

2009

WEED SCIENCE

FIELD RESEARCH REPORT

Department of Entomology, Plant Pathology
and Weed Science



Jill Schroeder, Professor

Cheryl Fiore, Research Specialist

and

Jamshid Ashigh

Extension Weed Specialist/Assistant Professor

TABLE OF CONTENTS

Introduction	2
Acknowledgments	2
Project Personnel	3
Cooperators	3
General Trial Information	
Chemical Trade Names and Common Names	4
Adjuvants.....	4
Crops	5
Pest Descriptions.....	5
Report Code Definitions	6
Soil Description	
Las Cruces, Field Trials.....	6
Weather Conditions	
Las Cruces, NM Average Monthly Temperatures and Rainfall	7
Las Cruces Field Trials – J. Schroeder and C. Fiore	
Crop Safety and Efficacy of Weed Control Programs for Chile	8
Layby treatments in chile - post directed.....	20
Evaluation of Kixor for weed control in Roundup Ready corn	29
Las Cruces Pecan Orchard Trial – Jamshid Ashigh	
Spring herbicide application for weed control in Pecans.....	36
Las Cruces Alfalfa – Jamshid Ashigh	
Late summer post-emergence weed control in Alfalfa	45

INTRODUCTION

The Annual Report is a partial summary of field crop research conducted by Dr. Jill Schroeder, Cheryl Fiore and Jamshid Ashigh 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, Study Director.

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 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 Tim George for allowing us to conduct trials on his farm.

PROJECT PERSONNEL

Jill Schroeder, Ph.D., Professor, Weed Scientist
New Mexico State University
Entomology, Plant Pathology and Weed Science
Las Cruces, NM 88003
Jischroe@NMSU.edu

Jamshid Ashigh, Ph.D.
Extension Weed Specialist/Assistant Professor
Department of Extension Plant Sciences
New Mexico State University
P.O. Box 30003- MSC 3AE
Las Cruces, NM 88003
jashigh@ad.nmsu.edu

Cheryl Fiore, Research Specialist
Weed Science Field Station
Leyendecker Plant Science Research Center
6700 Leyendecker Road, Las Cruces, NM 88005
cfiore@NMSU.edu

Graduate Assistant

James Hill

Undergraduate Assistants:

Andrew Dyer
Mayyadah Ahmad

COOPERATOR

Tim George

**Leyendecker Plant Science Research Center
MSC 3LEY, Las Cruces, NM 88005
(505)-646-2281**

Mark Pacheco, Farm Manager
Orlando Morales
Jose M. Castorena
Felipe C. Flores
Paul Maese

Theresa Martinez, Department Secretary
Ralph Trevino
Liberato Valdes
Roberto E. Garcia
Laurence Grooms

General Trial Information

Trial Chemicals

Trade Name

Aim
Bicep II Magnum
Chateau
Gallery 75
Goaltender
Integrity
Matrix
Prowl H20
Pursuit
Raptor
Rely
Sandea
Sharpen
Spartan
Round-up Power Max
Touchdown Total
V-10142

Common Name

carfentrazone
atrazine + S-metolachlor
flumioxazin
isoxaben
oxyfluofen
dimethenamid
rimsulfuron
pendimethalin
imazethapyr
imazamox
glufosinate-ammonium
halosulfuron
salflufenacil
sulfentrazone
glyphosate
glyphosate
V-10142

Adjuvants

AGRI-DEX
Ammonium sulfate
Preference

Crop oil Concentrate
Ammonium sulfate
No foam non-ionic spray adjuvant

Crops

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

Pest Descriptions

Bayer Code	Common name	Scientific name
AMAPA	Palmer amaranth	<i>Amaranthus palmeri</i>
ANVCR	spurred anoda	<i>Anoda cristata</i>
BIDLE	nodding beggarstick	<i>Bidens cernua</i>
CHEAL	common lambsquarter	<i>Chenopodium album</i>
DATQF	oakleaf thornapple	<i>Datura quercifolia</i>
ECHCG	barnyardgrass	<i>Echinochloa crus-galli</i>
ECHCO	junglerice	<i>Echinochloa colona</i>
ECHSP	junglerice or barnyardgrass seedling	<i>Echinochloa species</i>
EPHSU	ground spurge	<i>Euphorbia prostrata</i>
ERAME	stinkgrass	<i>Eragrostis cilianensis</i>
IPOCC	red morningglory	<i>Ipomeea coccinea</i>
IPOHE	ivyleaf morningglory	<i>Ipomeea hederacea</i>
IPOSP	morningglory species	<i>Ipomeea species</i>
KOCSK	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>Ipomeea purpurea</i>
PHYWR	Wright groundcherry	<i>Physalis wrightii</i>
POASP	grass species (unidentified seedlings)	<i>Poa species</i>
POROL	common purslane	<i>Portulaca oleracea</i>
SASKR	Russian thistle	<i>Salsola iberica</i>
SSYIR	London rocket	<i>Sisymbrium irio</i>
SONOL	annual sowthistle	<i>Sonchus oleraceus</i>
TRBTE	puncture vine	<i>Tribulus terrestris</i>
TRTPO	horse purslane	<i>Trianthema portulacastrum</i>

Report Code Definitions

Code	Definition
BROSOI	Broadcast to soil
CONTRO	Control/burndown
COC	Crop oil concentrate
DIRECTED	Directed away from crop in a band on the soil
LAYBY	Last application before harvest
PD	After emergence application, directed away from crop in a band on the soil
PI	After irrigation
POSPOS	After crop and weed emergence
POST	Applied after plant emergence
PREI	Before weed emergence and irrigation
PREPLA	Before planting
PREPRE	Before crops or weed emergence
RM	Row middle
SEEDL	seedlings
SPRBAC	CO2 Backpack sprayer
WEDRRE	Weight-dry-reduction

Soil Description

Las Cruces Field Trials

Test Parameter	Units	Test Result	Detection Limit
pH of Soil Saturation Paste		7.59	
Elect. Cond. Of Soil Paste Extract	mmhos/cm	1.95	0.01
Sodium Adsorption Ration	meq/L	2.93	0.01
K(1:5 soil:water)	mg/Kg	50	0.01
NO3-N(1:5 soil:water)	mg/Kg	36	0.1
Organic Matter	percent	1.4	0.01
Texture by feel	Sandy clay loam		
Sand: 54%	Clay: 27%	Silt: 19%	

Analyzed by: Soil, Water, & Agricultural Testing Lab, New Mexico State University, Las Cruces, New Mexico

Weather Conditions Monthly Averages at Leyendecker Plant Science Research Center

NMSU State Climate Network

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	Air Temperature			Humidity			Rain	Soil Temperature		
	C degree			%			cm	C degree		
	Max	Min	Mean	Max	Min	Mean	Accum	Max	Min	Mean
January	17.93	-3.01	6.73	71.40	16.92	37.42	0.00	9.09	5.25	7.00
February	20.02	-1.25	9.64	61.60	11.66	25.66	0.00	11.20	6.64	8.77
March	22.78	3.53	13.57	67.50	13.67	29.19	0.13	14.90	10.72	12.68
April	25.38	5.70	16.53	64.27	9.92	23.75	0.00	18.16	13.63	15.78
May	31.17	12.23	22.12	76.37	14.71	34.03	1.85	23.82	19.01	21.23
June	33.02	15.62	24.69	79.29	16.65	36.44	0.10	26.46	22.04	24.08
July	35.87	20.94	27.98	77.59	20.74	49.61	0.31	31.89	28.80	30.16
August	34.20	17.55	25.38	89.28	21.40	55.72	1.19	31.21	26.89	29.06
September	29.92	13.62	21.14	91.56	25.59	61.52	3.20	32.50	24.92	27.64
October	24.57	7.54	15.61	89.65	23.07	59.18	1.57	26.00	20.14	23.16

Crop Safety and Efficacy of Weed Control Programs for Chile

General Trial Information

Crop Description

	BAYER Code	Binomial	Common Name	
Crop :	CPSAN	<i>Capsicum annuum</i>	Chile	Variety: Big
Jim				
Planting Date:	4-1-2009	Planting Method: SEEDED	Row Spacing: 1 M	
Seed Bed:	COARSE	Soil Temperature: 18 C		

Pest Description

	BAYER Code	Binomial	Common Name
Pest 1 Code:	ANVCR	<i>Anoda cristata</i>	spurred anoda
Pest 2 Code:	IPOCC	<i>Ipomoea coccinea</i>	scarlet morningglory
Pest 3 Code:	DATQU	<i>Datura quercifolia</i>	oakleaf thornapple
Pest 4 Code:	IPOHE	<i>Ipomoea hederacea</i>	ivy leaf morningglory
Pest 5 Code:	ECHCG	<i>Echinochloa crus-galli</i>	common barnyardgrass
Pest 6 Code:	ECHCO	<i>Echinochloa colonum</i>	junglerice
Pest 7 Code:	LEFUN	<i>Leptochloa fusca uninervia</i>	Mexican sprangletop
Pest 8 Code:	AMAPA	<i>Amaranthus palmeri</i>	Palmer amaranth
Pest 9 Code	IPOSP	<i>Ipomoea species</i>	morningglory species
Pest10 Code:	PHYWR	<i>Physalis wrightii</i>	Wright groundcherry

Site and Design

Site Type: FIELD	Tillage Type: conventional-till
Plot Width: 2 M	Plot Length: 7.6 m
Study Design: Randomized Complete Block	Replications: 4

Maintenance

No.	Date	Maintenance Treatment Name	Form Conc	Form Type	Rate	Rate Unit
1.	4-1-2009	Patinum	2	SC	0.147	L/ha
2.	4-1-2009	Ridomil	4	EC	0.147	L/ha

Field Prep and Maintenance

No.	Date	Description
1.	12/03/2008	chisel
2.	12/04/2008	disk
3.	01/06/2009	schmeiser
4.	01/22/2009	plow
5.	02/25/2009	schmeiser
6.	04/16/2009	de-cap
7.	05/12 -13/09	hoed
8.	05/27/2009	hoed
9.	06/02/2009	cultivate
10.	06/24/2009	cultivate

Crop Safety and Efficacy of Weed Control Programs for Chile

Irrigation Schedule

Overall Moisture Conditions: GOOD

Furrow Irrigation Dates

1. 03-03-2009 PRE
2. 04-02-2009 w/8-32-5 at 2.34 L/ha
3. 04-18-2009
4. 05-05-2009
5. 05-18-2009
6. 05-27-2009
7. 06-03-2009 w/ 32-0-0 at .473 L/min for 3 hours
8. 06-16-2009
9. 07-07-2009
10. 07-31-2009 w/10-34-0 at .473 L/min for 2 hours
11. 08-20-2009

Thinning

Plots were not thinned due to stand reduction from insect damage. Applications applied at "THINNING" were applied at the stage of growth that the chile would normally be thinned.

Application Description

	A	B	C	D	E
Application Date:	5-5-2009	6-2-2009	6-9-2009	6-9-2009	7-10-2009
Time of Day:	AM	AM	AM	AM	AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	Cotyl-RM	THINNING	THINNING	THINNING	LAYBY
Application Placement:	BROSOI	DIRECTED	ROW MID	DIRECTED	ROW MID
Applied By:	C. Fiore	C. Fiore	A. Dyer	A. Dyer	A. Dyer
Air Temperature :	27 C	23 C	24 C	24 C	31 C
% Relative Humidity:	35	38	34	34	33
Wind Velocity:	0	2 KPH	2 KPH	2 KPH	2 KPH
Dew Presence (Y/N):	N	N	N	N	N
Soil Temperature:	23 C	24 C	25 C	25 C	27
Soil Moisture:	DRY	SLIDRY	GOOD	GOOD	GOOD
% Cloud Cover:	50	10	100	100	85

Crop Stage At Each Application

	A	B	C	D	E
Crop 1 Code:	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN
Growth Stage:	COT-2 LF	10-28 cm	10-28 cm	10-28 cm	Layby

Crop Safety and Efficacy of Weed Control Programs for Chile

Pest Stage At Each Application

	A	B	C	D	E
Pest 1 Code:	ANVCR	ANVCR	ANVCR	ANVCR	ANVCR
Growth Stage:	2 LEAF	PRE	COTYL	COTYL	COTYL – 15 CM
Pest 2 Code:	IPOSP	IPOSP	IPOASP	IPOSP	IPOSP
Growth Stage:	4 LEAF	PRE	COTYL	COTYL	COTYL – 15 CM
Pest 3 Code:	DATQU	DATQU	DATQU	DATQU	DATQU
Growth Stage:	2 LEAF	PRE	COTYL	COTYL	NOT RECORDED
Pest 4 Code:	POASP	POASP	POASP	POASP	POASP
Growth Stage:	PRE	PRE	PRE	PRE	SEEDLINGS
Pest 5 Code:	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Growth Stage:	4-6 LEAF	PRE	PRE	PRE	NOT RECORDED
Pest 6 Code:	PHYWR	PHYWR	PHYWR	PHYWR	PHYWR
Growth Stage:	PRE	PRE	SEEDLING	SEEDLING	COTYL – 10 CM

Application Equipment

	A	B	C	D	E
Appl. Equipment:	CO2 BkPack	CO2 BkPack	CO2 BkPack	CO2 BkPack	CO2 BkPack
Equipment Type:	SPRBAC	SPRBAC	SPRBAC	SPRBAC	SPRBAC
Operating Pressure:	186 kPa	159 kPa	131 kPa	241 kPa	
Nozzle Type:	Teejet	Teejet	Teejet	Teejet	Teejet
Nozzle Size:	8002E	8002E	8002E	8002E	8002E
Nozzles/Row:		4		2	
Nozzle Calibration:	148 ML/MIN	118 ML/MIN	180 ML/MIN	94 ML/MIN	170 ML/MIN
Band Width:	51 cm	45 cm	74 cm	37 cm	66 cm
Boom Height:	45 cm	25 cm	45 cm	45 cm	45 cm
Ground Speed:	3.2 KPH	3.2 KPH	3.2 KPH	3.2 KPH	3.2 KPH
Incorporation Equip.:		NA	NA	NA	NA
Carrier:	WATER	WATER	WATER	WATER	WATER
Spray Volume:	187 L/ha	187 L/ha	187 L/ha	187 L/ha	187 L/ha
Mix Size:	2 Liters	2 liters	2 liters	2 liters	2 liters
Propellant:	CO2	CO2	CO2	CO2	CO2

Date By Notes

Date	By	Notes
6-2-2009	C. Fiore	Application B: Timing at thinning Post Directed Pre-irrigation Treatment 7 Recorded as Application Code B under "Treatments" and "Application".
6-9-2009	C. Fiore	Application B: Timing at Thinning, Row Middles Post-irrigation Treatments 2, 3, 4, 6, 8, 9 Recorded as Application Code B under "Treatments", but Application C under Application
6-9-2009	C. Fiore	Application B: Timing at Thinning Post Directed Post-irrigation Treatments 5, 10 Recorded as Application Code B under "Treatments", but Application D under "Application"
7-9-2009	C. Fiore	Application C: Timing Layby Row Middles Treatment 4, 6, 9, 10 Recorded as Application C under Treatments, but Application E under applications

Crop Safety and Efficacy of Weed Control Programs for Chile

Rating Notes

6/15/09

Rated burn down of treatments applied on 6/2 and 6/9

Weeds in row are still a problem

Poor stand rep 1 and some rows of rep 2. Injury symptom on chile: necrosis

Rating Notes Continued

6/23/09

No chile injury noted at this rating.

7/30/09

No chile injury noted at this rating.

Chile plots

Treatment 3 plot 103 2 chile plants/plot

Treatment 5 plot 105 7 chile plants/plot

Treatment 7 plot 107 and Treatment 8 plot 108 reduced stand

POASP: annual grass species rated (pages 18 and 19, column 13) barnyardgrass, junglerice, Mexican sprangletop

In addition to the broadleaf species rated the following broadleaves were noted in some of the plots and recorded as present

Treatment number	Plot number	Species ID Code
1	101	ANVCR
1	404	ANVCR, IPOPU
2	310	ANVCR
4	104	ANVCR, IPOHE
4	306	ANVCR
4	409	ANVCR
5	105	ANVCR, DATQU
5	204	ANVCR
5	406	DATQU
6	106	ANVCR, DATQU
6	304	ANVCR
6	401	ANVCR
7	410	ANVCR, DATQU
8	201	IPOHG
8	405	ANVCR, IPOHE
9	109	DATQU
9	302	ANVCR
10	307	ANVCR
10	408	ANVCR

**Crop Safety and Efficacy of Weed Control Programs for Chile
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	Appl Description	Comment
1	CONTROL											
2	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Cotyl	A	RM	PRE-EMERG TO WEEDS
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre	Thinning	C	RMPI	WEED SEEDLINGS
	HALOSULFURON	75	%	WG	0.0403	kg ai/ha	0.036	lb ai/acre		C		
	COC	100	%	OL	1	% v/v	1	% v/v		C		
3	PENDIMETHALIN	3.8	LBA/GAL	AS	0.784	kg ai/ha	0.7	lb ai/acre	Cotyl	A	RM	PRE-EMERG TO WEEDS
	PENDIMETHALIN	3.8	LBA/GAL	AS	0.784	kg ai/ha	0.7	lb ai/acre	Thinning	C	RMPI	WEED SEEDLINGS
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre		C		
	HALOSULFURON	75	%	WG	0.0403	kg ai/ha	0.036	lb ai/acre		C		
	COC	100	%	OL	1	% v/v	1	% v/v		C		
4	PENDIMETHALIN	3.8	LBA/GAL	AS	0.784	kg ai/ha	0.7	lb ai/acre	Cotly	A	RM	PRE-EMERG TO WEEDS
	PENDIMETHALIN	3.8	LBA/GAL	AS	0.784	kg ai/ha	0.7	lb ai/acre	Thinning	C	RMPI	WEED SEEDLINGS
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre		C		
	HALOSULFURON	75	%	WG	0.0258	kg ai/ha	0.023	lb ai/acre		C		
	COC	100	%	OL	1	% v/v	1	% v/v		C		
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre	Late	E	PD	POST WEED SEEDLINGS
	HALOSULFURON	75	%	WG	0.0258	kg ai/ha	0.023	lb ai/acre		E		
COC	100	%	OL	1	% v/v	1	% v/v		E			
5	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Thinning	D	PDPI	WEED SEEDLINGS
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre		D		
	HALOSULFURON	75	%	WG	0.0403	kg ai/ha	0.036	lb ai/acre		D		
	COC	100	%	OL	1	% v/v	1	% v/v		D		
6	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Cotyl	A	PDPI	PRE-EMERG TO WEEDS
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre	Thinning	C	RMPI	WEED SEEDLINGS
	HALOSULFURON	75	%	WG	0.0258	kg ai/ha	0.023	lb ai/acre		C		
	COC	100	%	OL	1	% v/v	1	% v/v		C		
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre	Late	E	PD	WEED SEEDLINGS
	HALOSULFURON	75	%	WG	0.0258	kg ai/ha	0.023	lb ai/acre		E		
COC	100	%	OL	1	% v/v	1	% v/v		E			

**Crop Safety and Efficacy of Weed Control Programs for Chile
Trial Treatments**

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Appl Description	Comment
7	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Thinning	B	PDPreI	POST-DIRECTED TO CHILE, PRE EMERGENCE TO WEED SEEDLINGS
	SULFENTRAZONE	4	LBA/GAL	L	0.14	kg ai/ha	0.125	lb ai/acre		B		
8	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Thinning	C	RMPI	
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre		C		
	SULFENTRAZONE	4	LBA/GAL	L	0.14	kg ai/ha	0.125	lb ai/acre		C		
	COC	100	%	OL	1	% v/v	1	% v/v		C		
9	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Cotyl	A	RM	PRE-EMERG TO WEEDS WEED SEEDLINGS
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre	Thinning	C	RMPI	
	HALOSULFURON	75	%	WG	0.0403	kg ai/ha	0.036	lb ai/acre		C		
	COC	100	%	OL	1	% v/v	1	% v/v		C		
	FLUMIOXAZIN	51	%	WG	0.1072	kg ai/ha	0.096	lb ai/acre	Late	E	RM	WEED SEEDLINGS
	COC	100	%	OL	1	% v/v	1	% v/v		E		
10	PENDIMETHALIN	3.8	LBA/GAL	AS	1.568	kg ai/ha	1.4	lb ai/acre	Thinning	D	PDPI	
	CARFENTRAZONE	2.0	LBA/GAL	EC	0.028	kg ai/ha	0.025	lb ai/acre		D		
	HALOSULFURON	75	%	WG	0.0403	kg ai/ha	0.036	lb ai/acre		D		
	COC	100	%	OL	1	% v/v	1	% v/v		D		
	FLUMIOXAZIN	51	%	WG	0.1072	kg ai/ha	0.096	lb ai/acre	Late	E	RM	WEED SEEDLINGS
	COC	100	%	OL	1	% v/v	1	% v/v		E		

**Safety Efficacy of Weed Control Programs for Chile
AOV Means Table**

Pest Code					AMAPA	PHYWR	IPOSP	ANVCR	
Crop Code		CPSAN			2.5 - 15 cm	2.5 - 10 cm	cotyl to 1 leaf	cotyl to 5 cm	
Description					6-15-2009	6-15-2009	6-15-2009	6-15-2009	
Rating Date					%INJURY	%CONTROL	%CONTROL	%CONTROL	
Rating Type									
Trt	Treatment	Rate	Rate	Appl					
No.	Name	Rate	Unit	Code	1	2	3	4	5
1	CONTROL				0.0 c	0.0 b	0.0 b	0.0 b	0.0 b
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
2	PENDIMETHALIN	1.568	kg ai/ha	A	1.3 bc	89.8 a	91.3 a	100.0 a	97.5 a
	CARFENTRAZONE	0.028	kg ai/ha	B	2.5 StDev	19.8 StDev	6.3 StDev	0.0 StDev	5.0 StDev
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
3	PENDIMETHALIN	0.784	kg ai/ha	A	1.3 bc	83.8 a	93.8 a	100.0 a	97.5 a
	PENDIMETHALIN	0.784	kg ai/ha	B	2.5 StDev	22.9 StDev	6.3 StDev	0.0 StDev	2.9 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
4	PENDIMETHALIN	0.784	kg ai/ha	A	2.5 abc	80.0 a	82.5 a	100.0 a	98.8 a
	PENDIMETHALIN	0.784	kg ai/ha	B	2.9 StDev	21.6 StDev	9.6 StDev	0.0 StDev	2.5 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0258	kg ai/ha	B					
	COC	1	% v/v	B					
	CARFENTRAZONE	0.028	kg ai/ha	C					
	HALOSULFURON	0.0258	kg ai/ha	C					
	COC	1	% v/v	C					
5	PENDIMETHALIN	1.568	kg ai/ha	B	3.8 abc	87.3 a	92.5 a	100.0 a	92.5 a
	CARFENTRAZONE	0.028	kg ai/ha	B	2.5 StDev	14.7 StDev	9.6 StDev	0.0 StDev	15.0 StDev
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
6	PENDIMETHALIN	1.568	kg ai/ha	A	5.0 ab	88.8 a	94.8 a	100.0 a	100.0 a
	CARFENTRAZONE	0.028	kg ai/ha	B	0.0 StDev	11.1 StDev	6.8 StDev	0.0 StDev	0.0 StDev
	HALOSULFURON	0.0258	kg ai/ha	B					
	COC	1	% v/v	B					
	CARFENTRAZONE	0.028	kg ai/ha	C					
	HALOSULFURON	0.0258	kg ai/ha	C					
	COC	1	% v/v	C					
7	PENDIMETHALIN	1.568	kg ai/ha	B	0.0 c	93.8 a	96.3 a	100.0 a	100.0 a
	SULFENTRAZONE	0.14	kg ai/ha	B	0.0 StDev	4.8 StDev	4.8 StDev	0.0 StDev	0.0 StDev
8	PENDIMETHALIN	1.568	kg ai/ha	B	6.3 a	90.0 a	90.0 a	95.0 a	100.0 a
	CARFENTRAZONE	0.028	kg ai/ha	B	2.5 StDev	0.0 StDev	13.5 StDev	10.0 StDev	0.0 StDev
	SULFENTRAZONE	0.14	kg ai/ha	B					
	COC	1	% v/v	B					

**Safety Efficacy of Weed Control Programs for Chile
AOV Means Table**

Pest Code				AMAPA	PHYWR	IPOSP	ANVCR		
Crop Code			CPSAN						
Description				2.5 - 15 cm	2.5 - 10 cm	cotyl to 1 leaf	cotyl to 5 cm		
Rating Date			6-15-2009	6-15-2009	6-15-2009	6-15-2009	6-15-2009		
Rating Type			%INJURY	%CONTROL	%CONTROL	%CONTROL	%CONTROL		
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5
9	PENDIMETHALIN	1.568	kg ai/ha	A	5.0 ab	83.8 a	92.5 a	100.0 a	97.5 a
	CARFENTRAZONE	0.028	kg ai/ha	B	0.0 StDev	11.1 StDev	8.7 StDev	0.0 StDev	5.0 StDev
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
	FLUMIOXAZIN	0.1072	kg ai/ha	C					
	COC	1	% v/v	C					
10	PENDIMETHALIN	1.568	kg ai/ha	B	3.8 abc	87.5 a	87.5 a	100.0 a	97.5 a
	CARFENTRAZONE	0.028	kg ai/ha	B	2.5 StDev	11.9 StDev	5.0 StDev	0.0 StDev	5.0 StDev
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
	FLUMIOXAZIN	0.1072	kg ai/ha	C					
	COC	1	% v/v	C					
	LSD (P=.05)				2.82	20.67	11.64	4.59	7.98
	Standard Deviation				1.94	14.25	8.02	3.16	5.50
	CV				67.56	18.16	9.77	3.53	6.24
	Bartlett's X2				0.103	7.573	5.21	0.0	13.33
	P(Bartlett's X2)				1.00	0.372	0.735	.	0.02*
	Replicate F				1.491	0.905	0.571	1.000	1.398
	Replicate Prob(F)				0.2394	0.4514	0.6389	0.4079	0.2649
	Treatment F				5.172	15.270	52.705	396.556	127.402
	Treatment Prob(F)				0.0004	0.0001	0.0001	0.0001	0.0001

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

Safety Efficacy of Weed Control Programs for Chile AOV Means Table

Pest Code			DATQU	PHYWR	AMAPA	BROADLF			
Crop Code									
Description			cotyl to 5 cm	Timed Hoe	%CONTROL	%CONTROL	%CONTROL		
Rating Date			6-15-2009	6-23-2009	7-30-2009	7-30-2009	7-30-2009		
Rating Type			%CONTROL	min.sec	%INJURY	%CONTROL	%CONTROL		
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6	7	9	10	12
1	CONTROL				0.0 b 0.0 StDev	6.140 a 4.581 StDev	0.0 b 0.0 StDev	0.0 b 0.0 StDev	0.0 a 0.0 StDev
2	PENDIMETHALIN	1.568	kg ai/ha	A	95.0 a 5.8 StDev	2.283 a 1.384 StDev	36.3 ab 43.1 StDev	75.0 ab 50.0 StDev	75.0 a 50.0 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
3	PENDIMETHALIN	0.784	kg ai/ha	A	97.5 a 2.9 StDev	3.075 a 2.192 StDev	70.0 a 46.9 StDev	47.5 ab 55.0 StDev	100.0 a 0.0 StDev
	PENDIMETHALIN	0.784	kg ai/ha	B					
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
4	PENDIMETHALIN	0.784	kg ai/ha	A	92.5 a 9.6 StDev	5.453 a 3.229 StDev	96.3 a 7.5 StDev	60.0 ab 45.5 StDev	25.0 a 50.0 StDev
	PENDIMETHALIN	0.784	kg ai/ha	B					
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0258	kg ai/ha	B					
	COC	1	% v/v	B					
	CARFENTRAZONE	0.028	kg ai/ha	C					
	HALOSULFURON	0.0258	kg ai/ha	C					
	COC	1	% v/v	C					
5	PENDIMETHALIN	1.568	kg ai/ha	B	92.5 a 9.6 StDev	3.843 a 3.259 StDev	80.0 a 15.8 StDev	70.0 ab 46.9 StDev	25.0 a 50.0 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
6	PENDIMETHALIN	1.568	kg ai/ha	A	98.8 a 2.5 StDev	5.120 a 2.763 StDev	92.5 a 5.0 StDev	94.5 a 5.3 StDev	25.0 a 50.0 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B					
	HALOSULFURON	0.0258	kg ai/ha	B					
	COC	1	% v/v	B					
	CARFENTRAZONE	0.028	kg ai/ha	C					
	HALOSULFURON	0.0258	kg ai/ha	C					
	COC	1	% v/v	C					
7	PENDIMETHALIN	1.568	kg ai/ha	B	100.0 a 0.0 StDev	2.280 a 0.822 StDev	78.8 a 19.3 StDev	88.8 a 19.3 StDev	75.0 a 50.0 StDev
	SULFENTRAZONE	0.14	kg ai/ha	B					
8	PENDIMETHALIN	1.568	kg ai/ha	B	100.0 a 0.0 StDev	2.708 a 1.823 StDev	68.8 a 45.9 StDev	80.0 ab 33.7 StDev	50.0 a 57.7 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B					
	SULFENTRAZONE	0.14	kg ai/ha	B					
	COC	1	% v/v	B					

Safety Efficacy of Weed Control Programs for Chile AOV Means Table

Pest Code				DATQU	PHYWR	AMAPA	BROADLF		
Crop Code				cotyl to 5 cm	Timed Hoe	%CONTROL	%CONTROL	%CONTROL	
Description				6-15-2009	6-23-2009	7-30-2009	7-30-2009	7-30-2009	
Rating Date				%CONTROL	min.sec	%INJURY	%CONTROL	%CONTROL	
Rating Type									
Trt No.	Treatment Name	Rate	Unit	Appl Code	6	7	9	10	12
9	PENDIMETHALIN	1.568	kg ai/ha	A	97.5 a	4.108 a	88.8 a	55.0 ab	50.0 a
	CARFENTRAZONE	0.028	kg ai/ha	B	5.0 StDev	1.270 StDev	6.3 StDev	40.4 StDev	57.7 StDev
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
	FLUMIOXAZIN	0.1072	kg ai/ha	C					
	COC	1	% v/v	C					
10	PENDIMETHALIN	1.568	kg ai/ha	B	95.0 a	2.838 a	93.8 a	93.8 a	50.0 a
	CARFENTRAZONE	0.028	kg ai/ha	B	5.8 StDev	1.179 StDev	9.5 StDev	12.5 StDev	57.7 StDev
	HALOSULFURON	0.0403	kg ai/ha	B					
	COC	1	% v/v	B					
	FLUMIOXAZIN	0.1072	kg ai/ha	C					
	COC	1	% v/v	C					
LSD (P=.05)					7.35	3.7547	37.89	53.30	67.68
Standard Deviation					5.06	2.5877	26.11	36.73	46.65
CV					5.83	68.38	37.04	55.28	98.2
Bartlett's X2					7.907	13.098	27.747	15.469	0.219
P(Bartlett's X2)					0.245	0.158	0.001*	0.051	1.00
Replicate F					2.301	0.468	1.259	0.719	1.340
Replicate Prob(F)					0.0998	0.7073	0.3083	0.5492	0.2820
Treatment F					146.626	1.148	5.426	2.387	1.647
Treatment Prob(F)					0.0001	0.3652	0.0003	0.0389	0.1519

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

**Safety Efficacy of Weed Control Programs for Chile
AOV Means Table**

Pest Code					POASP	WEEDS	CPSAN
Crop Code					%CONTROL	% GROUNDCOVER	DRYRED
Description					7-30-2009	9-23-2009	12-9-2009
Rating Date					%CONTROL		YIELD KG/HA
Trt	Treatment	Rate	Rate	Appl			
No.	Name		Unit	Code	13	14	16
1	CONTROL				0.0 b 0.0 StDev	83.75 a 32.50 StDev	4223.2 ab 1326.2 StDev
2	PENDIMETHALIN	1.568	kg ai/ha	A	75.0 a	23.75 bc	3571.1 b
	CARFENTRAZONE	0.028	kg ai/ha	B	50.0 StDev	14.93 StDev	1595.1 StDev
	HALOSULFURON	0.0403	kg ai/ha	B			
	COC	1	% v/v	B			
3	PENDIMETHALIN	0.784	kg ai/ha	A	100.0 a	29.75 bc	3850.5 b
	PENDIMETHALIN	0.784	kg ai/ha	B	0.0 StDev	43.83 StDev	2727.0 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B			
	HALOSULFURON	0.0403	kg ai/ha	B			
	COC	1	% v/v	B			
4	PENDIMETHALIN	0.784	kg ai/ha	A	100.0 a	12.50 bc	4067.9 b
	PENDIMETHALIN	0.784	kg ai/ha	B	0.0 StDev	6.45 StDev	2540.3 StDev
	CARFENTRAZONE	0.028	kg ai/ha	B			
	HALOSULFURON	0.0258	kg ai/ha	B			
	COC	1	% v/v	B			
	CARFENTRAZONE	0.028	kg ai/ha	C			
	HALOSULFURON	0.0258	kg ai/ha	C			
	COC	1	% v/v	C			
5	PENDIMETHALIN	1.568	kg ai/ha	B	100.0 a	26.75 bc	4409.5 ab
	CARFENTRAZONE	0.028	kg ai/ha	B	0.0 StDev	21.73 StDev	1026.8 StDev
	HALOSULFURON	0.0403	kg ai/ha	B			
	COC	1	% v/v	B			
6	PENDIMETHALIN	1.568	kg ai/ha	A	100.0 a	5.00 c	5384.5 ab
	CARFENTRAZONE	0.028	kg ai/ha	B	0.0 StDev	0.00 StDev	1630.7 StDev
	HALOSULFURON	0.0258	kg ai/ha	B			
	COC	1	% v/v	B			
	CARFENTRAZONE	0.028	kg ai/ha	C			
	HALOSULFURON	0.0258	kg ai/ha	C			
	COC	1	% v/v	C			
7	PENDIMETHALIN	1.568	kg ai/ha	B	100.0 a	9.50 bc	5092.6 ab
	SULFENTRAZONE	0.14	kg ai/ha	B	0.0 StDev	6.40 StDev	2002.8 StDev
8	PENDIMETHALIN	1.568	kg ai/ha	B	75.0 a	61.25 ab	5869.0 ab
	CARFENTRAZONE	0.028	kg ai/ha	B	50.0 StDev	40.08 StDev	2157.1 StDev
	SULFENTRAZONE	0.14	kg ai/ha	B			
	COC	1	% v/v	B			

Safety Efficacy of Weed Control Programs for Chile AOV Means Table

Pest Code				POASP	WEEDS		
Crop Code						CPSAN	
Description				%CONTROL	% GROUNDCOVER	DRYRED	
Rating Date				7-30-2009	9-23-2009	12-9-2009	
Rating Type				%CONTROL		YIELD KG/HA	
Trt No.	Treatment Name	Rate	Unit	Appl Code	13	14	16
9	PENDIMETHALIN	1.568	kg ai/ha	A	50.0 a	32.50 bc	6583.2 a
	CARFENTRAZONE	0.028	kg ai/ha	B	57.7 StDev	15.55 StDev	1178.4 StDev
	HALOSULFURON	0.0403	kg ai/ha	B			
	COC	1	% v/v	B			
	FLUMIOXAZIN	0.1072	kg ai/ha	C			
	COC	1	% v/v	C			
10	PENDIMETHALIN	1.568	kg ai/ha	B	75.0 a	16.88 bc	4772.8 ab
	CARFENTRAZONE	0.028	kg ai/ha	B	50.0 StDev	11.43 StDev	1615.6 StDev
	HALOSULFURON	0.0403	kg ai/ha	B			
	COC	1	% v/v	B			
	FLUMIOXAZIN	0.1072	kg ai/ha	C			
	COC	1	% v/v	C			
LSD (P=.05)					46.52	33.672	1534.11
Standard Deviation					32.06	23.207	1057.29
CV					41.37	76.94	22.11
Bartlett's X2					0.094	18.673	4.835
P(Bartlett's X2)					0.993	0.017*	0.848
Replicate F					1.541	1.647	21.924
Replicate Prob(F)					0.2267	0.2020	0.0001
Treatment F					4.027	4.494	3.252
Treatment Prob(F)					0.0023	0.0011	0.0084

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Layby treatments in chile – post directed

General Trial Information

Crop Description

Crop :	BAYER Code	Binomial	Common Name
Jim	CPSAN	<i>Capsicum annuum</i>	Chile pepper Variety: Big
Planting Date:	4-1-2009	Planting Method: SEEDED	Row Spacing: 2 m
Seed Bed:	COARSE	Soil Temperature: 18 C	

Pest Description

	BAYER Code	Binomial	Common Name
Pest 1 Code:	AMAPA	<i>Amaranthus palmeri</i>	Palmer amaranth
Pest 2 Code:	ANVCR	<i>Anoda cristata</i>	spurred anoda
Pest 3 Code:	DATQU	<i>Datura quercifolia</i>	oakleaf thornapple
Pest 4 Code:	IPOCC	<i>Ipomoea coccinea</i>	red morningglory
Pest 5 Code:	IPOPU	<i>Ipomoea purpurea</i>	tall morningglory
Pest 6 Code:	PHYR	<i>Physalis wrightii</i>	Wright groundcherry
Pest 7 Code:	POASP	<i>Poa species</i>	grass seedlings
Pest 8 Code:	IPOSP	<i>Ipomoea species</i>	morningglory spp.

Site and Design

Site Type: FIELD	Tillage Type: conventional-till
Plot Length: 2 M	Plot Width: 7.6 M
Study Design: Randomized Complete Block (RCB)	Replications: 4

Maintenance

No.	Date	Maintenance Treatment Name	Form Conc	Form Type	Rate	Rate Unit
1.	4-1-2009	Patinum	2	SC	0.147	L/ha
2.	4-1-2009	Ridomil	4	EC	0.147	L/ha
3.	5-5-2009	Command	3	ME	2.5	L/ha

Field Prep and Maintenance

No.	Date	Description
1.	12/03/2008	chisel
2.	12/04/2008	disk
3.	01/06/2009	schmeiser
4.	01/22/2009	plow
5.	02/25/2009	schmeiser
6.	04/16/2009	de-cap
7.	05/12 -13/09	hoed
8.	05/27/2009	hoed
9.	06/02/2009	cultivate
10.	06/24/2009	cultivate

Layby treatments in chile – post directed

Irrigation Schedule

Overall Moisture Conditions: GOOD

Furrow Irrigation Dates

1. 03-03-2009 PRE
2. 04-02-2009 w/8-32-5 at 2.34 L/ha
3. 04-18-2009
4. 05-05-2009
5. 05-18-2009
6. 05-27-2009
7. 06-03-2009 w/ 32-0-0 at .473 L/min for 3 hours
8. 06-16-2009
9. 07-07-2009
10. 07-31-2009 w/10-34-0 at .473 L/min for 2 hours
11. 08-20-2009

Application Description

	A	B
Application Date:	6-9-2009	7-10-2009
Time of Day:	AM	AM
Application Method:	SPRAY	SPRAY
Application Timing:	THINNING	LAYBY
Application Placement:	POSDIRECT	DIRECTED
Applied By:	A. Dyer	A. Dyer
Air Temperature:	23 C	31 C
% Relative Humidity:	34	33
Wind Velocity:	2 KPH	2 KPH
Dew Presence (Y/N):	N	N
Soil Temperature:	25.5 C	27 C
Soil Moisture:	Moist	Moist
% Cloud Cover:	100	85

Crop Stage at Each Application

	A	B
Crop 1 Code:	CPSAN	CPSAN
Stage Majority:	10-14 cm	pod set

Layby treatments in chile – post directed

Pest Stage At Each Application

	A	B*
Pest 1 Code:	AMAPA	AMAPA
Growth Stage:	cotyl-8cm	
Pest 2 Code:	ANVCR	ANVCR
Growth Stage:	cotyl	coty – 15 cm
Pest 3 Code:	DATQU	DATQU
Growth Stage:	cotyl	
Pest 4 Code:	IPOCC	IPOCC
Growth Stage:	cotyl	
Pest 5 Code:	IPOPU	IPOPU
Growth Stage:	cotyl	
Pest 6 Code:	PHYWR	PHYWR
Growth Stage:	2.5 cm	coty – 15 cm
Pest 7 Code:	POASP	POASP
Growth Stage:	NR	
Pest 8 Code:	IPOSP	IPOSP
Growth Stage:	cotyl	coty – 15 cm

*A few plats have “in row” escapes of the following species: AMAPA, DATQU, PHYWR. Plants are up to 1.5 m and flowering.

Application Equipment

	A	B
Appl. Equipment:	CO2 BackPack	CO2 backPack
Equipment Type:	SPRBAC	SPRBAC
Operating Pressure:	131kPa	90 kPa
Nozzle Type:	Teejet	Teejet
Nozzle Size:	8002E	OC04
Nozzle Spacing:	50 cm	50 cm
Nozzles/Row:	2	2
Nozzle Calibration:	93 ML/MIN	133.5 ML/MIN
Band Width:	2	36 cm
Boom Length:	200 cm	
Boom Height:	50 cm	
Ground Speed:	3.2 KPH	3.2 KPH
Carrier:	WATER	WATER
Spray Volume:	187 L/ha	187 L/ha
Mix Size:	2 liters	2 liters
Propellant:	CO2	CO2

Trt No	Treatment Application Comment
8	Hose kinked, output was weak on Plot 403

Date	By	Notes
7-10-2009	C. Fiore	Drop nozzle boom used to direct spray to soil. Chile 64 to 76 cm tall very few weeds observed in plots; weed stage cotyledon.

Layby treatments in chile – post directed

Rating Notes

7/30/2009

No chile injury noted at this rating.

In additional to the broadleaf species rated, the following broadleaves were noted in some of the plots and recorded as present

Treatment#	Plot	Species ID Code
1	101	ANVCR
1	211	ANVCR
1	304	ANVCR
1	405	IPOPU, PHYWR
2	207	ANVCR, IPOCC
2	302	ANVCR, IPOPU
4	208	ANVCR, IPOCC
4	311	ANVCR, IPOPU
4	406	ANVCR, IPOPU
5	105	DATQU
5	407	DATQU, IPOPU
6	310	ANVCR, IPOPU
7	210	ANVCR
7	308	ANVCR
8	203	IPOCC
9	309	ANVCR
11	111	ANVCR
11	303	IPOPU

Layby treatments in chile – post directed

Trial Treatments

Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code	Appl Description
1	Weedy Control					
2	Halosulfuron	0.0404	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
3	Halosulfuron	0.0404	kg ai/ha	Layby	B	post directed
	Carfentrazone	0.028	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
4	Halosulfuron	0.0404	kg ai/ha	Layby	B	post directed
	Pendimethalin	1.57	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
5	Halosulfuron	0.0404	kg ai/ha	Layby	B	post directed
	Flumioxazin	0.224	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
6	Saflufenacil	0.0247	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
7	Saflufenacil	0.0247	kg ai/ha	Layby	B	post directed
	Carfentrazone	0.028	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
8	Saflufenacil	0.0247	kg ai/ha	Layby	B	post directed
	Pendimethalin	1.57	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
9	V-10142	0.336	kg ai/ha	Layby	B	post directed
	Flumioxazin	0.224	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
10	V-10142	0.224	kg ai/ha	Thinning	A	post directed
	COC	1 %	v/v	Thinning	A	post directed
	V-10142	0.224	kg ai/ha	Layby	B	post directed
	Flumioxazin	0.224	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed
11	V-10142	0.336	kg ai/ha	Layby	B	post directed
	Carfentrazone	0.028	kg ai/ha	Layby	B	post directed
	COC	1 %	v/v	Layby	B	post directed

Layby treatments in chile - post directed
AOV Means Table

Pest Code				PHYWR	AMAPA		
Crop Code				CPSAN			
Description				Timed hoe			
Rating Date				6-24-2009	7-30-2009		
Rating Type				min.sec	%CONTROL		
Trt	Treatment	Rate	Rate	Appl			
No.	Name	Rate	Unit	Code			
					1		
					3		
					4		
1	Weedy Control				3.610 a	0.0 b	0.0 b
					2.619 StDev	0.0 StDev	0.0 StDev
2	Halosulfuron	0.0404	kg ai/ha	B	3.755 a	59.5 a	97.0 a
	COC	1	% v/v	B	3.594 StDev	44.9 StDev	4.8 StDev
3	Halosulfuron	0.0404	kg ai/ha	B	6.403 a	83.8 a	93.8 a
	Carfentrazone	0.028	kg ai/ha	B	7.540 StDev	7.5 StDev	9.5 StDev
	COC	1	% v/v	B			
4	Halosulfuron	0.0404	kg ai/ha	B	4.033 a	58.8 a	85.0 a
	Pendimethalin	1.57	kg ai/ha	B	2.294 StDev	44.0 StDev	23.8 StDev
	COC	1	% v/v	B			
5	Halosulfuron	0.0404	kg ai/ha	B	4.533 a	81.3 a	75.0 a
	Flumioxazin	0.224	kg ai/ha	B	2.950 StDev	21.7 StDev	28.9 StDev
	COC	1	% v/v	B			
6	Saflufenacil	0.0247	kg ai/ha	B	3.393 a	88.8 a	100.0 a
	COC	1	% v/v	B	2.233 StDev	2.5 StDev	0.0 StDev
7	Saflufenacil	0.0247	kg ai/ha	B	5.398 a	42.5 a	17.5 b
	Carfentrazone	0.028	kg ai/ha	B	1.413 StDev	49.2 StDev	35.0 StDev
	COC	1	% v/v	B			
8	Saflufenacil	0.0247	kg ai/ha	B	6.555 a	85.0 a	77.5 a
	Pendimethalin	1.57	kg ai/ha	B	5.304 StDev	23.5 StDev	20.6 StDev
	COC	1	% v/v	B			
9	V-10142	0.336	kg ai/ha	B	3.448 a	73.8 a	51.3 a
	Flumioxazin	0.224	kg ai/ha	B	1.463 StDev	22.9 StDev	39.2 StDev
	COC	1	% v/v	B			
10	V-10142	0.224	kg ai/ha	A	4.388 a	75.0 a	82.5 a
	COC	1	% v/v	A	2.483 StDev	23.5 StDev	22.5 StDev
	V-10142	0.224	kg ai/ha	B			
	Flumioxazin	0.224	kg ai/ha	B			
	COC	1	% v/v	B			

Layby treatments in chile - post directed
AOV Means Table

Pest Code				PHYWR	AMAPA		
Crop Code		CPSAN					
Description		Timed hoe					
Rating Date		6-24-2009		7-30-2009	7-30-2009		
Rating Type		min.sec		%CONTROL	%CONTROL		
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code			
					1	3	4
11	V-10142	0.336	kg ai/ha	B	7.065 a	76.3 a	73.8 a
	Carfentrazone	0.028	kg ai/ha	B	5.312 StDev	27.5 StDev	17.0 StDev
	COC		1 % v/v	B			
LSD (P=.05)					4.7272	37.57	32.90
Standard Deviation					3.2739	26.02	22.79
CV					68.5	39.5	33.28
Bartlett's X2					15.4	21.393	12.812
P(Bartlett's X2)					0.118	0.011*	0.118
Replicate F					5.136	3.727	0.590
Replicate Prob(F)					0.0055	0.0217	0.6261
Treatment F					0.682	3.944	8.205
Treatment Prob(F)					0.7322	0.0017	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Layby treatments in chile - post directed
AOV Means Table

Pest Code		BROADLF			WEEDS		
Crop Code					CPSAN		
Description					% GROUNDCOVER		
Rating Date		7-30-2009			9-23-2009		
Rating Type		%CONTROL			YIELD		
Trt	Treatment	Rate	Rate	Appl	5	7	9
No.	Name		Unit	Code			
1	Weedy Control				0.0 a 0.0 StDev	31.3 a 19.3 StDev	5415.6 a 2004.8 StDev
2	Halosulfuron	0.0404	kg ai/ha	B	25.0 a	10.8 a	6179.5 a
	COC	1	% v/v	B	50.0 StDev	8.1 StDev	1734.1 StDev
3	Halosulfuron	0.0404	kg ai/ha	B	75.0 a	8.3 a	7607.9 a
	Carfentrazone	0.028	kg ai/ha	B	50.0 StDev	5.4 StDev	2651.2 StDev
	COC	1	% v/v	B			
4	Halosulfuron	0.0404	kg ai/ha	B	25.0 a	20.5 a	5446.6 a
	Pendimethalin	1.57	kg ai/ha	B	50.0 StDev	15.0 StDev	979.8 StDev
	COC	1	% v/v	B			
5	Halosulfuron	0.0404	kg ai/ha	B	50.0 a	20.0 a	5279.0 a
	Flumioxazin	0.224	kg ai/ha	B	57.7 StDev	21.2 StDev	1370.1 StDev
	COC	1	% v/v	B			
6	Saflufenacil	0.0247	kg ai/ha	B	50.0 a	13.8 a	4775.9 a
	COC	1	% v/v	B	57.7 StDev	8.5 StDev	954.7 StDev
7	Saflufenacil	0.0247	kg ai/ha	B	50.0 a	16.3 a	6210.5 a
	Carfentrazone	0.028	kg ai/ha	B	57.7 StDev	7.5 StDev	1469.7 StDev
	COC	1	% v/v	B			
8	Saflufenacil	0.0247	kg ai/ha	B	50.0 a	10.3 a	6521.1 a
	Pendimethalin	1.57	kg ai/ha	B	57.7 StDev	8.8 StDev	2089.6 StDev
	COC	1	% v/v	B			
9	V-10142	0.336	kg ai/ha	B	75.0 a	10.3 a	6179.5 a
	Flumioxazin	0.224	kg ai/ha	B	50.0 StDev	6.6 StDev	2374.9 StDev
	COC	1	% v/v	B			
10	V-10142	0.224	kg ai/ha	A	100.0 a	10.3 a	6160.9 a
	COC	1	% v/v	A	0.0 StDev	10.5 StDev	1237.8 StDev
	V-10142	0.224	kg ai/ha	B			
	Flumioxazin	0.224	kg ai/ha	B			
	COC	1	% v/v	B			

**Layby treatments in chile - post directed
AOV Means Table**

Pest Code					BROADLF	WEEDS	CPSAN
Crop Code							DRYRED
Description						% GROUNDCOVER	
Rating Date					7-30-2009	9-23-2009	12-9-2009
Rating Type					%CONTROL		YIELD
Trt	Treatment	Rate	Rate Unit	Appl Code	5	7	9
11	V-10142	0.336	kg ai/ha	B	50.0 a	28.3 a	7421.6 a
	Carfentrazone	0.028	kg ai/ha	B	57.7 StDev	24.9 StDev	2660.9 StDev
	COC	1	% v/v	B			
LSD (P=.05)					70.65	16.30	2622.41
Standard Deviation					48.93	11.29	1816.18
CV					97.86	69.1	29.73
Bartlett's X2					0.25	14.404	6.777
P(Bartlett's X2)					1.00	0.155	0.746
Replicate F					1.139	6.658	1.697
Replicate Prob(F)					0.3491	0.0014	0.1887
Treatment F					1.253	1.912	0.915
Treatment Prob(F)					0.2996	0.0830	0.5322

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Evaluation of Kixor for weed control in Roundup Ready corn

General Trial Information

Crop Description

	BAYER Code	Binomial	Common Name	Variety:
Crop 1:	ZEAMX	<i>Zea mays</i>	Corn	RR Ready
Planting Date:	5-21-2009	Planting Method: SEEDED	Rate: 8 Plants/M	

Pest Description

	BAYER Code	Binomial	Common Name
Pest 1 Code:	AMAPA	<i>Amaranthus palmeri</i>	Palmer amaranth
Pest 2 Code:	ANVCR	<i>Anoda cristata</i>	spurred anoda
Pest 3 Code:	IPOHG	<i>Ipomoea hederacea integruscul</i>	entireleaf morningglory
Pest 4 Code:	IPOCC	<i>Ipomoea coccinea</i>	red morningglory
Pest 5 Code:	DATQU	<i>Datura quercifolia</i>	oakleaf thornapple
Pest 6 Code:	PHYWR	<i>Physalis wrightii</i>	Wright groundcherry

Site and Design

Site Type: FIELD	Tillage Type: conventional-till
Plot Width: 2 M	Plot Length: 7.6 M
Study Design: Randomized Complete Block (RCB)	Replications: 4

Soil Description

Description Name: Glendale clay loam		
% Sand: 54	% OM: 1.22	Texture: sandy clay loam
% Silt: 19	pH: 7.59	
% Clay: 27		

Field Prep and Maintenance

No.	Date	Description
11.	12/03/2008	chisel
12.	12/04/2008	disk
13.	01/06/2009	schmeiser
14.	01/22/2009	plow
15.	02/25/2009	schmeiser
16.	05/20/2009	harrow and cultivate to prepare bed for planting

Furrow Irrigation Dates

No.	Date
1.	03-03-2009 PRE
2.	5-26-2009
3.	6-16-2009
4.	7-9-2009
5.	7-15-2009
6.	7-31-2009
7.	8-17-2009

Evaluation of Kixor for weed control in Roundup Ready corn

Application Description

	A	B
Application Date:	5-21-2009	6-10-2009
Time of Day:	AM	AM
Application Method:	SPRAY	SPRAY
Application Timing:	PREPRE	MIDPOST
Application Placement:	BROSOL	BROFOL
Applied By:	A. Dyer	A. Dyer
Air Temperature, Unit:	28 C	24 C
% Relative Humidity:	39	33
Wind Velocity, Unit:	3. KPH	4 KPH
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	27 C	26 C
Soil Moisture:	DRY	DRY
% Cloud Cover:	90	10

Crop Stage At Each Application

	A	B
Crop 1 :	ZEAMX	ZEAMX
Growth stage:	PRE-EMER	15 cm

Pest Stage At Each Application

	A	B
Pest 1 Code:	AMAPA	AMAPA
Growth stage:	PRE-EMER	COTYL – 15 cm
Pest 2 Code:	ANVCR	ANVCR
Growth stage:	PRE-EMER	COTYL – 2.5 cm
Pest 3 Code:	IPOHG	IPOHG
Growth stage:	PRE-EMER	5 CM
Pest 4 Code:	IPOCC	IPOCC
Growth stage:	PRE-EMER	5 CM
Pest 5 Code:	DATQU	DATQU
Growth stage:	PRE-EMER	COTYL – 10 cm
Pest 6 Code:	PHYWR	PHYWR
Growth stage:	PRE-EMER	COTYL – 5CM

Evaluation of Kixor for weed control in Roundup Ready corn

Application Equipment

	A	B
Appl. Equipment:	CO2 Back Pack	CO2 Back Pack
Equipment:	SPRBAC	SPRBAC
Nozzle:	Teejet	Teejet
Nozzle Size:	11002 VS	11002 VS
Nozzle Spacing:	50 cm	50 m
Nozzles/Row:	2	2
Nozzle Calibration:	511 ML/MIN	588 ML/MIN
Band Width:	50 cm	58 cm
Boom Length:	200 cm	234 cm
Boom Height:	50 cm	51 cm
Ground Speed:	3.2 KPH	3.2 KPH
Carrier:	WATER	WATER
Spray Volume:	187 L/ha	187 L/ha
Mix Size, Unit:	2 liters	2 liters
Propellant:	CO2	CO2

Date	Trt. No	Treatment Application Comment
6/10	5	Tank ran out of treatment halfway through Plot 105.
Date	By	Notes
5-21-2009	C. Fiore	A few large weeds were present, they were pulled before spraying.

Rating Notes

June 10, 2009

Weed densities: AMAPA = 10 - 20/0.1 m²; DATQU = 0 to 6/0.1 m²; PHYWR = 0 to 2/0.1 m²; ANVCR = 0 to 3/0.1 m²; IPOHG = 0 to 1/0.1 m²

No corn injury noted at this rating.

June 29, 2009

Weed Densities: AMAPA = very dense/dominant species; PHYWR, DATQU, ANVCR = 0-6 plants/0.1 m²

No corn injury noted at this rating.

July 30, 2009

No corn injury noted at this rating.

In addition to the broadleaf species rated, the following broadleaves were noted in some of the plots and recorded as present

Trt 1:	101, 204, 305, 406 AMAPA (flowering), DATQU (flowering -- not at a competitive density) PHYWR (flowering), LEFFI
Trt 3	103, 205, 308, 402 ANVCR (402)
Trt 4:	104, 209, 304, 408 DATQU, PHYWR (408)
Trt 5	105, 208, 309, 404 PHYWR (404), ANVCR (309 and 404)
Trt 6	106, 202, 307, 403 DATQU (307), PHYWR (307 and 403)
Trt 7	107, 203, 301, 409 volunteer sorghum (409)
Trt 9	109, 206, 303, 405 ANVCR & PHYWR (405)

Evaluation of Kixor for weed control in Roundup Ready corn Trial Treatments

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Growth Stage	Appl Code	Appl Description
1	CHECK								
2	BICEP II MAGNUM	659	GA/L	SC	3860	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
3	INTEGRITY	668.0	GA/L	EC	1220.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
4	SHARPEN	342.0	GA/L	SC	100.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	PROWL H2O	455.0	GA/L	CS	2130.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
5	INTEGRITY	668.0	GA/L	EC	830.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	TOUCHDOWN TOTAL	500	GA/L	SL	870.0	g ai/ha	10-14" corn	B	MID-POST EMRERG
	SURFACTANT-NONIONIC	100.0	%	SL	0.25	% v/v	10-14" corn	B	MID-POST EMRERG
	AMMONIUM SULFATE	21.0	%	SG	20.4	g/l	10-14" corn	B	MID-POST EMRERG
6	SHARPEN	342.0	GA/L	SC	75.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	PROWL H2O	455.0	GA/L	CS	2130.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	TOUCHDOWN TOTAL	500	GA/L	SL	870.0	g ai/ha	10-14" corn	B	MID-POST EMRERG
	SURFACTANT-NONIONIC	100.0	%	SL	0.25	% v/v	10-14" corn	B	MID-POST EMRERG
	AMMONIUM SULFATE	21.0	%	SG	20.4	g/l	10-14" corn	B	MID-POST EMRERG
7	BICEP II MAGNUM	659	GA/L	SC	3860	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	TOUCHDOWN TOTAL	500	GA/L	SL	870.0	g ai/ha	10-14" corn	B	MID-POST EMRERG
	SURFACTANT-NONIONIC	100.0	%	SL	0.25	% v/v	10-14" corn	B	MID-POST EMRERG
	AMMONIUM SULFATE	21.0	%	SG	20.4	g/l	10-14" corn	B	MID-POST EMRERG
8	SHARPEN	342.0	GA/L	SC	75.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	BICEP II MAGNUM	659	GA/L	SC	3860	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	TOUCHDOWN TOTAL	500	GA/L	SL	870.0	g ai/ha	10-14" corn	B	MID-POST EMRERG
	SURFACTANT-NONIONIC	100.0	%	SL	0.25	% v/v	10-14" corn	B	MID-POST EMRERG
	AMMONIUM SULFATE	21.0	%	SG	20.4	g/l	10-14" corn	B	MID-POST EMRERG
9	INTEGRITY	668.0	GA/L	EC	830.0	g ai/ha	PRE-EMERG	A	DAY OF PLANTING
	TOUCHDOWN TOTAL	500.0	GA/L	SL	870.0	g ai/ha	10-14" corn	B	MID-POST EMRERG
	STATUS HERBICIDE	56.0	%	WG	98.0	g ai/ha	10-14" corn	B	MID-POST EMRERG
	SURFACTANT-NONIONIC	100.0	%	SL	0.25	% v/v	10-14" corn	B	MID-POST EMRERG
	AMMONIUM SULFATE	21.0	%	SG	20.4	g/l	10-14" corn	B	MID-POST EMRERG

**Evaluation of Kixor for weed control in Roundup Ready corn
AOV Means Table**

Pest Code			AMAPA	DATQU	PHYWR	ANVCR		
Crop Code								
Description			cot - 15.24 cm	cot - 5 cm	cot - 5 cm	cot - 2.54 cm		
Rating Date			6-10-2009	6-10-2009	6-10-2009	6-10-2009		
Rating Type			%CONTROL	%CONTROL	%CONTROL	%CONTROL		
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	2	3	4	5
1	CHECK				0.0 b 0.0 StDev	0.0 c 0.0 StDev	0.0 b 0.0 StDev	0.0 b 0.0 StDev
2	BICEP II MAGNUM	3860	g ai/ha	A	100.0 a 0.0 StDev	100.0 a 0.0 StDev	75.0 a 50.0 StDev	98.8 a 2.5 StDev
3	INTEGRITY	1220.0	g ai/ha	A	100.0 a 0.0 StDev	100.0 a 0.0 StDev	100.0 a 0.0 StDev	100.0 a 0.0 StDev
4	SHARPEN	100.0	g ai/ha	A	100.0 a	40.0 b	85.0 a	87.3 a
	PROWL H2O	2130.0	g ai/ha	A	0.0 StDev	21.6 StDev	23.8 StDev	18.7 StDev
5	INTEGRITY	830.0	g ai/ha	A	100.0 a	98.8 a	94.5 a	97.3 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	2.5 StDev	9.7 StDev	2.6 StDev
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
6	SHARPEN	75.0	g ai/ha	A	100.0 a	37.5 b	91.3 a	95.0 a
	PROWL H2O	2130.0	g ai/ha	A	0.0 StDev	29.9 StDev	6.3 StDev	5.8 StDev
	TOUCHDOWN TOTAL	870.0	g ai/ha	B				
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
7	BICEP II MAGNUM	3860	g ai/ha	A	100.0 a	100.0 a	70.0 a	100.0 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	0.0 StDev	47.6 StDev	0.0 StDev
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
8	SHARPEN	75.0	g ai/ha	A	100.0 a	100.0 a	97.5 a	100.0 a
	BICEP II MAGNUM	3860	g ai/ha	A	0.0 StDev	0.0 StDev	5.0 StDev	0.0 StDev
	TOUCHDOWN TOTAL	870.0	g ai/ha	B				
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
9	INTEGRITY	830.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	99.8 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	0.0 StDev	0.0 StDev	0.5 StDev
	STATUS HERBICIDE	98.0	g ai/ha	B				
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
	LSD (P=.05)				0.00	17.22	35.16	9.05
	Standard Deviation				0.00	11.80	24.09	6.20
	CV				0.0	15.7	30.4	7.17
	Bartlett's X2				0.0	10.423	21.218	28.682
	P(Bartlett's X2)				.	0.005*	0.001*	0.001*
	Replicate F				0.000	1.800	1.465	2.323
	Replicate Prob(F)				1.0000	0.1740	0.2492	0.1005
	Treatment F				0.000	42.895	6.883	111.068
	Treatment Prob(F)				1.0000	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

AMAPA = 10 - 20/0.1m²; DATQU = 0 to 6/0.1m²; PHYWR = 0 to 2/0.1m²; ANVCR = 0 to 3/0.1m²

Evaluation of Kixor for weed control in Roundup Ready corn AOV Means Table

Pest Code			IPOHG	IPOCC	AMAPA	PHYWR		
Crop Code								
Description			5 cm	5 cm	Dominant spp			
Rating Date			6-10-2009	6-10-2009	6-29-2009	6-29-2009		
Rating Type			%CONTROL	%CONTROL	%CONTROL	%CONTROL		
Trt	Treatment	Rate	Rate	Appl				
No.	Name	Rate	Unit	Code	6	7	9	10
1	CHECK				0.0 b	0.0 b	0.0 c	0.0 c
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
2	BICEP II MAGNUM	3860	g ai/ha	A	75.0 a	100.0 a	100.0 a	100.0 a
					50.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
3	INTEGRITY	1220.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	100.0 a
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
4	SHARPEN	100.0	g ai/ha	A	100.0 a	100.0 a	98.3 b	52.5 b
	PROWL H2O	2130.0	g ai/ha	A	0.0 StDev	0.0 StDev	2.2 StDev	41.1 StDev
5	INTEGRITY	830.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	99.5 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	0.0 StDev	0.0 StDev	1.0 StDev
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
6	SHARPEN	75.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	98.8 a
	PROWL H2O	2130.0	g ai/ha	A	0.0 StDev	0.0 StDev	0.0 StDev	2.5 StDev
	TOUCHDOWN TOTAL	870.0	g ai/ha	B				
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
7	BICEP II MAGNUM	3860	g ai/ha	A	75.0 a	100.0 a	100.0 a	100.0 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	50.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
8	SHARPEN	75.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	100.0 a
	BICEP II MAGNUM	3860	g ai/ha	A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	TOUCHDOWN TOTAL	870.0	g ai/ha	B				
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
9	INTEGRITY	830.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	100.0 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	STATUS HERBICIDE	98.0	g ai/ha	B				
	SURFACTANT-NONIONIC	0.25	% v/v	B				
	AMMONIUM SULFATE	20.4	g/l	B				
	LSD (P=.05)				35.11	0.00	1.08	20.12
	Standard Deviation				24.06	0.00	0.74	13.78
	CV				28.87	0.0	0.83	16.53
	Bartlett's X2				0.0	0.0	0.0	28.322
	P(Bartlett's X2)				.	.	.	0.001*
	Replicate F				0.640	0.000	1.000	0.941
	Replicate Prob(F)				0.5967	1.0000	0.4098	0.4364
	Treatment F				7.560	0.000	8102.493	25.742
	Treatment Prob(F)				0.0001	1.0000	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

**Evaluation of Kixor for weed control in Roundup Ready corn
AOV Means Table**

Pest Code				PHYWR	DATQU	ANVCR	POASP		
Rating Date				6-29-2009	6-29-2009	6-29-2009	7-30-2009	7-30-2009	
Rating Type				%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	
Trt No.	Treatment Name	Rate	Unit	Appl Code	10	11	12	14	15
1	CHECK				0.0 c	0.0 b	0.0 c	0.2 b	0.0 c
					0.0 StDev	0.0 StDev	0.0 StDev	0.2 StDev	0.0 StDev
2	BICEP II MAGNUM	3860	g ai/ha	A	100.0 a	100.0 a	100.0 a	100.0 a	100.0 a
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
3	INTEGRITY	1220.0	g ai/ha	A	100.0 a	100.0 a	97.3 a	99.8 a	98.8 a
					0.0 StDev	0.0 StDev	4.9 StDev	0.5 StDev	2.5 StDev
4	SHARPEN	100.0	g ai/ha	A	52.5 b	0.0 b	72.5 b	95.0 a	85.0 b
	PROWL H2O	2130.0	g ai/ha	A	41.1 StDev	0.0 StDev	17.1 StDev	10.0 StDev	4.1 StDev
5	INTEGRITY	830.0	g ai/ha	A	99.5 a	100.0 a	96.3 a	100.0 a	98.3 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	1.0 StDev	0.0 StDev	4.8 StDev	0.0 StDev	2.4 StDev
	SURFACTANT-NONIONIC	0.25	% v/v	B					
	AMMONIUM SULFATE	20.4	g/l	B					
6	SHARPEN	75.0	g ai/ha	A	98.8 a	100.0 a	100.0 a	100.0 a	98.5 a
	PROWL H2O	2130.0	g ai/ha	A	2.5 StDev	0.0 StDev	0.0 StDev	0.0 StDev	2.4 StDev
	TOUCHDOWN TOTAL	870.0	g ai/ha	B					
	SURFACTANT-NONIONIC	0.25	% v/v	B					
	AMMONIUM SULFATE	20.4	g/l	B					
7	BICEP II MAGNUM	3860	g ai/ha	A	100.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	SURFACTANT-NONIONIC	0.25	% v/v	B					
	AMMONIUM SULFATE	20.4	g/l	B					
8	SHARPEN	75.0	g ai/ha	A	100.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	BICEP II MAGNUM	3860	g ai/ha	A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	TOUCHDOWN TOTAL	870.0	g ai/ha	B					
	SURFACTANT-NONIONIC	0.25	% v/v	B					
	AMMONIUM SULFATE	20.4	g/l	B					
9	INTEGRITY	830.0	g ai/ha	A	100.0 a	97.5 a	100.0 a	100.0 a	98.3 a
	TOUCHDOWN TOTAL	870.0	g ai/ha	B	0.0 StDev	5.0 StDev	0.0 StDev	0.0 StDev	2.4 StDev
	STATUS HERBICIDE	98.0	g ai/ha	B					
	SURFACTANT-NONIONIC	0.25	% v/v	B					
	AMMONIUM SULFATE	20.4	g/l	B					
LSD (P=.05)					20.12	2.43	8.37	4.99	3.01
Standard Deviation					13.78	1.67	5.74	3.41	2.06
CV					16.53	2.15	6.74	3.87	2.38
Bartlett's X2					28.322	0.0	6.409	13.579	1.545
P(Bartlett's X2)					0.001*	.	0.041*	0.001*	0.819
Replicate F					0.941	1.000	2.276	0.944	1.368
Replicate Prob(F)					0.4364	0.4098	0.1055	0.4354	0.2763
Treatment F					25.742	2781.000	133.437	375.884	1013.589
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0001

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

Spring Herbicide application for weed control in Pecans

General Trial Information

Study Director: Bill Odle
Investigator: Jamshid Ashigh

Title: FMD Specialist
Title: Assistant professor

Discipline: herbicide
Trial Status: one-year/final
Initiation Date: 5-20-2009

Planned Completion Date: 9-21-2009

Trial Location

City: Las Cruces
State/Prov.: NM
Country: USA United States

Crop Description

	BAYER Code	Binomial	Common Name
Crop 1:	CYAIL	<i>Carya illinoensis</i>	Pecan

Pest Description

	BAYER Code	Binomial	Common Name
Pest 1 Code:	POASP	<i>Poa species</i>	grasses
Pest 2 Code:	AMAPO	<i>Amaranthus powellii</i>	Powel amaranth
Pest 3 Code:	KCHSC	<i>Kochia scoparia</i>	kochia
Pest 4 Code:	SSYAL	<i>Sisymbrium altissimum</i>	tumble mustard
Pest 5 Code:	EPHMA	<i>Euphorbia maculata</i>	spotted spurge
Pest 6 Type:	SASKR	<i>Salsola kali L.</i>	Russian thistle

Site and Design

Plot Width: 9 m **Site Type:** orchard
Plot Length: 25 m **Experimental Unit:** 1 plot
Plot Area: 225 m²
Replications: 3 **Study Design:** Randomized Complete Block
Untreated Arrangement: INCLUDED

Soil Description

Description Name: Sandy

Moisture and Weather Conditions

Overall Moisture Conditions: normal

Spring Herbicide application for weed control in Pecans

Application Description

	A
Application Date:	5-20-2009
Time of Day:	7 am
Application Method:	SPRAY
Application Timing:	POSPOS
Application Placement:	BROFOL
Applied By:	Ashigh, J.
Air Temperature, Unit:	23 C
% Relative Humidity:	27
Wind Velocity, Unit:	4.2 KPH
Wind Direction:	SE
Dew Presence (Y/N):	N

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	CYAIL
Crop coverage (%):	75

Pest Stage at Each Application

	A	Height Minimum - Maximum
Pest 1 Code Scale:	POASP	13 - 25 cm
Pest 2 Code Scale:	AMAPO	13 – 51 cm
Pest 3 Code Scale:	KCHSC	13 – 51 cm
Pest 4 Code Scale:	SSYAL	
Pest 5 Code Scale:	EPHMA	
Pest 6 Code Scale:	SASKR	13 – 38 cm

Application Equipment

	A
Appl. Equipment:	Co2 sprayer
Equipment Type:	SPRBIC
Operating Pressure, Unit:	138 kPa
Nozzle Type:	TeeJet
Nozzle Size:	11002
Nozzle Spacing:	51 cm
Nozzles/Row:	8
Nozzle Calibration	413.8 ML/MIN
Band Width:	51 cm
Boom Length:	3.5 m
Boom Height:	46 cm
Ground Speed:	2.25 KPH
Carrier:	WATER
Spray Volume:	187 L/h
Mix Size:	13 L

Spring Herbicide application for weed control in Pecans 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	Chateau Rely	51 %		WP	6	oz wt/a	6	oz wt/a	PREMLA	A
		1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
2	Chateau Rely	51 %		WP	4	oz wt/a	4	oz wt/a	PREMLA	A
		1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
3	Chateau Rely	51 %		WP	3	oz wt/a	3	oz wt/a	PREMLA	A
		1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
4	Chateau Rely	51 %		WP	2	oz wt/a	2	ozwt/a	PREMLA	A
		1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
5	Goaltender Rely	4	LB/GAL	SL	2	qt/a	2	qt/a	PREMLA	A
		1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
6	Goaltender Rely	4	LB/GAL	SL	1	qt/a	1	qt/a	PREMLA	A
		1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
7	Rely	1	LBA/GAL	XX	57	oz/a	57	oz/a	PREMLA	A
8	Untreated Check				0		0			

Spring Herbicide application for weed control in Pecans AOV Means Table

Pest Code				KCHSC	AMAPO	EPHMA	SASKR	POASP	
Rating Date				6-5-2009	6-5-2009	6-5-2009	6-5-2009	6-5-2009	
Rating Type				%CONTROL	%CONTROL	%CONTROL	%CONTROL	%CONTROL	
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5
1	Chateau	6 oz wt/a	A		100.0 a	100.0 a	88.3 ab	95.0 a	78.3 b
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	0.0 StDev	2.9 StDev
2	Chateau	4 oz wt/a	A		100.0 a	98.3 a	75.0 c	80.0 c	80.0 b
	Rely	57 oz/a	A		0.0 StDev	2.9 StDev	5.0 StDev	0.0 StDev	0.0 StDev
3	Chateau	3 oz wt/a	A		93.3 b	95.0 a	75.0 c	80.0 c	76.7 b
	Rely	57 oz/a	A		2.9 StDev	5.0 StDev	0.0 StDev	0.0 StDev	5.8 StDev
4	Chateau	2 oz wt/a	A		85.0 c	85.0 b	70.0 c	73.3 c	55.0 c
	Rely	57 oz/a	A		0.0 StDev	5.0 StDev	0.0 StDev	2.9 StDev	5.0 StDev
5	Goaltender	2 qt/a	A		98.3 a	98.3 a	83.3 b	88.3 b	90.0 a
	Rely	57 oz/a	A		2.9 StDev	2.9 StDev	2.9 StDev	2.9 StDev	0.0 StDev
6	Goaltender	1 qt/a	A		100.0 a	100.0 a	93.3 a	96.7 a	93.3 a
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	2.9 StDev	2.9 StDev
7	Rely	57 oz/a	A		70.0 d	70.0 c	30.0 d	35.0 d	36.7 d
					5.0 StDev	5.0 StDev	5.0 StDev	8.7 StDev	5.8 StDev
8	Untreated Check	0			0.0 e	0.0 d	0.0 e	0.0 e	0.0 e
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	LSD (P=.05)				4.22	6.19	5.61	6.37	6.48
	Standard Deviation				2.41	3.54	3.20	3.64	3.70
	CV				2.98	4.37	4.98	5.31	5.8
	Bartlett's X2				0.822	1.175	1.349	4.076	1.648
	P(Bartlett's X2)				0.663	0.882	0.853	0.253	0.80
	Replicate F				0.179	0.333	0.304	0.551	0.913
	Replicate Prob(F)				0.8376	0.7221	0.7424	0.5886	0.4239
	Treatment F				608.000	281.714	307.000	258.596	221.696
	Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Spring Herbicide application for weed control in Pecans
AOV Means Table

Pest Code				KCHSC	AMAPO	EPHMA	SASKR	POASP	
Rating Date				6-19-2009	6-19-2009	6-19-2009	6-19-2009	6-19-2009	
Rating Type				%CONTROLL- PRE	%CONTROLL- PRE	%CONTROLL- PRE	%CONTROLL- PRE	%CONTROLL- PRE	
Trt No.	Treatment Name	Rate	Unit	Appl Code	6	7	8	9	10
1	Chateau	6 oz wt/a	A		100.0 a	100.0 a	96.7 b	100.0 a	58.3 c
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	0.0 StDev	2.9 StDev
2	Chateau	4 oz wt/a	A		100.0 a	100.0 a	88.3 c	100.0 a	56.7 c
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	0.0 StDev	2.9 StDev
3	Chateau	3 oz wt/a	A		100.0 a	98.3 a	83.3 d	100.0 a	48.3 d
	Rely	57 oz/a	A		0.0 StDev	2.9 StDev	2.9 StDev	0.0 StDev	2.9 StDev
4	Chateau	2 oz wt/a	A		93.3 b	80.0 b	65.0 e	100.0 a	46.7 d
	Rely	57 oz/a	A		5.8 StDev	0.0 StDev	0.0 StDev	0.0 StDev	2.9 StDev
5	Goaltender	2 qt/a	A		100.0 a	100.0 a	95.0 b	100.0 a	90.0 b
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
6	Goaltender	1 qt/a	A		100.0 a	100.0 a	100.0 a	100.0 a	96.7 a
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	2.9 StDev
7	Rely	57 oz/a	A		0.0 c	0.0 c	0.0 f	0.0 b	0.0 e
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
8	Untreated Check	0			0.0 c	0.0 c	0.0 f	0.0 b	0.0 e
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
LSD (P=.05)					3.58	1.79	2.79	0.00	3.51
Standard Deviation					2.04	1.02	1.59	0.00	2.00
CV					2.75	1.41	2.41	0.0	4.04
Bartlett's X2					0.0	0.0	0.0	0.0	0.0
P(Bartlett's X2)					1.00
Replicate F					1.000	1.000	2.882	0.000	3.370
Replicate Prob(F)					0.3927	0.3927	0.0895	1.0000	0.0638
Treatment F					1512.572	5867.286	2109.118	0.000	949.778
Treatment Prob(F)					0.0001	0.0001	0.0001	1.0000	0.0001

Spring Herbicide application for weed control in Pecans AOV Means Table

Pest Code				KCHSC	AMAPO	EPHMA	SASKR	POASP	
Rating Date				7-9-2009	7-9-2009	7-9-2009	7-9-2009	7-9-2009	
Rating Type				%CONTROLL- PRE	%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	
Trt	Treatment	Rate	Appl						
No.	Name	Rate	Unit	Code	11	12	13	14	15
1	Chateau	6 oz wt/a	A		98.3 a	100.0 a	93.3 a	98.3 a	11.7 c
	Rely	57 oz/a	A		2.9 StDev	0.0 StDev	5.8 StDev	2.9 StDev	2.9 StDev
2	Chateau	4 oz wt/a	A		91.7 b	90.0 b	73.3 b	85.0 b	0.0 d
	Rely	57 oz/a	A		2.9 StDev	5.0 StDev	2.9 StDev	0.0 StDev	0.0 StDev
3	Chateau	3 oz wt/a	A		85.0 c	85.0 c	70.0 b	85.0 b	0.0 d
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
4	Chateau	2 oz wt/a	A		85.0 c	78.3 d	61.7 c	81.7 b	0.0 d
	Rely	57 oz/a	A		5.0 StDev	2.9 StDev	2.9 StDev	2.9 StDev	0.0 StDev
5	Goaltender	2 qt/a	A		98.3 a	96.7 a	95.0 a	98.3 a	90.0 b
	Rely	57 oz/a	A		2.9 StDev	2.9 StDev	0.0 StDev	2.9 StDev	0.0 StDev
6	Goaltender	1 qt/a	A		100.0 a	100.0 a	98.3 a	100.0 a	96.7 a
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	0.0 StDev	2.9 StDev
7	Rely	57 oz/a	A		0.0 d	0.0 e	0.0 d	0.0 c	0.0 d
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
8	Untreated Check	0			0.0 d	0.0 e	0.0 d	0.0 c	0.0 d
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	LSD (P=.05)				4.63	3.58	4.87	3.02	2.34
	Standard Deviation				2.64	2.04	2.78	1.73	1.34
	CV				3.79	2.97	4.53	2.52	5.39
	Bartlett's X2				0.971	0.822	1.581	0.0	0.0
	P(Bartlett's X2)				0.808	0.663	0.664	.	.
	Replicate F				0.149	3.000	0.538	1.400	2.333
	Replicate Prob(F)				0.8630	0.0824	0.5953	0.2791	0.1335
	Treatment F				810.362	1336.429	624.135	1853.950	3039.250
	Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001

Spring Herbicide application for weed control in Pecans
AOV Means Table

Pest Code				KCHSC	AMAPO	EPHMA	SASKR	SSYAL	
Rating Date				8-19-2009	8-19-2009	8-19-2009	8-19-2009	8-19-2009	
Rating Type				%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	
Trt No.	Treatment Name	Rate	Unit	Appl Code	16	17	18	19	20
1	Chateau	6 oz wt/a	A		100.0 a	90.0 a	70.0 a	98.3 ab	100.0 a
	Rely	57 oz/a	A		0.0 StDev	5.0 StDev	0.0 StDev	2.9 StDev	0.0 StDev
2	Chateau	4 oz wt/a	A		80.0 b	60.0 c	20.0 c	85.0 c	70.0 b
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
3	Chateau	3 oz wt/a	A		75.0 c	45.0 d	20.0 c	85.0 c	50.0 c
	Rely	57 oz/a	A		5.0 StDev	5.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
4	Chateau	2 oz wt/a	A		71.7 c	35.0 e	10.0 d	81.7 c	30.0 d
	Rely	57 oz/a	A		2.9 StDev	5.0 StDev	0.0 StDev	2.9 StDev	0.0 StDev
5	Goaltender	2 qt/a	A		100.0 a	80.0 b	50.0 b	95.0 b	100.0 a
	Rely	57 oz/a	A		0.0 StDev	5.0 StDev	0.0 StDev	5.0 StDev	0.0 StDev
6	Goaltender	1 qt/a	A		100.0 a	91.7 a	70.0 a	100.0 a	100.0 a
	Rely	57 oz/a	A		0.0 StDev	2.9 StDev	0.0 StDev	0.0 StDev	0.0 StDev
7	Rely	57 oz/a	A		0.0 d	0.0 f	0.0 e	0.0 d	0.0 e
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
8	Untreated Check	0			0.0 d	0.0 f	0.0 e	0.0 d	0.0 e
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
LSD (P=.05)					3.38	6.76	0.00	3.58	0.00
Standard Deviation					1.93	3.86	0.00	2.04	0.00
CV					2.93	7.68	0.0	3.0	0.0
Bartlett's X2					0.558	0.697	0.0	0.822	0.0
P(Bartlett's X2)					0.455	0.952	.	0.663	.
Replicate F					1.960	0.280	0.000	3.000	0.000
Replicate Prob(F)					0.1776	0.7599	1.0000	0.0824	1.0000
Treatment F					1438.720	276.070	0.000	1304.822	0.000
Treatment Prob(F)					0.0001	0.0001	1.0000	0.0001	1.0000

Spring Herbicide application for weed control in Pecans AOV Means Table

Pest Code				POASP	KCHSC	AMAPO	EPHMA	SASKR	
Rating Date				8-19-2009	9-21-2009	9-21-2009	9-21-2009	9-21-2009	
Rating Type				%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	%CONTROL- PRE	
Trt	Treatment	Rate	Appl						
No.	Name	Rate	Unit	Code	21	22	23	24	25
1	Chateau	6 oz wt/a	A		0.0 c	100.0 a	90.0 a	41.7 a	98.3 ab
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	5.0 StDev	2.9 StDev	2.9 StDev
2	Chateau	4 oz wt/a	A		0.0 c	80.0 b	30.0 c	0.0 c	85.0 c
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
3	Chateau	3 oz wt/a	A		0.0 c	80.0 b	20.0 d	0.0 c	85.0 c
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
4	Chateau	2 oz wt/a	A		0.0 c	75.0 c	20.0 d	0.0 c	85.0 c
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
5	Goaltender	2 qt/a	A		30.0 b	100.0 a	78.3 b	23.3 b	95.0 b
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	5.8 StDev	5.0 StDev
6	Goaltender	1 qt/a	A		80.0 a	100.0 a	88.3 a	43.3 a	100.0 a
	Rely	57 oz/a	A		0.0 StDev	0.0 StDev	2.9 StDev	5.8 StDev	0.0 StDev
7	Rely	57 oz/a	A		0.0 c	0.0 d	0.0 e	0.0 c	0.0 d
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
8	Untreated Check	0			0.0 c	0.0 d	0.0 e	0.0 c	0.0 d
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
	LSD (P=.05)				0.00	0.00	4.05	5.45	3.38
	Standard Deviation				0.00	0.00	2.31	3.11	1.93
	CV				0.0	0.0	5.67	22.97	2.81
	Bartlett's X2				0.0	0.0	0.822	0.991	0.558
	P(Bartlett's X2)				.	.	0.663	0.609	0.455
	Replicate F				0.000	0.000	0.778	0.754	1.960
	Replicate Prob(F)				1.0000	1.0000	0.4783	0.4887	0.1776
	Treatment F				0.000	0.000	832.000	119.246	1472.920
	Treatment Prob(F)				1.0000	1.0000	0.0001	0.0001	0.0001

Spring Herbicide application for weed control in Pecans
AOV Means Table

Pest Code				SSYAL	POASP	
Rating Date				9-21-2009	9-21-2009	
Rating Type				%CONTROL-PRE	%CONTROL-PRE	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code		
				26	27	
1	Chateau	6	oz wt/a	A	41.7 c	0.0 c
	Rely	57	oz/a	A	2.9 StDev	0.0 StDev
2	Chateau	4	oz wt/a	A	30.0 d	0.0 c
	Rely	57	oz/a	A	0.0 StDev	0.0 StDev
3	Chateau	3	oz wt/a	A	0.0 e	0.0 c
	Rely	57	oz/a	A	0.0 StDev	0.0 StDev
4	Chateau	2	oz wt/a	A	0.0 e	0.0 c
	Rely	57	oz/a	A	0.0 StDev	0.0 StDev
5	Goaltender	2	qt/a	A	63.3 b	20.0 b
	Rely	57	oz/a	A	5.8 StDev	10.0 StDev
6	Goaltender	1	qt/a	A	80.0 a	30.0 a
	Rely	57	oz/a	A	0.0 StDev	0.0 StDev
7	Rely	57	oz/a	A	0.0 e	0.0 c
					0.0 StDev	0.0 StDev
8	Untreated Check	0			0.0 e	0.0 c
					0.0 StDev	0.0 StDev
LSD (P=.05)					4.11	6.19
Standard Deviation					2.35	3.54
CV					8.73	56.57
Bartlett's X2					0.866	0.0
P(Bartlett's X2)					0.352	.
Replicate F					0.568	1.000
Replicate Prob(F)					0.5794	0.3927
Treatment F					565.811	33.857
Treatment Prob(F)					0.0001	0.0001

Late summer post-emergence weed control in Alfalfa

General Trial Information

Personnel

Study Director: Bill Odle

Title: FMD Specialist

Investigator: Jamshid Ashigh

Title: Assistant professor

Discipline: herbicide

Trial Status: multi-year/final

Initiation Date: 8-12-2009

Planned Completion Date: 10-9-2009

Crop Description

	BAYER Code	Binomial	Common Name
Crop 1:	MEDSA	<i>Medicago sativa</i>	Alfalfa
Variety:	WL 525 HQ		Description: fall dormancy rating 8

Pest Description

	BAYER Code	Binomial	Common Name
Pest 1 Code:	SETLU	<i>Setaria pulmilia</i>	yellow foxtail
Pest 2 Code:	ECHCG	<i>Echinochloa crus-galli</i>	common barnyardgrass
Pest 3 Code:	ECHCO	<i>Echinochloa colinum</i>	junglerice
Pest 4 Code:	SSYAL	<i>Sisymbrium altissimum</i>	tumble mustard
Pest 5 Code:	EPHMA	<i>Euphorbia maculata</i>	spotted spurge
Pest 6 Code:	CYPES	<i>Cyperus esculentus</i>	yellow nutsedge

Site and Design

Site Type: FIELD

Plot Width: 4 m

Plot Length: 6 m

Study Design: Randomized Complete Block

Replications: 3

Untreated Arrangement: INCLUDED single control randomized in each block

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL

Late summer post-emergence weed control in Alfalfa

Application Description

A
Application Date: 8-12-2009
Time of Day: 6 am
Application Method: SPRAY
Application Timing: POSTHA
Application Placement: BROFOL
Applied By: Ashigh, J.
Air Temperature: 23 C
% Relative Humidity: 43
Wind Velocity, Unit: 1.1 KPH
Wind Direction: S
Dew Presence (Y/N): N

Crop Stage At Each Application

A
Crop 1 Code: MEDSA
Height: 10 cm
Height Minimum, Maximum: 7.6 to 13 cm
Crop coverage (%): 70

Pest Stage At Each Application

	A	Height Minimum, Maximum:
Pest 1 Code:	SETLU	7.6 to 13 cm
Pest 2 Code:	ECHCG	7.6 to 13 cm
Pest 3 Code:	ECHCO	7.6 to 13 cm
Pest 4 Code:	SSYAL	
Pest 5 Code:	EPHMA	
Pest 6 Code:	CYPES	7.6 to 10 cm

Application Equipment

A
Appl. Equipment: Co2-backpack
Equipment Type: SPRBAC
Operating Pressure: 20 PSI
Nozzle Type: TeeJet
Nozzle Size: 8002
Nozzle Spacing: 20 IN
Nozzles/Row: 4
Nozzle Calibration: 458 ML/MIN
Band Width: 51 CM
Boom Length: 152 CM
Boom Height: 64 CM
Ground Speed: 2 KPH
Carrier: WATER
Spray Volume, Unit: 187 L/HA
Mix Size, Unit: 2 Liter

Late summer post-emergence weed control in Alfalfa Trial Treatments

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Growth Stage	Appl Code
1	Chateau	51 %		WP		4 oz wt/a	ATHARV	A
2	Chateau Prowl	51 %		WP		4 oz wt/a	ATHARV	A
		4 LBA/GAL		EC		2 qt/a	ATHARV	A
3	Chateau	51 %		WP		8 oz wt/a	ATHARV	A
4	Pursuit NIS		2 LBA/GAL	EC		3 oz/a	ATHARV	A
						0.25 % v/v	ATHARV	A
5	Raptor NIS		1 LBA/GAL	L		4 oz/a	ATHARV	A
						0.25 % v/v	ATHARV	A
6	Sandea NIS		75 %	WP		0.75 ozwt/a	ATHARV	A
						0.5 % v/v	ATHARV	A
7	Sandea NIS		75 %	WP		1 ozwt/a	ATHARV	A
						0.5 % v/v	ATHARV	A
8	untreated control							

Late summer post-emergence weed control in Alfalfa
AOV Means Table

Pest Code				SETLU	ECHCG	ECHCO	CYPES	SETLU
Crop Code								
Rating Date				8-26-2009	8-26-2009	8-26-2009	8-26-2009	8-30-2009
Rating Type				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL-PER
Trt No.	Treatment Name	Rate	Appl Code	1	2	3	4	5
1	Chateau	4 oz wt/a	A	15.0 b	15.0 b	15.0 b	0.0 d	80.0 c
				5.0 StDev	5.0 StDev	5.0 StDev	0.0 StDev	0.0 StDev
2	Chateau	4 oz wt/a	A	13.3 b	13.3 b	13.3 b	0.0 d	100.0 a
	Prowl	2 qt/a	A	5.8 StDev	5.8 StDev	5.8 StDev	0.0 StDev	0.0 StDev
3	Chateau	8 oz wt/a	A	18.3 b	18.3 b	18.3 b	0.0 d	90.0 b
				2.9 StDev	2.9 StDev	2.9 StDev	0.0 StDev	0.0 StDev
4	Pursuit	3 oz/a	A	45.0 a	33.3 a	33.3 a	10.0 c	86.7 b
	NIS	0.25 % v/v	A	5.0 StDev	5.8 StDev	5.8 StDev	0.0 StDev	5.8 StDev
5	Raptor	4 oz/a	A	41.7 a	33.3 a	33.3 a	10.0 c	90.0 b
	NIS	0.25 % v/v	A	2.9 StDev	5.8 StDev	5.8 StDev	0.0 StDev	0.0 StDev
6	Sandea	0.75 oz wt/a	A	0.0 c	0.0 c	0.0 c	90.0 b	70.0 d
	NIS	0.5 % v/v	A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
7	Sandea	1 oz wt/a	A	0.0 c	0.0 c	0.0 c	100.0 a	70.0 d
	NIS	0.5 % v/v	A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
8	untreated			0.0 c	0.0 c	0.0 c	0.0 d	0.0 e
				0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
LSD (P=.05)				5.19	5.28	5.28	0.00	3.58
Standard Deviation				2.96	3.01	3.01	0.00	2.04
CV				17.78	21.27	21.27	0.0	2.78
Bartlett's X2				1.443	1.015	1.015	0.0	0.0
P(Bartlett's X2)				0.837	0.908	0.908	.	.
Replicate F				4.390	7.689	7.689	0.000	1.000
Replicate Prob(F)				0.0331	0.0056	0.0056	1.0000	0.3927
Treatment F				111.186	64.000	64.000	0.000	708.571
Treatment Prob(F)				0.0001	0.0001	0.0001	1.0000	0.0001

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

**Late summer post-emergence weed control in Alfalfa
AOV Means Table**

Pest Code				ECHCG	ECHCO	MEDSA	SETLU	ECHCG	
Crop Code									
Rating Date				8-30-2009	8-30-2009	8-30-2009	10-9-2009	10-9-2009	
Rating Type				%CONROL- PRE	%CONTROL- PRE	WEDRRE	%CONTROL- PRE	%CONTROL- PRE	
Trt No.	Treatment Name	Rate	Unit	Appl Code	6	7	8	9	10
1	Chateau	4 oz wt/a	A		80.0 c 0.0 StDev	80.0 c 0.0 StDev	14.00 c 1.73 StDev	60.0 c 0.0 StDev	60.0 c 0.0 StDev
2	Chateau	4 oz wt/a	A		100.0 a 0.0 StDev	100.0 a 0.0 StDev	14.83 c 1.04 StDev	100.0 a 0.0 StDev	100.0 a 0.0 StDev
	Prowl	2 qt/a	A						
3	Chateau	8 oz wt/a	A		90.0 b 0.0 StDev	90.0 b 0.0 StDev	31.67 b 2.89 StDev	90.0 b 0.0 StDev	90.0 b 0.0 StDev
4	Pursuit	3 oz/a	A		90.0 b 0.0 StDev	90.0 b 0.0 StDev	0.00 d 0.00 StDev	90.0 b 0.0 StDev	90.0 b 0.0 StDev
	NIS	0.25 % v/v	A						
5	Raptor	4 oz/a	A		90.0 b 0.0 StDev	90.0 b 0.0 StDev	0.00 d 0.00 StDev	90.0 b 0.0 StDev	90.0 b 0.0 StDev
	NIS	0.25 % v/v	A						
6	Sandea	0.75 oz wt/a	A		66.7 d 5.8 StDev	63.3 d 5.8 StDev	43.33 a 1.53 StDev	50.0 d 0.0 StDev	50.0 d 0.0 StDev
	NIS	0.5 % v/v	A						
7	Sandea	1 oz wt/a	A		70.0 d 0.0 StDev	63.3 d 5.8 StDev	43.83 a 1.04 StDev	50.0 d 0.0 StDev	50.0 d 0.0 StDev
	NIS	0.5 % v/v	A						
8	untreated control				0.0 e 0.0 StDev	0.0 e 0.0 StDev	0.00 d 0.00 StDev	0.0 e 0.0 StDev	0.0 e 0.0 StDev
LSD (P=.05)					3.58	4.68	2.610	0.00	0.00
Standard Deviation					2.04	2.67	1.490	0.00	0.00
CV					2.78	3.71	8.07	0.0	0.0
Bartlett's X2					0.0	0.0	2.795	0.0	0.0
P(Bartlett's X2)					.	.	0.593	.	.
Replicate F					1.000	2.333	0.131	0.000	0.000
Replicate Prob(F)					0.3927	0.1335	0.8780	1.0000	1.0000
Treatment F					722.286	429.250	481.080	0.000	0.000
Treatment Prob(F)					0.0001	0.0001	0.0001	1.0000	1.0000

**Late summer post-emergence weed control in Alfalfa
AOV Means Table**

Pest Code				ECHCO	SSYL	EPHMA		
Crop Code							MEDSA	
Rating Date				10-9-2009	10-9-2009	10-9-2009	10-9-2009	
Rating Type				%CONTROL-PRE	%CONTROL-PRE	%CONTROL-PRE	WEDRRE	
Trt No.	Treatment Name	Rate	Unit	Appl Code	11	12	13	14
1	Chateau	4 oz wt/a		A	60.0 c	100.0 a	100.0 a	0.0 b
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
2	Chateau	4 oz wt/a		A	100.0 a	100.0 a	100.0 a	0.0 b
	Prowl	2 qt/a		A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
3	Chateau	8 oz wt/a		A	90.0 b	100.0 a	100.0 a	0.7 b
					0.0 StDev	0.0 StDev	0.0 StDev	1.2 StDev
4	Pursuit	3 oz/a		A	90.0 b	50.0 b	100.0 a	0.0 b
	NIS	0.25 % v/v		A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
5	Raptor	4 oz/a		A	90.0 b	50.0 b	100.0 a	0.0 b
	NIS	0.25 % v/v		A	0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
6	Sandea	0.75 oz wt/a		A	50.0 d	40.0 c	50.0 b	5.0 a
	NIS	0.5 % v/v		A	0.0 StDev	0.0 StDev	0.0 StDev	1.7 StDev
7	Sandea	1 oz wt/a		A	50.0 d	40.0 c	50.0 b	7.0 a
	NIS	0.5 % v/v		A	0.0 StDev	0.0 StDev	0.0 StDev	2.6 StDev
8	untreated control				0.0 e	0.0 d	0.0 c	0.0 b
					0.0 StDev	0.0 StDev	0.0 StDev	0.0 StDev
LSD (P=.05)					0.00	0.00	0.00	2.21
Standard Deviation					0.00	0.00	0.00	1.26
CV					0.0	0.0	0.0	79.77
Bartlett's X2					0.0	0.0	0.0	1.241
P(Bartlett's X2)					.	.	.	0.538
Replicate F					0.000	0.000	0.000	0.104
Replicate Prob(F)					1.0000	1.0000	1.0000	0.9015
Treatment F					0.000	0.000	0.000	14.612
Treatment Prob(F)					1.0000	1.0000	1.0000	0.0001