>
KCHSC	kochia	<i>Kochia scoparia</i>
LEFFI	red sprangletop	<i>Leptochloa filiformis</i>
LEFUN	Mexican sprangletop	<i>Leptochloa uninervia</i>
MALNE	common mallow	<i>Malva neglecta</i>
PHBPU	tall morningglory	<i>Ipomoea purpurea</i>
PHYWR	Wright groundcherry	<i>Physalis wrightii</i>
POASPP	grass species (unidentified seedlings)	<i>Poa species</i>
POROL	common purslane	<i>Portulaca oleracea</i>
SASKR	Russian thistle	<i>Salsola iberica</i>
SETLU	yellow foxtail	<i>Setaria pumila</i>
SSYIR	London rocket	<i>Sisymbrium irio</i>
SONOL	annual sowthistle	<i>Sonchus oleraceus</i>
SORHA	Johnsongrass	<i>Sorghum halepense</i>
TRBTE	puncturevine	<i>Tribulus terrestris</i>

## Report Code Definitions

<b>Code</b>	<b>Definition</b>
%GC	Percent ground covered with weed
BROADC	Broadcast
BROFOL	Broadcast spray application over the top of foliage
BROSOI	Broadcast spray application to soil
COMCO2	Compressed air Carbon Dioxide
CONTRO	Control
COTYL	Cotyledon
MID	Row middle
PESCON	Pest Control
PHYGEN	Phytotoxicity/injury
POEMSE	Post emergence, early spring
POSPOS	After crop and weed emergence
POST	Applied after plant emergence
PREMEA	Pre-emergence, early
PREPRE	Applied before crops or weed emergence
PREWEED	Applied after weed emergence
RECOMM	Recommendation
SEEDL	seedlings
SLIDRY	Soil slightly dry
SPRBAC	CO2 Backpack sprayer
TOTWEED	Total combined weights harvested for AMAPA, ANVCR, PHYWR, PHBPU and DATQU

## Soil Description

### Las Cruces Field Trials

Test Parameter	Units	Test Result	Detection Limit
pH of Soil Saturation Paste		7.6	
Elect. Cond. Of Soil Paste Extract	mmhos/cm	1.96	0.01
Sodium Adsorption Ration		2.93	0.01
K(1:5 soil:water)	mg/Kg	50	0.01
NO3-N(1:5 soil:water)	mg/Kg	36.2	0.1
Organic Matter	percent	1.2	0.01
Texture		Sandy clay loam	
Sand: 54%	Clay: 27%	Silt: 19%	

### Dona Ana Pecan Trial

Test Parameter	Units	Test Result	Detection Limit
pH of Soil Saturation Paste		8.0	
Elect. Cond. Of Soil Paste Extract	mmhos/cm	0.94	0.01
Sodium Adsorption Ration		3.22	0.01
K(1:5 soil:water)	mg/Kg	22	0.01
NO3-N(1:5 soil:water)	mg/Kg	1.90	0.1
Organic Matter	percent	0.54	0.01
Texture		Sandy Loam	

Analyzed by: SWAT Laboratory  
New Mexico State University  
Las Cruces, NM



### Weather Conditions

NMSU State Climate Network  
 Plant Science Research Center  
 Location 15 miles South of Las Cruces, NM  
**Elevation:** 1178 m  
**Latitude:** 32° 12' 3.57" N  
**Longitude:** 106° 44' 33.76" W  
**Ground Cover:** Grass cover, then crop cover

MONTH	Temperature			Humidity			Precip Accum cm	Soil Temp		
	Min C	Mean C	Max C	Min %	Mean %	Max %		Min C	Mean C	Max C
January	-4.74	4.82	15.40	16.82	38.06	66.15	0.00	3.94	6.73	10.20
February	-4.78	5.62	16.25	16.51	36.38	66.40	1.78	4.46	7.84	11.86
March	3.70	15.00	25.28	9.11	23.87	54.26	0.00	9.91	13.79	18.21
April	7.50	18.83	27.92	8.15	22.67	57.40	0.00	14.12	18.30	23.00
May	8.58	20.35	29.76	8.10	26.02	65.51	0.00	16.85	21.47	26.54
June	14.88	26.72	36.95	7.89	31.04	73.67	0.74	21.64	26.14	31.16
July	19.80	27.91	35.84	18.59	45.00	78.35	2.79	24.39	27.06	30.29
August	19.44	27.42	36.39	20.34	51.60	85.61	2.69	25.48	27.54	29.88
September	14.78	22.92	32.16	17.79	49.64	82.12	2.72	21.70	23.78	26.28
October	6.43	15.64	26.99	18.17	55.33	88.24	0.43	16.20	18.45	21.13
November	-0.58	8.45	18.94	22.10	55.43	86.02	0.53	10.18	12.26	14.70
December	-2.87	3.05	10.15	42.38	69.65	88.55	3.61	4.66	5.92	7.45

**Trial ID:** 11-L-1

**Title:** Weed Management Programs for Chile

### Crop Description

<b>Crop Code</b> CPSAN	<b>Binomial</b> <i>Capsicum annuum</i>	<b>Common Name</b> Chile
<b>Variety:</b> AZ-20	<b>Seed Bed:</b>	COARSE
<b>Planting Date:</b>	4-19-11	<b>Planting Method:</b> SEEDED

### Pest Description

<b>Crop Code</b> AMAPA ANVCR ECHCG DATQU PHBPU PHYWR POASPP	<b>Binomial</b> <i>Amaranthus palmeri</i> <i>Anoda cristata</i> <i>Echinochloa crus-galli</i> <i>Datura quercifolia</i> <i>Ipomoea purpurea</i> <i>Physalis wrightii</i> POA species	<b>Common Name</b> Palmer amaranth spurred anoda barnyardgrass oakleaf thornapple tall morningglory Wright groundcherry annual grasses
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### Site Description and Design

**Site Type:** FIELD **Plot Width:** 2 m **Plot Length:** 7.62 m **Plot Area:** 15.24 m<sup>2</sup>

**Tillage Type:** conventional-till

**Replications:** 4

**Study Design:** Randomized Complete Block

### Field Preparation and Maintenance

#### Field Preparation

3/11 Schmeiser  
3/14 Laser  
4/18 Cultivate  
4/19 Plant  
4/30 De-cap  
5/31 Cultivate  
6/08 Thinning  
7/05 Cultivate

#### Timed Hoeing

5/24 \*Removed all weeds prior to preemergence  
6/02 treatments application A on June13\*  
6/07 Removed large weeds  
7/05 \*one person hoed an entire replication and  
7/15 recorded the time it took to remove all weeds\*

No.	Date	Maintenance Treatment	Conc/Type	Description	Rate
1.	4-30-11	CLOMAZONE	3 ME	PRE DE-CAPPING	1.12 Kg ai/Ha
2.	4-30-11	GLYPHOSATE	5.5 SC	PRE DE-CAPPING	1.12 Kg ai/Ha

#### Fertilizer

5/24 224 kg/ha AMS

#### Furrow Irrigation Dates

3/24 6/24 with 32-0-0 at .473 L/min for 2.5 hours  
4/19 7/5  
5/02 7/21  
5/09 8/2  
5/20 8/15  
6/03 8/21  
6/14 9/8

## Trial Treatments

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Growth Stage	Appl Code
1	CONTROL							
2	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
3	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		POST DIRECT	B
	COC	99 %		OS	1 % V/V		POST DIRECT	B
4	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		THINNING	A
	COC	99 %		OS	1 % V/V		THINNING	A
5	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		THINNING	A
	COC	99 %		OS	1 % V/V		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		POST DIRECT	B
	COC	99 %		OS	1 % V/V		POST DIRECT	B
6	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	HALOSULFURON	75 %		WG	0.04 kg AI/ha		THINNING	A
	COC	99 %		OS	1 % V/V		THINNING	A
7	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	HALOSULFURON	75 %		WG	0.04 kg AI/ha		THINNING	A
	COC	99 %		OS	1 % V/V		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		POST DIRECT	B
	COC	99 %		OS	1 % V/V		POST DIRECT	B
8	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	SULFENTRAZONE	4 LBA/GAL		F	0.14 kg AI/ha		THINNING	A
9	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	SULFENTRAZONE	4 LBA/GAL		F	0.14 kg AI/ha		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		POST DIRECT	B
	COC	99 %		OS	1 % V/V		POST DIRECT	B
10	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	IMAZOSULFURON	75 LBA/GAL		WG	0.28 kg AI/ha		THINNING	A
	COC	99 %		OS	1 % V/V		THINNING	A
11	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57 kg AI/ha		THINNING	A
	IMAZOSULFURON	75 LBA/GAL		WG	0.28 kg AI/ha		THINNING	A
	COC	99 %		OS	1 % V/V		THINNING	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028 kg AI/ha		POST DIRECT	B
	COC	99 %		OS	1 % V/V		POST DIRECT	B

Command & Glyphosate pre cap removal

Data at application: Weed species; size and density in row and between row

- Treatments 2, 3, 8, 9 at thinning treatments were applied pre to weeds and the post-thinning irrigation
- Treatments 4, 5, 6, 7, 10, 11 at thinning treatments were applied after the post-thinning irrigation and applied to small, emerging weeds
- Post treatments of carfentrazone in treatments 3, 5, 7, 9, 11. These were applied post-directed (B) and then as needed until layby (up to max dose allowed). See details for applications C and D

Data post application: Ratings of weed control in the row middles because all treatments were post-directed.

Hoe times: note dates and times for each plot

Cultivated as early as possible and as often as possible

## Application Description

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Application Date:</b>	6-13-11	6-22-11	8-1-11	8-9-11
<b>Time of Day:</b>	AM	AM	AM	AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	ATTHIN	POSTTHIN	LAYBY	LAYBY
<b>Application Placement:</b>	DIRECTED	DIRECTED	DIRECTED	DIRECTED
<b>Applied By:</b>	LARRY	ANDREW	ANDREW	ANDREW
<b>Air Temperature, Unit:</b>	32 C	28 C	25 C	29 C
<b>% Relative Humidity:</b>	18	33	77	70
<b>Wind Velocity, Unit:</b>	3.2 KPH	0.6 KPH	4.5 KPH	0 KPH
<b>Soil Temperature, Unit:</b>	26 C	27 C	29 C	28 C
<b>Soil Moisture:</b>	DRY	DRY	DRY	SLIWET
<b>% Cloud Cover:</b>	0	0	0	

## Crop Stage at Each Application

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Crop Code:</b>	CPSAN	CPSAN	CPSAN	CPSAN
<b>Stage</b>	THINNING	VEG	POD SET	POD SET
<b>Height, Unit:</b>	10 -15 CM	15 - 20CM		

## Pest Stage Application A and B

<b>Application Code</b>	<b>A</b>	<b>B</b>
<b>Weed Code: AMAPA</b>		
<b>Stage Range</b>	PRE	2.5 – 15 cm
<b>Density/plot</b>		0 - 2/0.1 m <sup>2</sup>
<b>Weed Code: ANVCR</b>		
<b>Stage Range</b>	PRE	COTYL – 5 cm
<b>Density</b>		0-1/0.1m <sup>2</sup>
<b>Weed Code: DATQU</b>		
<b>Stage Range:</b>	PRE	COTYL – 10 cm
<b>Density/plot</b>		0-2/0.1m <sup>2</sup>
<b>Weed Code: PHBPU</b>		
<b>Stage Range:</b>	PRE	COTLY - VINE
<b>Density/plot</b>		0 – 1/0.1m <sup>2</sup>
<b>Weed Code: PHYWR</b>		
<b>Stage Range:</b>	PRE	COT – 10 cm
<b>Density/plot</b>		0-1/0.1m <sup>2</sup>
<b>Weed Code: POASPP</b>		
<b>Stage Range:</b>	PRE	SDL - 25 cm WIDE
<b>Density/plot</b>		

## Pest Stage Application C and D

### Application C applied - 8/1/11

TREATMENT 7			
Weed Species	AMAPA	PHYWR	ANVCR
Stage Range:	VEG	VEG	VEG
Height Range:	5 - 8 cm	2.5 - 8 cm	2.5 - 8 cm
Density/plot:	0 - 2	0 - 13	0 - 3

TREATMENT 9		
Weed Species	PHYWR	ANVCR
Stage Range:	VEG	VEG
Height Range:	2.5 - 8 cm	3 cm
Density/plot:	0 - 20	0 - 1

### Application D - applied 8/9/11

TREATMENT 3			
Weed Species	ANVCR	PHBPU	PHYWR
Stage Range:	VEG	2.5 - 5 cm	2.5 - 8 cm
Density/plot:	0 - 2	0 - 1	4 - 18

TREATMENT 5				
Weed Species	AMAPA	ANVCR	PHBPU	PHYWR
Stage Range:	10 cm	10 cm	5 cm	2.5 - 8 cm
Density/plot:	0 - 1	0 - 2	0 - 1	7 - 13

Treatment 11	
Weed Species	PHYWR
Stage Range:	2.5 - 8 cm
Density/plot:	

## Application Equipment

	A	B	C	D
<b>Appl. Equipment:</b>	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK
<b>Equipment Type:</b>	BACCAI	BACCAI	BACCAI	BACCAI
<b>Operation Pressure,</b>	207 KPA	172 KPA	124 KPA	0. NR
<b>Nozzle Type:</b>	TEEJET	TEEJET	TEEJET	TEEJET
<b>Nozzle Size:</b>	8002 E VS	8002 E VS	8002 E VS	8002 E VS
<b>Nozzles/Row:</b>	2	2	2	2
<b>Nozzle Calibration, Unit:</b>	573 ML/MIN	571 ML/MIN	452 ML/MIN	580 ML/MIN
<b>Band Width, Unit:</b>	46 CM	46 CM	35 CM	46 CM
<b>Boom Length, Unit:</b>	2 M	2 M		
<b>Ground Speed, Unit:</b>	3.2 KPH	3.2 KPH	3.2 KPH	3 KPH
<b>Carrier:</b>	WATER	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	234 L/HA	234 L/HA	234 L/HA	234 L/HA
<b>Mix Size, Unit:</b>	2 LITERS	2 LITERS	2 LITERS	2 LITERS
<b>Propellant:</b>	CO2	CO2	CO2	CO2

**AOV Data Summary**

Pest Code				AMAPA	AMAPA
Description	POST TRT HOE	TOTAL TIMED HOE		ROW MID	IN ROW
Rating Date	FOR JULY 5 and 15	MIN/PLOT		9-8-11	9-8-11
Rating Type	AVG MINS/PLOT	5/24, 6/3, 6/7, 7/5, 7/15		CONTROL	PRES/ABS
Trt No.	Treatment Name				
1	CONTROL	10.26 a	13.82 a	0.00 c	0.75 a
2	PENDIMETHALIN	7.51 a	11.07 a	100.00 a	0.50 a
3	PENDIMETHALIN CARFENTRAZONE COC	5.19 a	8.76 a	100.00 a	0.50 a
4	PENDIMETHALIN CARFENTRAZONE COC	5.75 a	9.32 a	75.00 ab	0.25 a
5	PENDIMETHALIN CARFENTRAZONE COC CARFENTRAZONE COC	5.46 a	9.03 a	100.00 a	0.50 a
6	PENDIMETHALIN HALOSULFURON COC	4.53 a	8.10 a	100.00 a	0.50 a
7	PENDIMETHALIN HALOSULFURON COC CARFENTRAZONE COC	6.07 a	9.64 a	99.25 a	0.75 a
8	PENDIMETHALIN SULFENTRAZONE	3.71 a	7.27 a	50.00 b	0.25 a
9	PENDIMETHALIN SULFENTRAZONE CARFENTRAZONE COC	4.25 a	7.82 a	100.00 a	0.50 a
10	PENDIMETHALIN V10142 COC	5.00 a	8.57 a	73.75 ab	0.25 a
11	PENDIMETHALIN V10142 COC CARFENTRAZONE COC	6.07 a	9.64 a	100.00 a	0.50 a
LSD (P=.05)	4.298	4.299	38.456	0.731	
Standard Deviation	2.977	2.977	26.633	0.506	
CV	51.34	31.79	32.62	106.02	
Bartlett's X2	47.322	47.415	17.318	0.301	
P(Bartlett's X2)	0.001*	0.001*	0.001*	1.00	

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.

Pest Code Description Rating Date Rating Type	ANVCR ROW MID 9-8-11 CONTROL	ANVCR IN ROW 9-8-11 PRES/ABS	PHYWR ROW MID 9-8-11 CONTROL	PHYWR IN ROW 9-8-11 PRES/ABS	ECHCG ROW MID 9-8-11 CONTROL	ECHCG IN ROW 9-8-11 PRES/ABS	Yield 1-6-12 YIELD
Trt No Treatment Name							
1 CONTROL	0.00 c	0.75 a	0.00 c	0.75 a	0.00 b	1.00 a	4722.9 a
2 PENDIMETHALIN	73.75 <sup>a</sup> <sub>b</sub>	0.50 a	87.50 <sup>a</sup> <sub>b</sub>	0.50 a	100.00 a	1.00 a	4299.9 a
3 PENDIMETHALIN CARFENTRAZONE COC	100.00 a	0.00 a	100.00 a	1.00 a	100.00 a	0.75 ab	5427.8 a
4 PENDIMETHALIN CARFENTRAZONE COC	50.00 b	0.50 a	87.50 <sup>a</sup> <sub>b</sub>	0.50 a	75.00 a	0.75 ab	6062.2 a
5 PENDIMETHALIN CARFENTRAZONE COC CARFENTRAZONE COC	100.00 a	0.25 a	100.00 a	0.25 a	100.00 a	0.25 bc	5145.8 a
6 PENDIMETHALIN HALOSULFURON COC	100.00 a	0.50 a	83.75 <sup>a</sup> <sub>b</sub>	0.75 a	100.00 a	1.00 a	4440.9 a
7 PENDIMETHALIN HALOSULFURON COC CARFENTRAZONE COC	100.00 a	0.50 a	99.75 a	0.50 a	100.00 a	0.75 ab	5286.8 a
8 PENDIMETHALIN SULFENTRAZOZN E	72.50 <sup>a</sup> <sub>b</sub>	0.25 a	0.00 c	1.00 a	75.00 a	0.50 <sup>ab</sup> <sub>c</sub>	4863.8 a
9 PENDIMETHALIN SULFENTRAZOZN E CARFENTRAZONE COC	100.00 a	0.25 a	93.25 <sup>a</sup> <sub>b</sub>	0.50 a	100.00 a	0.00 c	5357.3 a
10 PENDIMETHALIN V10142 COC	97.50 a	0.25 a	73.00 b	0.50 a	100.00 a	1.00 a	5709.7 a
11 PENDIMETHALIN V10142 COC CARFENTRAZONE COC	100.00 a	0.25 a	100.00 a	1.00 a	100.00 a	0.50 abc	4370.4 a
LSD (P=.05)	39.706	0.760	20.855	0.670	29.205	0.584	1484.09
Standard Deviation	27.499	0.527	14.443	0.464	20.226	0.405	1027.82
CV	33.84	144.81	19.26	70.38	23.42	59.33	20.3
Bartlett's X2	10.359	0.275	42.202	0.21	0.0	0.161	4.795
P(Bartlett's X2)	0.016*	1.00	0.001*	1.00	.	0.999	0.904

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.



## Assessment Data Summary

The table, arranged by treatment is data collected on September 8, 2011 of the weed species in each plot and recorded as present (1) or absent (0).

Pest Code Description Rating Type		AMAPA IN ROW PRES/ABS	ANVCR IN ROW PRES/ABS	PHYWR IN ROW PRES/ABS	ECHCG IN ROW PRES/ABS
TRT No.	Treatment Name	Plot			
1	CONTROL	101	1	1	1
		205	0	0	1
		302	1	1	0
		404	1	1	1
2	PENDIMETHALIN	102	0	1	1
		211	1	0	1
		301	1	1	0
		408	0	0	0
3	PENDIMETHALIN CARFENTRAZONE COC	103	0	0	1
		204	0	0	1
		308	1	0	1
		401	1	0	1
4	PENDIMETHALIN CARFENTRAZONE COC	104	0	0	0
		202	0	0	0
		303	0	1	1
		407	1	1	1
5	PENDIMETHALIN CARFENTRAZONE COC CARFENTRAZONE/ COC	105	0	0	0
		201	0	1	0
		311	1	0	1
		402	1	0	0
6	PENDIMETHALIN HALOSULFURON COC	106	0	0	0
		206	0	1	1
		305	1	0	1
		403	1	1	1
7	PENDIMETHALIN HALOSULFURON COC CARFENTRAZONE/ COC	107	0	1	0
		208	1	0	1
		310	1	0	1
		405	1	1	0
8	PENDIMETHALIN SULFENTRAZONE	108	0	0	1
		207	0	0	1
		306	1	1	1
		409	0	0	1
9	PENDIMETHALIN SULFENTRAZONE CARFENTRAZONE COC	109	1	1	0
		210	0	0	0
		309	0	0	1
		410	1	0	1
10	PENDIMETHALIN IMAZOSULFURON COC	110	1	0	0
		203	0	1	1
		304	0	0	1
		406	0	0	0
11	PENDIMETHALIN IMAZOSULFURON COC CARFENTRAZONE/ COC	111	1	0	1
		209	0	0	1
		307	0	1	1
		411	1	0	1

**Trial ID:** 11-L-2

**Title:** Post-Directed Herbicides for Weed Control in Chile

**Crop Description**

<b>Crop Code</b> CPSAN	<b>Binomial</b> <i>Capsicum annuum</i>	<b>Common Name</b> Chile
<b>Variety:</b> AZ-20	<b>Seed Bed:</b>	COARSE
<b>Planting Date:</b>	4-19-11	<b>Planting Method:</b> SEEDED

**Pest Description**

<b>Crop Code</b> AMAPA ANVCR ECHCG DATQU PHBPU PHYWR POASPP	<b>Binomial</b> <i>Amaranthus palmeri</i> <i>Anoda cristata</i> <i>Echinochloa crus-galli</i> <i>Datura quercifolia</i> <i>Ipomoea purpurea</i> <i>Physalis wrightii</i> POA species	<b>Common Name</b> Palmer amaranth spurred anoda barnyardgrass oakleaf thornapple tall morningglory Wright groundcherry annual grasses
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**Site Description and Design**

**Site Type:** FIELD    **Plot Width:** 2 m    **Plot Length:** 7.62 m    **Plot Area:** 15.24 m<sup>2</sup>  
**Tillage Type:** conventional-till    **Study Design:** Randomized Complete Block    **Replications:** 4

**Field Preparation and Maintenance**

Field Preparation	Timed Hoeing
/11 Schmeiser	
3/14 Laser	5/24 *Removed all weeds prior to preemergence
4/18 Cultivate	6/02 treatments application A on June13*
4/19 Plant	6/07 Removed large weeds
4/30 De-cap	7/05 *one person hoed an entire replication and
5/31 Cultivate	7/15 recorded the time it took to remove all weeds*
6/08 Thinning	
7/05 Cultivate	

No.	Date	Maintenance Treatment	Conc/Type	Description	Rate
1.	4-30-11	CLOMAZONE	3 ME	PRE DE-CAPPING	1.12 Kg ai/Ha
2.	4-30-11	GLYPHOSATE	5.5 SC	PRE DE-CAPPING	1.12 Kg ai/Ha

**Fertilizer**

5/24 224 kg/ha AMS

**Furrow Irrigation Dates**

3/24	6/03	8/02
4/19	6/14	8/15
5/02	6/24 with 32-0-0 at .473 L/min for 2.5 hrs	8/21
5/09	7/5	9/08
5/20	7/21	

## Trial Treatments

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code
1	CONTROL						
2	IMAZOSULFURON	75 LBA/GAL		WG	0.168	kg AI/ha	A
	SURFACTANT	100 %		OL	1	% V/V	A
3	IMAZOSULFURON	75 LBA/GAL		WG	0.28	kg AI/ha	A
	SURFACTANT	100 %		OL	1	% V/V	A
4	FLUMIOXAZIN	51 %		WG	0.0715	kg AI/ha	A
	SURFACTANT	100 %		OL	1	% V/V	A
5	IMAZOSULFURON	75 LBA/GAL		WG	0.168	kg AI/ha	A
	FLUMIOXAZIN	51 %		WG	0.0715	kg AI/ha	A
	SURFACTANT	100 %		OL	1	% V/V	A
6	RIMSULFURON	25 %		WG	0.0347	kg AI/ha	A
	SURFACTANT	100 %		OL	1	% V/V	A
7	SAFLUFENACIL	2.85 LBA/GAL		SC	0.0247	kg AI/ha	A
	SURFACTANT	99 %		OS	1	% V/V	A
8	SAFLUFENACIL	2.85 LBA/GAL		SC	0.0247	kg AI/ha	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028	kg AI/ha	A
	SURFACTANT	99 %		OL	1	% V/V	A
9	SAFLUFENACIL	2.85 LBA/GAL		SC	0.0247	kg AI/ha	A
	PENDIMETHALIN	3.8 LBA/GAL		CS	1.57	kg AI/ha	A
	SURFACTANT	99 %		OL	1	% V/V	A
10	CARFENTRAZONE	2 LBA/GAL		EC	0.028	kg AI/ha	A
	SURFACTANT	99 %		OL	1	% V/V	A
	CARFENTRAZONE	2 LBA/GAL		EC	0.028	kg AI/ha	B
	SURFACTANT	99 %		OL	1	% V/V	B

Command and glyphosate pre cap removal

Data at applications: Weed species, size and density in row and between row

Data post application: Ratings of weed control

Hoe times: note dates and the amount of times it takes to remove weeds for each plot

Cultivate as early as possible and as needed.

Harvest:

\*Four meter/plot were harvested on December 16, 2011, placed in storage until January 6, 2012 then weighed.

### Application Description

	A	B
Application Date:	6-21-11	7-25-11
Time of Day:	8:00 AM	8:20 AM
Treatments sprayed:	2 – 10	10
Application Method:	SPRAY	SPRAY
Application Timing:	POST THINNIN	SEQUENT
Application Placement:	BANSOI	BANSOIL
Applied By:	ANDREW	ANDREW
Air Temperature, Unit:	26 C	25 C
% Relative Humidity:	33	56
Wind Velocity, Unit:	0.64 KPH	1.3 KPH
Wind Direction:	101	108
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	37 C	27 C
Soil Moisture:	DRY	MOIST
% Cloud Cover:	0	0

### Crop Stage at Each Application

	A	B
Crop Code:	CPSAN	CPSAN
Stage	THINNING	POD SET TO BLOOM
Height, Unit:	15 - 25 CM	.61 METER

### Pest Stage Application A and B

Application Code	A	B
Weed Code: AMAPA		
Stage Range	5 - 10 CM	COTYL – 10 CM
Density/plot	NR	0 – 2 0.1 M
Weed Code: ANVCR		
Stage Range	5 - 10 CM	7.5 CM
Density	NR	0 – 1 0.1 M
Weed Code: DATQU		
Stage Range:	5 - 10 CM	NR
Density/plot	NR	
Weed Code: PHBPU		
Stage Range:	5 - 10 CM	NR
Density/plot	NR	
Weed Code: PHYWR		
Stage Range:	5 - 10 CM	COTYL – 15 CM
Density/plot	NR	0 – 9 0.1 M
Weed Code: POASPP		
Stage Range:	5 - 10 CM	NR
Density/plot	NR	

## Application Equipment

	<b>A</b>	<b>B</b>
<b>Equipment Type:</b>	BACCAI	BACCAI
<b>Operation Pressure, Unit:</b>	207 KPA	290 KPA
<b>Nozzle Type:</b>	TEEJET	TEEJET
<b>Nozzle Size:</b>	8002E	8002E
<b>Nozzles/Row:</b>	2	2
<b>Nozzle Calibration, Unit:</b>	572 ML/MIN	639 ML/MIN
<b>Band Width, Unit:</b>	45.7 CM	45.7 CM
<b>Boom Length, Unit:</b>	203 CM	203 CM
<b>Boom Height, Unit:</b>	41 CM	41 CM
<b>Ground Speed, Unit:</b>	3.22 KPH	3.22 KPH
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	233.85 L/HA	233.85 L/HA
<b>Mix Size, Unit:</b>	2 LITERS	2 LITERS
<b>Propellant:</b>	COMCO2	COMCO2

### Treatment Application Comment

July 25, 2011: PLOT 201 (Treatment 10) WAS NOT SPRAYED IN THE MORNING BECAUSE OVER SPRAYING ALLEYS AND MISCALCULATIONS TANK RAN OUT OF CHEMICAL. TANK WAS REMIXED AND CHEMICAL APPLIED TO PLOT 201 IN THE AFTERNOON.

### AOV DATA SUMMARY for June 30 rating

Injury symptoms for CAPAM are on page 15

Pest Code	POST TRT HOE TIMES 7/5, 7/15 MIN/PLOT	TOTAL HOE TIMES 5/24, 6/3,6/7,7/5,7/15 MIN/PLOT	6-30-11 %INJURY	AMAPA PLOT 6-30-11 %CONTROL	AMAPA ROW MID 6-30-11 COUNT	AMAPA CROP ROW 6-30-11 COUNT	ANVCR PLOT 6-30-11 %CONTROL	ANVCR ROW MID 6-30-11 COUNT	
Trt No.	Treatment Name								
1	CONTROL	12.89 a	16.46 a	0.00 a	0.00 c	79.25 a	17.25 a	0.00 b	63.50 a
2	V-10142 DYNE-A-PACK	8.94 a	12.51 a	2.50 a	90.75 ab	12.25 b	12.25 a	83.50 a	24.50 b
3	V-10142 DYNE-A-PACK	8.95 a	12.52 a	1.25 a	87.50 ab	16.75 b	12.00 a	96.25 a	6.25 b
4	FLUMIOXAZIN DYNE-A-PACK	8.19 a	11.75 a	20.00 a	73.75 b	4.25 b	5.25 a	87.50 a	5.50 b
5	V-10142 FLUMIOXAZIN DYNE-A-PACK	7.29 a	10.86 a	3.75 a	90.75 ab	5.00 b	11.50 a	98.50 a	3.75 b
6	RIMSULFURON DYNE-A-PACK	6.91 a	10.48 a	1.25 a	87.50 ab	6.00 b	8.75 a	95.00 a	6.25 b
7	SAFLUFENACIL DYNE-A-PACK	11.26 a	14.82 a	5.00 a	90.00 ab	10.00 b	12.75 a	92.50 a	17.25 b
8	SAFLUFENACIL CARFENTRAZONE DYNE-A-PACK	8.35 a	11.91 a	7.50 a	98.75 ab	2.50 b	13.75 a	99.25 a	13.50 b
9	SAFLUFENACIL PENDIMETHALIN DYNE-A-PACK	6.85 a	10.41 a	2.50 a	90.00 ab	5.50 b	12.00 a	100.00 a	4.50 b
10	CARFENTRAZONE DYNE-A-PACK CARFENTRAZONE DYNE-A-PACK	6.81 a	10.37 a	6.25 a	100.00 a	4.00 b	8.50 a	99.50 a	4.00 b
LSD (P=.05)		4.304	4.303	18.194	25.609	22.754	9.558	17.097	23.980
Standard Deviation		2.966	2.965	12.539	17.649	15.682	6.587	11.783	16.527
CV		34.32	24.29	250.78	21.82	107.78	57.78	13.83	110.92
Bartlett's X2		10.868	10.873	46.567	33.467	54.551	8.048	41.74	42.205
P(Bartlett's X2)		0.285	0.285	0.001*	0.001*	0.001*	0.529	0.001*	0.001*

### AOV Data Summary for June 30 Rating

Pest Code	ANVCR	PHBPU	PHBPU	PHBPU	PHYWR	PHYWR	PHYWR	
Description	CROP ROW	PLOT	ROW MID	CROP ROW	PLOT	ROW MID	CROP ROW	
Rating Date	6-30-11	6-30-11	6-30-11	6-30-11	6-30-11	6-30-11	6-30-11	
Rating Type	COUNT	%CONTROL	COUNT	COUNT	%CONTROL	COUNT	COUNT	
Trt No.	Treatment Name							
1	CONTROL	9.25 a	0.00 c	3.75 a	1.50 a	0.00 c	6.00 a	5.75 a
2	V-10142 DYNE-A-PACK	4.00 a	98.75 ab	0.00 b	0.25 a	96.00 b	14.50 a	14.50 a
3	V-10142 DYNE-A-PACK	2.50 a	100.00 a	0.50 b	0.00 a	98.75 ab	13.25 a	15.25 a
4	FLUMIOXAZIN DYNE-A-PACK	4.50 a	100.00 a	0.00 b	0.00 a	100.00 a	0.75 a	3.25 a
5	V-10142 FLUMIOXAZIN DYNE-A-PACK	2.75 a	100.00 a	0.00 b	0.00 a	100.00 a	10.25 a	14.00 a
6	RIMSULFURON DYNE-A-PACK	3.00 a	94.75 b	1.00 b	0.00 a	100.00 a	2.00 a	11.00 a
7	SAFLUFENACIL DYNE-A-PACK	6.50 a	99.50 ab	0.25 b	3.25 a	97.50 ab	9.00 a	20.25 a
8	SAFLUFENACIL CARFENTRAZONE DYNE-A-PACK	7.25 a	100.00 a	0.25 b	0.50 a	100.00 a	4.25 a	11.75 a
9	SAFLUFENACIL PENDIMETHALIN DYNE-A-PACK	2.25 a	98.75 ab	0.75 b	0.25 a	98.75 ab	4.25 a	7.75 a
10	CARFENTRAZONE DYNE-A-PACK CARFENTRAZONE DYNE-A-PACK	3.25 a	100.00 a	0.25 b	1.00 a	100.00 a	5.50 a	6.75 a
LSD (P=.05)	6.463	4.780	1.194	2.825	3.296	13.376	12.264	
Standard Deviation	4.454	3.294	0.823	1.947	2.271	9.218	8.452	
CV	98.44	3.69	121.88	288.48	2.55	132.16	76.67	
Bartlett's X2	8.991	14.495	9.46	28.798	2.291	32.66	26.131	
P(Bartlett's X2)	0.438	0.002*	0.149	0.001*	0.514	0.001*	0.002*	

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.

**Chile injury symptoms recorded on June 30 rating**

- 1 = Burned leaves
- 2 = Chlorosis
- 3 = Stunted
- 4 = Stand loss

Trt Treatment Name	Symptoms
1 CONTROL	0
2 IMAZOSULFURON SURFACTANT	2,3
3 IMAZOSULFURON SURFACTANT	2
4 FLUMIOXAZIN SURFACTANT	1, 2, 3, 4
5 IMAZOSULFURON FLUMIOXAZIN SURFACTANT	1, 2, 3, 4
6 RIMSULFURON SURFACTANT	2
7 SAFLUFENACIL SURFACTANT	1, 2, 3
8 SAFLUFENACIL CARFENTRAZONE SURFACTANT	1, 2, 3, 4
9 SAFLUFENACIL PENDIMETHALIN SURFACTANT	2, 3
10 CARFENTRAZONE SURFACTANT CARFENTRAZONE SURFACTANT	2, 3



## AOV Data Summary for September 8

Pest Code	AMAPA	ANVCR	PHYWR	ECHCG	AMAPA	ANVCR	PHYWR	
Crop Code								
Description	ROW MID	ROW MID	ROW MID	ROW MID	CROP ROW	CROP ROW	CROP ROW	
Rating Date	9-8-11	9-8-11	9-8-11	9-8-11	9-8-11	9-8-11	9-8-11	
Rating Type	%CONTROL	%CONTROL	%CONTROL	%CONTROL	PRES/ABS	PRES/ABS	PRES/ABS	
Trt No.	Treatment Name							
1	CONTROL	0.00 c	0.00 c	0.00 e	0.00 b	1.00 a	0.75 a	1.00 a
2	IMAZOSULFURON SURFACTANT	100.00 a	68.50 ab	61.25 abc	100.00 a	0.75 a	0.75 a	0.75 a
3	IMAZOSULFURON SURFACTANT	75.00 ab	96.25 ab	45.00 bcd	100.00 a	1.00 a	0.50 a	0.50 a
4	FLUMIOXAZIN SURFACTANT	97.50 a	68.75 ab	57.50 abc	95.00 a	0.75 a	1.00 a	0.50 a
5	IMAZOSULFURON FLUMIOXAZIN SURFACTANT	100.00 a	90.00 ab	86.25 ab	98.75 a	0.50 a	0.75 a	0.75 a
6	RIMSULFURON SURFACTANT	100.00 a	67.50 ab	37.50 cde	98.75 a	0.75 a	0.50 a	1.00 a
7	SAFLUFENACIL SURFACTANT	50.00 b	48.75 bc	12.50 de	100.00 a	0.75 a	0.75 a	0.75 a
8	SAFLUFENACIL CARFENTRAZONE SURFACTANT	100.00 a	50.00 abc	21.25 cde	100.00 a	1.00 a	0.75 a	0.75 a
9	SAFLUFENACIL PENDIMETHALIN SURFACTANT	100.00 a	97.00 ab	82.50 ab	100.00 a	0.75 a	0.50 a	1.00 a
10	CARFENTRAZONE SURFACTANT CARFENTRAZONE SURFACTANT	97.50 a	100.00 a	93.25 a	98.75 a	1.00 a	1.00 a	0.75 a
LSD (P=.05)	34.189	51.066	41.901	5.029	0.577	0.629	0.604	
Standard Deviation	23.562	35.194	28.878	3.466	0.398	0.434	0.416	
CV	28.73	51.25	58.1	3.89	48.23	59.8	53.69	
Bartlett's X2	19.586	20.18	24.889	9.965	0.103	0.219	0.171	
P(Bartlett's X2)	0.001*	0.003*	0.002*	0.019*	1.00	1.00	1.00	

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.

## AOV Data Summary for September 8

Pest Code		ECHCG	
Crop Code			CPSAN
Description		CROP ROW	*Harvest
Rating Date		9-8-11	1-6-12
Rating Type		PRES/ABS	YIELD
Plant-Eval Interval		142 DP-1	262 DP-1
Trt No.	Treatment Name		
1	CONTROL	0.00 a	4018.0 a
2	IMAZOSULFURON SURFACTANT	0.25 a	4934.3 a
3	IMAZOSULFURON SURFACTANT	0.00 a	5498.3 a
4	FLUMIOXAZIN SURFACTANT	0.25 a	5850.7 a
5	IMAZOSULFURON FLUMIOXAZIN SURFACTANT	0.25 a	6273.7 a
6	RIMSULFURON SURFACTANT	0.25 a	5991.7 a
7	SAFLUFENACIL SURFACTANT	0.00 a	4511.4 a
8	SAFLUFENACIL CARFENTRAZONE SURFACTANT	0.00 a	4863.8 a
9	SAFLUFENACIL PENDIMETHALIN SURFACTANT	0.50 a	7119.5 a
10	CARFENTRAZONE SURFACTANT CARFENTRAZONE SURFACTANT	0.50 a	5780.2 a
LSD (P=.05)		0.572	1782.63
Standard Deviation		0.394	1228.57
CV		197.2	22.4
Bartlett's X2		0.16	10.498
P(Bartlett's X2)		0.999	0.312

\*Four meter/plot were harvested on December 16, 2011, placed in storage until January 6, 2012 then weighed.

### Assessment Data Summary

Pest Code		AMAPA	ANVCR	PHYWR	ECHCG	
Description		CROP ROW	CROP ROW	CROP ROW	CROP ROW	
Rating Date		9-8-11	9-8-11	9-8-11	9-8-11	
Rating Type		PRESENT/ABSENT	PRESENT/ABSENT	PRESENT/ABSENT	PRESENT/ABSENT	
Trt	Treatment					
No.	Name	Plot				
1	CONTROL	101	1	0	1	0
		207	1	1	1	0
		306	1	1	1	0
		408	1	1	1	0
2	IMAZOSULFURON SURFACTANT	102	1	0	0	0
		209	1	1	1	0
		305	1	1	1	0
		403	0	1	1	1
3	IMAZOSULFURON SURFACTANT	103	1	0	0	0
		204	1	0	1	0
		310	1	1	0	0
		409	1	1	1	0
4	FLUMIOXAZIN SURFACTANT	104	1	1	0	0
		202	0	1	0	0
		301	1	1	1	1
		410	1	1	1	0
5	IMAZOSULFURON FLUMIOXAZIN SURFACTANT	105	1	1	1	0
		210	0	1	1	0
		302	0	1	0	1
		404	1	0	1	0
6	RIMSULFURON SURFACTANT	106	1	0	1	0
		205	1	1	1	0
		303	0	0	1	1
		405	1	1	1	0
7	SAFLUFENACIL SURFACTANT	107	1	1	0	0
		208	1	1	1	0
		309	0	1	1	0
		407	1	0	1	0
8	SAFLUFENACIL CARFENTRAZONE SURFACTANT	108	1	0	0	0
		206	1	1	1	0
		307	1	1	1	0
		406	1	1	1	0
9	SAFLUFENACIL PENDIMETHALIN SURFACTANT	109	1	0	1	0
		203	1	1	1	1
		304	1	1	1	1
		402	0	0	1	0
10	CARFENTRAZONE SURFACTANT CARFENTRAZONE SURFACTANT	110	1	1	1	0
		201	1	1	1	1
		308	1	1	1	0
		401	1	1	0	1

The table, arranged by treatment is data collected on September 8, 2011 of the weed species in each plot and recorded as present (1) or absent (0).

**Trial ID:** 11-L-3

**Title:** Weed Response to Post-emergence Herbicides Applied at Different Stages of Growth

### Pest Description

Code	Binomial	Common name
AMAPA	<i>Amaranthus palmeri</i>	Palmer amaranth
ANVCR	<i>Anoda cristata</i>	spurred anoda
DATQU	<i>Datura quercifolia</i>	oakleaf thornapple
PHBPU	<i>Ipomoea purpurea</i>	tall morningglory
PHYWR	<i>Physalis wrightii</i>	Wright groundcherry
POASPP	Poa species	grass seedlings

### Site Description and Design

**Site Type:** Field    **Plot Width:** 2 meter    **Plot Length:** 7.6 meter    **Plot Area:** 15.24 m<sup>2</sup>  
**Replications:** 4    **Study Design:** Randomized Complete Block (RCB)

### Field Preparation and Maintenance:

3/11 Schmeiser  
 3/14 Laser  
 5/09 list  
 5/25 maintenance glyphosate  
 5/31 plot area was cultivated and re-bedded to prepare plots for weed growth

### Moisture and Weather Conditions

**Overall Moisture Conditions:** Irrigated as needed for chile production  
 Irrigate: 3/24 pre-irrigate, 4/20, 5/2, 6/3, 6/14,

**Terminate study:** July 7

### Trial Treatments

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Unit	Growth Stage	Appl Code
1	CONTROL						
2	SULFENTRAZONE		4 LBA/GAL	F	0.14 kg AI/ha	PRE	A
3	SULFENTRAZONE		4 LBA/GAL	F	0.14 kg AI/ha	COTYL-2"	B
4	SULFENTRAZONE		4 LBA/GAL	F	0.14 kg AI/ha	2-4"	C
5	SULFENTRAZONE		4 LBA/GAL	F	0.14 kg AI/ha	4-6"	D
6	FLUMIOXAZIN	51 %		WG	0.108 kg AI/ha	PRE	A
7	FLUMIOXAZIN	51 %		WG	0.108 kg AI/ha	COTYL-2"	B
	SURFACTANT	100 %		OL	1 % V/V		B
8	FLUMIOXAZIN	51 %		WG	0.108 kg AI/ha	2-4"	C
	SURFACTANT	100 %		OL	1 % V/V		C
9	FLUMIOXAZIN	51 %		WG	0.108 kg AI/ha	4-6"	D
	SURFACTANT	100 %		OL	1 % V/V		D
10	CARFENTRAZONE		2 LBA/GAL	EC	0.028 kg AI/ha	COTYL-2"	B
	COC	100 %		OL	1 % V/V		B
11	CARFENTRAZONE		2 LBA/GAL	EC	0.028 kg AI/ha	2-4"	C
	COC	100 %		OL	1 % V/V		C
12	CARFENTRAZONE		2 LBA/GAL	EC	0.028 kg AI/ha	4-6"	D
	COC	100 %		OL	1 % V/V		D
13	HALOSULFURON	75 %		WG	0.039 kg AI/ha	COTYL-2"	B
	COC	100 %		OL	1 % V/V		B
14	HALOSULFURON	75 %		WG	0.039 kg AI/ha	2-4"	C
	COC	100 %		OL	1 % V/V		C
15	HALOSULFURON	75 %		WG	0.039 kg AI/ha	4-6"	D
	COC	100 %		OL	1 % V/V		D
16	IMAZOSULFURON	75 %		WG	0.28 kg AI/ha	PRE	A
17	IMAZOSULFURON	75 %		WG	0.28 kg AI/ha	COTYL-2"	B
	SURFACTANT	100 %		OL	1 % V/V		B
18	IMAZOSULFURON	75 %		WG	0.28 kg AI/ha	2-4"	C
	SURFACTANT	100 %		OL	1 % V/V		C
19	IMAZOSULFURON	75 %		WG	0.28 kg AI/ha	4-6"	D
	SURFACTANT	100 %		OL	1 % V/V		D

## Application Description

<b>APPLICATION CODE:</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Application Date:</b>	6-1-11	6-13-11	6-20-11	6-28-11
<b>Time of Day:</b>	AM	AM	AM	AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	COTYL-5 CM	5-6 CM	6 -10 CM
<b>Application Placement:</b>	BROSOL	POST	POST	POST
<b>Applied By:</b>	ANDREW	ANDREW	ANDREW	ANDREW
<b>Air Temperature, Unit:</b>	26 C	27 C	24 C	28 C
<b>% Relative Humidity:</b>	35	25	33	33
<b>Wind Velocity, Unit:</b>	4.3 KPH	0	0	2.4 KPH
<b>Wind Direction:</b>	114°		-	135°
<b>Dew Presence (Y/N):</b>	N no	N no	N no	N no
<b>Soil Temperature, Unit:</b>	24 C	25 C	28	25
<b>Soil Moisture:</b>	MOIST	DRY	DRY	Moist
<b>% Cloud Cover:</b>	50	5	0	30%

## Pest Stage at Each Application

### APPLICATION CODE

	<b>AMAPA</b>	<b>ANVCR</b>	<b>PHYWR</b>	<b>PHBPU</b>	<b>DATQU</b>
<b>A</b>					
<b>Growth Stage:</b>	PRE	PRE	PRE	PRE	PRE
<b>B</b>					
<b>Growth Stage:</b>	COTYL - 15 cm	COTYL - 2 LEAF	COTYL -2 LEAF	COTYL - 2 LEAF	COTYL - 2 LEAF
<b>Density:</b>	0-10/0 .1 m <sup>2</sup>	10/PLOT	0-17/0.1 m <sup>2</sup>	10/ 0.1 m <sup>2</sup>	2-10/PLOT
<b>C</b>					
<b>Growth Stage:</b>	2.5 - 15 cm	8 cm	COTYL - 5cm	8 cm	5 cm
<b>Density:</b>	0-8/0 .1 m <sup>2</sup>	0-2/0 .1 m <sup>2</sup>	0-5/0 .1 m <sup>2</sup>	0-1/0 .1 m <sup>2</sup>	0-1/0 .1 m <sup>2</sup>
<b>D</b>					
<b>Growth Stage:</b>	5 – 76 cm	2.5 – 20 cm	2.5 – 15 cm	Vining	2.5 – 15 cm
<b>Density (% GC/plot):</b>	<1 - 85%	<1 – 10%	1– 35%	1 - 25%	<1%

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Equipment Type:</b>	BACCAI	BACCAI	BACCAI	BACCAI
<b>Operation Pressure, Unit:</b>	35 PSI	38 PSI	34 PSI	39 PSI
<b>Nozzle Type:</b>	TEEJET	TEEJET	TEEJET	TEEJET
<b>Nozzle Size:</b>	11002	11002	11002	11002
<b>Nozzle Spacing, Unit:</b>	51 CM	51 CM	51 CM	51 CM
<b>Nozzles/Row:</b>	2	2	2	2
<b>Nozzle Calibration, Unit:</b>	161 ML/MIN	159 ML/MIN	161 ML/MIN	160.5 ML/MIN
<b>Band Width, Unit:</b>	204 CM	204 CM	204 CM	204 CM
<b>Boom Length, Unit:</b>	51 CM	51 CM	51 CM	51 CM
<b>Boom Height, Unit:</b>	51 CM	51 CM	51 CM	51 CM
<b>Ground Speed, Unit:</b>	3.2 KPH	3.2 KPH	3.2 KPH	3.2 KPH
<b>Incorporation Equip.:</b>	IRRIGA			
<b>Carrier:</b>	WATER	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	233.85 L/HA	233.85 L/HA	233.85 L/HA	233.85 L/HA
<b>Mix Size, Unit:</b>	2 LITERS	2 LITERS	2 LITERS	2 LITERS

#### Notes

- WEEDS AT APPLICATION WERE ASSESSED ONLY IN PLOTS BEING SPRAYED ON DAY OF APPLICATION
- WEEDS WERE HARVESTED IN 3-ONE QUARTER METER QUADRATES RANDOMLY IN EACH PLOT ON JULY 6. FRESH WEIGHTS WERE OBTAINED THE DAY OF HARVEST AND DRY PLANT MATERIAL WAS WEIGHT ON JULY 26.

## AOV DATA SUMMARY

Pest Code	AMAPA	PHYWR	PHBPU	ANVCR	AMAPA	PHYWR
Part Rated	SHOOT P	SHOOT P	SHOOT P	SHOOT P	SHOOT P	SHOOT P
Rating Date	6-21-11	6-21-11	6-21-11	6-21-11	6-28-11	6-28-11
Rating Type	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL
Pest Stage Majority	2.5 – 20 cm	5 – 10 cm	5 – 10 cm	5 – 10 cm	2.5 – 76 cm	2.5 – 15 cm
Pest Density, Unit	95 %GC	0 – 3/0.1 M	0 – 1/0.1 M	0 – 2 /0.1 M	< 1 – 85% GC	0 – 30% GC
Trt No.	Treatment Name					
1	CONTROL	0.00 e	0.00 d	0.00 c	0.00 c	0.00 d
2	SULFENTRAZONE PRE	83.47 bc	0.07 d	65.42 b	72.99 b	77.25 ab
3	SULFENTRAZONE COTYL – 5 CM	96.25 ab	88.75 ab	97.50 ab	92.50 ab	92.50 a
4	SULFENTRAZONE 5 – 10 CM				50.00 c	71.25 ab
5	SULFENTRAZONE 10 – 15 CM					
6	FLUMIOXAZIN PRE	78.75 cd	18.75 cd	25.00 c	18.75 c	40.00 c
7	FLUMIOXAZIN COTYL – 5 CM	99.50 a	95.00 a	100.00 a	97.00 a	98.75 a
8	FLUMIOXAZIN 5 – 10 CM	92.59 ab	94.78 a	103.75 a	101.03 a	92.25 a
9	FLUMIOXAZIN 10 – 15 CM					
10	CARFENTRAZONE COTYL – 5 CM	98.75 a	95.75 a	100.00 a	98.75 a	93.75 a
11	CARFENTRAZONE 5 – 10 CM				98.25 a	99.75 a
12	CARFENTRAZONE 10 – 15 CM					
13	HALOSULFURON COTYL – 5 CM	70.00 d	66.25 b	90.00 ab	81.25 ab	12.50 d
14	HALOSULFURON 5 – 10 CM					62.50 bc
15	HALOSULFURON 10 – 15 CM					
16	IMAZOSULFURON PRE	90.00 abc	30.00 c	100.00 a	82.50 ab	88.75 a
17	IMAZOSULFURON COTYL – 5 CM	92.50 ab	83.75 ab	87.50 ab	92.50 ab	78.75 ab
18	IMAZOSULFURON 5 – 10 CM					75.00 ab
19	IMAZOSULFURON 10 – 15 CM					
LSD (P=.05)	12.887	26.641	33.205	23.596	24.636	36.291
Standard Deviation	8.808	18.210	22.697	16.129	17.239	25.395
CV	10.99	31.77	29.51	21.88	25.13	53.5
Bartlett's X2	24.706	20.373	18.951	29.865	40.701	54.226
P(Bartlett's X2)	0.001*	0.002*	0.001*	0.001*	0.001*	0.001*

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.



## AOV DATA SUMMARY

Pest Code	PHBPU	ANVCR	AMAPA	ANVCR	PHBPU	PHYWR	
Part Rated	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT	
Rating Date	6-28-11	6-28-11	7-6-11	7-6-11	7-6-11	7-6-11	
Rating Type	%CONTROL	%CONTROL	FRSH WGTS Gram	FRSH WGTS Gram	FRSH WGTS Gram	FRSH WGTS Gram	
Pest Stage Majority	COTLY - VINING	2.5 – 15 cm					
Pest Density, Unit	0 – 25% GC	0 – 10% GC					
Trt No.	Treatment Name						
1	CONTROL	0.00 a	0.00 d	794.08 ab	24.97 bc	9.00 a	282.23 a
2	SULFENTRAZONE PRE	25.00 a	58.50 abc	315.31 c-f	2.43 c	5.97 a	132.56 a-e
3	SULFENTRAZONE COTYL – 5 CM	12.50 a	70.00 ab	225.22 c-f	3.01 c	3.18 a	41.15 cde
4	SULFENTRAZONE 5 – 10 CM	25.00 a	67.50 ab	434.49 b-e	12.50 c	53.43 a	42.01 cde
5	SULFENTRAZONE 10 – 15 CM			534.35 abc	12.33 c	0.00 a	46.08 cde
6	FLUMIOXAZIN PRE	0.00 a	12.50 d	392.56 b-f	85.17 a	35.87 a	219.07 ab
7	FLUMIOXAZIN COTYL – 5 CM	45.00 a	80.00 a	0.14 f	5.38 c	0.00 a	0.22 e
8	FLUMIOXAZIN 5 – 10 CM	49.75 a	71.25 ab	56.57 def	0.00 c	0.00 a	25.97 cde
9	FLUMIOXAZIN 10 – 15 CM			59.71 def	24.82 bc	0.00 a	4.39 de
10	CARFENTRAZONE COTYL – 5 CM	50.00 a	84.75 a	24.66 ef	2.77 c	0.00 a	74.37 b-e
11	CARFENTRAZONE 5 – 10 CM	75.00 a	95.00 a	0.32 f	0.28 c	0.00 a	0.03 e
12	CARFENTRAZONE 10 – 15 CM			462.95 a-d	6.76 c	31.92 a	0.00 e
13	HALOSULFURON COTYL – 5 CM	37.50 a	35.00 bcd	878.73 a	16.76 c	9.45 a	172.26 a-d
14	HALOSULFURON 5 – 10 CM	50.00 a	77.50 a	196.08 c-f	1.28 c	50.45 a	129.78 a-e
15	HALOSULFURON 10 – 15 CM			462.55 a-d	123.18 a	47.02 a	241.27 ab
16	IMAZOSULFURON PRE	25.00 a	22.50 cd	50.26 def	8.94 c	0.15 a	192.03 abc
17	IMAZOSULFURON COTYL – 5 CM	45.00 a	17.50 d	168.77 c-f	18.53 c	7.47 a	239.60 ab
18	IMAZOSULFURON 5 – 10 CM	37.50 a	66.25 ab	142.40 c-f	27.22 bc	1.32 a	137.57 a-e
19	IMAZOSULFURON 10 – 15 CM			285.49 c-f	75.51 ab	20.02 a	147.69 a-e
LSD (P=.05)	56.423	39.922	427.443	51.478	55.313	168.851	
Standard Deviation	39.482	27.936	302.248	36.401	39.112	119.396	
CV	115.82	51.58	104.71	153.08	270.02	106.59	
Bartlett's X2	2.57	19.419	119.894	131.661	77.386	117.152	
P(Bartlett's X2)	0.995	0.079	0.001*	0.001*	0.001*	0.001*	

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.

## AOV DATA SUMMARY

Pest Code	AMAPA	ANVCR	PHBPU	PHYWR	TOTWEED	
Part Rated	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT	
Rating Date	7-27-11	7-27-11	7-27-11	7-27-11	7-27-11	
Rating Type	DRY WGTS G	DRY WGTS G	DRY WGTS G	DRY WGTS G	DRY WGTS	
Trt No.	Treatment Name					
1	CONTROL	164.63 a	4.50 cd	1.61 a	32.04 a	202.77 a
2	SULFENTRAZONE PRE	52.16 c-f	0.50 d	0.98 a	13.41 b-f	67.04 c-g
3	SULFENTRAZONE COTYL – 5 CM	32.15 c-f	0.50 d	0.53 a	4.16 ef	37.33 d-g
4	SULFENTRAZONE 5 – 10 CM	78.96 b-f	2.17 d	3.33 a	3.22 ef	87.67 c-f
5	SULFENTRAZONE 10 – 15 CM	90.36 abc	3.07 d	0.00 a	6.16 def	99.59 b-e
6	FLUMIOXAZIN PRE	77.46 b-f	13.82 ab	0.18 a	23.34 a-d	114.80 bcd
7	FLUMIOXAZIN COTYL – 5 CM	0.02 f	0.83 d	0.00 a	0.01 f	0.85 g
8	FLUMIOXAZIN 5 – 10 CM	9.05 c-f	0.00 d	0.00 a	2.81 ef	11.85 fg
9	FLUMIOXAZIN 10 – 15 CM	18.46 c-f	6.96 bcd	0.00 a	1.41 ef	26.83 efg
10	CARFENTRAZONE COTYL – 5 CM	3.47 ef	0.50 d	0.00 a	7.26 c-f	11.22 fg
11	CARFENTRAZONE 5 – 10 CM	0.08 f	0.11 d	0.00 a	0.00 f	0.19 g
12	CARFENTRAZONE 10 – 15 CM	83.12 a-e	4.13 cd	0.00 a	0.00 f	87.25 c-f
13	HALOSULFURON COTYL – 5 CM	149.94 ab	2.52 d	0.14 a	16.90 a-f	169.49 ab
14	HALOSULFURON 5 – 10 CM	83.47 a-e	0.28 d	0.96 a	14.03 a-f	98.74 b-e
15	HALOSULFURON 10 – 15 CM	87.50 a-d	19.35 a	2.32 a	27.30 ab	136.47 abc
16	IMAZOSULFURON PRE	6.42 def	1.60 d	0.03 a	19.75 a-e	27.78 efg
17	IMAZOSULFURON COTYL – 5 CM	25.37 c-f	3.79 cd	1.25 a	24.56 abc	54.96 d-g
18	IMAZOSULFURON 5 – 10 CM	25.19 c-f	5.68 bcd	0.32 a	18.18 a-f	49.36 d-g
19	IMAZOSULFURON 10 – 15 CM	67.97 b-f	12.18 abc	0.62 a	16.41 a-f	97.18 b-e
LSD (P=.05)	82.468	8.776	2.403	18.363	77.733	
Standard Deviation	58.314	6.206	1.699	12.984	54.966	
CV	104.95	143.0	263.81	106.83	75.6	
Bartlett's X2	118.327	121.031	54.526	122.336	92.169	
P(Bartlett's X2)	0.001*	0.001*	0.001*	0.001*	0.001*	

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.

TOTWEED = Combined weights for AMAPA, ANVCR, PHYWR, PHBPU and DATQU.

**Trial ID:** 11-L-4**Title:** Efficacy of pyroxasulfon for Weed Control in Corn**Objectives:** Demonstrate pyroxasulfon effectiveness in a two pass system compared to current commercial standards.**Crop Description****Crop Code**

ZEAMX

**Binomial***Zea mays***Common name**

Corn

**Variety** YIELDGUARD VT TRIPLE**Description:** FIELD OR SILAGE CORN**Planting Date:** 5-24-11**Planting Method:** SEEDED**Pest Description****Weed Code**

AMAPA

ANVCR

DATQF

IPOCC

IPOHE

PHBPU

PHYWR

POASPP

ECHCO

**Binomial***Amaranthus palmeri**Anoda cristata**Datura quercifolia**Ipomoea coccinea**Ipomoea hederacea**Ipomoea purpurea**Physalis wrightii*

POA SPECIES

*Echinochloa colonum***Common name**

Palmer amaranth

spurred anoda

oakleaf thornapple

red morningglory

ivyleaf morningglory

tall morningglory

Wright groundcherry

grass

junglerice

**Site Description and Design****Site Type:** FIELD **Plot Width:** 2 meter **Plot Length:** 7.6 meter **Plot Area:** 15.2 m<sup>2</sup>**Replications:** 4**Study Design:** Randomized Complete Block (RCB)**Field Preparation and Maintenance:****Field Preparation**

3/11 Schmeiser

3/14 Laser

5/09 List

5/31 Cultivate

**Fertilizer**

5/24 224 KG/Ha AMS

**Furrow Irrigation Dates**

3/24

5/09

6/10

**Hand Weeded Plots hoed:** 6/13**Terminate study:** 7/11

## Trial Treatments

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code
1	WEEDY CONTROL									
2	WEED FREE CONTROL									
3	ACETOCHLOR + ATRAZINE	720 G/L		SL	3370 g Al/ha		2 QT/A		PRE-EMER	A
	GLYPHOSATE	540 G/L		SL	870 g AE/ha		22 FL OZ/A		V2 CORN	B
	AMMONIUM SULFATE	100		SG	2040 g Al/100 L		17 LB/100 GAL		V2 CORN	B
4	PYROXASULFON	85 %		WG	149 g Al/ha		2.5 OZ WT/A		PRE-EMER	A
	SAFLUFENACIL	340 G/L		SC	74.5 g Al/ha		3 FL OZ/A		PRE-EMER	A
	GLYPHOSATE	540 G/L		SL	870 g AE/ha		22 FL OZ/A		V2 CORN	B
	AMMONIUM SULFATE	100		SG	2040 g Al/100 L		17 LB/100 GAL		V2 CORN	B
5	PYROXASULFON	85 %		WG	179 g Al/ha		3 OZ WT/A		PRE-EMER	A
	SAFLUFENACIL	340 G/L		SC	74.5 g Al/ha		3 FL OZ/A		PRE-EMER	A
	GLYPHOSATE	540 G/L		SL	870 g AE/ha		22 FL OZ/A		V2 CORN	B
	AMMONIUM SULFATE	100		SG	2040 g Al/100 L		17 LB/100 GAL		V2 CORN	B
6	PYROXASULFON	85 %		WG	179 g Al/ha		3 OZ WT/A		PRE-EMER	A
	GLYPHOSATE	540 G/L		SL	870 g AE/ha		22 FL OZ/A		V2 CORN	B
	AMMONIUM SULFATE	100		SG	2040 g Al/100 L		17 LB/100 GAL		V2 CORN	B
7	PYROXASULFON	85 %		WG	149 g Al/ha		2.5 OZ WT/A		PRE-EMER	A
	GLYPHOSATE	540 G/L		SL	870 g AE/ha		22 FL OZ/A		V2 CORN	B
	PYROXASULFON	85 %		WG	59.5 g Al/ha		1.0 OZ WT/A		V2 CORN	B
	AMMONIUM SULFATE	100		SG	2040 g Al/100 L		17 LB/100 GAL		V2 CORN	B

## Application Description

### Application Code/Treatment Timing

Application Date:

**A**

5-25-11

**B**

6-6-11

Time of Day:

MORNING

MORNING

Application Method:

SPRAY

SPRAY

Application Timing:

PREPRE

POSPOS

Application Placement:

BROSOI

BROFOL

Applied By:

ANDREW

ANDREW

Air Temperature, Unit:

12 C

30 C

% Relative Humidity:

28

35

Wind Velocity, Unit:

0.8 KPH

4 KPH

Wind Direction:

NR

SW

Dew Presence (Y/N):

N no

N no

Soil Temperature, Unit:

20 C

28 C

Soil Moisture:

MOIST

MOIST

% Cloud Cover:

0

0

**Crop Stage at Application**

<b>Application code:</b>	<b>A</b>	<b>B</b>
<b>Crop Code:</b>	ZEAMX	ZEAMX
<b>Crop Stage:</b>	PREEMERGE	2-3 LEAF

**Pest Stage at Application**

<b>Application code:</b>	<b>A</b>	<b>B</b>
<b>Pest Code:</b>	AMAPA	AMAPA
<b>Growth Stage   Density:</b>	PRE	COT – 8 LF   0 – 2/.01 m <sup>2</sup>
<b>Pest Code:</b>	ANVCR	ANVCR
<b>Growth Stage   Density:</b>	PRE	Cotyl-3 LF   0 – 3/.01 m <sup>2</sup>
<b>Pest Code:</b>	DATQF	DATQF
<b>Growth Stage   Density:</b>	PRE	Cotyl   0 – 12/.01 m <sup>2</sup>
<b>Pest Code:</b>	PHBPU	PHBPU
<b>Growth Stage   Density:</b>	PRE	Cotyl - 2LF   0-2/.01 m <sup>2</sup>
<b>Pest Code:</b>	PHYRW	PHYRW
<b>Growth Stage   Density:</b>	PRE	NOT PRESENT
<b>Pest Code:</b>	POASPP	POASPP
<b>Growth Stage   Density:</b>	PRE	COT – 2 LF   0 - 6/.01 m <sup>2</sup>

**Application Equipment**

<b>Application code:</b>	<b>A</b>	<b>B</b>
<b>Equipment Type:</b>	BACCAI	BACCAI
<b>Operating Pressure, Unit:</b>	Not Recorded	124 KPA
<b>Nozzle Type:</b>	TEEJET	TEEJET
<b>Nozzle Size:</b>	11002	11002
<b>Nozzle Spacing, Unit:</b>	50 CM	50 CM
<b>Nozzles/Row:</b>	2	2
<b>Nozzle Calibration, Unit:</b>	128 ML/MIN	128 ML/MIN
<b>Band Width, Unit:</b>	50 CM	50 CM
<b>Ground Speed, Unit:</b>	3.2KPH	3.2 KPH
<b>Incorporation Equip.:</b>	IRRIGATION	
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	187 L/ha	187 L/ha
<b>Mix Size, Unit:</b>	2 liters	2 Liters
<b>Propellant:</b>	COMCO2	COMCO2

## AOV Data Summary

Pest Code		ANVCR	PHBPU	AMAPA	DATQU	PHYWR
Crop Code	ZEAMX					
Description	2-4 leaf	SEEDLING	SEEDLING	SEEDLING	SEEDLING	SEEDLING
Part Rated	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT-	SHOOT
Rating Date	6-7-11	6-7-11	6-7-11	6-7-11	6-7-11	6-7-11
Rating Type	INJURY	COUNT/PLOT	COUNT/PLOT	COUNT/PLOT	COUNT/PLOT	COUNT/PLOT
Trt Treatment No. Name						
1 WEEDY CONTROL	0.0 a	48.0 a	11.0 a	5.8 a	4.8 a	0.5 a
2 WEED FREE CONTROL	0.0 a	31.8 abc	4.0 a	2.5 ab	75.8 a	1.3 a
3 ACETOCHLOR + ATRAZINE GLYPHOSATE AMMONIUM SULFATE	0.0 a	33.5 ab	6.0 a	0.0 b	2.5 a	0.0 a
4 PYROXASULFONE SAFLUFENACIL GLYPHOSATE AMMONIUM SULFATE	0.0 a	4.3 cd	5.3 a	0.0 b	0.5 a	0.0 a
5 PYROXASULFONE SAFLUFENACIL GLYPHOSATE AMMONIUM SULFATE	0.0 a	2.8 d	2.3 a	0.0 b	0.0 a	0.0 a
6 PYROXASULFONE GLYPHOSATE AMMONIUM SULFATE	2.5 a	13.8 bcd	6.8 a	0.0 b	0.3 a	0.0 a
7 PYROXASULFONE GLYPHOSATE PYROXASULFONE AMMONIUM SULFATE	1.3 a	20.0 bcd	14.8 a	0.3 b	5.0 a	0.3 a
LSD (P=.05)	2.24	27.61	13.33	3.53	83.45	0.97
Standard Deviation	1.51	18.59	8.97	2.37	56.17	0.65
CV	281.97	84.49	125.62	195.56	443.03	228.07
Bartlett's X2	0.06	22.079	12.889	10.108	85.051	4.324
P(Bartlett's X2)	0.806	0.001*	0.045*	0.006*	0.001*	0.115

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.

## AOV Data Summary

Pest Code	POASP	ZEAMX	AMAPA	ANVCR	DATQU	PHYWR	PHBPU	
Crop Code		10 - 12"	1 - 8"	0-3 FT2	0-3 FT2	0-1 FT2	0-1 FT2	0-5 FT2
Description	SEEDLING	10 - 12"	1 - 8"	1 - 6"	2 - 6"	1 - 4"	SEEDL - 3"	
Part Rated	SHOOT	SHOOT	SHOOT-	SHOOT	SHOOT	SHOOT-	SHOOT-	
Rating Date	6-7-11	6-21-11	6-21-11	6-21-11	6-21-11	6-21-11	6-21-11	
Rating Type	COUNT/PLOT	%INJURY	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	
Trt Treatment								
No. Name								
1 WEEDY CONTROL	19.3 a	0.0 a	0.0 b	0.0 c	0.0 b	0.0 c	0.0 c	
2 WEED FREE CONTROL	11.0 ab	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a	100.0 a	
3 ACETOCHLOR + ATRAZINE GLYPHOSATE AMMONIUM SULFATE	0.0 b	0.0 a	100.0 a	83.8 b	97.5 a	98.5 b	87.0 b	
4 PYROXASULFONE SAFLUFENACIL GLYPHOSATE AMMONIUM SULFATE	2.3 b	0.0 a	100.0 a	97.0 ab	98.8 a	100.0 a	92.3 ab	
5 PYROXASULFONE SAFLUFENACIL GLYPHOSATE AMMONIUM SULFATE	0.0 b	0.0 a	100.0 a	98.5 a	100.0 a	100.0 a	98.8 a	
6 PYROXASULFONE GLYPHOSATE AMMONIUM SULFATE	1.3 b	0.0 a	100.0 a	97.3 a	100.0 a	99.5 ab	97.3 a	
7 PYROXASULFONE GLYPHOSATE PYROXASULFONE AMMONIUM SULFATE	1.5 b	1.3 a	100.0 a	99.8 a	100.0 a	100.0 a	99.8 a	
LSD (P=.05)	12.70	1.40	0.00	13.28	3.21	1.49	7.80	
Standard Deviation	8.55	0.94	0.00	8.94	2.16	1.00	5.25	
CV	169.72	529.15	0.0	10.86	2.54	1.17	6.39	
Bartlett's X2	27.67	0.0	0.0	36.499	1.308	1.973	20.397	
P(Bartlett's X2)	0.001*	.	.	0.001*	0.253	0.16	0.001*	

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.

## AOV Data Summary

Pest Code	ECHCO		AMAPA	ANVCR	IPOCC	PHBPU	IPOHE	ECHCO
Crop Code	0-5 FT2	ZEAMX	VEG-FLOW	VEG	VINING	VINING	VINING	VEG-FLOW
Description	VEG		6 - 36"	6 - 16"				
Part Rated	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT	SHOOT
Rating Date	6-21-11	7-11-11	7-11-11	7-11-11	7-11-11	7-11-11	7-11-11	7-11-11
Rating Type	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL
Trt Treatment								
No. Name								
1 WEEDY CONTROL	0.0 b	0.0 a	0.0 b	0.0 c	0.0 c	0.0 b	0.0 c	0.0 b
2 WEED FREE CONTROL	100.0 a	1.3 a	87.5 a	86.3 ab	100.0 a	100.0 a	97.5 ab	98.8 a
3 ACETOCHLOR + ATRAZINE GLYPHOSATE AMMONIUM SULFATE	100.0 a	1.3 a	98.8 a	78.8 b	95.0 ab	97.5 a	81.3 b	92.5 a
4 PYROXASULFONE SAFLUFENACIL GLYPHOSATE AMMONIUM SULFATE	97.5 a	1.3 a	99.8 a	88.5 ab	100.0 a	99.8 a	87.5 ab	100.0 a
5 PYROXASULFONE SAFLUFENACIL GLYPHOSATE AMMONIUM SULFATE	100.0 a	3.8 a	75.0 a	93.8 a	100.0 a	100.0 a	95.0 ab	100.0 a
6 PYROXASULFONE GLYPHOSATE AMMONIUM SULFATE	99.5 a	0.0 a	100.0 a	92.3 a	90.0 b	100.0 a	86.3 ab	100.0
7 PYROXASULFONE GLYPHOSATE PYROXASULFONE AMMONIUM SULFATE	100.0 a	0.0 a	100.0 a	99.5 a	100.0 a	100.0 a	100.0 a	100.0
LSD (P=.05)	2.89	2.81	29.83	13.49	8.68	2.77	17.35	8.62
Standard Deviation	1.95	1.89	20.08	9.08	5.84	1.87	11.68	5.80
CV	2.28	176.38	25.05	11.79	6.99	2.19	14.93	6.87
Bartlett's X2	5.6	0.0	35.879	21.704	0.017	9.49	6.039	6.599
P(Bartlett's X2)	0.018*	.	0.001*	0.001*	0.895	0.002*	0.196	0.01*

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.



**Trial Title:** Residual Efficacy of Penoxsulam Alone and in Tank Mixes for Weed Control in Pecans

**Trial Location:** Dona Ana, NM

### Crop Description

BAYER Code	Binomial	Common Name
CYAIL	<i>Carya illinoensis</i>	pecan

### Pest Description

BAYER Code	Binomial	Common Name
AMAPA	<i>Amaranthus palmeri</i>	Palmer amaranth
ANVCR	<i>Anoda cristata</i>	spurred anoda
BROLFSP		broadleaf species
CHEAL	<i>Chenopodium album</i>	common lambsquarter
CYPES	<i>Cyperus esculentus</i>	yellow nutsedge
ECHCO	<i>Echinochloa colonum</i>	junglerice
ERAME	<i>Eragrostis cilianensis</i>	stinkgrass
KCHSC	<i>Kochia scoparia</i>	kochia
LEFUN	<i>Leptochloa fusca uninervia</i>	Mexican sprangletop
MALNE	<i>Malva neglecta</i>	common mallow
PHBPU	<i>Pharbitis purpurea</i>	tall morningglory
POASPP	<i>Poa species</i>	annual grass species
POROL	<i>Portulaca oleracea</i>	common purslane
SASKR	<i>Salsola kali</i>	Russian thistle
SONOL	<i>Sonchus oleraceus</i>	annual sowthistle
SSYIR	<i>Sisymbrium irio</i>	London rocket
TRBTE	<i>Tribulus terrestris</i>	common puncturevine

### Site and Design

**Plot Width:** 4 m    **Plot Length:** 3 m    **Plot Area:** 12 m<sup>2</sup>    **Site Type:** ORCHARD  
**Replications:** 4    **Study Design:** Completely Randomized (CRD)

### Moisture

**Overall Moisture Conditions:** Flood irrigated every 3 to 4 weeks during the growing season

## Trial Treatments page 1 of 2

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code
1	NO RESIDUAL HERBICIDE						A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
2	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	B
	AGRI-DEX	100	%	SL	1.25	% V/V	B
	AMS	1000	GA/KG	SP	1	% W/W	B
3	OXYFLUORFEN + PENOXsulAM	485.16	GA/L	SC	0.85	kg AI/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
4	OXYFLUORFEN + PENOXsulAM	485.16	GA/L	SC	1.13	kg AI/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
5	OXYFLUORFEN + PENOXsulAM	485.16	GA/L	SC	1.7	kg AI/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
6	OXYFLUORFEN + PENOXsulAM	485.16	GA/L	SC	0.85	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
7	OXYFLUORFEN + PENOXsulAM	485.16	GA/L	SC	1.13	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
8	OXYFLUORFEN + PENOXsulAM	485.16	GA/L	SC	1.7	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
9	PENOXsulAM	240	GA/L	SC	0.0175	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
10	PENOXsulAM	240	GA/L	SC	0.0233	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
11	PENOXsulAM	240	GA/L	SC	0.035	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A

## Trial Treatments page 2 of 2

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code
12	CHATEAU	510	GA/KG	WG	0.45	% W/W	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
13	MATRIX	250	GA/KG	WG	.15	% W/W	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
14	GALLERY 75 DF	750	GA/KG	WG	0.6	% W/W	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
15	ISOXABEN + PENOXSULAM	781.2	GA/KG	WG	0.6	% W/W	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
16	GALLERY 75 DF	750	GA/KG	WG	0.6	% W/W	A
	OXYFLUORFEN + PENOXSULAM	485.16	GA/L	SC	1.7	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
17	TREEVIX	700	GA/KG	WG	0.0374	% W/W	A
	GOALTENDER	480	GA/L	SC	1.68	kg AI/ha	A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
18	PROWL H20	456	GA/L	CS	3.2	kg AI/ha	A
	CHATEAU	510	GA/KG	WG	0.225	% W/W	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A
19	NO RESIDUAL HERBICIDE						A
	DURANGO	480	GAE/L	SL	1.68	kg AE/ha	A
	AGRI-DEX	100	%	SL	1.25	% V/V	A
	AMS	1000	GA/KG	SP	1	% W/W	A

**Application Description**

	<b>A</b>	<b>B</b>
<b>Application Date:</b>	5/12/2011	7/1/2011
<b>Time of Day:</b>	7:00 AM	7:00 AM
<b>Application Method:</b>	SPRAY	SPRAY
<b>Application Timing:</b>	EARLY PRE/PO	POST
<b>Application Placement:</b>	BROFOL	BROFOL
<b>Applied By:</b>	DYER/BLACKWELL	DYER
<b>Air Temperature, Unit:</b>	17 C	25 C
<b>% Relative Humidity (C):</b>	32	33
<b>Wind Velocity (KPH):</b>	4.5	0
<b>Soil Temperature (C):</b>	22	27
<b>Soil Moisture:</b>	DRY	MOIST
<b>% Cloud Cover:</b>	0	10

**Application Equipment**

	<b>A</b>	<b>B</b>
<b>Equipment Type:</b>	SPRBAC	SPRBAC
<b>Operating Pressure (KPA)</b>	172	172
<b>Nozzle Type:</b>	TEEJET	TEEJET
<b>Nozzle Size:</b>	11002	11002
<b>Nozzles/Plot:</b>	8	8
<b>Nozzle Calibration (avg. 4 nozzles) ml/min:</b>	611	620
<b>Nozzle Spacing (cm):</b>	50.8	50.8
<b>Nozzles/Boom:</b>	4	4
<b>Ground Speed (KPH):</b>	3.2	3.2
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume (L/HA):</b>	233.85	233.85
<b>Mix Size (LITERS):</b>	2	2
<b>Propellant:</b>	CO2	CO2

## **Treatment Application Comment**

### **Application A 5-12-11**

Weeds over 20 cm were removed on 5/11/11. The following winter annuals were present at application: CHEAL, KCHSC, MALNE, SASKR, SONAL, SSYIR, POASP. See AOV table dated 5-11-11 for mean weed counts/plot and weed size description.

### **Application B 7-1-11**

The following species were present in at least one of the sprayed plots at application: CHEAL, CYPES, ECHCO, KCHSC, LEFUN, MALNE, PHBPU, SONOL, ERAME, SASKR. Densities of each species were 1 or 2/plot; growth stages varied from vegetative to flowering.

## **Rating Comments**

Weed distribution in this experiment was very non-uniform across the orchard. Therefore, evaluations included ratings of weed counts, size range and growth stage by species for each plot on: 5/11/11, 5/31/11, 6/14/11, 7/12/11, 8/15/11 and 10/12/11. The AOV Means Tables associated with these rating data follow on the next 12 pages.

Rating data collected on August 30 (AOV Means Table) estimates the percentage of ground covered by mowed plant material as a result of the mowing the weeds on August 29 and to record the presence (1) or absence (0) of emerging weed seedlings (August 30 AOV Means Table). The 0 and 1 have been added and averaged for the four plots/treatment (.5 = 2 of the 4 plots had emergence)

## **Maintenance**

### **Pre-emergence application:**

Prowl H2O was applied to non-plot areas on April 18 and 19 at 0.456 Kg ai/ha

### **Grass control:**

Clethodim at 0.175 Kg ai/ha with 1% v/v COC sprayed on June 14, August 1 and September 28

### **General weed control:**

Glyphosate at 5% applied with rope wick to large weeds on April 25. Grasses over 15 cm tall were hoed on June 14 prior to clethodim application. Glyphosate applied August 31 at 1.68 kg ae/ha

### **Mowing:**

The entire orchard was mowed from east to west and then north to south on August 29, 2011.

## AOV Data Summary

Pest Code		CHEAL	KCHSC	MALNE	PORLO	SASKR	SONOL
Rating Date	2-14-11	5-11-11	5-11-11	5-11-11	5-11-11	5-11-11	5-11-11
Description	.5 m from ground	1.3 - 18 cm	2.5 - 15 cm	1.3 - 15 cm	5 - 8 cm	2.5 - 20 cm	2.5 -15 cm
Rating Type	DIAMETER mm	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT
Crop Code	CYAIL						
Trt No.	Treatment Name						
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	68.67 a	9.5 a	6.8 a	0.3 a	0.0 a	2.8 a
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	68.37 a	4.3 a	5.5 a	0.5 a	0.0 a	0.3 a
3	OXYFLUORFEN + PENOXSULAM COC, AMS	57.98 a	3.5 a	1.0 a	0.3 a	0.0 a	2.5 a
4	OXYFLUORFEN + PENOXSULAM COC, AMS	55.28 a	3.0 a	22.0 a	0.3 a	0.0 a	3.5 a
5	OXYFLUORFEN + PENOXSULAM COC, AMS	62.24 a	33.5 a	7.5 a	0.0 a	0.0 a	10.5 a
6	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	67.88 a	21.8 a	2.8 a	0.5 a	0.0 a	2.0 a
7	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	66.90 a	7.0 a	1.0 a	0.0 a	0.0 a	6.8 a
8	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	68.99 a	2.5 a	4.5 a	0.0 a	0.0 a	0.0 a
9	PENOXSULAM GLYPHOSATE, COC, AMS	61.72 a	19.3 a	7.8 a	0.0 a	0.0 a	2.0 a
10	PENOXSULAM GLYPHOSATE, COC, AMS	60.29 a	1.8 a	5.0 a	0.5 a	0.0 a	3.0 a
11	PENOXSULAM GLYPHOSATE, COC, AMS	56.80 a	10.0 a	2.0 a	0.0 a	0.0 a	0.8 a
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	62.28 a	7.3 a	4.0 a	0.8 a	0.0 a	10.3 a
13	RIMSULFURON GLYPHOSATE, COC, AMS	62.40 a	3.3 a	1.0 a	0.5 a	0.0 a	7.3 a
14	ISOXABEN GLYPHOSATE, COC, AMS	51.76 a	1.0 a	7.5 a	0.0 a	0.3 a	2.3 a
15	ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	61.05 a	6.3 a	3.5 a	0.0 a	0.0 a	1.0 a
16	ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	56.07 a	28.5 a	8.8 a	0.3 a	0.0 a	2.0 a
17	SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	48.29 a	1.5 a	0.8 a	0.0 a	0.0 a	1.0 a
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	64.05 a	18.3 a	5.3 a	0.0 a	0.0 a	5.0 a
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	53.69 a	7.3 a	11.3 a	0.5 a	0.3 a	2.3 a
LSD (P=.05)		24.334	27.19	15.21	0.72	0.23	9.80
Standard Deviation		17.207	19.23	10.76	0.51	0.16	6.93
CV		28.31	193.06	189.69	227.42	616.44	202.63
Bartlett's X2		18.12	113.548	87.275	5.185	0.0	95.09
P(Bartlett's X2)		0.448	0.001*	0.001*	0.818	.	0.001*

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.

## AOV Data Summary

Pest Code	SSYIR	POASP	BROLFSP	CHEAL	KCHSC	MALNE	PHBPU	PORLO
Rating Date	5-11-11	5-11-11	5-11-11	5-31-11	5-31-11	5-31-11	5-31-11	5-31-11
Description	2.5 - 15 cm	1 - 15 cm	TOTAL CT	2.5 - 38 cm	2.5 - 61 cm	2.5 - 10 cm	1 - 5 cm	15 cm
Rating Type	COUNT	COUNT		COUNT	COUNT	COUNT	COUNT	COUNT
Trt No.	Treatment Name							
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	5.0 a	9.5 a	25.0 a	6.3 a	2.3 a	0.0 a	0.0 a
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	19.0 a	2.8 a	32.0 a	3.5 a	4.3 a	0.3 a	0.0 a
3	OXYFLUORFEN + PENOXsulAM COC, AMS	2.0 a	4.0 a	10.3 a	5.0 a	3.3 a	0.0 a	0.0 a
4	OXYFLUORFEN + PENOXsulAM COC, AMS	5.0 a	1.0 a	40.3 a	3.5 a	23.8 a	0.0 a	0.0 a
5	OXYFLUORFEN + PENOXsulAM COC, AMS	0.5 a	0.0 a	54.8 a	53.5 a	8.3 a	0.0 a	0.0 a
6	OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	3.5 a	21.3 a	32.0 a	27.0 a	1.0 a	0.3 a	0.0 a
7	OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	2.5 a	29.5 a	20.3 a	0.5 a	1.0 a	0.3 a	0.0 a
8	OXYFLUORFEN + PENOXsulAM COC, AMS	5.0 a	7.8 a	15.5 a	1.3 a	2.5 a	0.0 a	0.0 a
9	PENOXsulAM COC, AMS	2.3 a	15.8 a	32.5 a	15.3 a	9.0 a	0.0 a	0.0 a
10	PENOXsulAM GLYPHOSATE, COC, AMS	3.3 a	10.5 a	17.0 a	1.8 a	5.3 a	0.5 a	0.0 a
11	PENOXsulAM GLYPHOSATE, COC, AMS	2.0 a	13.8 a	18.3 a	3.0 a	0.5 a	0.3 a	0.0 a
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	5.3 a	9.0 a	30.8 a	0.8 a	2.0 a	0.5 a	0.0 a
13	RIMSULFURON GLYPHOSATE, COC, AMS	8.3 a	0.0 a	21.5 a	0.8 a	0.8 a	0.5 a	0.3 a
14	ISOXABEN GLYPHOSATE, COC, AMS	3.0 a	3.7 a	15.8 a	1.3 a	5.8 a	0.0 a	0.3 a
15	ISOXABEN + PENOXsulAM GLYPHOSATE, COC, AMS	1.0 a	15.5 a	15.5 a	1.3 a	1.3 a	0.0 a	0.0 a
16	ISOXABEN OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.5 a	19.0 a	41.8 a	20.0 a	11.0 a	0.3 a	0.0 a
17	SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	0.3 a	3.7 a	4.0 a	2.5 a	1.3 a	0.0 a	0.3 a
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	5.3 a	0.8 a	35.0 a	12.5 a	1.3 a	0.0 a	0.0 a
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	2.8 a	4.3 a	25.0 a	4.0 a	11.3 a	0.5 a	0.3 a
LSD (P=.05)		11.05	21.05	32.74	35.05	17.84	0.71	0.49
Standard Deviation		7.82	14.73	23.15	24.78	12.61	0.50	0.11
CV		194.73	163.02	90.33	287.84	250.95	253.33	373.62
Bartlett's X2		114.136	30.31	45.793	162.305	132.257	4.857	3.036
P(Bartlett's X2)		0.001*	0.011*	0.001*	0.001*	0.001*	0.773	0.694

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.

## AOV Data Summary

Pest Code	SASKR	SONOL	SSYIR	POASP	BROLFSP	AMAPA	ANVCR	CHEAL
Rating Date	5-31-11	5-31-11	5-31-11	5-31-11	5-31-11	6-14-11	6-14-11	6-14-11
Description	4 - 30 cm	2.5 - 15 cm	2.5 - 25 cm	0.5 - 20 cm		8 cm	1 cm	2.5 - 15 cm
Rating Type	COUNT	COUNT	COUNT	COUNT	TOTAL CT	COUNT	COUNT	COUNT
Trt Treatment								
No. Name								
1 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.3 a	0.5 b	0.8 b	23.5 a	10.5 a	0.3 a	0.0 a	0.0 a
2 GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.3 a	0.3 b	0.5 b	4.8 a	9.5 a	0.0 a	0.0 a	0.0 a
3 OXYFLUORFEN + PENOXSULAM COC, AMS	0.0 a	0.0 b	0.5 b	6.8 a	9.3 a	0.0 a	0.0 a	1.0 a
4 OXYFLUORFEN + PENOXSULAM COC, AMS	2.8 a	4.8 a	0.0 b	9.7 a	34.8 a	0.0 a	0.0 a	0.0 a
5 OXYFLUORFEN + PENOXSULAM COC, AMS	0.5 a	3.5 a	0.5 b	2.0 a	66.3 a	0.0 a	0.0 a	0.0 a
6 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	2.0 a	0.5 b	0.0 b	13.5 a	30.8 a	0.0 a	0.0 a	1.3 a
7 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.5 a	0.0 b	0.0 b	24.8 a	2.3 a	0.0 a	0.0 a	0.0 a
8 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.5 a	0.0 b	0.0 b	4.8 a	4.3 a	0.0 a	0.3 a	0.3 a
9 PENOXSULAM GLYPHOSATE, COC, AMS	1.0 a	0.3 b	0.8 b	1.3 a	26.3 a	0.0 a	0.3 a	3.5 a
10 PENOXSULAM GLYPHOSATE, COC, AMS	1.3 a	0.0 b	0.0 b	8.0 a	8.8 a	0.0 a	0.0 a	0.3 a
11 PENOXSULAM GLYPHOSATE, COC, AMS	0.5 a	0.5 b	0.3 b	15.3 a	5.0 a	0.0 a	0.0 a	1.0 a
12 FLUMIOXAZIN GLYPHOSATE, COC, AMS	1.5 a	0.3 b	0.0 b	15.0 a	5.0 a	0.0 a	0.0 a	0.8 a
13 RIMSULFURON GLYPHOSATE, COC, AMS	0.3 a	0.5 b	0.0 b	3.5 a	3.0 a	0.0 a	0.0 a	0.5 a
14 ISOXABEN GLYPHOSATE, COC, AMS	0.3 a	0.0 b	0.5 b	1.3 a	7.8 a	0.0 a	0.0 a	0.0 a
15 ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.0 b	0.0 b	18.8 a	2.8 a	0.0 a	0.0 a	0.0 a
16 ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.8 a	0.8 b	0.0 b	26.3 a	32.8 a	0.0 a	0.0 a	6.5 a
17 SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	0.0 a	0.0 b	0.0 b	4.8 a	4.0 a	0.0 a	0.0 a	0.0 a
18 PENDIMETHALIN FLUMIOXAZIN, COC, AMS	2.8 a	0.3 b	4.8 a	8.3 a	21.5 a	0.0 a	0.0 a	1.8 a
19 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.8 a	0.0 b	0.0 b	25.5 a	16.8 a	0.0 a	0.0 a	0.0 a
LSD (P=.05)	2.41	2.24	2.08	28.31	40.61	0.16	0.23	4.95
Standard Deviation	1.70	1.59	1.47	20.02	28.72	0.11	0.16	3.50
CV	201.19	251.22	328.36	174.93	181.26	871.78	616.44	396.65
Bartlett's X2	52.79	45.258	29.947	70.141	119.848	0.0	0.0	56.376
P(Bartlett's X2)	0.001*	0.001*	0.001*	0.001*	0.001*	.	.	0.001*

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.



## AOV Data Summary

Pest Code	KCHSC	MALNE	PHBPU	SASKR	SONOL	SSYIR	TRBTE	BROLFSP
Rating Date	6-14-11	6-14-11	6-14-11	6-14-11	6-14-11	6-14-11	6-14-11	6-14-11
Description	2.5 - 5 cm	5 - 10 cm	2.5 - 8 cm	2.5 - 30 cm	2.5 - 30	2.5 cm	2.5 - 15 cm	6-14-11
Rating Type	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	TOTAL CT
Trt No.	Treatment Name							
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	1.3 a	0.0 a	0.5 a	0.0 a	1.0 a	0.0 a	3.0 a
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.3 a	0.5 a	0.8 a	0.0 a	0.3 a	0.0 a	1.8 a
3	OXYFLUORFEN + PENOXsulAM COC, AMS	0.5 a	0.5 a	0.0 a	0.0 a	0.0 a	0.3 a	2.3 a
4	OXYFLUORFEN + PENOXsulAM COC, AMS	3.8 a	0.3 a	0.0 a	1.0 a	0.3 a	0.0 a	5.3 a
5	OXYFLUORFEN + PENOXsulAM COC, AMS	0.3 a	0.0 a	0.0 a	0.8 a	1.3 a	0.0 a	2.3 a
6	OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	0.3 a	0.0 a	0.3 a	2.0 a
7	OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.5 a	0.3 a	0.3 a	0.3 a	0.0 a	0.0 a	1.3 a
8	OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	0.3 a	0.0 a	0.0 a	1.0 a
9	PENOXsulAM GLYPHOSATE, COC, AMS	1.8 a	0.5 a	0.0 a	0.5 a	0.5 a	0.0 a	7.0 a
10	PENOXsulAM GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	1.0 a	0.3 a	0.0 a	1.5 a
11	PENOXsulAM GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	1.0 a
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	0.0 a	0.5 a	0.0 a	1.3 a
13	RIMSULFURON GLYPHOSATE, COC, AMS	0.5 a	0.0 a	0.0 a	0.0 a	0.3 a	0.0 a	1.3 a
14	ISOXABEN GLYPHOSATE, COC, AMS	0.5 a	0.0 a	0.3 a	0.5 a	0.0 a	0.0 a	1.3 a
15	ISOXABEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	0.5 a	0.0 a	0.0 a	0.5 a
16	ISOXABEN OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	1.5 a	0.0 a	0.0 a	0.3 a	0.0 a	0.0 a	8.3 a
17	SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.3 a	0.0 a	0.0 a	0.0 a	0.3 a
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	0.5 a	0.0 a	0.0 a	0.5 a	0.0 a	0.5 a	3.3 a
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	1.0 a	0.0 a	0.8 a	0.0 a	0.5 a	0.0 a	2.3 a
LSD (P=.05)		3.00	0.48	0.61	0.79	1.11	0.32	6.01
Standard Deviation		2.12	0.34	0.43	0.56	0.79	0.23	4.25
CV		316.58	320.81	300.05	184.39	309.29	871.78	173.78
Bartlett's X2		64.806	2.301	3.598	6.273	16.942	0.0	85.832
P(Bartlett's X2)		0.001*	0.681	0.609	0.792	0.031*	.	0.001*

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.

## AOV Data Summary

Pest Code	POASPP	AMAPA	ANVCR	CHEAL	KCHSC	MALNE	PHBPU	PORLO
Rating Date	6-14-11	7-12-11	7-12-11	7-12-11	7-12-11	7-12-11	7-12-11	7-12-11
Description		1.5 - 22 cm	1 - 20 cm	2.5 - 61 cm	2.5 - 91 cm	1 - 20 cm	2.5 - 91 cm	5 - 20 cm
Rating Type	% GC	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT
Trt Treatment								
No. Name								
1 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	3.00 a	2.0 a	0.5 a	1.3 a	1.5 a	0.3 a	0.8 bc	0.5 a
2 GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.56 a	0.0 c	0.0 a	0.8 a	0.0 a	0.3 a	0.3 bc	0.0 a
3 OXYFLUORFEN + PENOXsulAM COC, AMS AMS	3.06 a	0.3 c	0.0 a	1.0 a	0.3 a	0.3 a	0.0 c	0.0 a
4 OXYFLUORFEN + PENOXsulAM COC, AMS	4.25 a	0.0 c	0.3 a	0.8 a	4.8 a	0.3 a	0.0 c	0.0 a
5 OXYFLUORFEN + PENOXsulAM COC, AMS	3.25 a	0.0 c	0.3 a	27.0 a	0.5 a	0.0 a	0.0 c	0.0 a
6 OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	1.00 a	0.0 c	2.0 a	2.3 a	0.3 a	0.0 a	0.3 bc	0.0 a
7 OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.81 a	0.0 c	0.0 a	0.0 a	0.8 a	0.3 a	0.3 bc	0.0 a
8 OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.75 a	0.0 c	1.0 a	0.5 a	0.8 a	0.3 a	0.3 bc	0.0 a
9 PENOXsulAM GLYPHOSATE, COC, AMS	1.00 a	0.5 bc	1.3 a	7.3 a	3.8 a	0.5 a	1.0 b	0.0 a
10 PENOXsulAM GLYPHOSATE, COC, AMS	0.67 a	1.5 ab	0.5 a	1.3 a	0.0 a	0.0 a	0.0 c	0.0 a
11 PENOXsulAM GLYPHOSATE, COC, AMS	1.00 a	0.3 c	0.3 a	1.5 a	0.3 a	0.3 a	0.8 bc	0.0 a
12 FLUMIOXAZIN GLYPHOSATE, COC, AMS	2.00 a	0.0 c	0.0 a	2.3 a	0.5 a	0.0 a	0.0 c	0.0 a
13 RIMSULFURON GLYPHOSATE, COC, AMS	0.56 a	0.8 bc	0.3 a	0.5 a	0.3 a	0.5 a	0.8 bc	0.0 a
14 ISOXABEN GLYPHOSATE, COC, AMS	0.56 a	0.0 c	0.0 a	0.5 a	2.5 a	0.8 a	0.3 bc	0.0 a
15 ISOXABEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.75 a	0.0 c	0.0 a	0.0 a	1.0 a	0.0 a	0.3 bc	0.0 a
16 ISOXABEN OXYFLUORFEN + PENOXsulAM GLYPHOSATE, COC, AMS	2.00 a	0.0 c	0.0 a	5.3 a	1.3 a	0.0 a	0.3 bc	0.0 a
17 SAFLUFENACIL , OXYFLUOFEN GLYPHOSATE, COC, AMS	3.00 a	0.0 c	0.3 a	1.5 a	0.3 a	0.0 a	0.5 bc	0.0 a
18 PENDIMETHALIN FLUMIOXAZIN, COC, AMS	0.75 a	0.0 c	0.3 a	3.8 a	0.3 a	0.0 a	0.3 bc	0.0 a
19 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	5.06 a	0.5 bc	0.0 a	5.3 a	2.0 a	0.8 a	2.0 a	0.5 a
LSD (P=.05)	3.215	1.11	1.56	16.10	3.68	0.67	0.94	0.46
Standard Deviation	2.273	0.79	1.10	11.38	2.60	0.47	0.67	0.32
CV	126.9	259.85	310.26	346.02	238.36	211.44	163.17	616.44
Bartlett's X2	58.67	14.262	35.38	155.535	68.395	5.119	15.09	0.0
P(Bartlett's X2)	0.001*	0.027*	0.001*	0.001*	0.001*	0.883	0.302	.

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.

## AOV Data Summary

Pest Code	SASKR	SONOL	SSYIR	TRBTE	BROLFSP	BROLFSP	POASP	AMAPA
Rating Date	7-12-11	7-12-11	7-12-11	7-12-11	7-12-11	7-12-11	7-12-11	8-15-11
Description	2.5 - 75 cm	1 - 61 cm	2.5 - 30 cm	2.5 - 61 cm				10 - 183cm
Rating Type	COUNT	COUNT	COUNT	COUNT	TOTAL CT	% GC	% GC	COUNT
Trt Treatment No. Name								
1 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.0 c	9.5 a	1.0 a	0.0 a	17.3 b	7.5 a	6.0 a	4.5 a
2 GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.0 c	0.0 a	0.0 a	0.0 a	1.3 b	0.5 a	0.3 a	0.5 a
3 OXYFLUORFEN + PENOXSULAM COC, AMS	0.0 c	1.0 a	0.5 a	0.3 a	3.5 b	7.0 a	3.3 a	0.3 a
4 OXYFLUORFEN + PENOXSULAM COC, AMS	1.3 ab	6.3 a	0.0 a	0.3 a	13.8 b	5.3 a	7.5 a	0.0 a
5 OXYFLUORFEN + PENOXSULAM COC, AMS	1.0 abc	6.0 a	0.0 a	0.0 a	34.8 a	2.3 a	5.8 a	0.0 a
6 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.3 bc	1.0 a	0.0 a	0.0 a	6.0 b	0.8 a	2.0 a	0.0 a
7 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	1.0 abc	0.3 a	0.0 a	0.0 a	2.5 b	1.0 a	2.0 a	0.0 a
8 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	1.5 a	1.0 a	0.0 a	0.0 a	5.3 b	3.3 a	1.3 a	0.5 a
9 PENOXSULAM GLYPHOSATE, COC, AMS	1.3 ab	1.8 a	0.8 a	0.0 a	18.0 ab	4.3 a	14.3 a	9.3 a
10 PENOXSULAM GLYPHOSATE, COC, AMS	1.3 ab	4.3 a	0.0 a	0.0 a	8.8 b	3.5 a	14.0 a	1.8 a
11 PENOXSULAM GLYPHOSATE, COC, AMS	0.3 bc	4.5 a	0.3 a	0.0 a	8.3 b	1.0 a	2.3 a	0.8 a
12 FLUMIOXAZIN GLYPHOSATE, COC, AMS	0.3 bc	0.5 a	1.0 a	0.0 a	4.5 b	0.8 a	9.3 a	0.0 a
13 RIMSULFURON GLYPHOSATE, COC, AMS	0.0 c	3.5 a	0.0 a	0.0 a	6.5 b	1.0 a	4.5 a	0.8 a
14 ISOXABEN GLYPHOSATE, COC, AMS	0.8 abc	0.5 a	0.0 a	0.0 a	5.3 b	1.0 a	5.8 a	0.3 a
15 ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.5 abc	0.0 a	0.0 a	0.0 a	1.8 b	0.8 a	1.0 a	0.0 a
16 ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.5 abc	0.3 a	0.0 a	0.0 a	7.5 b	2.0 a	2.0 a	0.0 a
17 SAFLUFENACIL ,OXYFLUOFEN GLYPHOSATE, COC, AMS	0.0 c	0.3 a	0.0 a	0.0 a	2.8 b	1.0 a	5.5 a	0.0 a
18 PENDIMETHALIN FLUMIOXAZIN, COC, AMS	0.0 c	0.3 a	2.3 a	0.0 a	7.0 b	3.3 a	0.3 a	0.0 a
19 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.0 c	2.8 a	0.0 a	1.3 a	15.0 b	2.8 a	17.8 a	1.3 a
LSD (P=.05)	1.11	7.03	1.51	0.66	16.85	5.56	12.08	6.12
Standard Deviation	0.78	4.97	1.07	0.46	11.92	3.93	8.54	4.33
CV	152.4	217.16	353.54	503.32	133.58	153.12	155.26	416.08
Bartlett's X2	12.279	112.078	12.295	7.152	121.619	62.045	80.5	85.207
P(Bartlett's X2)	0.343	0.001*	0.031*	0.028*	0.001*	0.001*	0.001*	0.001*

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.

## AOV Data Summary

Pest Code	ANVCR	CHEAL	KCHSC	MALNE	PHBPU	PORLO	PHYWR	SASKR
Rating Date	8-15-11	8-15-11	8-15-11	8-15-11	8-15-11	8-15-11	8-15-11	8-15-11
Description	5 - 91 cm	2.5 - 122 cm	2.5 - 183 cm	5 - 61 cm	5 - 183 cm	8 - 91 cm	30 - 61 cm	5 - 122 cm
Rating Type	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT
Trt No.	Treatment Name							
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.0 a	1.3 a	0.0 a	0.0 a	0.5 a	0.3 a	0.0 a
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.0 a	0.8 a	0.0 a	0.3 a	0.3 a	0.3 a	0.3 a
3	OXYFLUORFEN+PENOXsulAM COC, AMS	0.0 a	1.3 a	0.0 a	0.0 a	0.0 a	0.3 a	0.3 a
4	OXYFLUORFEN+PENOXsulAM COC, AMS	0.5 a	0.5 a	0.0 a	0.3 a	0.0 a	0.0 a	1.3 a
5	OXYFLUORFEN+PENOXsulAM COC, AMS	0.3 a	6.8 a	0.0 a	0.3 a	0.0 a	0.0 a	1.3 a
6	OXYFLUORFEN +PENOXsulAM GLYPHOSATE, COC, AMS	0.5 a	1.0 a	0.0 a	0.0 a	1.0 a	0.0 a	0.5 a
7	OXYFLUORFEN+ PENOXsulAM GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	0.3 a	0.0 a	0.0 a	1.5 a
8	OXYFLUORFEN +PENOXsulAM GLYPHOSATE, AGRI -DEX, AMS	1.0 a	0.3 a	0.0 a	0.0 a	0.3 a	0.0 a	0.3 a
9	PENOXsulAM GLYPHOSATE, COC, AMS	0.5 a	1.3 a	0.0 a	0.5 a	0.5 a	0.0 a	1.3 a
10	PENOXsulAM GLYPHOSATE, COC, AMS	0.8 a	0.5 a	0.0 a	0.3 a	1.0 a	0.0 a	2.0 a
11	PENOXsulAM GLYPHOSATE, COC, AMS	0.3 a	0.8 a	0.0 a	0.0 a	1.0 a	0.0 a	0.8 a
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	0.0 a	0.8 a	0.0 a	0.0 a	0.0 a	0.0 a	0.5 a
13	RIMSULFURON GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	0.3 a	0.5 a	0.0 a	0.0 a
14	ISOXABEN GLYPHOSATE, COC, AMS	0.0 a	0.3 a	0.0 a	0.5 a	0.5 a	0.0 a	0.8 a
15	ISOXABEN + PENOXsulAM GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	0.0 a	0.5 a	0.0 a	0.3 a
16	ISOXABEN OXYFLUORFEN+ PENOXsulAM GLYPHOSATE, COC, AMS	0.3 a	0.3 a	0.0 a	0.0 a	0.8 a	0.0 a	1.0 a
17	SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	0.5 a	0.5 a	0.0 a	0.0 a	0.3 a	0.0 a	0.0 a
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	0.5 a	1.8 a	0.0 a	0.8 a	0.3 a	0.0 a	2.0 a
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.0 a	3.0 a	0.0 a	0.5 a	1.0 a	0.3 a	0.0 a
LSD (P=.05)	0.91	3.80	0.00	0.76	1.22	0.32	0.23	1.92
Standard Deviation	0.64	2.69	0.00	0.53	0.87	0.23	0.16	1.36
CV	221.81	245.95	0.0	270.53	199.45	435.89	616.44	185.08
Bartlett's X2	9.548	71.481	0.0	10.132	16.397	0.0	0.0	25.947
P(Bartlett's X2)	0.571	0.001*	.	0.34	0.228	.	.	0.017*

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.

## AOV Data Summary

Pest Code	SONOL	SSYIR	TRBTE	BROLFSP	BROLFSP	POASPP	8-30-11	
Rating Date	8-15-11	8-15-11	8-15-11	8-15-11	8-15-11	8-15-11	8-30-11	
Description	5 - 91 cm	2.5 - 46 cm	10 - 122 cm				Mulch/mowed	
Rating Type	COUNT	COUNT	COUNT	TOTAL CT	% GC	% GC	%GC	
Trt No.	Treatment Name							
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	6.3 a	0.3 a	0.3 a	13.3 a	29.0 a	26.3 a	58.8 abc
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	2.3 b	2.8 a	12.5 a	21.7 ef
3	OXYFLUORFEN + PENOXSULAM COC, AMS	1.5 a	0.0 a	0.8 a	4.3 b	7.8 a	32.5 a	25.0 def
4	OXYFLUORFEN + PENOXSULAM COC, AMS	4.3 a	0.0 a	0.3 a	7.0 ab	25.3 a	36.3 a	41.3 b-e
5	OXYFLUORFEN + PENOXSULAM COC, AMS	4.5 a	0.0 a	0.0 a	13.0 a	21.3 a	21.3 a	17.5 ef
6	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	1.0 a	0.0 a	0.0 a	4.0 b	4.0 a	23.8 a	28.8 def
7	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	1.0 a	0.0 a	0.0 a	3.0 b	7.8 a	23.8 a	28.8 def
8	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.5 a	0.0 a	0.0 a	3.3 b	18.8 a	27.5 a	28.3 def
9	PENOXSULAM GLYPHOSATE, COC, AMS	1.3 a	0.0 a	0.0 a	14.5 a	15.0 a	42.5 a	73.3 a
10	PENOXSULAM GLYPHOSATE, COC, AMS	3.0 a	0.0 a	0.0 a	9.3 ab	18.8 a	52.5 a	57.5 abc
11	PENOXSULAM GLYPHOSATE, COC, AMS	3.5 a	0.3 a	0.0 a	7.3 ab	16.3 a	42.5 a	66.3 ab
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	1.3 b	1.8 a	47.5 a	48.8 a-d
13	RIMSULFURON GLYPHOSATE, COC, AMS	2.5 a	0.0 a	0.0 a	4.3 b	12.8 a	41.3 a	42.5 b-e
14	ISOXABEN GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	2.5 b	11.3 a	38.8 a	36.7 c-f
15	ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.3 a	1.0 b	2.8 a	25.0 a	41.3 b-e
16	ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.0 a	2.3 b	11.5 a	15.0 a	26.3 def
17	SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	0.0 a	0.0 a	0.3 a	1.5 b	5.0 a	25.0 a	26.3 def
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	0.5 a	1.0 a	0.0 a	6.8 ab	16.3 a	8.8 a	15.0 f
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	2.5 a	0.0 a	0.5 a	9.0 ab	22.5 a	52.5 a	56.3 abc
LSD (P=.05)	4.79	0.69	0.67	8.54	17.31	28.16	25.82	
Standard Deviation	3.39	0.49	0.47	6.04	12.24	19.91	18.06	
CV	198.03	616.44	399.38	104.78	92.92	63.58	46.38	
Bartlett's X2	50.168	7.688	7.732	67.076	36.578	22.964	30.589	
P(Bartlett's X2)	0.001*	0.021*	0.172	0.001*	0.006*	0.192	0.032*	

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.

## AOV Data Summary

Pest Code		AMAPA	ANVCR	CHEAL	MALNE	PHBPU	POROL	SASKR
Rating Date	8-30-11	10-12-11	10-12-11	10-12-11	10-12-11	10-12-11	10-12-11	10-12-11
Description	SEEDL EMERG	1 - 30 cm	8 cm	1 - 25 cm	1 - 20 cm	5 - 10 cm	1 - 8 cm	1 - 2.5 cm
Rating Type	**	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT
Trt Treatment								
No. Name								
1 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.5 a	1.0 a	0.0 a	9.0 a	0.0 a	0.0 a	0.5 a	0.0 a
2 GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	0.8 a	0.0 a	0.0 a	2.3 a	0.0 a	0.0 a	0.0 a	0.0 a
3 OXYFLUORFEN + PENOXSULAM COC, AMS	0.5 a	0.0 a	0.0 a	2.8 a	0.3 a	0.0 a	0.0 a	0.0 a
4 OXYFLUORFEN + PENOXSULAM COC, AMS	0.3 a	0.5 a	0.0 a	2.0 a	3.0 a	0.0 a	0.0 a	0.0 a
5 OXYFLUORFEN + PENOXSULAM COC, AMS	0.3 a	0.3 a	0.0 a	14.3 a	0.3 a	0.0 a	0.0 a	0.0 a
6 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.5 a	1.5 a	0.0 a	6.5 a	0.0 a	0.0 a	0.0 a	0.0 a
7 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	0.3 a	0.0 a	0.0 a	0.0 a	0.0 a
8 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.3 a	0.3 a	0.0 a	0.0 a	0.0 a	0.0 a
9 PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.5 a	0.0 a	14.0 a	0.0 a	0.3 a	0.3 a	0.3 a
10 PENOXSULAM GLYPHOSATE, COC, AMS	1.0 a	0.0 a	0.0 a	1.5 a	0.0 a	0.0 a	0.0 a	0.0 a
11 PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.0 a	0.0 a	0.8 a	0.3 a	0.0 a	0.3 a	0.0 a
12 FLUMIOXAZIN GLYPHOSATE, COC, AMS	0.3 a	0.8 a	0.0 a	2.3 a	0.3 a	0.0 a	0.3 a	4.0 a
13 RIMSULFURON GLYPHOSATE, COC, AMS	0.5 a	1.0 a	0.0 a	6.8 a	0.3 a	0.0 a	0.0 a	0.0 a
14 ISOXABEN GLYPHOSATE, COC, AMS	0.8 a	0.3 a	0.0 a	3.0 a	0.0 a	0.0 a	1.8 a	0.0 a
15 ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.5 a	0.0 a	13.3 a	0.0 a	0.0 a	0.3 a	0.0 a
16 ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	0.3 a	0.3 a	0.0 a	5.0 a	0.0 a	0.3 a	0.0 a	0.0 a
17 SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	0.5 a	0.3 a	0.0 a	2.0 a	0.0 a	0.0 a	0.0 a	0.0 a
18 PENDIMETHALIN FLUMIOXAZIN, COC, AMS	0.5 a	0.3 a	0.0 a	38.0 a	0.0 a	0.0 a	0.0 a	0.0 a
19 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	0.5 a	0.0 a	0.0 a	35.0 a	0.3 a	0.0 a	1.0 a	0.0 a
LSD (P=.05)	0.73	1.19	0.16	26.71	1.99	0.23	1.22	2.60
Standard Deviation	0.52	0.84	0.11	18.89	1.40	0.16	0.87	1.84
CV	119.12	228.79	871.78	226.07	593.17	616.44	387.16	822.1
Bartlett's X2	0.489	16.946	0.0	124.173	47.543	0.0	20.261	12.391
P(Bartlett's X2)	1.00	0.109	.	0.001*	0.001*	.	0.002*	0.001*

\*\*Average of 0 (absent) and 1 (present) data/plot

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.

## AOV Data Summary

Pest Code	SONOL	SSYIR	TRBTE	BROLFSP	BROLFSP	POASPP	AMAPA	ANVCR
Rating Date	10-12-11	10-12-11	10-12-11	10-12-11	10-12-11	10-12-11	11-7-11	11-7-11
Description	1 - 20 cm	1 - 2.5 cm	2.5 - 61 cm				1 - 36 cm	30 cm
Rating Type	COUNT	COUNT	COUNT	TOTAL CT	% GC	% GC	COUNT	COUNT
Trt Treatment No. Name								
1 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	47.5 a	4.8 a	0.3 a	63.0 a	2.0 a	1.0 a	0.8 bc	0.0 a
2 GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	12.3 a	0.5 a	0.0 a	15.0 a	1.0 a	1.0 a	0.0 c	0.0 a
3 OXYFLUORFEN + PENOXSULAM COC, AMS	18.8 a	0.0 a	2.3 a	24.0 a	1.0 a	1.0 a	0.3 bc	0.0 a
4 OXYFLUORFEN + PENOXSULAM COC, AMS	47.0 a	0.0 a	0.0 a	52.5 a	3.5 a	1.0 a	0.8 bc	0.0 a
5 OXYFLUORFEN + PENOXSULAM COC, AMS	39.0 a	0.0 a	0.5 a	54.3 a	1.0 a	1.0 a	0.0 c	0.0 a
6 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	21.8 a	0.5 a	0.3 a	30.5 a	1.0 a	3.3 a	2.0 a	0.0 a
7 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	24.3 a	0.0 a	0.0 a	24.5 a	1.0 a	1.0 a	0.0 c	0.0 a
8 OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	11.8 a	0.3 a	0.0 a	12.5 a	1.0 a	1.0 a	0.0 c	0.3 a
9 PENOXSULAM GLYPHOSATE, COC, AMS	27.8 a	0.0 a	0.0 a	43.0 a	1.0 a	1.0 a	1.3 ab	0.0 a
10 PENOXSULAM GLYPHOSATE, COC, AMS	62.5 a	0.3 a	0.0 a	64.3 a	4.3 a	1.0 a	0.0 c	0.0 a
11 PENOXSULAM GLYPHOSATE, COC, AMS	52.3 a	1.5 a	0.0 a	55.0 a	1.5 a	1.0 a	0.0 c	0.0 a
12 FLUMIOXAZIN GLYPHOSATE, COC, AMS	15.5 a	0.5 a	0.0 a	23.5 a	1.0 a	1.0 a	0.3 bc	0.0 a
13 RIMSULFURON GLYPHOSATE, COC, AMS	48.3 a	0.0 a	0.0 a	56.3 a	4.3 a	1.0 a	1.0 abc	0.0 a
14 ISOXABEN GLYPHOSATE, COC, AMS	15.8 a	1.0 a	0.0 a	21.8 a	1.0 a	1.0 a	0.5 bc	0.0 a
15 ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	6.0 a	0.0 a	0.0 a	20.0 a	1.0 a	1.0 a	0.3 bc	0.0 a
16 ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	14.3 a	0.3 a	0.0 a	20.0 a	1.0 a	1.0 a	0.3 bc	0.0 a
17 SAFLUFENACIL, OXYFLUOFEN GLYPHOSATE, COC, AMS	27.0 a	0.3 a	0.3 a	29.8 a	1.0 a	1.0 a	0.5 bc	0.0 a
18 PENDIMETHALIN FLUMIOXAZIN, COC, AMS	13.5 a	3.8 a	0.3 a	55.8 a	1.8 a	1.0 a	0.3 bc	0.0 a
19 NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	42.8 a	0.0 a	2.8 a	81.8 a	3.0 a	1.0 a	0.0 c	0.0 a
LSD (P=.05)	39.91	3.03	2.35	46.18	2.65	1.46	1.03	0.16
Standard Deviation	28.22	2.15	1.66	32.66	1.87	1.03	0.73	0.11
CV	97.88	302.03	485.9	83.04	110.43	92.31	172.3	871.78
Bartlett's X2	51.069	49.799	38.165	29.81	11.708	0.0	15.568	0.0
P(Bartlett's X2)	0.001*	0.001*	0.001*	0.039*	0.069	.	0.158	.

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.

## AOV Data Summary

Pest Code	CHEAL	MALNE	PHBPU	POROL	SASKR	SONOL	SSYIR	TRBTE	
Rating Date	11-7-11	11-7-11	11-7-11	11-7-11	11-7-11	11-7-11	11-7-11	11-7-11	
Description	1 - 76 cm	1 - 91 cm	30 - 36 cm	2.5 - 20 cm	2.5 - 38 cm	1 - 91 cm	2.5 - 30 cm	2.5 - 76 cm	
Rating Type	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT	
Trt No.	Treatment Name								
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	18.8 a	0.3 a	0.0 a	0.8 a	1.0 a	95.0 a	16.3 a	0.3 a
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	5.0 a	0.0 a	0.0 a	0.0 a	0.3 a	25.3 a	1.5 b	0.0 a
3	OXYFLUORFEN + PENOX SULAM COC, AMS	14.5 a	0.3 a	0.0 a	0.0 a	0.0 a	33.5 a	0.3 b	2.3 a
4	OXYFLUORFEN + PENOX SULAM COC, AMS	10.0 a	2.0 a	0.0 a	0.0 a	0.0 a	79.0 a	2.3 b	0.0 a
5	OXYFLUORFEN + PENOX SULAM COC, AMS	28.0 a	0.3 a	0.0 a	0.0 a	0.0 a	61.5 a	0.5 b	0.5 a
6	OXYFLUORFEN + PENOX SULAM GLYPHOSATE, COC, AMS	9.5 a	0.0 a	0.0 a	0.0 a	0.0 a	41.3 a	1.0 b	0.3 a
7	OXYFLUORFEN + PENOX SULAM GLYPHOSATE, COC, AMS	0.8 a	0.0 a	0.0 a	0.0 a	0.3 a	46.5 a	0.0 b	0.0 a
8	OXYFLUORFEN + PENOX SULAM GLYPHOSATE, COC, AMS	2.5 a	0.5 a	0.0 a	0.0 a	0.3 a	25.8 a	0.3 b	0.3 a
9	PENOX SULAM GLYPHOSATE, COC, AMS	17.5 a	0.0 a	0.3 a	0.3 a	0.3 a	45.3 a	0.5 b	1.0 a
10	PENOX SULAM GLYPHOSATE, COC, AMS	6.8 a	0.3 a	0.0 a	0.3 a	0.0 a	96.5 a	0.8 b	0.0 a
11	PENOX SULAM GLYPHOSATE, COC, AMS	5.3 a	0.3 a	0.0 a	0.0 a	0.0 a	75.5 a	4.8 b	0.0 a
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	10.0 a	0.3 a	0.0 a	0.0 a	3.8 a	33.3 a	4.8 b	0.0 a
13	RIMSULFURON GLYPHOSATE, COC, AMS	6.0 a	0.3 a	0.0 a	0.0 a	0.0 a	79.8 a	0.8 b	0.0 a
14	ISOXABEN GLYPHOSATE, COC, AMS	8.0 a	0.0 a	0.0 a	4.3 a	0.0 a	42.0 a	2.5 b	0.3 a
15	ISOXABEN + PENOX SULAM GLYPHOSATE, COC, AMS	16.3 a	0.3 a	0.0 a	0.8 a	0.0 a	16.0 a	1.0 b	0.0 a
16	ISOXABEN OXYFLUORFEN + PENOX SULAM GLYPHOSATE, COC, AMS	10.0 a	0.0 a	0.3 a	0.0 a	0.0 a	41.5 a	1.0 b	0.0 a
17	SAFLUFENACIL OXYFLUOFEN GLYPHOSATE, COC, AMS	5.3 a	0.3 a	0.0 a	0.0 a	0.0 a	34.0 a	1.0 b	0.3 a
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	69.5 a	0.3 a	0.0 a	0.0 a	0.0 a	52.0 a	3.8 b	0.0 a
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	35.8 a	0.5 a	0.0 a	1.3 a	0.0 a	88.3 a	1.8 b	2.3 a
LSD (P=.05)	40.27	1.44	0.23	2.56	2.34	56.97	5.14	2.22	
Standard Deviation	28.48	1.02	0.16	1.81	1.65	40.29	3.64	1.57	
CV	193.76	352.95	616.44	458.24	546.21	75.66	155.24	411.08	
Bartlett's X2	100.882	49.314	0.0	29.847	38.461	42.294	73.741	40.943	
P(Bartlett's X2)	0.001*	0.001*	.	0.001*	0.001*	0.001*	0.001*	0.001*	

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.



## AOV Data Summary

Rating Date	11-7-11	11-7-11	11-7-11	1-11-12
Pest Code	BROLFSP	BROLFSP	POASPP	
Crop Code				
Rating Type	TOTAL CT	% GC	% GC	CYAIL
Description				TRUNK DIAM
Rating Unit				MM
Trt No.	Treatment Name			
1	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	133.00 a	17.25 a	0.25 a 92.50 a
2	GLYPHOSATE, COC, AMS GLYPHOSATE, COC, AMS	32.00 e	3.25 a	0.25 a 88.00 a
3	OXYFLUORFEN + PENOXSULAM COC, AMS	51.00 cde	2.75 a	2.75 a 81.75 a
4	OXYFLUORFEN + PENOXSULAM COC, AMS	94.00 a-d	12.13 a	1.00 a 76.75 a
5	OXYFLUORFEN + PENOXSULAM COC, AMS	90.75 a-e	7.25 a	0.75 a 84.50 a
6	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	54.00 cde	4.25 a	2.50 a 91.50 a
7	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	47.50 cde	4.13 a	0.75 a 90.75 a
8	OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	29.75 e	2.63 a	0.50 a 95.75 a
9	PENOXSULAM GLYPHOSATE, COC, AMS	66.25 b-e	5.75 a	0.50 a 84.25 a
10	PENOXSULAM GLYPHOSATE, COC, AMS	104.50 abc	12.00 a	1.00 a 76.50 a
11	PENOXSULAM GLYPHOSATE, COC, AMS	85.75 a-e	10.75 a	0.50 a 85.00 a
12	FLUMIOXAZIN GLYPHOSATE, COC, AMS	52.25 cde	3.00 a	0.25 a 84.00 a
13	RIMSULFURON GLYPHOSATE, COC, AMS	87.75 a-e	10.75 a	0.50 a 86.25 a
14	ISOXABEN GLYPHOSATE, COC, AMS	57.50 cde	3.13 a	0.50 a 71.50 a
15	ISOXABEN + PENOXSULAM GLYPHOSATE, COC, AMS	34.50 de	4.00 a	0.00 a 88.00 a
16	ISOXABEN OXYFLUORFEN + PENOXSULAM GLYPHOSATE, COC, AMS	53.00 cde	3.25 a	1.50 a 80.00 a
17	SAFLUFENACIL OXYFLUOFEN GLYPHOSATE, COC, AMS	41.25 de	5.50 a	0.50 a 67.25 a
18	PENDIMETHALIN FLUMIOXAZIN, COC, AMS	125.75 ab	7.00 a	0.50 a 89.25 a
19	NO RESIDUAL HERBICIDE GLYPHOSATE, COC, AMS	129.75 a	13.25 a	0.75 a 77.50 a
LSD (P=.05)	61.865	10.445	2.501	27.392
Standard Deviation	43.745	7.386	1.768	19.369
CV	60.66	106.31	220.32	23.13
Bartlett's X2	21.616	75.588	77.722	20.828
P(Bartlett's X2)	0.25	0.001*	0.001*	0.288

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

**Trial Title:** Pecan Herbicide Trial, 2011, Rincon, NM

**Trial Title:** Pecan Herbicide Trial, 2011, Rincon, NM

### General Trial Information

**Study Director/Investigator:** Jamshid Ashigh, Assistant Professor

**Discipline:** herbicide

**Trial Status:** one-year/final

**Initiation Date:** 4/13/2011

**Planned Completion Date:** 9/13/2011

### Trial Location

**City:** Rincon **Latitude of LL Corner °:** 32.6667 N USA 49.376656 24.53833  
**State/Prov.:** NM **Longitude of LL Corner °:** -107.0759 W -124.715843 -66.968887  
**Altitude of LL Corner, Unit:** 4042.00 FT  
**Country:** USA United States

**Objectives:** To evaluate the efficacy of different herbicide treatments for season long weed control in orchards

### Crop Description

Crop Code	Binomial	Common Name
CYAIL	<i>Carya illinoensis</i>	Pecan

### Pest Description

Bayer Code	Binomial	Common Name
AMAPO	<i>Amaranthus powellii</i>	Powell amaranth
CHEAL	<i>Chenopodium album</i>	Common lambsquarters
ECHCG	<i>Echinochloa crus-galli</i>	Common barnyardgrass
ECHCO	<i>Echinochloa colonum</i>	Junglerice
KCHSC	<i>Kochia scoparia</i>	Kochia
LEFUN	<i>Leptochloa fusca uninervia</i>	Mexican sprangletop

### Site and Design

**Plot Width, Unit:** 4 m **Site Type:** orchard **Replications:** 4

**Plot Length, Unit:** 9 m **Experimental Unit:** 1 plot

**Plot Area, Unit:** 36 m<sup>2</sup> **Untreated Arrangement:** single control randomized in each block

**Study Design:** Randomized Complete Block (RCB)

#### Comment:

- 1- One week prior to treatment applications, Roundup was applied on emerged weed (June 28, 2010)
- 2- Field was watered one day after herbicide applications (May 6, 2010)
- 3- Field was irrigated monthly (flood irrigation)



### Application Equipment

**A**  
**Appl. Equipment:** Co2 sprayer  
**Equipment Type:** SPRBAC  
**Operation Pressure, Unit:** 20 PSI  
**Nozzle Type:** TeeJet  
**Nozzle Size:** 8002  
**Nozzle Spacing, Unit:** 20 IN  
**Nozzles/Row:** 4  
**Nozzle Calibration, Unit:** 456 ML/MIN  
**Band Width, Unit:** 20 IN  
**Boom Length, Unit:** 60 IN  
**Boom Height, Unit:** 25 IN  
**Ground Speed, Unit:** 1.8 MPS  
**Carrier:** WATER  
**Spray Volume, Unit:** 20 gal/ac  
**Mix Size, Unit:** 1 Gallons

### Trial Treatments

Reps: 4

Plots: 4 by 9 meters

Spray vol: 20 gal/ac

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Growth Stage	Appl Code
1	Control							
2	Roundup PowerMAX	5.5	LBA/GAL	EC	1	qt/a	POEMSE	A
3	Chateau	51	%	WP	6	oz wt/a	PREMEA	A
	NIS	100	%	SL	2	pt/100 gal	RECOMM	A
4	Goaltender	4	LBA/GAL	SL	2.5	pt/a	PREMEA	A
	NIS	100	%	SL	2	pt/100 gal	RECOMM	A
5	Prowl H2O	3.8	LBA/GAL	AS	4	qt/a	PREMEA	A
	Roundup PowerMAX	5.5	LBA/GAL	EC	1	qt/a	POEMSE	A
6	Prowl H2O	3.8	LBA/GAL	AS	4	qt/a	PREMEA	A
	Goaltender	4	LBA/GAL	SL	2.5	pt/a	PREMEA	A
	NIS	100	%	SL	2	pt/100 gal	RECOMM	A
7	Prowl H2O	3.8	LBA/GAL	AS	4	qt/a	PREMEA	A
	Chateau	51	%	WP	6	oz wt/a	PREMEA	A
	NIS	100	%	SL	2	pt/100 gal	RECOMM	A
8	Goaltender	4	LBA/GAL	SL	2.5	pt/a	PREMEA	A
	Surflan FL	4	LBA/GAL	F	4	qt/a	PREMEA	A
	NIS	100	%	SL	2	pt/100 gal	RECOMM	A
9	Chateau	51	%	WP	6	oz wt/a	PREMEA	A
	Surflan FL	4	LBA/GAL	F	4	qt/a	PREMEA	A
	NIS	100	%	SL	2	pt/100 gal	RECOMM	A

## AOV Means Table

Pest Code	AMAPO	CHEAL	KCHSC	ECHCO	ECHCG	LEFUN	AMAPO	CHEAL
Rating Date	5-12-11	5-12-11	5-12-11	5-12-11	5-12-11	5-12-11	6-16-11	6-16-11
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%	%
Days After First/Last Applic.	29 29	29 29	29 29	29 29	29 29	29 29	64 64	64 64
Trt-Eval Interval	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A
Trt No								
Treatment Name	1	2	3	4	5	6	7	8
1 Control	0.00 c	0.00 b	0.00 c	0.00 b	0.00 b	0.00 b	0.00 c	0.00 d
2 Roundup PowerMAX	0.00 c	0.00 b	0.00 c	0.00 b	0.00 b	0.00 b	0.00 c	0.00 d
3 Chateau NIS	100.00 a	100.00 a	99.50 b	100.00 a	100.0 a	100.00 a	100.00 a	95.00 ab c
4 Goaltender NIS	100.00 a	99.75 a	99.75 ab	100.00 a	100.0 a	100.00 a	100.00 a	87.50 c
5 Prowl H2O Roundup PowerMAX	99.75 b	99.75 a	100.00 a	100.00 a	100.0 a	100.00 a	96.25 b	88.75 bc
6 Prowl H2O Goaltender NIS	100.00 a	100.00 a	100.00 a	100.00 a	100.0 a	100.00 a	100.00 a	97.00 ab
7 Prowl H2O Chateau NIS	100.00 a	100.00 a	100.00 a	100.00 a	100.0 a	100.00 a	100.00 a	99.50 a
8 Goaltender Surflan FL NIS	100.00 a	100.00 a	100.00 a	100.00 a	100.0 a	100.00 a	100.00 a	97.25 a
9 Chateau Surflan FL NIS	100.00 a	100.00 a	100.00 a	100.00 a	100.0 a	100.00 a	99.75 ab	98.50 a
LSD (P=.05)	0.243	0.351	0.358	0.000	0.000	0.000	3.626	8.348
Standard Deviation	0.167	0.241	0.245	0.000	0.000	0.000	2.485	5.720
CV	0.21	0.31	0.32	0.0	0.0	0.0	3.21	7.76
Bartlett's X2	0.0	0.0	0.061	0.0	0.0	0.0	11.896	25.43
P(Bartlett's X2)	.	.	0.805	.	.	.	0.001*	0.001*

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.

### New Mexico State University

Pest Code	KCHSC	ECHCO	ECHCG	LEFJN	AMAPO	CHEAL	KCHSC	ECHCO
Rating Date	6-16-11	6-16-11	6-16-11	6-16-11	7-12-11	7-12-11	7-12-11	7-12-11
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%	%
Days After First/Last Applic.	64 64	64 64	64 64	64 64	90 90	90 90	90 90	90 90
Trt-Eval Interval	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	64 DA-A	64 DA-A	64 DA-A
Trt No								
Treatment Name	9	10	11	12	13	14	15	16
1 Control	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 d
2 Roundup PowerMAX	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 d
3 Chateau NIS	93.5 ab	75.00 b	87.50 b	87.50 b	99.75 a	90.00 ab	93.50 ab	75.00 c
4 Goaltender NIS	92.5 ab	90.00 a	92.50 ab	92.50 ab	100.00 a	82.50 b	92.50 ab	82.50 bc
5 Prowl H2O Roundup PowerMAX	89.8 b	97.50 a	100.00 a	100.00 a	92.50 b	88.75 ab	88.50 b	95.00 ab
6 Prowl H2O Goaltender NIS	99.3 a	99.75 a	100.00 a	100.00 a	100.00 a	97.00 a	98.25 a	99.75 a
7 Prowl H2O Chateau NIS	96.3 ab	100.00 a	100.00 a	100.00 a	100.00 a	99.50 a	96.25 ab	100.00 a
8 Goaltender Surflan FL NIS	99.3 a	100.00 a	100.00 a	100.00 a	100.00 a	97.25 a	98.25 a	99.75 a
9 Chateau Surflan FL NIS	99.5 a	100.00 a	100.00 a	100.00 a	97.50 ab	97.25 a	97.25 ab	100.00 a
LSD (P=.05)	8.555	12.948	11.036	11.036	5.963	11.973	8.964	13.889
Standard Deviation	5.862	8.872	7.561	7.561	4.086	8.204	6.142	9.516
CV	7.87	12.06	10.01	10.01	5.33	11.32	8.32	13.14
Bartlett's X2	38.326	22.026	0.158	0.158	15.308	27.463	13.14	35.214
P(Bartlett's X2)	0.001*	0.001*	0.691	0.691	0.001*	0.001*	0.041*	0.001*

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.

### New Mexico State University

Pest Code	ECHCG	LEFUN	AMAPO	CHEAL	KCHSC	ECHCO	ECHCG	LEFUN
Rating Date	7-12-11	7-12-11	8-12-11	8-12-11	8-12-11	8-12-11	8-12-11	8-12-11
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%	%
Days After First/Last Applic.	90 90	90 90	121 121	121 121	121 121	121 121	121 121	121 121
Trt-Eval Interval	64 DA-A	64 DA-A	64 DA-A	90 DA-A	90 DA-A	90 DA-A	90 DA-A	90 DA-A
Trt No.	17	18	19	20	21	22	23	24
Treatment Name								
1 Control	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c
2 Roundup PowerMAX	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c
3 Chateau NIS	87.50 b	87.50 b	93.75 ab	88.75 ab	92.50 ab	68.75 b	72.50 b	72.50 b
4 Goaltender NIS	91.00 ab	91.00 ab	100.00 a	80.00 b	92.50 ab	77.50 b	88.75 a	88.75 a
5 Prowl H2O Roundup PowerMAX	96.25 ab	96.25 ab	91.25 b	88.75 ab	88.50 b	95.00 a	95.00 a	95.00 a
6 Prowl H2O Goaltender NIS	100.00 a	100.00 a	100.00 a	95.75 a	97.00 ab	99.75 a	100.00 a	100.00 a
7 Prowl H2O Chateau NIS	100.00 a	100.00 a	98.75 a	98.50 a	96.25 ab	100.00 a	100.00 a	100.00 a
8 Goaltender Surflan FL NIS	98.75 a	98.75 a	100.00 a	92.25 ab	98.25 a	97.25 a	98.75 a	98.75 a
9 Chateau Surflan FL NIS	100.00 a	100.00 a	96.25 ab	97.25 a	97.25 a	100.00 a	100.00 a	100.00 a
LSD (P=.05)	10.539	10.539	7.415	13.007	8.670	17.100	14.205	14.205
Standard Deviation	7.221	7.221	5.080	8.912	5.940	11.716	9.733	9.733
CV	9.65	9.65	6.72	12.51	8.07	16.52	13.37	13.37
Bartlett's X2	8.997	8.997	7.196	15.606	9.672	25.454	11.502	11.502
P(Bartlett's X2)	0.029*	0.029*	0.066	0.016*	0.139	0.001*	0.009*	0.009*

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

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### New Mexico State University

Pest Code	AMAPO	CHEAL	KCHSC	ECHCO	ECHCG	LEFJUN
Rating Date	9-13-11	9-13-11	9-13-11	9-13-11	9-13-11	9-13-11
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Days After First/Last Applic.	153 153	153 153	153 153	153 153	153 153	153 153
Trt-Eval Interval	90 DA-A	124 DA-A	124 DA-A	124 DA-A	124 DA-A	124 DA-A
Trt No.	25	26	27	28	29	30
Treatment Name						
1 Control	0.00 c	0.00 c	0.00 c	0.00 d	0.00 c	0.00 c
2 Roundup PowerMAX	0.00 c	0.00 c	0.00 c	0.00 d	0.00 c	0.00 c
3 Chateau NIS	85.00 b	88.75 ab	92.50 ab	52.50 c	61.25 b	61.25 b
4 Goaltender NIS	98.50 a	80.00 b	92.50 ab	75.00 b	86.25 a	86.25 a
5 Prowl H2O Roundup PowerMAX	91.25 ab	88.75 ab	88.50 b	95.00 ab	95.00 a	95.00 a
6 Prowl H2O Goaltender NIS	97.50 a	95.75 a	97.00 ab	94.75 ab	100.00 a	100.00 a
7 Prowl H2O Chateau NIS	95.00 ab	98.50 a	96.25 ab	92.50 ab	95.00 a	95.00 a
8 Goaltender Surflan FL NIS	100.00 a	92.25 ab	98.25 a	97.25 a	98.75 a	98.75 a
9 Chateau Surflan FL NIS	96.25 a	97.25 a	97.25 a	100.00 a	100.00 a	100.00 a
LSD (P=.05)	10.004	13.007	8.670	21.587	15.332	15.332
Standard Deviation	6.854	8.912	5.940	14.791	10.505	10.505
CV	9.3	12.51	8.07	21.93	14.86	14.86
Bartlett's X2	8.538	15.606	9.672	11.166	11.555	11.555
P(Bartlett's X2)	0.129	0.016*	0.139	0.048*	0.021*	0.021*

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.