

ACKNOWLEDGEMENTS

Purpose of this Booklet

This booklet is provided as a guide to the 2002 vegetable weed control research plots. The experiments outlined in this booklet are located at Ridgetown College and the Huron Research Station in Exeter.

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We trust that the information provided by this research will further the science of weed control by assisting companies with the registration and labeling of their products. This information will also allow research and extension personnel to suggest proper herbicide recommendations, thereby enabling growers to achieve consistent, broad spectrum weed control with a minimum of crop damage.

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**2002
RIDGETOWN
WEATHER DATA**

RAINFALL IN MM.

DATE	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.
1	3.0	0	0	0	0	0	0
2	21.2	4.6	0	0	0	0	1.0
3	0	0	3.0	0	0	0	9.0
4	0	0	0.6	0	0	0	6.4
5	0.8	0	5.8	0	0.2	0	0
6	0	6.0	0.2	0	0	0	0
7	0	0.4	0	0	0	0	0
8	0	7.4	0	0	0	0	0
9	0	5.4	0	0.8	0	0	0
10	0.2	0	0	0	0	0	0
11	0	0.8	0	0	0	0	0
12	6.8	20.0	0	0	0	0	0
13	7.0	6.2	0	0	0	0	1.4
14	0	0	6.8	0	12.2	6.6	0
15	13.0	0	0.6	0	0.8	1.0	0
16	0	7.6	0	0	1.2	0	0.2
17	0	0	4.2	0	0	0	0
18	0	0	0	0	0	0	1.8
19	1.2	0	0	7.0	0.8	3.4	4.0
20	3.8	0	0	0	0.2	34.2	0
21	3.4	0	2.6	0.2	0	0	0
22	0.8	0	0.4	4.8	0	0	0
23	0	0.8	0	0	4.8	0	0.8
24	0	1.6	0	0	0.6	0	0
25	2.0	10.8	0	0	0	0	9.4
26	0	0	7.2	9.0	0	0	0.8
27	5.2	0	2.2	7.5	0	18.8	0
28	8.8	0	6.4	0	0	0	0
29	0	4.8	0.8	10.6	0	0	0
30	0	1.6	0	0.2	0	0	0
31		12.0		0	0		0
TOTAL	77.2	90.0	40.8	40.1	20.8	64.0	34.8
30 YEAR AVG.	80.2	75.4	80.0	83.6	100.0	90.7	62.2

TEMPERATURE (C)

MEAN MAX	12.8	16.4	25.8	29.4	27.7	25.9	14.8
MEAN MIN	3.4	5.1	13.9	15.5	14.8	12.3	3.7
MEAN	8.1	10.7	19.8	22.5	21.2	19.1	9.2

TEMPERATURE, 30 YEAR AVERAGE (C)

MEAN MAX	12.4	19.5	24.5	27.1	25.8	22.0	15.2
MEAN MIN	2.4	8.4	13.8	16.2	15.3	11.7	5.7
MEAN	7.4	13.9	19.2	21.6	20.6	16.8	10.4

**2002
EXETER
WEATHER DATA**

RAINFALL IN MM.

DATE	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.
1	1.8	0.2	0.6	0	0	0	8.9
2	13.8	14.4	0	0	0	0	1.0
3	0.2	0	1.8	0	0	0	9.4
4	0.2	0	8.6	0	0	0	7.9
5	0.4	0	4.4	0	0	0	0.2
6	0.2	3.0	0.2	0	0	0	0
7	0.6	0	0	0	0	0	1.8
8	23.0	0.8	0	0.8	0	0	0
9	2.8	9.8	0	1.0	0	0	0
10	0.2	0	0	0	0	6.0	0
11	0	2.6	1.0	0	0	0	0.2
12	21.4	17.4	0.2	0	0	0	0
13	0	1.2	0	0	0	0	2.3
14	0.2	0.4	14.7	0	5.4	5.8	0
15	0	0	1.2	0	0	0.6	0
16	0	20.6	7.0	0	0.2	0	0
17	0	0	0	0	0.2	0	0
18	0	0	0	0	0	0	3.8
19	6.2	0	0	0	5.8	5.0	1.8
20	0.8	0	0	0	0.2	34.0	0
21	0	0.2	11.6	0	0	0	0
22	0.4	0	16.2	20.6	1.6	1.2	0.2
23	0.2	0	0	1.0	0	0.2	0
24	0	3.2	0	0	0	0	0
25	2.0	1.8	0	0	0	0	10.7
26	4.6	0	14.2	6.8	0	0	NA
27	4.0	0	0.2	0	0	20.3	NA
28	16.6	0	0	33.6	0	0.2	NA
29	0	0	0	12.8	0	0	NA
30	0.8	0	0	0	0	0.2	NA
31		31.6		0	0		NA
TOTAL	98.4	107.2	81.9	76.6	13.4	73.5	48.2
30 YEAR AVG.	79.5	77.4	77.7	84.9	85.7	114.5	86.5

MEAN MAX	11.9	16.3	24.5	28.3	26.6	25.1	14.4
MEAN MIN	2.4	4.3	13.9	15.8	14.2	12.5	4.8
MEAN	7.2	10.3	19.2	22.0	20.4	18.8	9.6

TEMPERATURE, 30 YEAR AVERAGE (C)

MEAN MAX	11.0	18.6	23.5	25.8	24.7	20.5	13.6
MEAN MIN	1.3	7.2	12.3	14.9	14.1	10.1	4.6
MEAN	6.2	12.9	18.0	20.4	19.5	15.3	9.1

BAYER CODE ABBREVIATIONS

Code	Common Name	Scientific Name
ABUTH	Velvetleaf	<i>Abutilon theophrasti</i>
AMAPO	Green pigweed	<i>Amaranthus powellii</i>
AMARE	Redroot pigweed	<i>Amaranthus retroflexus</i>
AMASS	Pigweed species	<i>Amaranthus sp.</i>
AMBEL	Common ragweed	<i>Ambrosia artemisiifolia</i>
CAPBP	Shepherd's-purse	<i>Capsella bursa-pastoris</i>
CHEAL	Common lamb's-quarter	<i>Chenopodium album</i>
POLCO	Wild buckwheat	<i>Polygonum convolvulus</i>
POLPE	Lady's-thumb	<i>Polygonum persicaria</i>
SINAR	Wild mustard	<i>Sinapis arvensis</i>
SOLPT	Eastern black nightshade	<i>Solanum ptycanthum</i>
STEME	Common chickweed	<i>Stellaria media</i>
ECHCG	Barnyard grass	<i>Echinochloa crus-galli</i>
PANDI	Fall panicum	<i>Panicum dichotomiflorum</i>
SETLU	Yellow foxtail	<i>Setaria glauca</i>
SETVI	Green foxtail	<i>Setaria viridis</i>

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WEED CONTROL AND CROP TOLERANCE OF CABBAGE TO POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02M1

CROP: BRSOL, CABBAGE (ATLANTIS). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-28-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-B1.

Site Description: Soil Texture: SILT LOAM. %OM: 6.99 %Sand: 49.9 %Silt: 34.7 %Clay: 15.4 pH: 6.1

APPLICATION DESCRIPTION STAGE AT APPLICATION
 Application: A Application: A
 Date : Jun-10-02 Crop 1 BRSOL 4 LF
 Time of Day: 8:55 PM Height : 7.4 CM
 Method : CO2 SPRAY
 Timing : POST Weed 1 ABUTH 5.4 CM
 Placement : FOLIAR Stg.Scale: 1 LF
 Air Temp. : 18.8 C Density : 5.5 SQ.M.
 % Humidity : 72 Weed 2 AMARE 4.8 CM
 Wind Speed : 5 KPH Stg.Scale: COTYLEDON
 Dew Present: Y Density : 45 SQ.M.
 Soil Moist.: DRY Weed 3 CHEAL 4.5 CM
 Cloud Cover: 0% Stg.Scale: 1 LF
 Equipment : CO2 SPRAY Density : 55 SQ.M.
 Pressure : 207 kPa Weed 4 SETVI 4.7 CM
 Nozzle Type: FLAT FAN Stg.Scale: 1 LF
 Nozzle Size: 8002 XR Density : 70 SQ.M.
 Noz.Spacing: 50 CM
 Boom Length: 1.5 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
	BRSOL		INJURY	%	Jun-24-02	8-12 LF	20-25 CM			7 DAT
	BRSOL		INJURY	%	Jun-28-02	10-13 LF	20-25 CM			14 DAT
	BRSOL		INJURY	%	Jul-8-02	13-14 LF	25-28 CM			28 DAT
	ABUTH		CONTROL	%	Jul-8-02	13-14 LF	25-28 CM	4 LF	4.5 SQ.M.	28 DAT
	AMARE		CONTROL	%	Jul-8-02	13-14 LF	25-28 CM	7 LF	42.5SQ.M.	28 DAT
	CHEAL		CONTROL	%	Jul-8-02	13-14 LF	25-28 CM	8 LF	69.5SQ.M.	28 DAT
	SETVI		CONTROL	%	Jul-8-02	13-14 LF	25-28 CM	5 LF	82.5SQ.M.	28 DAT
Trt	Treatment	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code			
1	untreated check									
2	fluzifop-p-butyl	125 SN	250	G A/HA	POST	A	A	0	a 0	a 0
3	fluzifop-p-butyl	125 SN	500	G A/HA	POST	A	A	0	a 0	a 0
4	clopyralid	360 SN	200	G A/HA	POST	A	A	0	a 0	a 0
5	clopyralid	360 SN	400	G A/HA	POST	A	A	0	a 0	a 0
6	fluzifop-p-butyl	125 SN	250	G A/HA	POST	A	A	0	a 0	a 0
6	clopyralid	360 SN	200	G A/HA	POST	A	A	0	a 0	a 0
7	fluzifop-p-butyl	125 SN	500	G A/HA	POST	A	A	0	a 0	a 0
7	clopyralid	360 SN	400	G A/HA	POST	A	A	0	a 0	a 0
LSD (P=.05)								0.0	0.0	0.0
Standard Deviation								0.0	0.0	0.0
CV								0.0	0.0	0.0

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

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
	ABUTH		CONTROL	%	Aug-14-02	HARVESTD	HARVESTD	5 LF	4.5 SQ.M.	65 DAT
	AMAPO		CONTROL	%	Aug-14-02	HARVESTD	HARVESTD	12 LF	12 SQ.M.	65 DAT
	AMARE		CONTROL	%	Aug-14-02	HARVESTD	HARVESTD	11 LF	15 SQ.M.	65 DAT
	CHEAL		CONTROL	%	Aug-14-02	HARVESTD	HARVESTD	13 LF	46.5SQ.M.	65 DAT
	SETVI		CONTROL	%	Aug-14-02	HARVESTD	HARVESTD	6 LF	46 SQ.M.	65 DAT
	BRSOL	MARKET	AVG.HEAD WT	KG	Aug-6-02	WEEDY				57 DAT
Trt	Treatment	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code			
1	untreated check									
2	fluzifop-p-butyl	125 SN	250	G A/HA	POST	A	A	0	c 1	bc 0
3	fluzifop-p-butyl	125 SN	500	G A/HA	POST	A	A	16	bc 3	bc 3
4	clopyralid	360 SN	200	G A/HA	POST	A	A	47	a 28	a 24
5	clopyralid	360 SN	400	G A/HA	POST	A	A	34	ab 19	ab 14
6	fluzifop-p-butyl	125 SN	250	G A/HA	POST	A	A	16	bc 25	a 15
6	clopyralid	360 SN	200	G A/HA	POST	A	A	16	bc 25	a 15
7	fluzifop-p-butyl	125 SN	500	G A/HA	POST	A	A	36	ab 14	abc 10
7	clopyralid	360 SN	400	G A/HA	POST	A	A	36	ab 14	abc 10
LSD (P=.05)								26.9	17.9	15.7
Standard Deviation								18.1	12.0	10.6
CV								85.16	94.86	113.67

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

WEED CONTROL AND CROP TOLERANCE OF CABBAGE TO POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02M1

Weed Code		Crop Code		BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated		Form		NONMAR	TOTAL	MARKET	NONMAR	TOTAL
Rating Data Type		Rate		AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT
Rating Unit		Type		KG	KG	KG	KG	KG
Rating Date		Rate		Aug-6-02	Aug-6-02	Aug-6-02	Aug-6-02	Aug-6-02
Crop Stage		Rate		WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE
Crop Stage Scale		Rate						
Weed Stage		Rate						
Weed Density, Unit		Rate						
Trt-Eval Interval		Rate		57 DAT	57 DAT	57 DAT	57 DAT	57 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code		
1	untreated check						0.2	a 0.3
2	fluazifop-p-butyl	125	SN	250	G A/HA	POST A	0.1	a 0.2
3	fluazifop-p-butyl	125	SN	500	G A/HA	POST A	0.1	a 0.2
4	clopyralid	360	SN	200	G A/HA	POST A	0.2	a 0.3
5	clopyralid	360	SN	400	G A/HA	POST A	0.1	a 0.4
6	fluazifop-p-butyl	125	SN	250	G A/HA	POST A	0.2	a 0.4
	clopyralid	360	SN	200	G A/HA	POST A		ab 1.2
7	fluazifop-p-butyl	125	SN	500	G A/HA	POST A	0.1	a 0.5
	clopyralid	360	SN	400	G A/HA	POST A		a 1.1
LSD (P=.05)							0.11	0.17
Standard Deviation							0.07	0.11
CV							51.11	35.56

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

Weed Code		Crop Code		BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated		Form		MARKET	MARKET	TOTAL	TOTAL	TOTAL
Rating Data Type		Rate		YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit		Type		T/HA	T/HA	T/HA	T/HA	T/HA
Rating Date		Rate		Aug-6-02	Aug-6-02	Aug-6-02	Aug-6-02	Aug-6-02
Crop Stage		Rate		WEEDY	WEEDFREE	WEEDY	WEEDFREE	WEEDFREE
Crop Stage Scale		Rate						
Weed Stage		Rate						
Weed Density, Unit		Rate						
Trt-Eval Interval		Rate		57 DAT	57 DAT	57 DAT	57 DAT	57 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code		
1	untreated check						1.8	b 15.6
2	fluazifop-p-butyl	125	SN	250	G A/HA	POST A	1.4	b 15.7
3	fluazifop-p-butyl	125	SN	500	G A/HA	POST A	2.1	b 14.8
4	clopyralid	360	SN	200	G A/HA	POST A	2.9	ab 15.3
5	clopyralid	360	SN	400	G A/HA	POST A	3.2	ab 14.4
6	fluazifop-p-butyl	125	SN	250	G A/HA	POST A	3.7	ab 12.8
	clopyralid	360	SN	200	G A/HA	POST A		a 4.7
7	fluazifop-p-butyl	125	SN	500	G A/HA	POST A	5.6	a 15.1
	clopyralid	360	SN	400	G A/HA	POST A		a 6.3
LSD (P=.05)							2.83	3.97
Standard Deviation							1.91	2.67
CV							64.84	18.04

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

Trial Comments

Conclusions: One half of this trial was kept weed-free to test for the effects of postemergence applications of fluazifop-p-butyl (250 and 500 g a.i. ha⁻¹), clopyralid (200 and 400 g a.i. ha⁻¹) and a tank mix of fluazifop-p-butyl+clopyralid (250+200 and 500+400 g a.i. ha⁻¹) on tolerance of cabbage. The remaining half of the plots were not hand-weeded to test for herbicide efficacy.

Fluazifop-p-butyl did not cause visual injury of cabbage, nor did it reduce cabbage head size, marketable yield, or total cabbage yield when applied at either rate.

Clopyralid did not cause visual injury of cabbage, nor did it reduce cabbage head size, marketable yield, or total cabbage yield when applied at either rate.

The tank mix of fluazifop-p-butyl+clopyralid did not cause visual injury of cabbage, nor did it reduce cabbage head size, marketable yield, or total cabbage yield when applied at either rate.

Fluazifop-p-butyl (250 g a.i. ha⁻¹) gave excellent season-long control of green foxtail when applied alone or in a tank mix with clopyralid. Clopyralid alone provided poor control of velvetleaf, redroot pigweed, common lamb's-quarters and green pigweed. Broadleaf weed control in the tank mix of fluazifop-p-butyl+clopyralid (250+200 g a.i. ha⁻¹) was not different from that of clopyralid alone, indicating that antagonism did not occur in this study.

TOLERANCE OF TRANSPLANTED BROCCOLI TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T1

CROP: BRSOK, BROCCOLI (PARAGON). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-28-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-B4.

Site Description: Soil Texture: LOAM. %OM: 6.36 %Sand: 52.4 %Silt: 29.6 %Clay: 18.0 pH: 7.5

APPLICATION DESCRIPTION STAGE AT APPLICATION
 Application: A Application: A
 Date : Jun-18-02 Crop 1 BRSOK 5 LF
 Time of Day: 9:15 AM Height : 14.5 CM
 Method : CO2 SPRAY
 Timing : POST Weed 1 ABUTH 3.3 CM
 Placement : FOLIAR Stg.Scale: 2 LF
 Air Temp. : 17.3 C Density : 5.5 SQ.M.
 % Humidity : 70 Weed 2 AMARE 1.2 CM
 Wind Speed : 4 KPH Stg.Scale: 2 LF
 Dew Present: Y Density : 6.5 SQ.M.
 Soil Moist.: WET Weed 3 AMBEL 2.6 CM
 Cloud Cover: 5% Stg.Scale: 2 LF
 Equipment : CO2 SPRAY Density : 11 SQ.M.
 Pressure : 207 kPa Weed 4 CHEAL 3.2 CM
 Nozzle Type: FLAT FAN Stg.Scale: 2 LF
 Nozzle Size: 8002 XR Density : 37.5 SQ.M.
 Noz.Spacing: 50 CM Weed 5 SETVI 5.4 CM
 Boom Length: 1.5 M Stg.Scale: 3 LF
 Boom Height: 50 CM Density : 18 SQ.M.
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
Part Rated				TOTAL	TOTAL	TOTAL
Rating Data Type	INJURY	INJURY	INJURY	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT
Rating Unit	%	%	%	G	G	G
Rating Date	Jun-25-02	Jul-2-02	Jul-15-02			
Crop Stage	7-9 LF	9-11 LF	13-15 LF			
Crop Stage Scale	16-25 CM	16-28 CM	30-45 CM			
Assessed By				PRIMARY	SECONDARY	COMBINED
Trt-Eval Interval	7 DAT	14 DAT	28 DAT			

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code												
1	untreated check							0	f	0	e	0	e	183.6	a	76.3	a	132.1	a
2	foramsulfuron	70	WG	70	G A/HA	POST	A	12	a-d	79	ab	100	a	0.0	b	0.0	c	0.0	b
	MSO		SO	1.75	L/HA	POST	A												
	UAN 28%		SO	2.5	L/HA	POST	A												
3	nicosulfuron	75	DF	25	G A/HA	POST	A	9	de	60	c	83	bc	24.6	b	52.1	ab	31.0	b
	Agral 90		SO	0.2	% V/V	POST	A												
4	rimsulfuron	25	DF	15	G A/HA	POST	A	11	b-e	69	bc	78	c	10.0	b	5.2	bc	6.8	b
	Agral 90		SO	0.2	% V/V	POST	A												
5	triflurosulfuron-methyl	50	DF	35	G A/HA	POST	A	8	e	13	de	8	de	195.6	a	70.9	a	132.6	a
	Agral 90		SO	0.25	% V/V	POST	A												
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	3	f	3	e	5	de	192.1	a	80.8	a	125.3	a
	Agral 90		SO	0.2	% V/V	POST	A												
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	11	cde	63	c	73	c	47.6	b	0.0	c	47.6	b
	Agral 90		SO	0.1	% V/V	POST	A												
	UAN 28%		SO	2	L/HA	POST	A												
8	foramsulfuron	70	WG	140	G A/HA	POST	A	15	ab	90	a	100	a	0.0	b	0.0	c	0.0	b
	MSO		SO	3.5	L/HA	POST	A												
	UAN 28%		SO	5	L/HA	POST	A												
9	nicosulfuron	75	DF	50	G A/HA	POST	A	14	abc	89	a	98	ab	52.5	b	0.0	c	52.5	b
	Agral 90		SO	0.4	% V/V	POST	A												
10	rimsulfuron	25	DF	30	G A/HA	POST	A	15	a	88	a	94	ab	0.0	b	0.0	c	0.0	b
	Agral 90		SO	0.4	% V/V	POST	A												
11	triflurosulfuron-methyl	50	DF	70	G A/HA	POST	A	13	a-d	22	d	18	d	177.0	a	53.3	ab	122.5	a
	Agral 90		SO	0.5	% V/V	POST	A												
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	3	f	15	de	17	d	160.7	a	93.6	a	134.0	a
	Agral 90		SO	0.4	% V/V	POST	A												
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	14	abc	75	abc	83	bc	0.0	b	0.0	c	0.0	b
	Agral 90		SO	0.2	% V/V	POST	A												
	UAN 28%		SO	4	L/HA	POST	A												
	LSD (P=.05)							3.9		16.1		15.5		82.35		48.95		68.85	
	Standard Deviation							2.7		11.3		10.9		57.63		34.25		48.18	
	CV							27.68		22.07		18.72		71.78		103.03		79.86	

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

TOLERANCE OF TRANSPLANTED BROCCOLI TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: C002T1

Crop Code BRSOK BRSOK BRSOK
 Part Rated TOTAL TOTAL TOTAL
 Rating Data Type YIELD YIELD YIELD
 Rating Unit T/HA T/HA T/HA
 Rating Date
 Crop Stage
 Crop Stage Scale
 Assessed By PRIMARY SECONDARY COMBINED
 Trt-Eval Interval

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code						
1	untreated check							2.8	a	1.2	ab	4.0	a
2	foramsulfuron	70	WG	70	G A/HA	POST	A	0.0	b	0.0	d	0.0	b
	MSO		SO	1.75	L/HA	POST	A						
	UAN 28%		SO	2.5	L/HA	POST	A						
3	nicosulfuron	75	DF	25	G A/HA	POST	A	0.2	b	0.1	cd	0.3	b
	Agral 90		SO	0.2	% V/V	POST	A						
4	rimsulfuron	25	DF	15	G A/HA	POST	A	0.0	b	0.0	d	0.1	b
	Agral 90		SO	0.2	% V/V	POST	A						
5	triflusulfuron-methyl	50	DF	35	G A/HA	POST	A	2.1	a	0.7	bc	2.9	a
	Agral 90		SO	0.25	% V/V	POST	A						
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	2.4	a	1.6	a	4.0	a
	Agral 90		SO	0.2	% V/V	POST	A						
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.1	b	0.0	d	0.1	b
	Agral 90		SO	0.1	% V/V	POST	A						
	UAN 28%		SO	2	L/HA	POST	A						
8	foramsulfuron	70	WG	140	G A/HA	POST	A	0.0	b	0.0	d	0.0	b
	MSO		SO	3.5	L/HA	POST	A						
	UAN 28%		SO	5	L/HA	POST	A						
9	nicosulfuron	75	DF	50	G A/HA	POST	A	0.1	b	0.0	d	0.1	b
	Agral 90		SO	0.4	% V/V	POST	A						
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0.0	b	0.0	d	0.0	b
	Agral 90		SO	0.4	% V/V	POST	A						
11	triflusulfuron-methyl	50	DF	70	G A/HA	POST	A	1.9	a	0.8	bc	2.6	a
	Agral 90		SO	0.5	% V/V	POST	A						
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	2.0	a	0.6	bcd	2.5	a
	Agral 90		SO	0.4	% V/V	POST	A						
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0.0	b	0.0	d	0.0	b
	Agral 90		SO	0.2	% V/V	POST	A						
	UAN 28%		SO	4	L/HA	POST	A						
LSD (P=.05)								0.98	0.70	1.49			
Standard Deviation								0.68	0.49	1.04			
CV								76.75	126.29	81.63			

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

Trial Comments

Conclusions: This trial was maintained weed-free to test for the tolerance of transplanted broccoli to a number of sulfonylurea herbicides. Foramsulfuron (70 and 140 g a.i. ha⁻¹), nicosulfuron (25 and 50 g a.i. ha⁻¹), rimsulfuron (15 and 30 g a.i. ha⁻¹), triflusulfuron-methyl (35 and 70 g a.i. ha⁻¹), ethametsulfuron-methyl (15 and 30 g a.i. ha⁻¹) and thifensulfuron-methyl (6 and 12 g a.i. ha⁻¹) were applied to broccoli 21 days after transplanting.

Foramsulfuron, nicosulfuron, rimsulfuron, triflusulfuron-methyl and thifensulfuron-methyl caused commercially unacceptable visual injury to transplanted broccoli at both the 1X and 2X labeled rates.

Ethametsulfuron-methyl did not cause commercially unacceptable injury at the 1X rate, but at the 2X rate, some injury was evident.

Ethametsulfuron-methyl did not reduce average head size of broccoli at the 1X or 2X rates.

Ethametsulfuron-methyl did not reduce marketable broccoli yields at the 1X or 2X rates. Total broccoli yield was reduced at the 2X rate due to a reduction in the number of secondary heads that formed.

TOLERANCE OF TRANSPLANTED CABBAGE TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T2

CROP: BRSOL, CABBAGE (ATLANTIS). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: May-28-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT - B3.

Site Description: Soil Texture: SILT LOAM. %OM: 5.62 %Sand: 50.0 %Silt: 31.6 %Clay: 18.4 pH: 6.9

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-18-02	Crop 1 BRSOL 6 LF
Time of Day: 8:40 AM	Height : 12.4 CM
Method : CO2 SPRAY	
Timing : POST	Weed 1 ABUTH 5.1 CM
Placement : FOLIAR	Stg.Scale: 3 LF
Air Temp. : 17.3 C	Density : 16 SQ.M.
% Humidity : 70	Weed 2 AMARE 2.7 CM
Wind Speed : 4 KPH	Stg.Scale: 1 LF
Dew Present: Y	Density : 8 SQ.M.
Soil Moist.: WET	Weed 3 AMBEL 3.0 CM
Cloud Cover: 5%	Stg.Scale: 2 LF
Equipment : CO2 SPRAY	Density : 9.5 SQ.M.
Pressure : 207 kPa	Weed 4 CHEAL 3.5 CM
Nozzle Type: FLAT FAN	Stg.Scale: 2 LF
Nozzle Size: 8002 XR	Density : 58.5 SQ.M.
Noz.Spacing: 50 CM	Weed 5 SETVI 6.1 CM
Boom Length: 1.5 M	Stg.Scale: 2 LF
Boom Height: 50 CM	Density : 59 SQ.M.
Carrier : WATER	
Appl.Volume: 200 L/HA	
Propellant : CO2	

Crop Code	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated				MARKET	NONMAR	TOTAL
Rating Data Type	INJURY	INJURY	INJURY	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT
Rating Unit	%	%	%	G	G	G
Rating Date	Jun-25-02	Jul-2-02	Jul-15-02	Aug-16-02	Aug-16-02	Aug-16-02
Crop Stage	10-12 LF	11-13 LF	12-13 LF			
Crop Stage Scale	13-20 CM	17-23 CM	23-26 CM			
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	59 DAT	59 DAT	59 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code										
1	untreated check							0	f	0	f	0	f	521.5	cd 236.1	ab 523.1	bc
2	foramsulfuron MSO	70	WG	70	G A/HA	POST	A	13	b	68	ab	94	a	0.0	e 0.0	e 0.0	e
	UAN 28%		SO	2.5	L/HA	POST	A										
3	nicosulfuron Agral 90	75	DF	25	G A/HA	POST	A	9	d	44	c	71	b	0.0	e 0.0	e 0.0	e
	Agral 90		SO	0.2	% V/V	POST	A										
4	rimsulfuron Agral 90	25	DF	15	G A/HA	POST	A	11	cd	21	d	28	e	0.0	e 132.1	cd 132.1	de
	Agral 90		SO	0.2	% V/V	POST	A										
5	triflusulfuron-methyl Agral 90	50	DF	35	G A/HA	POST	A	10	d	6	ef	7	f	714.2	bc 301.9	a 530.2	bc
	Agral 90		SO	0.25	% V/V	POST	A										
6	ethametsulfuron-methyl Agral 90	75	DF	15	G A/HA	POST	A	0	f	0	f	0	f	1011.6	a 307.9	a 804.3	a
	Agral 90		SO	0.2	% V/V	POST	A										
7	thifensulfuron-methyl Agral 90	75	DF	6	G A/HA	POST	A	12	bc	43	c	41	d	0.0	e 78.2	de 78.2	e
	Agral 90		SO	0.1	% V/V	POST	A										
	UAN 28%		SO	2	L/HA	POST	A										
8	foramsulfuron MSO	70	WG	140	G A/HA	POST	A	18	a	74	a	99	a	0.0	e 0.0	e 0.0	e
	UAN 28%		SO	3.5	L/HA	POST	A										
	UAN 28%		SO	5	L/HA	POST	A										
9	nicosulfuron Agral 90	75	DF	50	G A/HA	POST	A	14	b	63	b	91	a	0.0	e 0.0	e 0.0	e
	Agral 90		SO	0.4	% V/V	POST	A										
10	rimsulfuron Agral 90	25	DF	30	G A/HA	POST	A	17	a	58	b	53	cd	0.0	e 53.5	de 53.5	e
	Agral 90		SO	0.4	% V/V	POST	A										
11	triflusulfuron-methyl Agral 90	50	DF	70	G A/HA	POST	A	19	a	15	de	20	e	418.8	d 174.6	bc 341.8	cd
	Agral 90		SO	0.5	% V/V	POST	A										
12	ethametsulfuron-methyl Agral 90	75	DF	30	G A/HA	POST	A	4	e	3	f	4	f	952.6	ab 116.2	cd 708.6	ab
	Agral 90		SO	0.4	% V/V	POST	A										
13	thifensulfuron-methyl Agral 90	75	DF	12	G A/HA	POST	A	18	a	66	ab	63	bc	0.0	e 15.0	e 15.0	e
	Agral 90		SO	0.2	% V/V	POST	A										
	UAN 28%		SO	4	L/HA	POST	A										
	LSD (P=.05)							2.5		11.2		13.1		278.42	93.80	257.30	
	Standard Deviation							1.7		7.9		9.2		194.83	65.64	180.05	
	CV							15.6		22.28		20.95		69.99	60.28	73.45	

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

TOLERANCE OF TRANSPLANTED CABBAGE TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: C002T2

Crop Code	BRSOL	BRSOL
Part Rated	MARKET	MARKET
Rating Data Type	YIELD	YIELD
Rating Unit	T/HA	T/HA
Rating Date	Aug-16-02	Aug-16-02
Crop Stage		
Crop Stage Scale		
Trt-Eval Interval	59 DAT	59 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code			
1	untreated check							6.3	b	6.9 bc
2	foramsulfuron	70	WG	70	G A/HA	POST	A	0.0	c	0.0 d
	MSO		SO	1.75	L/HA	POST	A			
	UAN 28%		SO	2.5	L/HA	POST	A			
3	nicosulfuron	75	DF	25	G A/HA	POST	A	0.0	c	0.0 d
	Agral 90		SO	0.2	% V/V	POST	A			
4	rimsulfuron	25	DF	15	G A/HA	POST	A	0.0	c	1.0 d
	Agral 90		SO	0.2	% V/V	POST	A			
5	triflusulfuron-methyl	50	DF	35	G A/HA	POST	A	5.5	b	7.3 b
	Agral 90		SO	0.25	% V/V	POST	A			
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	12.0	a	13.6 a
	Agral 90		SO	0.2	% V/V	POST	A			
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.0	c	0.2 d
	Agral 90		SO	0.1	% V/V	POST	A			
	UAN 28%		SO	2	L/HA	POST	A			
8	foramsulfuron	70	WG	140	G A/HA	POST	A	0.0	c	0.0 d
	MSO		SO	3.5	L/HA	POST	A			
	UAN 28%		SO	5	L/HA	POST	A			
9	nicosulfuron	75	DF	50	G A/HA	POST	A	0.0	c	0.0 d
	Agral 90		SO	0.4	% V/V	POST	A			
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0.0	c	0.3 d
	Agral 90		SO	0.4	% V/V	POST	A			
11	triflusulfuron-methyl	50	DF	70	G A/HA	POST	A	0.7	c	3.0 cd
	Agral 90		SO	0.5	% V/V	POST	A			
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	6.9	b	7.5 b
	Agral 90		SO	0.4	% V/V	POST	A			
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0.0	c	0.1 d
	Agral 90		SO	0.2	% V/V	POST	A			
	UAN 28%		SO	4	L/HA	POST	A			
LSD (P=.05)								4.16		4.19
Standard Deviation								2.91		2.93
CV								120.18		95.68

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

Trial Comments

Conclusions: This trial was maintained weed-free to test for the tolerance of transplanted cabbage to a number of sulfonylurea herbicides. Foramsulfuron (70 and 140 g a.i. ha⁻¹), nicosulfuron (25 and 50 g a.i. ha⁻¹), rimsulfuron (15 and 30 g a.i. ha⁻¹), triflusulfuron-methyl (35 and 70 g a.i. ha⁻¹), ethametsulfuron-methyl (15 and 30 g a.i. ha⁻¹) and thifensulfuron-methyl (6 and 12 g a.i. ha⁻¹) were applied to cabbage 21 days after transplanting.

Foramsulfuron, nicosulfuron, rimsulfuron, triflusulfuron-methyl and thifensulfuron-methyl caused commercially unacceptable visual injury to transplanted cabbage at both the 1X and 2X labeled rates. Plants were stunted with twisted petioles and malformed leaves that showed chlorosis and/or purpling. Foramsulfuron, nicosulfuron and thifensulfuron-methyl nearly caused complete death of the cabbage plants, and no cabbage heads formed in these treatments at the 1X rate. Injury was great enough to prevent cabbage head production at the 2X rate of rimsulfuron.

Ethametsulfuron-methyl did not cause commercially significant visual injury to cabbage at either the 1X or 2X labeled rate.

The average head size of marketable cabbage was not less than the untreated check at both the 1X and 2X rate of ethametsulfuron. Total cabbage head size (i.e. marketable plus unmarketable cabbage) was not different in the ethametsulfuron-treated plots compared with the untreated check.

Marketable and total cabbage yields were not less in the ethametsulfuron-treated plots than in the untreated checks.

TOLERANCE OF TRANSPLANTED CAULIFLOWER TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T3

CROP: BRSOB, CAULIFLOWER (WENTWORTH). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width.
Planting Method: TRANSPLANT.

Emerged On: May-28-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT - B2.

Site Description: Soil Texture: SILT LOAM. %OM: 6.42 %Sand: 44.7 %Silt: 37.3 %Clay: 18.0 pH: 6.4

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-18-02	Crop 1 BRSOB 7 LF
Time of Day: 8:00 AM	Height : 10.5 CM
Method : CO2 SPRAY	
Timing : POST	Weed 1 ABUTH 4.4 CM
Placement : FOLIAR	Stg.Scale: 3 LF
Air Temp. : 15.0 C	Density : 8.5 SQ.M.
% Humidity : 81	Weed 2 AMARE 2.6 CM
Wind Speed : 3 KPH	Stg.Scale: 2 LF
Dew Present: Y	Density : 53 SQ.M.
Soil Moist.: WET	Weed 3 AMBEL 3.7 CM
Cloud Cover: 5%	Stg.Scale: 4 LF
Equipment : CO2 SPRAY	Density : 11 SQ.M.
Pressure : 207 kPa	Weed 4 CHEAL 4.1 CM
Nozzle Type: FLAT FAN	Stg.Scale: 7 LF
Nozzle Size: 8002 XR	Density : 44 SQ.M.
Noz.Spacing: 50 CM	Weed 5 POLPE 1.5 CM
Boom Length: 1.5 M	Stg.Scale: 3 LF
Boom Height: 50 CM	Density : 6.5 SQ.M.
Carrier : WATER	Weed 6 SETVI 9.2 CM
Appl.Volume: 200 L/HA	Stg.Scale: 3 LF
Propellant : CO2	Density : 98 SQ.M.

Crop Code	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB
Part Rated							
Rating Data Type	INJURY	INJURY	INJURY	AVG.HEAD.WT	MARKET	YIELD	TOTAL
Rating Unit	%	%	%	G	G	T/HA	
Rating Date	Jun-25-02	Jul-2-02	Jul-15-02	Oct-16-02	Oct-16-02	Oct-16-02	Oct-16-02
Crop Stage	8-10 LF	9-11 LF	11-13 LF	MARK+NON			MARK+NON
Crop Stage Scale	16-19 CM	19-26 CM	26-38 CM				
Trt-Eval Interval	7 DAT	14 DAT	18 DAT	120 DAT	120 DAT	120 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code												
1	untreated check							0	g	0	e	0	e	549.7	abc	745.4	ab	5.9	ab
2	foramsulfuron	70	WG	70	G A/HA	POST	A	43	cde	76	ab	99	a	0.0	e	0.0	d	0.0	c
	MSO		SO	1.75	L/HA	POST	A												
	UAN 28%		SO	2.5	L/HA	POST	A												
3	nicosulfuron	75	DF	25	G A/HA	POST	A	35	def	71	ab	95	a	0.0	e	0.0	d	0.0	c
	Agral 90		SO	0.2	% V/V	POST	A												
4	rimsulfuron	25	DF	15	G A/HA	POST	A	33	ef	68	b	71	bc	293.5	cde	0.0	d	0.4	c
	Agral 90		SO	0.2	% V/V	POST	A												
5	triflusulfuron-methyl	50	DF	35	G A/HA	POST	A	27	f	11	de	4	de	648.0	ab	1014.7	a	7.5	a
	Agral 90		SO	0.25	% V/V	POST	A												
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	2	g	4	e	5	de	788.8	a	972.4	a	8.7	a
	Agral 90		SO	0.2	% V/V	POST	A												
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	33	ef	74	ab	71	bc	118.8	de	0.0	d	0.2	c
	Agral 90		SO	0.1	% V/V	POST	A												
	UAN 28%		SO	2	L/HA	POST	A												
8	foramsulfuron	70	WG	140	G A/HA	POST	A	55	a	86	a	100	a	0.0	e	0.0	d	0.0	c
	MSO		SO	3.5	L/HA	POST	A												
	UAN 28%		SO	5	L/HA	POST	A												
9	nicosulfuron	75	DF	50	G A/HA	POST	A	48	abc	79	ab	100	a	0.0	e	0.0	d	0.0	c
	Agral 90		SO	0.4	% V/V	POST	A												
10	rimsulfuron	25	DF	30	G A/HA	POST	A	54	ab	84	ab	88	ab	218.8	cde	122.5	cd	0.3	c
	Agral 90		SO	0.4	% V/V	POST	A												
11	triflusulfuron-methyl	50	DF	70	G A/HA	POST	A	36	def	29	c	21	de	435.4	bcd	478.6	bc	2.5	bc
	Agral 90		SO	0.5	% V/V	POST	A												
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	6	g	22	cd	26	d	543.7	abc	761.4	ab	5.6	ab
	Agral 90		SO	0.4	% V/V	POST	A												
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	44	bcd	68	b	56	c	201.7	de	113.1	cd	0.3	c
	Agral 90		SO	0.2	% V/V	POST	A												
	UAN 28%		SO	4	L/HA	POST	A												
	LSD (P=.05)							10.6		18.1		22.6		338.36		431.37		4.47	
	Standard Deviation							7.4		12.6		15.8		236.77		301.85		3.13	
	CV							23.24		24.51		28.0		81.04		93.25		129.58	

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

TOLERANCE OF TRANSPLANTED CAULIFLOWER TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T3

Crop Code BRSOB
 Part Rated MARKET
 Rating Data Type YIELD
 Rating Unit T/HA
 Rating Date Oct-16-02
 Crop Stage
 Crop Stage Scale
 Trt-Eval Interval 120 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	untreated check							5.1	ab
2	foramsulfuron	70	WG	70	G A/HA	POST	A	0.0	c
	MSO		SO	1.75	L/HA	POST	A		
	UAN 28%		SO	2.5	L/HA	POST	A		
3	nicosulfuron	75	DF	25	G A/HA	POST	A	0.0	c
	Agral 90		SO	0.2	% V/V	POST	A		
4	rimsulfuron	25	DF	15	G A/HA	POST	A	0.0	c
	Agral 90		SO	0.2	% V/V	POST	A		
5	triflusulfuron-methyl	50	DF	35	G A/HA	POST	A	6.1	a
	Agral 90		SO	0.25	% V/V	POST	A		
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	7.6	a
	Agral 90		SO	0.2	% V/V	POST	A		
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.0	c
	Agral 90		SO	0.1	% V/V	POST	A		
	UAN 28%		SO	2	L/HA	POST	A		
8	foramsulfuron	70	WG	140	G A/HA	POST	A	0.0	c
	MSO		SO	3.5	L/HA	POST	A		
	UAN 28%		SO	5	L/HA	POST	A		
9	nicosulfuron	75	DF	50	G A/HA	POST	A	0.0	c
	Agral 90		SO	0.4	% V/V	POST	A		
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0.1	c
	Agral 90		SO	0.4	% V/V	POST	A		
11	triflusulfuron-methyl	50	DF	70	G A/HA	POST	A	1.7	bc
	Agral 90		SO	0.5	% V/V	POST	A		
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	4.8	ab
	Agral 90		SO	0.4	% V/V	POST	A		
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0.2	c
	Agral 90		SO	0.2	% V/V	POST	A		
	UAN 28%		SO	4	L/HA	POST	A		
LSD (P=.05)								4.33	
Standard Deviation								3.03	
CV								153.68	

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

Trial Comments

Conclusions: This trial was maintained weed-free to test for the tolerance of transplanted cauliflower to a number of sulfonylurea herbicides. Foramsulfuron (70 and 140 g a.i. ha⁻¹), nicosulfuron (25 and 50 g a.i. ha⁻¹), rimsulfuron (15 and 30 g a.i. ha⁻¹), triflusulfuron-methyl (35 and 70 g a.i. ha⁻¹), ethametsulfuron-methyl (15 and 30 g a.i. ha⁻¹) and thifensulfuron-methyl (6 and 12 g a.i. ha⁻¹) were applied to cabbage 21 days after transplanting (DAT).

Significant injury to cauliflower was observed 7, 14 and 28 DAT in the foramsulfuron (70 and 140 g a.i. ha⁻¹), nicosulfuron (25 and 50 g a.i. ha⁻¹), rimsulfuron (15 and 30 g a.i. ha⁻¹) and thifensulfuron-methyl (6 and 12 g a.i. ha⁻¹) treatments. Visual symptoms ranged from chlorosis to reddening of new growing tissues, stunting, leaf distortion and petiole etiolation. Cauliflower did not produce any marketable yield in these treatments.

Triflusulfuron-methyl (35 and 70 g a.i. ha⁻¹) caused commercially unacceptable injury to cauliflower 7 and 14 DAT. Plants were stunted and leaf distortion was apparent, and though marketable heads were produced, yields were less than the untreated check.

Ethametsulfuron-methyl did not cause commercially unacceptable visual injury at 15 g a.i. ha⁻¹. At twice the label rate of ethametsulfuron-methyl (30 g a.i. ha⁻¹) however, significant visual injury was observed at 14 and 28 DAT. Despite the visual injury, marketable head weight and marketable yields in both ethametsulfuron-methyl (15 and 30 g a.i. ha⁻¹) treatments were not less than the untreated check.

PREFAR APPLIED PREPLANT INCORPORATED IN BROCCOLI

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T4

CROP: BRSOK, BROCCOLI (PARAGON). Planted: May-28-02, 15000 PLANTS/HA, 1.5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: May-28-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT - B1.

Site Description: Soil Texture: SILT LOAM. %OM: 6.99 %Sand: 49.9 %Silt: 34.7 %Clay: 15.4 pH: 6.1

APPLICATION DESCRIPTION

Application:	A	B
Date	May-28-02	May-28-02
Time of Day	6:45 AM	6:55 AM
Method	CO2 SPRAY	CO2 SPRAY
Timing	PPI	PRE
Placement	SOIL	SOIL
Air Temp.	12.5 C	12.5 C
% Humidity	52	52
Wind Speed	5 KPH	5 KPH
Dew Present	Y	Y
Soil Moist.	DRY	DRY
Cloud Cover	5%	5%
Equipment	CO2 SPRAY	CO2 SPRAY
Pressure	207 kPa	207 kPa
Nozzle Type	FLAT FAN	FLAT FAN
Nozzle Size	8002 XR	8002 XR
Noz.Spacing	50 CM	50 CM
Boom Length	1.5 M	1.5 M
Boom Height	50 CM	50 CM
Carrier	WATER	WATER
Appl.Volume	200 L/HA	200 L/HA
Propellant	CO2	CO2

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
ABUTH	AMARE	AMBEL	CHEAL	SOLPT						
INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL		
%	%	%	%	%	%	%	%	%		
Jun-14-02	Jun-11-02	Jun-25-02	Jun-25-02	Jun-25-02	Jun-25-02	Jun-25-02	Jun-25-02	Jun-25-02		
1-2 LF	5-6 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF		
6-8 CM	9-14 CM	16-25 CM	16-25 CM	16-25 CM	16-25 CM	16-25 CM	16-25 CM	16-25 CM		
			5 LF	3 LF	3 LF	6 LF	3 LF	3 LF		
			5.5 SQ.M.	13.5SQ.M.	19 SQ.M.	24.5SQ.M.	75 SQ.M.	3 LF		
7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code			
1	untreated check							0	c	0
2	bensulide	480	EC	6720	G A/HA	PPI	A	1	b	0
3	bensulide	480	EC	13440	G A/HA	PPI	A	1	ab	0
4	bensulide	480	EC	6720	G A/HA	PPI	A	1	ab	0
	napropamide	50	DF	2250	G A/HA	PRE-T	B			
5	napropamide	50	DF	2250	G A/HA	PRE-T	B	1	a	0
								a	18	
								ab	59	
								ab	31	
								a	63	
								b	33	
								a		
	LSD (P=.05)							0.5	0.0	0.0
	Standard Deviation							7.1	12.7	12.6
	CV							4.6	8.2	8.2
								30.38	19.25	36.75
								8.7	16.0	10.4
								5.7	10.4	48.36

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

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
SETVI	ABUTH	AMARE	AMBEL	CHEAL	SOLPT	SETVI				
BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL		
%	%	%	%	%	%	%	%	%		
Jun-25-02	Jul-23-02	Jul-23-02	Jul-23-02	Jul-23-02	Jul-23-02	Jul-23-02	Jul-23-02	Jul-23-02		
7-9 LF	14-15 LF	14-15 LF	14-15 LF	14-15 LF	14-15 LF	14-15 LF	14-15 LF	7-9 LF		
16-25 CM	40-44 CM	40-44 CM	40-44 CM	40-44 CM	40-44 CM	40-44 CM	40-44 CM	40-44 CM		
3 LF	5 LF	10 LF	12 LF	12 LF	4 LF	6 LF				
79.5SQ.M.	15 SQ.M.	10 SQ.M.	14 SQ.M.	33 SQ.M.	83 SQ.M.	72.5SQ.M.				
28 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code			
1	untreated check							0	c	0
2	bensulide	480	EC	6720	G A/HA	PPI	A	59	ab	0
3	bensulide	480	EC	13440	G A/HA	PPI	A	73	a	0
4	bensulide	480	EC	6720	G A/HA	PPI	A	69	ab	0
	napropamide	50	DF	2250	G A/HA	PRE-T	B			
5	napropamide	50	DF	2250	G A/HA	PRE-T	B	50	b	0
								a	18	
								b	4	
								a	43	
								ab	6	
								a	43	
								a		
	LSD (P=.05)							20.7	0.0	14.8
	Standard Deviation							12.5	14.8	5.2
	CV							8.1	9.6	3.4
								249.65	26.5	123.09
								13.1	35.77	

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

PREFAR APPLIED PREPLANT INCORPORATED IN BROCCOLI

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: C002T4

								BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
								WEEDY	WEEDFR	WEEDY	WEEDFR	WEEDY
								AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT
								G	G	G	G	G
								PRIMARY	PRIMARY	SECONDRY	SECONDRY	COMBINED
								TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code						
1	untreated check						137.4	b 214.9	a 25.0	a 100.8	a 127.3	b
2	bensulide	480	EC	6720	G A/HA	PPI A	149.0	ab 200.4	a 24.4	a 103.3	a 138.2	ab
3	bensulide	480	EC	13440	G A/HA	PPI A	166.4	ab 221.2	a 78.5	a 99.1	a 146.2	ab
4	bensulide	480	EC	6720	G A/HA	PPI A	199.0	a 240.8	a 26.4	a 101.6	a 173.0	a
	napropamide	50	DF	2250	G A/HA	PRE-T B						
5	napropamide	50	DF	2250	G A/HA	PRE-T B	182.5	ab 218.8	a 25.1	a 117.8	a 141.7	ab
LSD (P=.05)							54.00	54.81	54.51	30.02	44.89	
Standard Deviation							35.05	35.57	35.38	19.48	29.13	
CV							21.0	16.23	98.58	18.64	20.05	

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

								BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
								WEEDFR	WEEDY	WEEDFR	WEEDY	WEEDFR	WEEDY	WEEDFR
								AVG.HEAD WT	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
								G	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA
								COMBINED	PRIMARY	PRIMARY	SECONDRY	SECONDRY	COMBINED	COMBINED
								TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code								
1	untreated check						143.9	ab 1.5	c 3.3	a 0.1	a 2.5	ab 1.6	b 5.8	a
2	bensulide	480	EC	6720	G A/HA	PPI A	144.0	ab 2.1	bc 3.3	a 0.2	a 2.2	b 2.3	ab 5.5	a
3	bensulide	480	EC	13440	G A/HA	PPI A	134.8	b 2.1	bc 3.6	a 0.3	a 3.9	a 2.3	ab 7.5	a
4	bensulide	480	EC	6720	G A/HA	PPI A	144.7	ab 3.0	a 3.5	a 0.2	a 3.4	ab 3.1	a 6.9	a
	napropamide	50	DF	2250	G A/HA	PRE-T B								
5	napropamide	50	DF	2250	G A/HA	PRE-T B	167.3	a 2.4	ab 3.4	a 0.2	a 2.8	ab 2.6	ab 6.3	a
LSD (P=.05)							30.56	0.78	0.97	0.34	1.61	1.04	2.04	
Standard Deviation							19.83	0.51	0.63	0.22	1.05	0.68	1.33	
CV							13.5	22.94	18.35	118.63	35.53	28.15	20.79	

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

Trial Comments

Conclusions: One half of each plot was kept weed-free to test for the effects of pre-plant applications of bensulide (6720 and 13440 g a.i. ha⁻¹), napropamide (2250 g a.i. ha⁻¹) and a tank mix of bensulide+napropamide (6720+2250 g a.i. ha⁻¹) on tolerance of transplanted broccoli. The remaining half of each plot was not hand-weeded to test for herbicide efficacy.

We did not observe any commercially significant injury, reduction in primary or secondary head size or reduction in marketable yield in the weed free portion of any of the treatments.

Control of velvetleaf, common ragweed, and eastern black nightshade was poor at the 1X rate of bensulide, napropamide and in the tank mix of bensulide+napropamide.

Control of redroot pigweed, common lamb's-quarters and green foxtail was fair to good in the bensulide+napropamide tank mix. As a result of improved common lamb's-quarters control, broccoli yields were greater in the bensulide+napropamide tank mix treatment than in the untreated weedy check.

PREFAR APPLIED PREPLANT INCORPORATED IN CABBAGE

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T5

CROP: BRSOL, CABBAGE (ATLANTIS). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: May-28-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-B2.

Site Description: Soil Texture: SILT LOAM. %OM: 6.42 %Sand: 44.7 %Silt: 37.3 %Clay: 18.0 pH: 6.4

APPLICATION DESCRIPTION

Application:	A	B
Date	: May-28-02	May-28-02
Time of Day	: 6:30 AM	6:40 AM
Method	: CO2 SPRAY	CO2 SPRAY
Timing	: PPI	PRE
Placement	: SOIL	SOIL
Air Temp.	: 12.5 C	12.5 C
% Humidity	: 52	52
Wind Speed	: 5 KPH	5 KPH
Dew Present	: Y	Y
Soil Moist.	: DRY	DRY
Cloud Cover	: 5%	5%
Equipment	: CO2 SPRAY	CO2 SPRAY
Pressure	: 207 kPa	207 kPa
Nozzle Type	: FLAT FAN	FLAT FAN
Nozzle Size	: 8002 XR	8002 XR
Noz.Spacing	: 50 CM	50 CM
Boom Length	: 1.5 M	1.5 M
Boom Height	: 50 CM	50 CM
Carrier	: WATER	WATER
Appl.Volume	: 200 L/HA	200 L/HA
Propellant	: CO2	CO2

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
BRSOL	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	3 LF	16 SQ.M.	28 DAE
ABUTH	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	3 LF	11.5SQ.M.	28 DAE
AMARE	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	3 LF	16.5SQ.M.	28 DAE
AMBEL	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	4 LF	35.5SQ.M.	28 DAE
CHEAL	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	4 LF		28 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	0	a	a	a	c	b	c
1	untreated check							0	a 0	a 0	a 0	c 0	c 0	b 0
2	bensulide	480	EC	6720	G A/HA	PPI	A	0	a 0	a 0	a 16	b 70	ab 41	a 70
3	bensulide	480	EC	13440	G A/HA	PPI	A	0	a 0	a 0	a 18	b 79	a 45	a 75
4	bensulide	480	EC	6720	G A/HA	PPI	A	0	a 0	a 0	a 35	a 73	ab 46	a 85
5	napropamide	50	DF	2250	G A/HA	PRE-T	B	0	a 0	a 0	a 28	ab 64	b 38	a 68
	LSD (P=.05)							0.0	0.0	0.0	15.7	10.2	13.1	8.1
	Standard Deviation							0.0	0.0	0.0	10.2	6.6	8.5	5.2
	CV							0.0	0.0	0.0	52.91	11.62	25.08	8.81

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

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
POLPE	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	6 LF	10.5SQ.M.	28 DAE
SOLPT	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	1 LF	36.5SQ.M.	28 DAE
SETVI	BRSOL	BRSOL	CONTROL	%	Jun-25-02	11-14 LF	10-16 CM	5 LF	47 SQ.M.	28 DAE
ABUTH	BRSOL	BRSOL	CONTROL	%	Jul-23-02	HEADING	28-34 CM	6 LF	15.5SQ.M.	56 DAE
AMARE	BRSOL	BRSOL	CONTROL	%	Jul-23-02	HEADING	28-34 CM	8 LF	15.5SQ.M.	56 DAE
AMBEL	BRSOL	BRSOL	CONTROL	%	Jul-23-02	HEADING	28-34 CM	8 LF	6 SQ.M.	56 DAE
CHEAL	BRSOL	BRSOL	CONTROL	%	Jul-23-02	HEADING	28-34 CM	10 LF	38 SQ.M.	56 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	0	b	c	c	a	b	a
1	untreated check							0	b 0	c 0	c 0	a 0	b 0	a 0
2	bensulide	480	EC	6720	G A/HA	PPI	A	53	a 35	ab 78	a 0	a 33	a 5	a 49
3	bensulide	480	EC	13440	G A/HA	PPI	A	63	a 34	b 85	a 3	a 44	a 3	a 49
4	bensulide	480	EC	6720	G A/HA	PPI	A	63	a 45	a 88	a 3	a 53	a 4	a 59
5	napropamide	50	DF	2250	G A/HA	PRE-T	B	60	a 43	ab 59	b 3	a 33	a 6	a 55
	LSD (P=.05)							10.5	10.9	11.5	5.8	24.5	9.3	15.0
	Standard Deviation							6.8	7.1	7.4	3.8	15.9	6.0	9.7
	CV							14.38	22.63	12.06	250.92	49.27	172.52	22.99

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

PREFAR APPLIED PREPLANT INCORPORATED IN CABBAGE

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: C002T5

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code	POLPE	SOLPT	SETVI	MARKET	NONMAR	TOTAL	
1	untreated check						0	b 0	a 0	c 88.9	b 112.5	a 201.4	b
2	bensulide	480	EC	6720	G A/HA	PPI A	6	b 3	a 65	a 178.1	ab 306.6	a 327.7	ab
3	bensulide	480	EC	13440	G A/HA	PPI A	6	b 0	a 69	a 484.9	a 294.0	a 451.4	a
4	bensulide	480	EC	6720	G A/HA	PPI A	15	a 3	a 71	a 145.9	b 332.5	a 478.4	a
	napropamide	50	DF	2250	G A/HA	PRE-T B							
5	napropamide	50	DF	2250	G A/HA	PRE-T B	14	a 4	a 21	b 185.6	ab 202.1	a 360.2	ab
LSD (P=.05)							6.3	4.1	13.2	331.05	228.35	178.29	
Standard Deviation							4.1	2.7	8.6	214.86	148.20	115.71	
CV							49.79	152.08	18.95	99.15	59.39	31.81	

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

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code	BRSOL MARKET	BRSOL NONMAR	BRSOL TOTAL	BRSOL MARKET	BRSOL MARKET	BRSOL TOTAL	BRSOL TOTAL
1	untreated check						1263.7	ab 190.3	a 1108.5	ab 1.0	ab 16.0	a 2.3	b 16.6
2	bensulide	480	EC	6720	G A/HA	PPI A	1235.1	b 170.0	a 1009.8	b 0.6	b 15.4	a 3.6	ab 15.9
3	bensulide	480	EC	13440	G A/HA	PPI A	1427.3	a 95.6	a 1299.8	a 2.4	a 17.3	a 5.1	a 17.7
4	bensulide	480	EC	6720	G A/HA	PPI A	1261.4	ab 181.9	a 1158.5	ab 1.7	ab 16.8	a 5.6	a 17.4
	napropamide	50	DF	2250	G A/HA	PRE-T B							
5	napropamide	50	DF	2250	G A/HA	PRE-T B	1200.3	b 80.4	a 1099.4	b 1.9	ab 15.1	a 4.0	ab 15.4
LSD (P=.05)							173.49	246.47	197.63	1.74	3.20	2.14	2.72
Standard Deviation							112.60	159.97	128.26	1.13	2.07	1.39	1.76
CV							8.81	111.36	11.3	74.74	12.86	33.71	10.63

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

Trial Comments

Conclusions: One half of each plot was kept weed-free to test for the effects of pre-plant applications of bensulide (6720 and 13440 g a.i. ha⁻¹), napropamide (2250 g a.i. ha⁻¹) and a tank mix of bensulide+napropamide (6720+2250 g a.i. ha⁻¹) on tolerance of transplanted cabbage. The remaining half of each plot was not hand-weeded to test for herbicide efficacy.

Bensulide applied at 1X or 2X the anticipated registered rate, with or without napropamide, did not cause visual injury to the cabbage. In the weed free treatments, neither head size nor marketable yield was reduced by any of the herbicide treatments when compared with the untreated check.

At 28 days after transplanting, the bensulide+napropamide tank mix provided good control of lambsquarters and green foxtail, and fair control of redroot pigweed and lady's thumb. Poor control of velvetleaf, common ragweed and eastern black nightshade was observed in all treatments. By 56 days after transplanting, control of common lamb's-quarters, redroot pigweed, lady's thumb, common ragweed and eastern black nightshade was poor. Green foxtail control was fair at 56 days after transplanting.

In the weedy portion of the trial, broccoli yield was greater in the bensulide+napropamide tank mix than in the untreated check.

PREFAR APPLIED PREPLANT INCORPORATED IN CAULIFLOWER

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T6

CROP: BR SOB, CAULIFLOWER (WENTWORTH). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width.

Planting Method: TRANSPLANT.

Emerged On: May-28-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-B2.

Site Description: Soil Texture: SILT LOAM. %OM: 6.42 %Sand: 44.7 %Silt: 37.3 %Clay: 18.0 pH: 6.4

APPLICATION DESCRIPTION

Application:	A	B
Date :	May-28-02	May-28-02
Time of Day :	6:00 AM	6:20 AM
Method :	CO2 SPRAY	CO2 SPRAY
Timing :	PPI	PRE
Placement :	SOIL	SOIL
Air Temp. :	12.5 C	12.5 C
% Humidity :	52	52
Wind Speed :	5 KPH	5 KPH
Dew Present :	Y	Y
Soil Moist.:	DRY	DRY
Cloud Cover:	5%	5%
Equipment :	CO2 SPRAY	CO2 SPRAY
Pressure :	207 kPa	207 kPa
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	8002 XR	8002 XR
Noz.Spacing:	50 CM	50 CM
Boom Length:	1.5 M	1.5 M
Boom Height:	50 CM	50 CM
Carrier :	WATER	WATER
Appl.Volume:	200 L/HA	200 L/HA
Propellant :	CO2	CO2

Weed Code					ABUTH	AMARE	AMBEL	CHEAL
Crop Code		BR SOB	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB
Part Rated								
Rating Data Type		INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date		Jun-4-02	Jun-11-02	Jun-25-02	Jun-25-02	Jun-25-02	Jun-25-02	Jun-25-02
Crop Stage		3-4 LF	4-6 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF
Crop Stage Scale		8-10 CM	9-12 CM	9-15 CM	9-15 CM	9-15 CM	9-15 CM	9-15 CM
Weed Stage					2 LF	2 LF	3 LF	4 LF
Weed Density, Unit					21.5SQ.M.	9.5 SQ.M.	11.5SQ.M.	41 SQ.M.
Trt-Eval Interval		7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Stg	Appl Code							
1	untreated check							0	b 0	a 0	a 0	b 0	c 0	c
2	bensulide	480	EC	6720	G A/HA	PPI	A	0	ab 0	a 0	a 15	ab 55	b 21	b 50
3	bensulide	480	EC	13440	G A/HA	PPI	A	1	a 0	a 0	a 0	b 81	a 31	ab 79
4	bensulide	480	EC	6720	G A/HA	PPI	A	0	ab 0	a 0	a 30	a 76	a 36	a 81
5	napropamide	50	DF	2250	G A/HA	PRE-T	B							
5	napropamide	50	DF	2250	G A/HA	PRE-T	B	1	ab 0	a 0	a 20	a 56	b 35	a 64
LSD (P=.05)								0.5	0.0	0.0	19.5	19.0	13.3	18.6
Standard Deviation								0.4	0.0	0.0	12.6	12.4	8.6	12.1
CV								101.02	0.0	0.0	97.3	22.99	34.84	22.07

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

Weed Code	POLPE	SOLPT	SETVI	ABUTH	AMARE	AMBEL	CHEAL
Crop Code	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jun-25-02	Jun-25-02	Jun-25-02	Jul-23-02	Jul-23-02	Jul-23-02	Jul-23-02
Crop Stage	7-9 LF	7-9 LF	7-9 LF	11-15 LF	11-15 LF	11-15 LF	11-15 LF
Crop Stage Scale	9-15 CM	9-15 CM	9-15 CM	34-40 CM	34-40 CM	34-40 CM	34-40 CM
Weed Stage	3 LF	2 LF	4 LF	4 LF	9 LF	9 LF	12 LF
Weed Density, Unit	23 SQ.M.	17 SQ.M.	44 SQ.M.	14 SQ.M.	11 SQ.M.	10.5SQ.M.	41.5SQ.M.
Trt-Eval Interval	28 DAE	28 DAE	28 DAE	56 DAE	56 DAE	56 DAE	56 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Stg	Appl Code							
1	untreated check							0	c 0	b 0	c 0	a 0	b 0	c
2	bensulide	480	EC	6720	G A/HA	PPI	A	56	b 48	a 55	ab 0	a 18	ab 4	ab 23
3	bensulide	480	EC	13440	G A/HA	PPI	A	60	b 46	a 80	a 0	a 26	a 8	ab 46
4	bensulide	480	EC	6720	G A/HA	PPI	A	73	a 45	a 83	a 0	a 35	a 16	a 55
	napropamide	50	DF	2250	G A/HA	PRE-T	B							
5	napropamide	50	DF	2250	G A/HA	PRE-T	B	61	b 40	a 40	b 0	a 23	a 15	ab 43
LSD (P=.05)								9.8	13.2	35.6	0.0	21.5	15.1	17.1
Standard Deviation								6.3	8.6	23.1	0.0	13.9	9.8	11.1
CV								12.68	23.95	44.84	0.0	68.89	115.54	33.34

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

PREFAR APPLIED PREPLANT INCORPORATED IN CAULIFLOWER

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: C002T6

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code	POLPE	SOLPT	SETVI	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	
1	untreated check						0	b 0	a 0	c 682.2	a 976.8	ab 8.4	a			
2	bensulide	480	EC	6720	G A/HA	PPI A	14	ab 13	a 48	ab 743.8	a 976.0	ab 7.9	a			
3	bensulide	480	EC	13440	G A/HA	PPI A	23	a 9	a 66	a 802.2	a 1010.6	a 8.8	a			
4	bensulide	480	EC	6720	G A/HA	PPI A	25	a 13	a 64	ab 712.3	a 953.1	ab 7.5	a			
	napropamide	50	DF	2250	G A/HA	PRE-T B										
5	napropamide	50	DF	2250	G A/HA	PRE-T B	24	a 11	a 40	b 652.9	a 670.4	b 6.7	a			
LSD (P=.05)							16.8	12.8	25.2	254.47	332.02	4.19				
Standard Deviation							10.9	8.3	16.3	165.16	215.49	2.72				
CV							64.05	92.27	37.58	22.98	23.49	34.67				

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

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code	WEEDFREE
1	untreated check						7.0 a
2	bensulide	480	EC	6720	G A/HA	PPI A	6.2 a
3	bensulide	480	EC	13440	G A/HA	PPI A	8.2 a
4	bensulide	480	EC	6720	G A/HA	PPI A	6.1 a
	napropamide	50	DF	2250	G A/HA	PRE-T B	
5	napropamide	50	DF	2250	G A/HA	PRE-T B	5.3 a
LSD (P=.05)							4.63
Standard Deviation							3.00
CV							45.88

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

Trial Comments

Conclusions: One half of each plot was kept weed-free to test for the effects of pre-plant applications of bensulide (6720 and 13440 g a.i. ha⁻¹), napropamide (2250 g a.i. ha⁻¹) and a tank mix of bensulide+napropamide (6720+2250 g a.i. ha⁻¹) on tolerance of transplanted cauliflower. The remaining half of each plot was not hand-weeded to test for herbicide efficacy.

None of the treatments caused commercially unacceptable injury to cauliflower.

The tank mix of bensulide+napropamide (6720+2250 g a.i. ha⁻¹) gave fair control of redroot pigweed and lady's thumb, and good control of common lamb's-quarters and green foxtail by 26 days after transplanting (DAE). None of the treatments gave commercially acceptable control of velvetleaf, common ragweed or eastern black nightshade. The low level of precipitation during the summer may not have provided adequate moisture for herbicide uptake, and late emerging weeds were not controlled.

Marketable and total head weight, and marketable and total yields were not less in the treated plots than in the untreated check.

EFFECT OF APPLICATION TIMING ON TOLERANCE OF TRANSPLANTED CABBAGE TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO02T7

CROP: BRSOL, CABBAGE (ATLANTIS). Planted: May-28-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
Emerged On: May-28-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-B1.

Site Description: Soil Texture: SILT LOAM. %OM: 6.99 %Sand: 49.9 %Silt: 34.7 %Clay: 15.4 pH: 6.1

APPLICATION DESCRIPTION				STAGE AT APPLICATION					
Application:	A	B	C	D	Application:	A	B	C	D
Date	Jun-4-02	Jun-10-02	Jun-18-02	Jun-24-02	Crop 1 BRSOL	4 LF	5 LF	7 LF	8 LF
Time of Day	5:50 PM	9:15 PM	8:35 AM	8:25 AM	Height	8 CM	10.8 CM	13.4 CM	17.6 CM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 1 ABUTH	0.5 CM	2.9 CM	4.2 CM	4.5 CM
Timing	POST	POST	POST	POST	Stg.Scale:	COTYLEDON	1 LF	3 LF	4 LF
Placement	FOLIAR	FOLIAR	FOLIAR	FOLIAR	Density	8 SQ.M.	13 SQ.M.	8.5 SQ.M.	4.5 SQ.M.
Air Temp.	20.1 C	18.8 C	15.0 C	28.9 C	Weed 2 AMARE	0.5 CM	0.8 CM	3.2 CM	4 CM
% Humidity	64	72	81	63	Stg.Scale:	COTYLEDON	COTYLEDON	3 LF	4 LF
Wind Speed	4 KPH	5 KPH	0 KPH	0 KPH	Density	7.5 SQ.M.	18 SQ.M.	17.5 SQ.M.	18 SQ.M.
Dew Present	N	Y	Y	N	Weed 3 CHEAL	0.8 CM	1.1 CM	6.2 CM	6.5 CM
Soil Moist.	MOIST	DRY	WET	DRY	Stg.Scale:	COTYLEDON	2 LF	3 LF	4 LF
Cloud Cover	85%	0%	5%	5%	Density	35 SQ.M.	42 SQ.M.	2.5 SQ.M.	4.5 SQ.M.
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 4 SOLPT	0.6 CM	0.6 CM	1.2 CM	2.3 CM
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	Stg.Scale:	COTYLEDON	2 LF	2 LF	2 LF
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	Density	34 SQ.M.	30 SQ.M.	30 SQ.M.	20 SQ.M.
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	Weed 5 SETVI	0.6 CM	1.7 CM	5.9 CM	12.4 CM
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	Stg.Scale:	1 LF	2 LF	3 LF	4 LF
Boom Length	1.5 M	1.5 M	1.5 M	1.5 M	Density	32 SQ.M.	36 SQ.M.	45 SQ.M.	35 SQ.M.
Boom Height	50 CM	50 CM	50 CM	50 CM					
Carrier	WATER	WATER	WATER	WATER					
Appl.Volume	200 L/HA	200 L/HA	200 L/HA	200 L/HA					
Propellant	CO2	CO2	CO2	CO2					

Crop Code	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Rating Data Type	INJURY	INJURY	INJURY	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT
Rating Unit	%	%	%	KG	KG	KG
Rating Date	Jun-11-02	Jun-18-02	Jul-2-02	Aug-15-02	Aug-15-02	Aug-15-02
Crop Stage	4-5 LF	6-8 LF	8-11 LF	MARKET	NON-MARK	TOTAL
Crop Stage Scale	9-12 CM	8-15 CM	15-25 CM			
Trt-Eval Interval	7 DAT	14 DAT	28 DAT			

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check							0	b	0	c	0	c	1.2
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST 1	A	4	b	4	bc	7	bc	1.0
	Agral 90		SO	0.1	% V/V	POST 1	A							
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST 2	B	4	ab	9	abc	21	ab	0.2
	Agral 90		SO	0.1	% V/V	POST 2	B							
4	thifensulfuron-methyl	75	DF	6	G A/HA	POST 3	C	11	ab	23	a	30	a	0.0
	Agral 90		SO	0.1	% V/V	POST 3	C							
5	thifensulfuron-methyl	75	DF	6	G A/HA	POST 4	D	25	a	19	ab	37	a	0.0
	Agral 90		SO	0.1	% V/V	POST 4	D							

LSD (P=.05)	21.5	17.4	18.2	0.39	0.07	0.26
Standard Deviation	14.0	11.3	11.8	0.25	0.05	0.17
CV	158.7	103.31	61.88	55.19	37.86	62.8

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

Crop Code	BRSOL	BRSOL
Rating Data Type	YIELD	YIELD
Rating Unit	T/HA	T/HA
Rating Date	Aug-15-02	Aug-15-02
Crop Stage	MARKET	TOTAL

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	13	14
1	untreated check							9.1	a 10.8
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST 1	A	4.7	b 7.8
	Agral 90		SO	0.1	% V/V	POST 1	A		
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST 2	B	0.1	c 0.9
	Agral 90		SO	0.1	% V/V	POST 2	B		
4	thifensulfuron-methyl	75	DF	6	G A/HA	POST 3	C	0.0	c 0.1
	Agral 90		SO	0.1	% V/V	POST 3	C		
5	thifensulfuron-methyl	75	DF	6	G A/HA	POST 4	D	0.0	c 0.5
	Agral 90		SO	0.1	% V/V	POST 4	D		

LSD (P=.05)	4.38	3.78
Standard Deviation	2.84	2.46
CV	101.61	61.05

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

Trial Comments

Conclusions: This study was conducted to test the effect of application timing of thifensulfuron-methyl on transplanted cabbage, following a preliminary greenhouse study that showed cabbage had some tolerance to this herbicide. The entire trial was maintained weed-free, and thifensulfuron-methyl was applied at a rate of 6 g a.i. ha⁻¹ at 7, 14, 21 and 28 days after transplanting.

Thifensulfuron-methyl caused commercially unacceptable visual injury (i.e. >10%) to cabbage when applied 14, 21 and 28 days after transplanting. Cabbage visual injury was commercially acceptable when applied 7 days after transplanting. Injured plants were stunted, the petioles were distorted and twisted, and the leaves and stems were chlorotic.

Injury to cabbage at 7 days after planting did not reduce average head size of marketable cabbage, nor did it reduce total cabbage yield. However, the number of plants that actually yielded cabbage heads did decrease in the 7-day treatment, which resulted in an overall reduction in marketable yield.

At 14, 21 and 28 days after transplanting, thifensulfuron-methyl reduced marketable and non-marketable cabbage head size, and it also reduced marketable and non-marketable yields.

COMPARISON OF BROMOXYNIL FORMULATIONS IN SWEET CORN - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T1A

CROP: ZEAMS, CORN, SWEET (GH 2547). Planted: May-22-02, 49000 SEEDS/HA, 4 CM Deep, 75 CM Row Width.
 Planting Method: PRECISION PLANTER.
 Emerged On: May-31-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT - K.

Site Description: Soil Texture: LOAM. %OM: 6.0 %Sand: 46.1 %Silt: 29.4 %Clay: 24.5 pH: 5.9

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-12-02	Crop 1 ZEAMS 4 LF
Time of Day: 8:45 PM	Height : 15.3 CM
Method : CO2 SPRAY	
Timing : 4-5 LF	Weed 1 ABUTH 2.7 CM
Placement : FOLIAR	Stg.Scale: 2 LF
Air Temp. : 17.3 C	Density : 4.5 SQ.M.
% Humidity : 72	Weed 2 AMARE 0.6 CM
Wind Speed : 7 KPH	Stg.Scale: 1 LF
Dew Present: Y	Density : 11.5 SQ.M.
Soil Moist.: DRY	Weed 3 CHEAL 1.5 CM
Cloud Cover: 85%	Stg.Scale: 2 LF
Equipment : CO2 SPRAY	Density : 13 SQ.M.
Pressure : 207 kPa	
Nozzle Type: FLAT FAN	
Nozzle Size: 8002 XR	
Noz.Spacing: 50 CM	
Boom Length: 1.5 M	
Boom Height: 50 CM	
Carrier : WATER	
Appl.Volume: 200 L/HA	
Propellant : CO2	

Weed Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	AMARE	CHEAL	ABUTH	AMARE
Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	CM	%	%	%	%
Rating Date	Jun-19-02	Jun-27-02	Jul-11-02	Jul-3-02	Jul-11-02	Jul-11-02	Aug-8-02	Aug-8-02
Crop Stage	6-7 LF	8-9 LF	9-10 LF	7-9 LF	9-10 LF	9-10 LF	11-12 LF	11-12 LF
Crop Stage Scale	30-35 CM	60-67 CM	99-120CM	73-103CM	99-120CM	99-120CM	125-173C	125-173C
Weed Stage					12 LF	12 LF	8 LF	13 LF
Weed Density, Unit					12 SQ.M.	20 SQ.M.	2 SQ.M.	5 SQ.M.
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	21 DAT	28 DAT	28 DAT	57 DAT	57 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check			0											
2	NAI 029	235	EC	280	G A/HA	4-5 LF	A	0	b 0	a 0	a 90.1	ab 0	b 0	b 0	c 0
3	bromoxynil 235	235	EC	280	G A/HA	4-5 LF	A	1	b 0	a 0	a 88.6	b 90	a 88	a 90	ab 98
4	bromoxynil 280	280	EC	280	G A/HA	4-5 LF	A	0	b 0	a 0	a 86.5	b 93	a 96	a 87	ab 98
5	NAI 029	235	EC	560	G A/HA	4-5 LF	A	1	b 0	a 0	a 95.4	a 96	a 96	a 77	b 98
6	bromoxynil 235	235	EC	560	G A/HA	4-5 LF	A	3	a 1	a 0	a 86.8	b 100	a 100	a 91	ab 100
7	bromoxynil 280	280	EC	560	G A/HA	4-5 LF	A	4	a 0	a 0	a 87.6	b 99	a 100	a 90	ab 97
	bromoxynil	280	EC	560	G A/HA	4-5 LF	A	3	a 0	a 0	a 87.1	b 99	a 100	a 96	a 96
	LSD (P=.05)			1.2				0.5	0.0	5.66	11.4	13.7	16.4	4.5	
	Standard Deviation			0.8				0.4	0.0	3.81	7.7	9.2	10.2	3.0	
	CV			56.58				245.52	0.0	4.29	9.31	11.12	13.52	3.59	

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

COMPARISON OF BROMOXNYL FORMULATIONS IN SWEET CORN - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T1A

Weed Code		CHEAL																			
Crop Code		ZEAMS			ZEAMS			ZEAMS			ZEAMS										
Part Rated		TOTAL			MARKET			TOTAL			MARKET										
Rating Data Type		CONTROL			AVG. COB WT			AVG. COB WT			AVG. COB WT										
Rating Unit		%			G			G			T/HA										
Rating Date		Aug-8-02			Aug-16-02			Aug-16-02			Aug-16-02										
Crop Stage		11-12 LF			WEEDY			WEEDY			WEEDFREE										
Crop Stage Scale		125-173C									WEEDFREE										
Weed Stage		14 LF																			
Weed Density, Unit		17.5SQ.M.																			
Trt-Eval Interval		57 DAT			65 DAT			65 DAT			65 DAT										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							0	b	159.9	a	256.4	a	186.5	a	247.4	b	18.4	a		
2	NAI 029	235	EC	280	G A/HA	4-5 LF A	A	88	a	172.6	a	219.3	b	190.2	a	252.8	ab	22.0	a		
3	bromoxynil 235	235	EC	280	G A/HA	4-5 LF A	A	94	a	178.8	a	232.6	ab	171.5	a	246.6	b	22.1	a		
4	bromoxynil	280	EC	280	G A/HA	4-5 LF A	A	97	a	174.1	a	250.9	ab	189.4	a	261.3	ab	27.1	a		
5	NAI 029	235	EC	560	G A/HA	4-5 LF A	A	100	a	179.4	a	242.8	ab	193.9	a	277.8	a	23.8	a		
6	bromoxynil 235	235	EC	560	G A/HA	4-5 LF A	A	100	a	179.8	a	259.8	a	176.2	a	265.3	ab	26.6	a		
7	bromoxynil	280	EC	560	G A/HA	4-5 LF A	A	98	a	175.8	a	259.3	a	181.3	a	260.5	ab	26.2	a		
LSD (P=.05)								13.6		36.06		33.22		27.28		26.21		8.82			
Standard Deviation								9.1		24.27		22.36		18.37		17.64		5.94			
CV								11.1		13.92		9.09		9.97		6.82		25.01			

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

Weed Code		ZEAMS																		
Crop Code		ZEAMS			ZEAMS			ZEAMS												
Part Rated		MARKET			TOTAL			MARKET												
Rating Data Type		YIELD			YIELD			YIELD												
Rating Unit		T/HA			T/HA			T/HA												
Rating Date		Aug-16-02			Aug-16-02			Aug-16-02												
Crop Stage		WEEDY			WEEDFREE			WEEDFREE												
Crop Stage Scale																				
Weed Stage																				
Weed Density, Unit																				
Trt-Eval Interval		65 DAT			65 DAT			65 DAT												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code													
1	untreated check							12.8	a	25.2	a	19.1	a							
2	NAI 029	235	EC	280	G A/HA	4-5 LF A	A	16.5	a	26.3	a	17.8	a							
3	bromoxynil 235	235	EC	280	G A/HA	4-5 LF A	A	16.5	a	26.7	a	20.7	a							
4	bromoxynil	280	EC	280	G A/HA	4-5 LF A	A	20.8	a	27.5	a	20.3	a							
5	NAI 029	235	EC	560	G A/HA	4-5 LF A	A	15.9	a	26.8	a	16.9	a							
6	bromoxynil 235	235	EC	560	G A/HA	4-5 LF A	A	20.0	a	28.6	a	22.9	a							
7	bromoxynil	280	EC	560	G A/HA	4-5 LF A	A	18.6	a	23.8	a	16.5	a							
LSD (P=.05)								9.49		7.85		8.43								
Standard Deviation								6.39		5.29		5.68								
CV								36.92		20.01		29.58								

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

Trial Comments

Conclusions: One half of this trial was maintained weed free to test for tolerance of sweet corn to three formulations of bromoxynil (NAI 029, bromoxynil 235EC and bromoxynil 280EC) applied postemergence (4-5 leaf stage) at 280 and 560 g a.i. ha⁻¹. The other half of the trial was not hand weeded to test for efficacy of each formulation.

Sweet corn height was similar to the untreated check in plots treated with 280 or 560 g a.i. ha⁻¹ of each of the three bromoxynil formulations evaluated in the weed free portion of the trial at 28 days after treatment.

Average cob weight (marketable and total cobs) was not less in plots treated with 280 or 560 g a.i. ha⁻¹ of each of the three bromoxynil formulations than the untreated check in the weed free portion of the trial.

Marketable and total yield was not less in plots treated with 280 or 560 g a.i. ha⁻¹ of each of the three bromoxynil formulations than the untreated check in the weed free portion of the trial.

Control of redroot pigweed, lambsquarters, and velvetleaf were commercially acceptable (> 80%) at 28 and 57 days after treatment with each of the three bromoxynil formulations when applied at 280 g a.i. ha⁻¹.

COMPARISON OF BROMOXNYL FORMULATIONS IN SWEET CORN - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T1B

CROP: ZEAMS, CORN, SWEET (HMX 8392S). Planted: May-23-02, 50000 P/HA, 5 CM Deep, 75 CM Row Width.
 Planting Method: PRECISION PLANTER.
 Emerged On: Jun-1-02.
 FIELD Site. Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 44 M.

Site Description: %OM: 4.5 %Sand: 26 %Silt: 37 %Clay: 37 pH: 8 CEC: 32.

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-17-02	Crop 1 ZEAMS 4 LEAF
Time of Day: 8:50 PM	Height : 21.5 CM
Method : CO2 SPRAY	
Timing : POST	Weed 1 AMARE 4 LF
Placement : FOLIAR	Stg.Scale: 2.0 CM
Air Temp. : 17.2 C	Density : 12 SQ.M.
% Humidity : 71	Weed 2 CAPBP 8 LF
Wind Speed : 0 KM/H	Stg.Scale: 1.8 CM
Dew Present: N	Density : 1 SQ.M.
Soil Moist.: WET	Weed 3 CHEAL 5 LF
Cloud Cover: 65%	Stg.Scale: 1.6 CM
Equipment : CO2 SPRAY	Density : 19 SQ.M.
Pressure : 241 kPa	Weed 4 POLCO 3 LF
Nozzle Type: FLAT FAN	Stg.Scale: 5.9 CM
Nozzle Size: 8002 VS	Density : 10 SQ.M.
Noz.Spacing: 50 CM	Weed 5 SINAR 5 LF
Boom Length: 2 M	Stg.Scale: 7.0 CM
Boom Height: 50 CM	Density : 61 SQ.M.
Carrier : WATER	Weed 6 SETLU 5 LF
Appl.Volume: 200 L/HA	Stg.Scale: 7.8 CM
Propellant : CO2	Density : 15 SQ.M.
	Weed 7 SETVI 3 LF
	Stg.Scale: 2.0 CM
	Density : 2 SQ.M.

Weed Code	ZEAMS	ZEAMS	CHEAL	SINAR	AMARE	AMBEL	POLCO	CAPBP
Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated								
Rating Data Type	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-24-02	Jul-18-02	Jul-18-02	Jul-18-02	Jul-18-02	Jul-18-02	Jul-18-02	Jul-18-02
Crop Stage	6 LEAF	10 LEAF	10 LEAF	10 LEAF	10 LEAF	10 LEAF	10 LEAF	10 LEAF
Crop Stage Scale	39.3 CM	102.3 CM	102.3 CM	102.3 CM	102.3 CM	102.3 CM	102.3 CM	102.3 CM
Weed Stage			16 LEAF	5 LEAF	17 LEAF	10 LEAF	20 LEAF	7 LEAF
Weed Density, Unit			16 SQ. M	33 SQ. M	13 SQ. M	2 SQ. M	10 SQ. M	4 SQ. M
Trt-Eval Interval	7 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT

Trt	Treatment	Form	Form	Rate	Grow	Appl																
No.	Name	Conc	Type	Unit	Stg	Code																
1	untreated check						0	d	0	a	0	c	0.0	c	0	c	0	b	0	c	0	b
2	NAI 022	235	EC	280	G A/HA	4 LEAF A	4	c	0	a	95	b	91.5	ab	83	b	100	a	97	ab	100	a
3	bromoxynil	235	EC	280	G A/HA	4 LEAF A	5	c	0	a	97	ab	96.3	ab	84	ab	100	a	95	b	100	a
4	bromoxynil	280	EC	280	G A/HA	4 LEAF A	6	c	0	a	98	a	90.0	b	91	ab	100	a	99	ab	100	a
5	NAI 022	235	EC	560	G A/HA	4 LEAF A	13	ab	0	a	98	a	100.0	a	95	ab	100	a	99	ab	100	a
6	bromoxynil	235	EC	560	G A/HA	4 LEAF A	11	b	0	a	98	a	99.3	a	95	ab	100	a	100	a	100	a
7	bromoxynil	280	EC	560	G A/HA	4 LEAF A	13	a	0	a	99	a	97.8	ab	97	a	100	a	99	ab	100	a
LSD (P=.05)							2.3	0.0	2.5	8.78	13.8	0.0	4.1	0.0								
Standard Deviation							1.5	0.0	1.7	5.91	9.3	0.0	2.8	0.0								
CV							21.34	0.0	2.02	7.2	11.98	0.0	3.3	0.0								

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

COMPARISON OF BROMOXNYL FORMULATIONS IN SWEET CORN - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T1B

Weed Code	CHEAL	SINAR	AMARE	AMBEL	POLCO		
Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated						TOTAL	MARKET
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	COB AVG. WT	COB AVG. WT
Rating Unit	%	%	%	%	%	G	G
Rating Date	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-19-02	Aug-19-02
Crop Stage	11 LEAF	11 LEAF	11 LEAF	11 LEAF	11 LEAF		
Crop Stage Scale	122 CM	122 CM	122 CM	122 CM	122 CM		
Weed Stage	20 LEAF	7 LEAF	19 LEAF	20 LEAF	20 LEAF		
Weed Density, Unit	14 SQ.M	36 SQ.M	17.5SQ.M	2 SQ.M	7 SQ.M		
Trt-Eval Interval	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	63 DAT	63 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Stg	Appl Code
1	untreated check						0
2	NAI 022	235	EC	280	G A/HA	4 LEAF A	88
3	bromoxynil	235	EC	280	G A/HA	4 LEAF A	94
4	bromoxynil	280	EC	280	G A/HA	4 LEAF A	98
5	NAI 022	235	EC	560	G A/HA	4 LEAF A	96
6	bromoxynil	235	EC	560	G A/HA	4 LEAF A	96
7	bromoxynil	280	EC	560	G A/HA	4 LEAF A	98
LSD (P=.05)							
Standard Deviation							
CV							

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

Weed Code							
Crop Code	ZEAMS	ZEAMS					
Part Rated	TOTAL	MARKET					
Rating Data Type	YIELD	YIELD					
Rating Unit	T/HA	T/HA					
Rating Date	Aug-19-02	Aug-19-02					
Crop Stage							
Crop Stage Scale							
Weed Stage							
Weed Density, Unit							
Trt-Eval Interval	63 DAT	63 DAT					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Stg	Appl Code
1	untreated check						4.7
2	NAI 022	235	EC	280	G A/HA	4 LEAF A	13.8
3	bromoxynil	235	EC	280	G A/HA	4 LEAF A	14.4
4	bromoxynil	280	EC	280	G A/HA	4 LEAF A	11.8
5	NAI 022	235	EC	560	G A/HA	4 LEAF A	14.9
6	bromoxynil	235	EC	560	G A/HA	4 LEAF A	14.6
7	bromoxynil	280	EC	560	G A/HA	4 LEAF A	13.2
LSD (P=.05)							
Standard Deviation							
CV							

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

Trial Comments

Conclusions: This trial was established to test for tolerance of sweet corn to three formulations of bromoxynil (NAI 029, bromoxynil 235EC and bromoxynil 280EC) applied postemergence (4-5 leaf stage) at 280 and 560 g a.i. ha⁻¹.

Visual injury at 7 days after treatment (7 DAT) was greater in all treatments than in the untreated check. At twice the label rate of all three formulations, injury was between 11 and 13%. Sweet corn outgrew the visual injury by 28 DAT, such that no bronzing of the leaf margins was apparent.

There were no differences in marketable and total cob number, or marketable and total yield of sweet corn among any of the bromoxynil treatments at either 280 or 560 g a.i. ha⁻¹.

The three formulations, when applied at 280 g a.i. ha⁻¹, provided excellent control of common lamb's-quarters, wild mustard, common ragweed, wild buckwheat, shepherd's-purse at 28 and 56 DAT.

Control of redroot pigweed was good in the NAI022 and the bromoxynil 280EC formulation treatments at 28 DAT, but by 56 DAT either treatment only provided fair control of redroot pigweed.

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - I

Trial ID: SC02T2A
Location: RCAT - K

Study Dir.: DARREN ROBINSON
Investigator: KRIS McNAUGHTON

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: SCIENTIST
Investigator: KRIS McNAUGHTON Title: WEED TECHNICIAN

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: Determine the tolerance of processing sweet corn varieties to nicosulfuron applied postemergence at 1X and 2X the label rate.

Crop 1: ZEAMS CORN, SWEET Variety: 8 VARIOUS
Planting Date: May-22-02 Planting Method: PRECISION PLANTER
Rate: 49000 SEEDS/HA Depth: 4 CM
Row Spacing: 75 CM
Emergence Date: Jun-1-02

SITE AND DESIGN

Plot Width, Unit: 6 M Plot Length, Unit: 10 M Reps: 4
Tillage Type: CONVENTIONAL Study Design: FACTORIAL

MAINTENANCE

Field Prep./Maintenance: FERTILIZED WITH 447 KG/HA OF 27-0-0 AND 300 KG/HA OF 6-24-24. COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG A/HA. FORCE APPLIED DURING PLANTING AT 5 KG/HA.

SOIL DESCRIPTION

% Sand: 46.1 % OM: 6.0 Texture: LOAM
% Silt: 29.4 pH: 5.9
% Clay: 24.5

APPLICATION DESCRIPTION

A

Application Date: Jun-12-02
Time of Day: 4:20 PM
Application Method: CO2 SPRAY
Application Timing: 4-5 LF
Applic. Placement: FOLIAR
Air Temp., Unit: 30 C
% Relative Humidity: 45
Wind Velocity, Unit: 7 KPH
Dew Presence (Y/N): N
Soil Temp., Unit: 31 C
Soil Moisture: DRY
% Cloud Cover: 60

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
Stage Scale: 4 LF
Height, Unit: 15 CM

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
Operating Pressure: 207 kPa
Nozzle Type: FLAT FAN
Nozzle Size: 8002 XR
Nozzle Spacing, Unit: 50 CM
Boom Length, Unit: 1.5 M
Boom Height, Unit: 50 CM
Carrier: WATER
Spray Volume, Unit: 200 L/HA
Propellant: CO2

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED

POSTEMERGENCE - I

KRIS McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T2A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	MARKET
Rating Data Type	%	%	%	CM	AVG. COB WT	AVG. COB WT	YIELD	YIELD
Rating Unit	Jun-20-02	Jun-27-02	Jul-10-02	Jul-3-02	G	G	T/HA	T/HA
Rating Date	5-6 LF	7-8 LF	9-11 LF	7-9 LF				
Crop Stage	22-31 CM	60-75 CM	95-115CM	66-110CM				
Crop Stage Scale	7 DAT	14 DAT	28 DAT	21 DAT				
Trt-Eval Interval								

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
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TABLE OF R MEANS

Replicate 1								1	0	0	86.9	165.7	266.3	15.9	11.3
Replicate 2								2	0	0	88.8	185.3	278.6	17.6	11.7
Replicate 3								2	0	0	92.1	173.8	288.9	16.0	10.9
Replicate 4								1	0	0	95.4	182.4	276.1	16.0	11.4

TABLE OF A MEANS

1	untreated check							0a	0	0a	88.3	164.0	274.0	14.0	8.9
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0	0a	92.8	185.2	281.8	18.0	13.2
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	3b	0	1b	91.3	181.2	276.6	17.1	11.9
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
								LSD= 1	NS	0	NS	NS	NS	NS	NS
								CV= 149	0	0	10	28	19	49	66

TABLE OF B MEANS

1	CNS710R							0	0	0	91.8	160.4	274.1	17.4	11.7
2	LEGACY							1	0	0	86.5	189.6	279.6	18.1	11.3
3	MARVEL							1	0	1	90.5	151.6	265.3	14.7	9.8
4	GG445							2	0	0	102.2	177.6	252.1	18.2	12.3
5	GG214							1	0	0	92.4	175.4	275.7	14.9	11.6
6	EMPIRE							3	0	1	85.2	160.3	259.4	15.3	9.7
7	GH2547							1	0	0	91.2	234.1	364.8	18.4	13.9
8	GSS 9299							0	0	0	86.7	165.5	248.9	14.0	10.4

TABLE OF AB MEANS

1	untreated check							0a	0a	0a	93.3	163.5	273.5	17.5	12.0
1	CNS710R														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	91.4	161.8	274.7	17.8	11.7
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
1	CNS710R														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	1a	0a	0a	90.6	156.0	274.2	16.8	11.4
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
1	CNS710R														
1	untreated check							0a	0a	0a	86.4	186.9	267.4	15.8	8.7
2	LEGACY														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	1a	0a	0a	88.8	196.9	286.9	20.3	14.1
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
2	LEGACY														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	3b	0a	0a	84.3	185.0	284.4	18.3	11.0
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
2	LEGACY														
1	untreated check							0a	0a	0a	88.9	141.4	252.8	12.6	8.3
3	MARVEL														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	91.9	160.3	276.7	16.4	11.6
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
3	MARVEL														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	3b	0a	1b	90.7	153.1	266.3	15.1	9.6
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
3	MARVEL														
1	untreated check							0a	0a	0a	100.1	159.3	257.9	15.2	9.2
4	GG445														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	104.7	182.5	263.6	20.7	15.2
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
4	GG445														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	6b	0a	0a	101.9	191.0	234.7	18.8	12.6
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
4	GG445														
1	untreated check							0a	0a	0a	90.0	147.0	267.7	12.9	9.4
5	GG214														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	93.6	190.3	280.6	15.5	12.6
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
5	GG214														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	2b	0a	0a	93.7	189.0	278.6	16.3	12.7
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
5	GG214														

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - I

KRIS McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T2A

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Trt-Eval Interval	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	
								INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	MARKET	
								%	%	%	CM	AVG. COB WT	AVG. COB WT	YIELD	YIELD	
								Jun-20-02	Jun-27-02	Jul-10-02	Jul-3-02	G	G	T/HA	T/HA	
								5-6 LF	7-8 LF	9-11 LF	7-9 LF					
								22-31 CM	60-75 CM	95-115CM	66-110CM					
								7 DAT	14 DAT	28 DAT	21 DAT					
1	untreated check							0a	0a	0a	82.1	152.2	234.4	13.2	7.3	
6	EMPIRE															
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	2b	0a	1b	89.2	167.3	262.0	16.8	11.7	
2	Agral 90		SO	0.2	% V/V	4-5 LF	A									
6	EMPIRE															
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	8c	1b	4c	84.3	161.3	281.7	15.8	10.2	
3	Agral 90		SO	0.4	% V/V	4-5 LF	A									
6	EMPIRE															
1	untreated check							0a	0a	0a	86.0	214.9	405.5	14.2	9.5	
7	GH2547															
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	93.6	243.8	352.3	20.5	15.6	
2	Agral 90		SO	0.2	% V/V	4-5 LF	A									
7	GH2547															
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	4b	0a	0a	94.0	243.7	336.5	20.5	16.4	
3	Agral 90		SO	0.4	% V/V	4-5 LF	A									
7	GH2547															
1	untreated check							0a	0a	0a	79.6	146.9	232.7	10.6	6.5	
8	GSS 9299															
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	89.6	179.0	257.2	15.9	13.1	
2	Agral 90		SO	0.2	% V/V	4-5 LF	A									
8	GSS 9299															
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	1a	0a	0a	90.9	170.5	256.6	15.3	11.8	
3	Agral 90		SO	0.4	% V/V	4-5 LF	A									
8	GSS 9299															
								LSD=	2	0	1	NS	NS	NS	NS	NS
								CV=	81	0	1	NS	NS	NS	NS	NS

Trial Comments

	EMERGED	HARVESTED
CNS 710R	June 3, 2002	August 8, 2002
LEGACY	June 3, 2002	August 12, 2002
MARVEL	June 3, 2002	August 8, 2002
GG 445	June 1, 2002	August 12, 2002
GG 214	May 31, 2002	August 9, 2002
EMPIRE	June 3, 2002	August 9, 2002
GH 2547	June 3, 2002	August 16, 2002
GSS 9299	June 3, 2002	August 8, 2002

Conclusions: This trial was maintained weed free to test for the tolerance of eight sweet corn varieties (CNS710R, Legacy, Marvel, GG445, GG214, Empire, GH2547 and GSS9299) to nicosulfuron applied postemergence (4-5 leaf stage) at 25 and 50 g a.i. ha⁻¹.

Marvel, GG445, Empire, and GH2547 showed some flashing (bands of chlorotic tissue) on the leaves at 7 days after treatment with nicosulfuron at 50 g a.i. ha⁻¹. The flashing injury was no longer evident at 14 days after treatment in Marvel, GG445 and GH2547. In all cases this injury was commercially acceptable (<10%).

There were no reductions in height, marketable cob weight, total cob weight, marketable yield or total yield for any of the eight varieties tested.

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - II

Trial ID: SC02T2B Study Dir.: DARREN ROBINSON
 Location: HRS - Range S13 Investigator: TODD COWAN

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: RESEARCH SCIENTIST
 Affiliation: RIDGETOWN COLLEGE OF AGRICULTURE TECH. (U. OF GUELPH)
 Postal Code: NOP 2C0
 Investigator: TODD COWAN Title: WEED SCIENCE TECH.
 Affiliation: HURON RESEARCH STATION (R.C.A.T.)
 Postal Code: NOM 1S4

TRIAL LOCATION

City: EXETER Trial Status: IN PROGRESS
 State/Prov.: ONTARIO
 Postal Code: NOM 1S4 Initiation Date: Apr-1-02
 Country: CANADA Planned Completion Date: Dec-31-02

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: Determine the tolerance of processing sweet corn varieties to nicosulfuron applied postemergence at 1X and 2X the label rate.

Crop 1: ZEAMS CORN, SWEET Variety: VARIOUS
 Planting Date: May-23-02 Planting Method: PRECISION PLANTER
 Rate: 50000 P/HA Depth: 5 CM
 Row Spacing: 75 CM Seed Bed: FINE
 Soil Moisture: MOIST Emergence Date: Jun-1-02

SITE AND DESIGN

Plot Width, Unit: 6 M Plot Length, Unit: 11 M Reps: 4
 Site Type: FIELD
 Tillage Type: CONVENTIONAL Study Design: FACTORIAL

Previous Crops	Previous Pesticides	Year
1. OATS		2001
2. PROCESSING PEAS		2000
3. FIELD CORN		1999

MAINTENANCE

Field Prep./Maintenance: 390 kg/ha OF 36-7-8 FERTILIZER BROADCAST PREPLANT. COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG/HA.

SOIL DESCRIPTION

% Sand: 26 % OM: 4.5
 % Silt: 37 pH: 8 Soil Name: CLAY LOAM
 % Clay: 37 CEC: 32

APPLICATION DESCRIPTION

A

Application Date: Jun-18-02
 Time of Day: 7:15 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 18.4 C
 % Relative Humidity: 78
 Wind Velocity, Unit: 0 KPH
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 15.5 C
 Soil Moisture: SB-M SF-M
 % Cloud Cover: 20

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS 5 LEAF
 Height, Unit: 23.3 CM

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
 Operating Pressure: 241 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 VS
 Nozzle Spacing, Unit: 50 CM
 Boom Length, Unit: 3 M
 Boom Height, Unit: 50 CM
 Carrier: WATER
 Spray Volume, Unit: 200 L/HA
 Propellant: CO2

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE-II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T2B

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Trt-Eval Interval	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
								INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	MARKET
								%	%	%	CM	AVG. COB WT	AVG. COB WT	YIELD	YIELD
								Jun-24-02	Jul-4-02	Jul-13-02	Jul-16-02	G	G	T/HA	T/HA
								7 LEAF	10 LEAF	12 LEAF					
								43.3 CM	95 CM	124.8 CM					
								7 DAT	14 DAT	28 DAT	21 DAT				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
TABLE OF R MEANS															
Replicate 1								0	0	0	122.3	191.4	292.9	15.6	11.5
Replicate 2								0	0	0	119.4	198.7	304.4	16.6	12.8
Replicate 3								0	0	0	119.2	195.8	294.9	16.7	12.4
Replicate 4								0	0	0	116.9	193.4	306.2	16.2	11.8

TABLE OF A MEANS															
1	untreated check							0a	0	0	120.0	192.7	296.4	16.3	12.0
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	119.9	200.5	303.5	16.5	12.4
2	Agral 90		SO	0.2	% V/V	post	A								
3	nicosulfuron	75	DF	50	G A/HA	post	A	1b	0	0	118.5	191.4	299.1	16.0	11.9
3	Agral 90		SO	0.4	% V/V	post	A								
								LSD=	0	NS	NS	NS	NS	NS	NS
								CV=	0	0	0	6	8	5	10

TABLE OF B MEANS															
1	CNS710R							0	0	0	122.5	128.1	228.6	8.3	4.1
2	LEGACY							0	0	0	109.5	210.9	331.1	20.3	15.6
3	MARVEL							0	0	0	118.6	197.1	305.6	14.0	9.8
4	GG445							0	0	0	126.9	212.2	300.1	17.9	13.8
5	GG214							0	0	0	117.9	170.3	275.4	14.6	11.0
6	EMPIRE							2	0	0	116.3	223.8	352.5	21.1	16.2
7	GH2547							0	0	0	127.5	220.8	323.3	20.4	16.1
8	GSS 9299							0	0	0	116.4	195.8	280.4	13.7	10.3

TABLE OF AB MEANS															
1	untreated check							0a	0	0	121.6	124.6	228.2	8.2	4.0
1	CNS710R														
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	125.7	133.0	233.9	8.0	4.1
2	Agral 90		SO	0.2	% V/V	post	A								
1	CNS710R														
3	nicosulfuron	75	DF	50	G A/HA	post	A	0a	0	0	120.3	126.6	223.5	8.7	4.2
3	Agral 90		SO	0.4	% V/V	post	A								
1	CNS710R														
1	untreated check							0a	0	0	110.9	200.3	314.7	20.5	15.8
2	LEGACY														
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	112.1	223.8	347.2	19.8	15.0
2	Agral 90		SO	0.2	% V/V	post	A								
2	LEGACY														
3	nicosulfuron	75	DF	50	G A/HA	post	A	1b	0	0	105.5	208.8	331.5	20.7	16.1
3	Agral 90		SO	0.4	% V/V	post	A								
2	LEGACY														
1	untreated check							0a	0	0	120.8	186.4	296.3	13.8	9.2
3	MARVEL														
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	117.4	209.0	305.9	14.7	10.8
2	Agral 90		SO	0.2	% V/V	post	A								
3	MARVEL														
3	nicosulfuron	75	DF	50	G A/HA	post	A	1b	0	0	117.6	195.8	314.7	13.5	9.5
3	Agral 90		SO	0.4	% V/V	post	A								
3	MARVEL														
1	untreated check							0a	0	0	127.3	212.6	289.0	18.0	12.9
4	GG445														
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	126.2	226.8	306.7	18.7	14.4
2	Agral 90		SO	0.2	% V/V	post	A								
4	GG445														
3	nicosulfuron	75	DF	50	G A/HA	post	A	1b	0	0	127.3	197.1	304.6	16.9	14.0
3	Agral 90		SO	0.4	% V/V	post	A								
4	GG445														
1	untreated check							0a	0	0	117.6	168.6	274.1	14.5	11.5
5	GG214														
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	118.2	169.4	280.5	14.5	10.6
2	Agral 90		SO	0.2	% V/V	post	A								
5	GG214														
3	nicosulfuron	75	DF	50	G A/HA	post	A	1b	1	0	118.0	172.9	271.7	14.8	10.8
3	Agral 90		SO	0.4	% V/V	post	A								
5	GG214														

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE-II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T2B

Crop Code		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		
Part Rated		TOTAL		MARKET		TOTAL		MARKET		TOTAL		MARKET		MARKET		
Rating Data Type		INJURY		INJURY		INJURY		HEIGHT		AVG. COB WT		AVG. COB WT		YIELD		
Rating Unit		%		%		%		CM		G		G		T/HA		
Rating Date		Jun-24-02		Jul-4-02		Jul-13-02		Jul-16-02								
Crop Stage		7 LEAF		10 LEAF		12 LEAF										
Crop Stage Scale		43.3 CM		95 CM		124.8 CM										
Trt-Eval Interval		7 DAT		14 DAT		28 DAT		21 DAT								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0a	0	0	115.3	237.9	365.9	21.8	16.2	
6	EMPIRE															
2	nicosulfuron	75	DF	25	G A/HA	post	A	2b	0	0	116.4	216.3	352.4	21.3	16.8	
2	Agral 90		SO	0.2	% V/V	post	A									
6	EMPIRE															
3	nicosulfuron	75	DF	50	G A/HA	post	A	3c	0	0	116.9	217.1	339.1	20.2	15.6	
3	Agral 90		SO	0.4	% V/V	post	A									
6	EMPIRE															
1	untreated check							0a	0	0	128.9	218.5	326.5	20.0	16.0	
7	GH2547															
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	126.7	225.6	316.9	21.1	17.0	
2	Agral 90		SO	0.2	% V/V	post	A									
7	GH2547															
3	nicosulfuron	75	DF	50	G A/HA	post	A	0a	0	0	126.8	218.2	326.5	20.0	15.3	
3	Agral 90		SO	0.4	% V/V	post	A									
7	GH2547															
1	untreated check							0a	0	0	117.1	192.6	276.1	13.9	10.7	
8	GSS 9299															
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0	0	116.7	200.0	284.1	14.0	10.6	
2	Agral 90		SO	0.2	% V/V	post	A									
8	GSS 9299															
3	nicosulfuron	75	DF	50	G A/HA	post	A	1b	0	0	115.4	194.7	281.0	13.2	9.5	
3	Agral 90		SO	0.4	% V/V	post	A									
8	GSS 9299															
								LSD=	1	NS	NS	NS	NS	NS	NS	
								CV=	0	0	0	4	8	5	10	13

Trial Comments

Harvest Dates: CNS 710 AUG.12/02, MARVEL AUG.12/02, GSS 299 AUG.12/02, GG 214 AUG.14/02, GG 445 AUG.16/02, EMPIRE AUG.20/02, LEGACY AUG.20/02, H2547 AUG.20/02.

Conclusions: This trial was maintained weed free to test for the tolerance of eight sweet corn varieties (CNS710R, Legacy, Marvel, GG445, GG214, Empire, GH2547 and GSS9299) to nicosulfuron applied postemergence (4-5 leaf stage) at 25 and 50 g a.i. ha⁻¹.

Empire showed more visual injury as nicosulfuron rate increased at 7 DAT, but visual injury ratings were less than 5%, even at 50 g a.i. ha⁻¹.

Visual injury at 14 and 28 DAT, height, total and marketable cob number, and total and marketable yield in the nicosulfuron-treated plots were not less than in the untreated checks for the eight varieties tested.

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - I

Trial ID: SC02T3A
Location: RCAT - K

Study Dir.: DARREN ROBINSON
Investigator: KRIS McNAUGHTON

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: SCIENTIST
Investigator: KRIS McNAUGHTON Title: WEED TECHNICIAN

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: Determine the tolerance of eight sweet corn varieties to clopyralid at 1X and 2X the label rate.

Crop 1: ZEAMS CORN, SWEET Variety: 8 VARIOUS
Planting Date: May-22-02 Planting Method: PRECISION PLANTER
Rate: 49000 SEEDS/HA Depth: 4 CM
Row Spacing: 75 CM
Emergence Date: Jun-1-02

SITE AND DESIGN

Plot Width, Unit: 6 M Plot Length, Unit: 10 M Reps: 4
Tillage Type: CONVENTIONAL Study Design: FACTORIAL

MAINTENANCE

Field Prep./Maintenance: FERTILIZED WITH 447 KG/HA OF 27-0-0 AND 300 KG/HA OF 6-24-24. COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG A/HA. FORCE APPLIED DURING PLANTING AT 5 KG/HA.

SOIL DESCRIPTION

% Sand: 46.1 % OM: 6.0 Texture: LOAM
% Silt: 29.4 pH: 5.9
% Clay: 24.5

APPLICATION DESCRIPTION

A

Application Date: Jun-12-02
Time of Day: 4:00 PM
Application Method: CO2 SPRAY
Application Timing: 4-5 LF
Applic. Placement: FOLIAR
Air Temp., Unit: 30 C
% Relative Humidity: 45
Wind Velocity, Unit: 7 KPH
Dew Presence (Y/N): N
Soil Temp., Unit: 31 C
Soil Moisture: DRY
% Cloud Cover: 60

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
Stage Scale: 4 LF
Height, Unit: 16 CM

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
Operating Pressure: 207 kPa
Nozzle Type: FLAT FAN
Nozzle Size: 8002 XR
Nozzle Spacing, Unit: 50 CM
Boom Length, Unit: 1.5 M
Boom Height, Unit: 50 CM
Carrier: WATER
Spray Volume, Unit: 200 L/HA
Propellant: CO2

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - I

KRIS McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T3A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated					TOTAL	MARKET	TOTAL	MARKET	
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG.COB.WT	AVG.COB.WT	YIELD	YIELD	
Rating Unit	%	%	%	CM	G	G	T/HA	T/HA	
Rating Date	Jun-20-02	Jun-27-02	Jul-10-02	Jul-4-02					
Crop Stage	5-7 LF	8-9 LF	9-11 LF	7-9 LF					
Crop Stage Scale	19-35 CM	50-66 CM	90-120CM	73-120CM					
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	21 DAT					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
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TABLE OF R MEANS

Replicate 1	0	0	0	101.7	168.0	254.8	14.0	10.8
Replicate 2	0	0	0	89.1	139.2	217.9	9.6	5.5
Replicate 3	0	0	0	93.0	133.3	211.4	9.0	4.8
Replicate 4	0	0	0	98.5	149.0	231.3	11.8	7.8

TABLE OF A MEANS

1 untreated check					0a	0	0	94.3	148.1	229.6	11.1	7.6			
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0a	0	0	94.5	143.8	230.6	11.0	6.9
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0a	1	0	97.9	150.2	226.4	11.2	7.3
								LSD= 0	NS	NS	NS	NS	NS	NS	NS
								CV= 0	0	0	6	12	14	25	37

TABLE OF B MEANS

1 CALICO BELLE	0	0	0	93.0	127.9	204.4	12.2	8.2
2 CNS 710	0	0	0	90.0	135.9	229.1	9.6	6.0
3 DELMONTE 2038	0	1	0	101.0	184.8	260.3	12.7	9.7
4 GG 222	0	0	0	101.8	156.8	263.4	12.2	7.3
5 GG 246	0	0	0	106.0	138.8	228.3	11.6	6.9
6 GH 2684	0	0	0	94.7	134.1	220.6	10.4	6.6
7 REVEILLE	0	0	0	92.3	169.4	221.1	9.1	6.3
8 RIVAL	0	0	0	85.8	131.1	203.5	10.9	7.1

TABLE OF AB MEANS

1 untreated check								0	0a	0	90.9	126.4	205.0	12.6	9.0
1 CALICO BELLE								0	0a	0	89.5	126.8	204.1	11.8	7.2
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	89.5	126.8	204.1	11.8	7.2
1 CALICO BELLE								0	0a	0	98.7	130.3	204.1	12.2	8.2
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	0a	0	98.7	130.3	204.1	12.2	8.2
1 CALICO BELLE								0	0a	0	85.1	136.8	228.7	9.7	6.2
1 untreated check								0	0a	0	85.1	136.8	228.7	9.7	6.2
2 CNS 710								0	0a	0	92.8	130.6	231.1	9.4	5.8
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	92.8	130.6	231.1	9.4	5.8
2 CNS 710								0	0a	0	92.8	130.6	231.1	9.4	5.8
2 CNS 710								0	0a	1	92.0	140.3	227.5	9.7	6.1
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	0a	1	92.0	140.3	227.5	9.7	6.1
2 CNS 710								0	0a	0	100.9	189.6	259.7	12.4	10.0
1 untreated check								0	0a	0	100.9	189.6	259.7	12.4	10.0
3 DELMONTE 2038								0	0a	0	101.4	185.4	267.7	13.3	10.0
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	101.4	185.4	267.7	13.3	10.0
3 DELMONTE 2038								0	0a	0	101.4	185.4	267.7	13.3	10.0
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	4b	1	100.8	179.6	253.6	12.4	9.1
3 DELMONTE 2038								0	0a	0	97.8	156.0	264.4	12.2	8.0
1 untreated check								0	0a	0	97.8	156.0	264.4	12.2	8.0
4 GG 222								0	0a	0	99.4	149.8	256.8	11.4	5.8
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	99.4	149.8	256.8	11.4	5.8
4 GG 222								0	0a	0	99.4	149.8	256.8	11.4	5.8
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	0a	0	108.2	164.7	269.0	13.2	8.1
4 GG 222								0	0a	0	108.2	164.7	269.0	13.2	8.1
1 untreated check								0	0a	0	104.5	139.4	224.6	11.3	7.2
5 GG 246								0	0a	0	104.5	139.4	224.6	11.3	7.2
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	105.8	136.4	224.5	11.4	6.2
5 GG 246								0	0a	0	105.8	136.4	224.5	11.4	6.2
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	0a	0	107.7	140.6	235.8	12.2	7.2
5 GG 246								0	0a	0	107.7	140.6	235.8	12.2	7.2
1 untreated check								0	0a	0	94.7	136.0	214.9	10.0	6.3
6 GH 2684								0	0a	0	94.7	136.0	214.9	10.0	6.3
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	94.1	135.5	249.9	10.6	6.8
6 GH 2684								0	0a	0	94.1	135.5	249.9	10.6	6.8
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	0a	0	95.2	130.9	197.0	10.7	6.7
6 GH 2684								0	0a	0	95.2	130.9	197.0	10.7	6.7
1 untreated check								0	0a	0	93.3	173.9	231.0	9.7	6.8
7 REVEILLE								0	0a	0	93.3	173.9	231.0	9.7	6.8
2 clopyralid	360	SN	200	G A/HA	4-5 LF	A		0	0a	0	90.0	163.2	214.3	9.0	5.8
7 REVEILLE								0	0a	0	90.0	163.2	214.3	9.0	5.8
3 clopyralid	360	SN	400	G A/HA	4-5 LF	A		0	0a	0	93.5	171.1	217.9	8.7	6.3
7 REVEILLE								0	0a	0	93.5	171.1	217.9	8.7	6.3

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - I

KRIS McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T3A

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Trt-Eval Interval	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
								INJURY	INJURY	INJURY	HEIGHT	AVG.COB.WT	AVG.COB.WT	TOTAL	MARKET	TOTAL	MARKET
								%	%	%	CM	G	G			YIELD	YIELD
								Jun-20-02	Jun-27-02	Jul-10-02	Jul-4-02					T/HA	T/HA
								5-7 LF	8-9 LF	9-11 LF	7-9 LF						
								19-35 CM	50-66 CM	90-120CM	73-120CM						
								7 DAT	14 DAT	28 DAT	21 DAT						
Trt No	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code										
1	untreated check							0	0a	0	87.1	126.4	208.2	11.2		7.0	
8	RIVAL																
2	clopyralid	360	SN	200	G A/HA	4-5 LF	A	0	0a	0	83.4	122.5	196.3	11.0		7.4	
8	RIVAL																
3	clopyralid	360	SN	400	G A/HA	4-5 LF	A	1	0a	0	86.9	144.5	206.0	10.4		6.9	
8	RIVAL																
								LSD=	NS	1	NS	NS	NS	NS	NS	NS	NS
								CV=	0	0	0	5	10	11	12	23	23

Trial Comments

EMERGED

HARVESTED

CALICO BELLE	May 31, 2002	August 12, 2002
CNS 710	June 3, 2002	August 9, 2002
DELMONTE 2038	June 3, 2002	August 12, 2002
GG 222	May 31, 2002	August 6, 2002
GG 246	May 31, 2002	August 13, 2002
GH 2684	June 3, 2002	August 9, 2002
REVEILLE	June 1, 2002	August 2, 2002
RIVAL	June 3, 2002	August 12, 2002

Conclusions: This trial was maintained weed free to test for the tolerance of eight sweet corn varieties (Calico Belle, CNS710, Delmonte 2038, GG222, GG246, GH2684, Reveille and Rival) to clopyralid applied postemergence (4-5 leaf stage) at 200 and 400 g a.i. ha-1.

None of the varieties showed any commercially unacceptable visual injury (> 10%) when treated with clopyralid at either rate in the study. Delmonte 2038 showed slight (3.8%) visual injury 14 days after treatment, but it outgrew the injury by 28 days after treatment.

There was no effect of clopyralid on sweet corn height, marketable cob weight, total cob weight, marketable yield or total yield in any of the eight varieties tested and at either 200 or 400 g a.i. ha-1.

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - II

Trial ID: SC02T3B Study Dir.: DARREN ROBINSON
 Location: HRS - Range S13 Investigator: TODD COWAN

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: RESEARCH SCIENTIST
 Affiliation: RIDGETOWN COLLEGE OF AGRICULTURE TECH. (U. OF GUELPH)
 Postal Code: NOP 2C0
 Investigator: TODD COWAN Title: WEED SCIENCE TECH.
 Affiliation: HURON RESEARCH STATION (R.C.A.T.)
 Postal Code: NOM 1S4

TRIAL LOCATION

City: EXETER Trial Status: IN PROGRESS
 State/Prov.: ONTARIO
 Postal Code: NOM 1S4 Initiation Date: Apr-1-02
 Country: CANADA Planned Completion Date: Dec-31-02

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: Determine the tolerance of eight sweet corn varieties to clopyralid at 1X and 2X the label rate.

Crop 1: ZEAMS CORN, SWEET Variety: VARIOUS
 Planting Date: May-23-02 Planting Method: PRECISION PLANTER
 Rate: 50000 P/HA Depth: 5 CM
 Row Spacing: 75 CM Seed Bed: FINE
 Soil Moisture: MOIST Emergence Date: Jun-1-02

SITE AND DESIGN

Plot Width, Unit: 6 M Plot Length, Unit: 11 M Reps: 4
 Site Type: FIELD
 Tillage Type: CONVENTIONAL Study Design: FACTORIAL

Previous Crops	Previous Pesticides	Year
1. OATS		2001
2. PROCESSING PEAS		2000
3. FIELD CORN		1999

MAINTENANCE

Field Prep./Maintenance: 390 kg/ha OF 36-7-8 FERTILIZER BROADCAST PREPLANT. COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG/HA.

SOIL DESCRIPTION

% Sand: 26 % OM: 4.5
 % Silt: 37 pH: 8 Soil Name: CLAY LOAM
 % Clay: 37 CEC: 32

APPLICATION DESCRIPTION

A

Application Date: Jun-18-02
 Time of Day: 7:30 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 18.4 C
 % Relative Humidity: 78
 Wind Velocity, Unit: 0 KM/H
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 15.5 C
 Soil Moisture: SB-M SF-M
 % Cloud Cover: 20

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS 5 LEAF
 Height, Unit: 22.8 CM

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
 Operating Pressure: 241 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 VS
 Nozzle Spacing, Unit: 50 CM
 Boom Length, Unit: 3 M
 Boom Height, Unit: 50 CM
 Carrier: WATER
 Spray Volume, Unit: 200 L/HA
 Propellant: CO2

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T3B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	MARKET	
Rating Data Type	%	%	%	CM	AVG.COB WT	AVG.COB WT	YIELD	YIELD	
Rating Unit					G	G	T/HA	T/HA	
Rating Date	Jun-24-02	Jul-4-02	Jul-16-02	Jul-13-02					
Crop Stage	7 LEAF	11 LEAF	12 LEAF						
Crop Stage Scale	32.8 CM	91.3 CM	132.3 CM						
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	28 DAT					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
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TABLE OF R MEANS

Replicate 1	0	0	0	116.2	162.0	255.8	13.0	8.8
Replicate 2	0	0	0	117.7	171.0	258.8	13.3	9.3
Replicate 3	0	0	0	118.1	176.5	268.8	14.0	10.2
Replicate 4	0	0	0	119.4	176.4	275.2	14.2	10.3

TABLE OF A MEANS

1 untreated check						0	0	0	118.0	175.1	268.4	13.4	9.5
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	116.4	169.9	263.5	13.5	9.7
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	119.1	169.5	262.1	13.9	9.7
						LSD=	NS	NS	NS	NS	NS	NS	NS
						CV=	0	0	0	11	16	10	14

TABLE OF B MEANS

1 CALICO BELLE	0	0	0	112.1	171.0	262.8	17.7	11.1
2 CNS 710	0	0	0	113.1	176.2	300.5	10.0	6.5
3 DELMONTE 2038	0	0	0	130.6	293.9	400.2	22.1	19.0
4 GG 222	0	0	0	125.1	148.1	247.1	10.9	6.1
5 GG 246	0	0	0	126.2	183.8	300.4	13.8	9.5
6 GH 2684	0	0	0	112.8	213.8	335.0	17.6	13.2
7 REVELLE	0	0	0	115.0	0.0	0.0	0.0	0.0
8 RIVAL	0	0	0	107.8	185.0	271.3	17.0	11.6

TABLE OF AB MEANS

1 untreated check						0	0	0	113.4	171.8	275.8	18.0	11.3
1 CALICO BELLE													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	109.0	171.1	253.9	17.4	10.9
1 CALICO BELLE													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	114.0	170.1	258.9	17.6	11.1
1 CALICO BELLE													
1 untreated check						0	0	0	112.6	184.9	306.5	9.7	6.6
2 CNS 710													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	112.5	179.9	302.2	9.9	6.7
2 CNS 710													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	114.1	163.8	292.7	10.4	6.4
2 CNS 710													
1 untreated check						0	0	0	134.8	319.8	424.9	21.7	19.4
3 DELMONTE 2038													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	127.5	278.6	382.0	21.6	18.4
3 DELMONTE 2038													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	129.4	283.2	393.6	22.9	19.3
3 DELMONTE 2038													
1 untreated check						0	0	0	126.0	141.1	238.8	10.4	5.5
4 GG 222													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	123.2	146.9	247.5	10.7	5.8
4 GG 222													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	126.2	156.2	254.8	11.7	7.1
4 GG 222													
1 untreated check						0	0	0	123.3	189.5	290.7	14.0	9.7
5 GG 246													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	127.7	185.8	311.7	13.8	9.6
5 GG 246													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	127.8	175.9	298.8	13.5	9.2
5 GG 246													
1 untreated check						0	0	0	116.5	214.8	345.3	17.4	12.9
6 GH 2684													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	108.0	207.3	338.9	17.3	13.0
6 GH 2684													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	114.0	219.4	320.9	18.2	13.6
6 GH 2684													
1 untreated check						0	0	0	109.2	0.0	0.0	0.0	0.0
7 REVELLE													
2 clopyralid	360	SN	200	G A/HA	post A	0	0	0	115.9	0.0	0.0	0.0	0.0
7 REVELLE													
3 clopyralid	360	SN	400	G A/HA	post A	0	0	0	120.0	0.0	0.0	0.0	0.0
7 REVELLE													

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T3B

Crop Code		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS				
Part Rated		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL				
Rating Data Type		INJURY		INJURY		INJURY		HEIGHT		AVG.COB WT		AVG.COB WT				
Rating Unit		%		%		%		CM		G		G				
Rating Date		Jun-24-02		Jul-4-02		Jul-16-02		Jul-13-02								
Crop Stage		7 LEAF		11 LEAF		12 LEAF										
Crop Stage Scale		32.8 CM		91.3 CM		132.3 CM										
Trt-Eval Interval		7 DAT		14 DAT		28 DAT		28 DAT								
Trt No	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0	0	0	108.4	178.5	265.1	16.2	10.8	
8	RIVAL							0	0	0	107.6	189.5	271.8	17.8	13.0	
2	clopyralid	360	SN	200	G A/HA	post	A	0	0	0	107.6	189.5	271.8	17.8	13.0	
8	RIVAL							0	0	0	107.6	187.0	276.9	16.9	11.1	
3	clopyralid	360	SN	400	G A/HA	post	A	0	0	0	107.6	187.0	276.9	16.9	11.1	
8	RIVAL															
								LSD=	NS	NS	NS	NS	NS	NS	NS	
								CV=	0	0	0	5	10	7	12	19

Trial Comments

HARVEST DATES: GG 222 - AUG-14-02, CALICO BELLE - AUG-14-02, CNS 710 - AUG-14-02, RIVAL - AUG-16-02, GH 2684 - AUG-21-02, GG 246 - AUG-21-02, DELMONTE 2038 - AUG-21-02, REVEILLE NOT HARVESTED DUE TO RACCOON DAMAGE.

Conclusions: This trial was maintained weed free to test for the tolerance of eight sweet corn varieties (Calico Belle, CNS710, Delmonte 2038, GG222, GG246, GH2684, Reveille and Rival) to clopyralid applied postemergence (4-5 leaf stage) at 200 and 400 g a.i. ha⁻¹.

There was no effect of clopyralid on sweet corn visual injury, height, marketable cob number, total cob number, marketable yield or total yield in any of the eight varieties tested at either 200 or 400 g a.i. ha⁻¹.

TOLERANCE OF FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXNYL - I

Trial ID: SC02T5A Study Dir.: DARREN ROBINSON
 Location: RCAT - K Investigator: KRIS McNAUGHTON

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: SCIENTIST
 Investigator: KRIS McNAUGHTON Title: WEED TECHNICIAN

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: Determine the tolerance of sweet corn to a postemergence tank mix of nicosulfuron plus bromoxynil at 1X and 2X the label rates.

Crop 1: ZEAMS CORN, SWEET Variety: 4 VARIOUS
 Planting Date: May-22-02 Planting Method: PRECISION PLANTER
 Rate: 49000 SEEDS/HA Depth: 4 CM
 Row Spacing: 75 CM Emergence Date: Jun-3-02

SITE AND DESIGN

Plot Width, Unit: 6 M Plot Length, Unit: 10 M Reps: 4
 Tillage Type: CONVENTIONAL Study Design: FACTORIAL

MAINTENANCE

Field Prep./Maintenance: FERTILIZED WITH 447 KG/HA OF 27-0-0 AND 300 KG/HA OF 6-24-24. COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG A/HA. FORCE APPLIED DURING PLANTING AT 5 KG/HA.

SOIL DESCRIPTION

% Sand: 46.1 % OM: 6.0 Texture: LOAM
 % Silt: 29.4 pH: 5.9
 % Clay: 24.5

APPLICATION DESCRIPTION

A

Application Date: Jun-12-02
 Time of Day: 7:35 PM
 Application Method: CO2 SPRAY
 Application Timing: 4-5 LF
 Applic. Placement: FOLIAR
 Air Temp., Unit: 18.2 C
 % Relative Humidity: 72
 Wind Velocity, Unit: 7 KPH
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 25.0 C
 Soil Moisture: DRY
 % Cloud Cover: 85

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
 Stage Scale: 4 LF
 Height, Unit: 15 CM

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
 Operating Pressure: 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Nozzle Spacing, Unit: 50 CM
 Boom Length, Unit: 1.5 M
 Boom Height, Unit: 50 CM
 Carrier: WATER
 Spray Volume, Unit: 200 L/HA
 Propellant: CO2

TOLERANCE OF FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXNYL - I

KRIS McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T5A

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Trt-Eval Interval	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	
								INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	MARKET
								%	%	%	CM	AVG.COB.WT	AVG.COB.WT	YIELD	YIELD
								Jun-21-02	Jun-26-02	Jul-11-02	Jul-4-02	G	G	T/HA	T/HA
								6-7 LF	7-8 LF	10-11 LF	8-9 LF				
								28-42 CM	55-80 CM	99-135CM	61-122CM				
								7 DAT	14 DAT	28 DAT	21 DAT				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
TABLE OF R MEANS													
Replicate 1							5	1	1	99.1	164.8	255.9	16.0
Replicate 2							5	1	1	90.8	145.7	237.2	13.3
Replicate 3							7	2	1	90.7	140.7	228.1	12.5
Replicate 4							6	2	2	93.4	132.6	268.4	11.0

1	untreated check						0a	0a	0a	97.2b	154.5c	260.3	13.2b	8.2bc
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF A	1ab	0a	1ab	97.8b	150.7bc	235.5	13.8b	9.4d
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF A	5cd	2c	2b	93.6b	145.2bc	247.2	13.6b	8.9cd
3	Agral 90		SO	0.4	% V/V	4-5 LF A								
4	bromoxynil	280	EC	280	G A/HA	4-5 LF A	3bc	0a	1ab	95.1b	148.4bc	292.8	13.9b	8.8cd
5	bromoxynil	280	EC	560	G A/HA	4-5 LF A	6d	1b	1ab	94.8b	146.9bc	234.2	13.5b	7.7b
6	nicosulfuron	75	DF	25	G A/HA	4-5 LF A	6d	1b	1ab	91.8b	143.7b	230.7	13.4b	7.5b
6	bromoxynil	280	EC	280	G A/HA	4-5 LF A								
6	Agral 90		SO	0.2	% V/V	4-5 LF A								
7	nicosulfuron	75	DF	50	G A/HA	4-5 LF A	21e	8d	5c	84.2a	132.2a	231.0	11.3a	5.3a
7	bromoxynil	280	EC	560	G A/HA	4-5 LF A								
7	Agral 90		SO	0.4	% V/V	4-5 LF A								
							LSD= 3	1	2	7	10	NS	1	1
							CV= 78	106	215	11	9	37	13	23

1	GG 246						6	1	0	108.8	151.8	245.7	14.7	10.7
2	BSS 5362						8	3	3	86.1	129.8	232.9	12.4	5.6
3	HMX 8344						6	2	2	85.8	148.0	253.2	14.0	7.4
4	CNS 710						4	1	1	93.4	154.1	257.8	11.8	8.2

1	untreated check						0a	0a	0a	109.2	153.6	249.3	14.4	10.6
1	GG 246													
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF A	1a	0a	0a	112.3	163.4	251.6	15.9	12.1
2	Agral 90		SO	0.2	% V/V	4-5 LF A								
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF A	4b	0a	0a	108.9	155.9	254.3	15.5	10.9
3	Agral 90		SO	0.4	% V/V	4-5 LF A								
4	bromoxynil	280	EC	280	G A/HA	4-5 LF A	5b	0a	0a	114.0	148.3	242.6	15.3	11.5
1	GG 246													
5	bromoxynil	280	EC	560	G A/HA	4-5 LF A	8c	1a	0a	111.0	142.2	229.9	13.8	10.4
1	GG 246													
6	nicosulfuron	75	DF	25	G A/HA	4-5 LF A	7c	0a	0a	106.3	149.2	242.0	14.7	10.4
6	bromoxynil	280	EC	280	G A/HA	4-5 LF A								
6	Agral 90		SO	0.2	% V/V	4-5 LF A								
1	GG 246													
7	nicosulfuron	75	DF	50	G A/HA	4-5 LF A	19d	6b	1b	99.6	150.3	250.4	13.4	8.8
7	bromoxynil	280	EC	560	G A/HA	4-5 LF A								
7	Agral 90		SO	0.4	% V/V	4-5 LF A								
1	GG 246													
1	untreated check						0a	0a	0a	93.3	136.7	303.8	12.4	6.0
2	BSS 5362													
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF A	4b	0a	2c	91.0	140.2	229.0	13.6	7.7
2	Agral 90		SO	0.2	% V/V	4-5 LF A								
2	BSS 5362													
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF A	9d	4c	4d	85.5	124.9	233.9	11.6	6.0
3	Agral 90		SO	0.4	% V/V	4-5 LF A								
2	BSS 5362													
4	bromoxynil	280	EC	280	G A/HA	4-5 LF A	4b	0a	1b	87.0	137.9	195.3	13.8	6.1
2	BSS 5362													
5	bromoxynil	280	EC	560	G A/HA	4-5 LF A	6c	1ab	2c	86.7	134.0	230.2	13.5	5.6
2	BSS 5362													
6	nicosulfuron	75	DF	25	G A/HA	4-5 LF A	8d	2b	2c	83.2	126.3	210.3	12.5	5.2
6	bromoxynil	280	EC	280	G A/HA	4-5 LF A								
6	Agral 90		SO	0.2	% V/V	4-5 LF A								
2	BSS 5362													

TOLERANCE OF FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXNYL - I

KRIS McNAUGHTON, DARREN ROBINSON

Experiment ID: SC02T5A

Crop Code				ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS			
Part Rated				INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	MARKET				
Rating Data Type				%	%	%	CM	AVG.COB.WT	AVG.COB.WT	YIELD	YIELD				
Rating Unit				Jun-21-02	Jun-26-02	Jul-11-02	Jul-4-02	G	G	T/HA	T/HA				
Rating Date				6-7 LF	7-8 LF	10-11 LF	8-9 LF								
Crop Stage				28-42 CM	55-80 CM	99-135CM	61-122CM								
Crop Stage Scale				7 DAT	14 DAT	28 DAT	21 DAT								
Tri-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
7	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	29e	12d	8e	76.1	108.6	227.9	9.7	2.6
7	bromoxynil	280	EC	560	G A/HA	4-5 LF	A								
7	Agral 90		SO	0.4	% V/V	4-5 LF	A								
2	BSS 5362														
1	untreated check							0a	0a	0a	90.6	169.1	228.3	14.8	8.6
3	HMX 8344														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	1ab	0a	1b	91.3	149.6	211.7	14.3	9.4
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
3	HMX 8344														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	5c	2b	3c	85.9	138.3	203.8	13.6	7.9
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
3	HMX 8344														
4	bromoxynil	280	EC	280	G A/HA	4-5 LF	A	2b	0a	1b	86.9	146.6	470.2	14.0	8.3
3	HMX 8344														
5	bromoxynil	280	EC	560	G A/HA	4-5 LF	A	5c	0a	1b	83.9	153.4	225.5	15.0	6.8
3	HMX 8344														
6	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	5c	0a	1b	86.3	151.5	225.6	14.7	6.9
6	bromoxynil	280	EC	280	G A/HA	4-5 LF	A								
6	Agral 90		SO	0.2	% V/V	4-5 LF	A								
3	HMX 8344														
7	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	24d	9c	7d	75.6	127.8	207.1	11.6	3.8
7	bromoxynil	280	EC	560	G A/HA	4-5 LF	A								
7	Agral 90		SO	0.4	% V/V	4-5 LF	A								
3	HMX 8344														
1	untreated check							0a	0a	0a	95.8	158.7	259.9	11.0	7.5
4	CNS 710														
2	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	0a	0a	0a	96.9	149.6	249.8	11.3	8.4
2	Agral 90		SO	0.2	% V/V	4-5 LF	A								
4	CNS 710														
3	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	2b	0a	1b	94.1	162.0	297.0	13.8	10.7
3	Agral 90		SO	0.4	% V/V	4-5 LF	A								
4	CNS 710														
4	bromoxynil	280	EC	280	G A/HA	4-5 LF	A	2b	0a	0a	92.5	160.7	263.0	12.4	9.2
4	CNS 710														
5	bromoxynil	280	EC	560	G A/HA	4-5 LF	A	5c	0a	0a	97.6	157.9	251.3	11.7	7.9
4	CNS 710														
6	nicosulfuron	75	DF	25	G A/HA	4-5 LF	A	4c	0a	1b	91.6	148.0	244.8	11.7	7.5
6	bromoxynil	280	EC	280	G A/HA	4-5 LF	A								
6	Agral 90		SO	0.2	% V/V	4-5 LF	A								
4	CNS 710														
7	nicosulfuron	75	DF	50	G A/HA	4-5 LF	A	13d	3b	4c	85.4	142.0	238.7	10.5	6.1
7	bromoxynil	280	EC	560	G A/HA	4-5 LF	A								
7	Agral 90		SO	0.4	% V/V	4-5 LF	A								
4	CNS 710														
								LSD=	2	2	1	NS	NS	NS	NS
								CV=	22	78	65	5	9	39	10

Trial Comments

	EMERGED	HARVESTED
GG 246	May 31, 2002	August 13, 2002
GSS 5362	June 3, 2002	August 9, 2002
HMX 8344	June 3, 2002	August 9, 2002
CNS 710	June 3, 2002	August 8, 2002

Conclusions: This trial was maintained weed free to test for the tolerance of four sweet corn varieties (GG246, BSS5362, HMX8344 and CNS710) to nicosulfuron (25 and 50 g a.i. ha⁻¹), bromoxynil (280 and 560 g a.i. ha⁻¹), and a tank mix of nicosulfuron+bromoxynil (25+280 and 50+560 g a.i. ha⁻¹) applied postemergence (4-5 leaf stage). These varieties were selected based on their respective levels of tolerance to nicosulfuron to determine whether tank mixing it with bromoxynil would accentuate injury, and negatively influence height, cob size and yield.

As the rate of nicosulfuron increased, injury to GG246, BSS5362 and HMX8344 increased at 7 days after treatment. The amount of visual injury decreased with time, such that by 28 days after treatment, visual injury was less than 5% in all varieties. There was no increase in injury to CNS710 as nicosulfuron rate increased. At all rates and for all varieties, visual injury was commercially acceptable (<10%). Leaf tissue exhibited flashing symptoms (i.e. chlorotic bands across leaves).

As the rate of bromoxynil increased, injury to all four varieties in the trial increased by 7 days after treatment. However, by 14 days after treatment, all varieties had outgrown the injury. At all rates and for all varieties, visual injury was commercially acceptable (<10%). Leaf tissue contacted by the herbicide appeared bronzed and speckled, but the growing points were unaffected.

The tank mix of nicosulfuron+bromoxynil caused commercially unacceptable visual injury in all four varieties at 7 days after treatment. By 28 days after treatment, visual injury was commercially acceptable (<10%), but still significant in BSS5362, HMX8344 and CNS710. Plants had flashing symptoms as well as speckling and contact burn.

Height, total cob weight, marketable cob weight, total yield and marketable yield were not significantly less in any of the treatments compared with the untreated check. Height, total cob weight, total yield and marketable yield tended to be less in the nicosulfuron+bromoxynil (50+560 g a.i. ha⁻¹) treatment than in the untreated check and the nicosulfuron+bromoxynil (25+280 g a.i. ha⁻¹) treatment.

TOLERANCE OF FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXYNIL - II

Trial ID: SC02T5B Study Dir.: DARREN ROBINSON
 Location: HRS - Range S13 Investigator: TODD COWAN

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: RESEARCH SCIENTIST
 Affiliation: RIDGETOWN COLLEGE OF AGRICULTURE TECH. (U. OF GUELPH)
 Postal Code: NOP 2C0
 Investigator: TODD COWAN Title: WEED SCIENCE TECH.
 Affiliation: HURON RESEARCH STATION (R.C.A.T.)
 Postal Code: NOM 1S4

TRIAL LOCATION

City: EXETER Trial Status: IN PROGRESS
 State/Prov.: ONTARIO
 Postal Code: NOM 1S4 Initiation Date: Apr-1-02
 Country: CANADA Planned Completion Date: Dec-31-02

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Objective: Determine the tolerance of sweet corn to a postemergence tank mix of nicosulfuron plus bromoxynil at 1X and 2X the label rates.

Crop 1: ZEAMS CORN, SWEET Variety: VARIOUS
 Planting Date: May-23-02 Planting Method: PRECISION PLANTER
 Rate: 50000 P/HA Depth: 5 CM
 Row Spacing: 75 CM Seed Bed: FINE
 Soil Moisture: MOIST Emergence Date: Jun-1-02

SITE AND DESIGN

Plot Width, Unit: 6 M Plot Length, Unit: 11 M Reps: 4
 Site Type: FIELD
 Tillage Type: CONVENTIONAL Study Design: FACTORIAL

Previous Crops	Previous Pesticides	Year
1. OATS		2001
2. PROCESSING PEAS		2000
3. FIELD CORN		1999

MAINTENANCE

Field Prep./Maintenance: 390 kg/ha OF 36-7-8 FERTILIZER BROADCAST PREPLANT. COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG/HA.

SOIL DESCRIPTION

% Sand: 26 % OM: 4.5
 % Silt: 37 pH: 8 Soil Name: CLAY LOAM
 % Clay: 37 CEC: 32

APPLICATION DESCRIPTION

A

Application Date: Jun-18-02
 Time of Day: 7:55 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 18.4 C
 % Relative Humidity: 78
 Wind Velocity, Unit: 0 KM/H
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 15.5 C
 Soil Moisture: SB-M SF-M
 % Cloud Cover: 20

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS 4 LEAF
 Height, Unit: 17.8 CM

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
 Operating Pressure: 241 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 VS
 Nozzle Spacing, Unit: 50 CM
 Boom Length, Unit: 3 M
 Boom Height, Unit: 50 CM
 Carrier: WATER
 Spray Volume, Unit: 200 L/HA
 Propellant: CO2

TOLERANCE OF FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXNYL - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T5B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	TOTAL	MARKET	TOTAL	MARKET	TOTAL	MARKET	TOTAL	MARKET	TOTAL
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG.COB WT	AVG.COB WT	YIELD	YIELD	YIELD
Rating Unit	%	%	%	CM	G	G	T/HA	T/HA	T/HA
Rating Date	Jun-24-02	Jul-4-02	Jul-16-02	Jul-13-02					
Crop Stage	6 LEAF	9 LEAF	11 LEAF						
Crop Stage Scale	31.8 CM	85 CM	120.3						
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	28 DAT					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
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TABLE OF R MEANS

Replicate 1	7	2	1	105.7	185.8	305.0	14.1	8.7
Replicate 2	7	1	0	101.3	195.9	304.1	14.6	9.3
Replicate 3	7	3	0	103.2	196.4	303.0	14.8	9.2
Replicate 4	7	2	1	104.6	203.4	328.4	15.4	10.3

TABLE OF A MEANS

1 untreated check						0a	0a	0a	107.8b	192.9	308.5	14.8	9.6
2 nicosulfuron	75	DF	25	G A/HA	post A	0a	0a	0a	103.8ab	194.4	318.1	14.5	8.9
2 Agral 90		SO	0.2	% V/V	post A								
3 nicosulfuron	75	DF	50	G A/HA	post A	3b	1ab	1b	109.2b	202.3	307.8	15.4	10.3
3 Agral 90		SO	0.4	% V/V	post A								
4 bromoxynil	280	EC	280	G A/HA	post A	5c	1ab	0a	107.2b	197.8	315.4	14.8	9.6
5 bromoxynil	280	EC	560	G A/HA	post A	6c	2b	0a	99.5a	197.4	312.2	14.8	9.6
6 nicosulfuron	75	DF	25	G A/HA	post A	12d	2b	0a	100.4a	199.2	308.2	15.0	9.5
6 bromoxynil	280	EC	280	G A/HA	post A								
6 Agral 90		SO	0.2	% V/V	post A								
7 nicosulfuron	75	DF	50	G A/HA	post A	23e	8c	2c	98.0a	183.6	300.7	14.0	8.1
7 bromoxynil	280	EC	560	G A/HA	post A								
7 Agral 90		SO	0.4	% V/V	post A								
						LSD= 2	2	0	6	NS	NS	NS	NS
						CV= 41	111	1310	8	12	13	16	27

TABLE OF B MEANS

1 FTF 246	6	1	0	115.2	203.1	302.9	14.6	10.2
2 BSS 5362	10	4	2	91.3	176.3	316.7	13.8	7.1
3 HMX 8344	8	2	0	103.8	225.0	329.7	20.1	13.6
4 CNS 710	5	1	0	104.6	177.1	291.2	10.5	6.5

TABLE OF AB MEANS

1 untreated check						0a	0a	0a	115.9	209.0	313.9	15.4	11.8b
1 FTF 246													
2 nicosulfuron	75	DF	25	G A/HA	post A	0a	0a	0a	111.8	200.2	292.8	13.7	9.2a
2 Agral 90		SO	0.2	% V/V	post A								
1 FTF 246													
3 nicosulfuron	75	DF	50	G A/HA	post A	0a	0a	0a	128.3	232.4	308.6	16.0	12.5b
3 Agral 90		SO	0.4	% V/V	post A								
1 FTF 246													
4 bromoxynil	280	EC	280	G A/HA	post A	5b	0a	0a	122.6	204.3	317.9	14.4	9.9ab
1 FTF 246													
5 bromoxynil	280	EC	560	G A/HA	post A	6b	2b	0a	110.3	203.6	314.7	14.5	9.7a
1 FTF 246													
6 nicosulfuron	75	DF	25	G A/HA	post A	11c	2b	0a	112.1	191.5	276.4	14.2	9.6a
6 bromoxynil	280	EC	280	G A/HA	post A								
6 Agral 90		SO	0.2	% V/V	post A								
1 FTF 246													
7 nicosulfuron	75	DF	50	G A/HA	post A	18d	4c	0a	105.7	180.9	296.3	13.7	9.0a
7 bromoxynil	280	EC	560	G A/HA	post A								
7 Agral 90		SO	0.4	% V/V	post A								
1 FTF 246													
1 untreated check						0a	0a	0a	100.0	176.3	318.6	13.6	6.9abc
2 BSS 5362													
2 nicosulfuron	75	DF	25	G A/HA	post A	0a	0a	0a	90.5	178.6	317.4	14.2	7.2abc
2 Agral 90		SO	0.2	% V/V	post A								
2 BSS 5362													
3 nicosulfuron	75	DF	50	G A/HA	post A	8c	4c	3c	90.9	157.5	299.5	12.4	6.0ab
3 Agral 90		SO	0.4	% V/V	post A								
2 BSS 5362													
4 bromoxynil	280	EC	280	G A/HA	post A	5b	2b	0a	93.6	184.5	327.7	15.1	8.6c
2 BSS 5362													
5 bromoxynil	280	EC	560	G A/HA	post A	6b	2b	1b	87.9	188.4	333.9	14.2	8.1c
2 BSS 5362													
6 nicosulfuron	75	DF	25	G A/HA	post A	16d	4c	0a	93.7	182.7	311.9	14.3	7.6b
6 bromoxynil	280	EC	280	G A/HA	post A								
6 Agral 90		SO	0.2	% V/V	post A								
2 BSS 5362													

TOLERANCE OF FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXNYL - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC02T5B

Crop Code		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS				
Part Rated		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS				
Rating Data Type		INJURY		INJURY		INJURY		HEIGHT		AVG.COB WT		YIELD				
Rating Unit		%		%		%		CM		G		T/HA				
Rating Date		Jun-24-02		Jul-4-02		Jul-16-02		Jul-13-02								
Crop Stage		6 LEAF		9 LEAF		11 LEAF										
Crop Stage Scale		31.8 CM		85 CM		120.3										
Trt-Eval Interval		7 DAT		14 DAT		28 DAT		28 DAT								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
7	nicosulfuron	75	DF	50	G A/HA	post	A	33e	16d	8d	82.3	166.0	307.8	12.9	5.6a	
7	bromoxynil	280	EC	560	G A/HA	post	A									
7	Agral 90		SO	0.4	% V/V	post	A									
2	BSS 5362															
1	untreated check							0a	0a	0a	104.1	217.5	315.1	19.8	13.5bc	
3	HMX 8344															
2	nicosulfuron	75	DF	25	G A/HA	post	A	2b	0a	0a	108.9	232.9	381.2	20.8	14.4bc	
2	Agral 90		SO	0.2	% V/V	post	A									
3	HMX 8344															
3	nicosulfuron	75	DF	50	G A/HA	post	A	5c	0a	0a	109.1	235.1	321.8	21.6	15.3c	
3	Agral 90		SO	0.4	% V/V	post	A									
3	HMX 8344															
4	bromoxynil	280	EC	280	G A/HA	post	A	5c	1ab	0a	106.1	227.9	326.7	19.6	13.6bc	
3	HMX 8344															
5	bromoxynil	280	EC	560	G A/HA	post	A	6c	2bc	0a	101.2	220.5	320.3	20.6	14.7bc	
3	HMX 8344															
6	nicosulfuron	75	DF	25	G A/HA	post	A	13d	3c	0a	98.1	235.8	331.8	20.1	13.1b	
6	bromoxynil	280	EC	280	G A/HA	post	A									
6	Agral 90		SO	0.2	% V/V	post	A									
3	HMX 8344															
7	nicosulfuron	75	DF	50	G A/HA	post	A	26e	9d	0a	98.9	205.6	310.6	18.1	11.0a	
7	bromoxynil	280	EC	560	G A/HA	post	A									
7	Agral 90		SO	0.4	% V/V	post	A									
3	HMX 8344															
1	untreated check							0a	0a	0a	111.4	168.9	286.3	10.2	6.1ab	
4	CNS 710															
2	nicosulfuron	75	DF	25	G A/HA	post	A	0a	0a	0a	104.2	166.1	281.0	9.3	5.0a	
2	Agral 90		SO	0.2	% V/V	post	A									
4	CNS 710															
3	nicosulfuron	75	DF	50	G A/HA	post	A	0a	0a	0a	108.3	184.1	301.2	11.5	7.5b	
3	Agral 90		SO	0.4	% V/V	post	A									
4	CNS 710															
4	bromoxynil	280	EC	280	G A/HA	post	A	4b	0a	0a	106.5	174.6	289.3	9.9	6.2ab	
4	CNS 710															
5	bromoxynil	280	EC	560	G A/HA	post	A	7c	2b	0a	98.8	176.9	279.6	9.7	6.1ab	
4	CNS 710															
6	nicosulfuron	75	DF	25	G A/HA	post	A	7c	1ab	0a	97.7	186.8	312.7	11.4	7.8b	
6	bromoxynil	280	EC	280	G A/HA	post	A									
6	Agral 90		SO	0.2	% V/V	post	A									
4	CNS 710															
7	nicosulfuron	75	DF	50	G A/HA	post	A	16d	4c	0a	105.1	182.1	288.3	11.1	6.8ab	
7	bromoxynil	280	EC	560	G A/HA	post	A									
7	Agral 90		SO	0.4	% V/V	post	A									
4	CNS 710															
								LSD=	2	2	1	NS	NS	NS	NS	2
								CV=	23	71	131	7	9	11	10	15

Trial Comments

HARVEST DATES: CNS 710 - AUG-14-02, HMX 8344 - AUG-16-02, FTF 246 - AUG-19-02, BSS 5362 - AUG-22-02.

Conclusions: This trial was maintained weed free to test for the tolerance of four sweet corn varieties (GG246, BSS5362, HMX8344 and CNS710) to nicosulfuron (25 and 50 g a.i. ha⁻¹), bromoxynil (280 and 560 g a.i. ha⁻¹), and a tank mix of nicosulfuron+bromoxynil (25+280 and 50+560 g a.i. ha⁻¹) applied postemergence (4-5 leaf stage). These varieties were selected based on their respective levels of tolerance to nicosulfuron to determine whether tank mixing it with bromoxynil would accentuate injury, and negatively influence height, cob number and yield.

As the rate of nicosulfuron increased, injury to BSS5362 and HMX8344 increased at 7 days after treatment. The amount of visual injury decreased with time, such that by 28 days after treatment, visual injury was 0% in either variety. There was no increase in injury to GG246 and CNS710 as nicosulfuron rate increased. At all rates and for all varieties, visual injury was commercially acceptable (<10%). Leaf tissue exhibited flashing symptoms (i.e. chlorotic bands across leaves).

As the rate of bromoxynil increased, injury to all four varieties in the trial increased at 7 days after treatment. However, by 28 days after treatment, all varieties had outgrown the injury. At all rates and for all varieties, visual injury was commercially acceptable (<10%). Leaf tissue contacted by the herbicide appeared bronzed and speckled, but the growing points were unaffected.

The tank mix of nicosulfuron+bromoxynil caused commercially unacceptable visual injury in all four varieties at 7 days after treatment. By 28 days after treatment, visual injury was commercially acceptable (<10%), but still significant in BSS5362. Plants had flashing symptoms as well as speckling and contact burn.

Height, total cob weight, marketable cob weight, total yield and marketable yield were not significantly less in any of the treatments compared with the untreated check. Height, total cob weight, total yield and marketable yield tended to be less in the nicosulfuron+bromoxynil (50+560 g a.i. ha⁻¹) treatment than in the untreated check and the nicosulfuron+bromoxynil (25+280 g a.i. ha⁻¹) treatment.

TOLERANCE OF LIMA BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: LB02T1

CROP: PHSLU, BEAN, LIMA (IMPROVED KINGSTONS). Planted: Jun-10-02, 270000 SEEDS/HA, 5 CM Deep, 75 CM Row Width.
 Planting Method: PRECISION PLANTER. Emerged On: Jun-19-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-L6.

Site Description: Soil Texture: VERY FINE LOAMY SAND. %OM: 4.20 %Sand: 77.8 %Silt: 14.1 %Clay: 8.1 pH: 6.9

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A	B	B
Date	Jun-12-02	Jul-2-02	2 TRI
Time of Day	2:00 PM	9:10 PM	10.4 CM
Method	CO2 SPRAY	CO2 SPRAY	
Timing	PRE	2 TRI.	
Placement	SOIL	FOLIAR	
Air Temp.	29.2 C	22.5 C	
% Humidity	48	84	
Wind Speed	5 KPH	0 KPH	
Dew Present	N	Y	
Soil Temp.	29.0 C	32.0 C	
Soil Moist.	DRY	DRY	
Cloud Cover	100%	20%	
Equipment	CO2 SPRAY	CO2 SPRAY	
Pressure	207 kPa	207 kPa	
Nozzle Type	FLAT FAN	FLAT FAN	
Nozzle Size	8002 XR	8002 XR	
Noz.Spacing	50 CM	50 CM	
Boom Length	1.5 M	1.5 M	
Boom Height	50 CM	50 CM	
Carrier	WATER	WATER	
Appl.Volume	200 L/HA	200 L/HA	
Propellant	CO2	CO2	

Crop Code	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU
Part Rated	1-10	1-10	1-10	11-18	11-18	11-18	1-10	11-18	
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	HEIGHT	HEIGHT	
Rating Unit	%	%	%	%	%	%	CM	CM	
Rating Date	Jun-24-02	Jul-3-02	Jul-15-02	Jul-9-02	Jul-15-02	Jul-29-02	Jul-17-02	Jul-29-02	
Crop Stage	UNI.	2 TRI	4-5 TRI	3-4 TRI	4-5 TRI	8-15 TRI	5-7 TRI	8-15TRI	
Crop Stage Scale	5-10 CM	10-16 CM	19-22 CM	11-20 CM	19-22 CM	26-50 CM	18-46 CM	26-50 CM	
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAT	28 DAE	28 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code											
1	untreated check							0	b 0	c 0	c 0	e 0	e 0	b	27.9	abc	40.5	ab
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	b 0	c 0	c				31.6	ab		
3	s-metolachlor	915	EC	3200	G A/HA	PRE	A	0	b 0	c 0	c				25.3	bc		
4	imazethapyr	240	SN	75	G A/HA	PRE	A	0	b 0	c 0	c				30.7	abc		
5	imazethapyr	240	SN	150	G A/HA	PRE	A	0	b 0	c 2	ab				32.2	ab		
6	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	b 0	c 1	bc				23.0	c		
	imazethapyr	240	SN	75	G A/HA	PRE	A											
7	s-metolachlor	915	EC	3200	G A/HA	PRE	A	0	b 0	c 0	c				25.8	bc		
	imazethapyr	240	SN	150	G A/HA	PRE	A											
8	flumioxazin	51	WG	52.5	G A/HA	PRE	A	0	b 3	b 1	bc				34.5	a		
9	flumioxazin	51	WG	70	G A/HA	PRE	A	1	b 1	bc 1	bc				28.8	abc		
10	flumioxazin	51	WG	140	G A/HA	PRE	A	3	a 8	a 2	a				27.8	abc		
11	fomesafen	240	SN	200	G A/HA	2 TRI	B					6	ab 4	ab 2	ab		34.7	b
	imazamox	70	WG	23	G A/HA	2 TRI	B											
	Agral 90		SO	0.25	% V/V	2 TRI	B											
	UAN 28%		SO	2	L/HA	2 TRI	B											
12	fomesafen	240	SN	400	G A/HA	2 TRI	B					7	a 6	a 3	a		36.5	b
	imazamox	70	WG	50	G A/HA	2 TRI	B											
	Agral 90		SO	0.5	% V/V	2 TRI	B											
	UAN 28%		SO	4	L/HA	2 TRI	B											
13	imazamox	70	WG	25	G A/HA	2 TRI	B					4	bc 2	bcd 1	ab		34.2	b
	bentazon (Forte)	480	SN	600	G A/HA	2 TRI	B											
	UAN 28%		SO	2	L/HA	2 TRI	B											
14	imazamox	70	WG	50	G A/HA	2 TRI	B					5	bc 2	bcd 1	ab		40.2	ab
	bentazon (Forte)	480	SN	1200	G A/HA	2 TRI	B											
	UAN 28%		SO	4	L/HA	2 TRI	B											
15	imazethapyr	240	SN	75	G A/HA	2 TRI	B					5	bc 3	bcd 0	b		40.8	ab
	bentazon (Forte)	480	SN	840	G A/HA	2 TRI	B											
	UAN 28%		SO	2	L/HA	2 TRI	B											
16	imazethapyr	240	SN	150	G A/HA	2 TRI	B					7	a 4	bc 2	ab		38.9	ab
	bentazon (Forte)	480	SN	1680	G A/HA	2 TRI	B											
	UAN 28%		SO	4	L/HA	2 TRI	B											
17	cloransulam-methyl	84	WG	17.5	G A/HA	2 TRI	B					3	cd 2	cde 1	ab		40.0	ab
	Agral 90		SO	0.25	% V/V	2 TRI	B											
	UAN 28%		SO	2	L/HA	2 TRI	B											
18	cloransulam-methyl	84	WG	35	G A/HA	2 TRI	B					2	de 1	de 0	b		43.5	a
	Agral 90		SO	0.5	% V/V	2 TRI	B											
	UAN 28%		SO	4	L/HA	2 TRI	B											
LSD (P=.05)								1.6	2.4	1.3	2.1	2.2	2.0	8.51	6.72			
Standard Deviation								1.1	1.6	0.9	1.4	1.5	1.4	5.86	4.60			
CV								302.64	142.79	164.87	33.74	57.03	139.44	20.39	11.86			

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

TOLERANCE OF LIMA BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: LB02T1

Crop Code		PHSLU		PHSLU		PHSLU		PHSLU		PHSLU							
Part Rated		1-10		11-18		1-10		11-18		8 M							
Rating Data Type		FRESH WT.		FRESH WT.		DRY WT.		DRY WT.		YIELD							
Rating Unit		KG		KG		G		G		T/HA							
Rating Date		Jul-30-02		Aug-14-02		Aug-9-02		Aug-22-02		Sep-12-02							
Crop Stage		8-15TRI		8-15TRI													
Crop Stage Scale		26-50 CM		26-50 CM													
Assessed By		1 M HARVEST		1 M HARVEST		1 M HARVEST		1 M HARVEST									
Trt-Eval Interval		42 DAE		56 DAT		71 DAE		71 DAT		77 DAT							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	9	10	11	12	14					
1	untreated check							0.62	abc	1.11	a	112.31	abc	190.00	a	2.5	ab
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0.69	ab			124.40	ab			2.6	ab
3	s-metolachlor	915	EC	3200	G A/HA	PRE	A	0.47	bc			87.66	bc			1.9	b
4	imazethapyr	240	SN	75	G A/HA	PRE	A	0.73	ab			129.36	ab			2.5	ab
5	imazethapyr	240	SN	150	G A/HA	PRE	A	0.64	abc			113.59	abc			2.5	ab
6	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0.34	c			66.94	c			2.2	b
	imazethapyr	240	SN	75	G A/HA	PRE	A										
7	s-metolachlor	915	EC	3200	G A/HA	PRE	A	0.56	abc			103.22	abc			2.5	ab
	imazethapyr	240	SN	150	G A/HA	PRE	A										
8	flumioxazin	51	WG	52.5	G A/HA	PRE	A	0.84	a			147.38	a			3.0	a
9	flumioxazin	51	WG	70	G A/HA	PRE	A	0.69	ab			125.05	ab			2.3	ab
10	flumioxazin	51	WG	140	G A/HA	PRE	A	0.59	abc			103.98	abc			2.6	ab
11	fomesafen	240	SN	200	G A/HA	2 TRI	B		0.99	a			173.75		a	2.1	b
	imazamox	70	WG	23	G A/HA	2 TRI	B										
	Agral 90		SO	0.25	% V/V	2 TRI	B										
	UAN 28%		SO	2	L/HA	2 TRI	B										
12	fomesafen	240	SN	400	G A/HA	2 TRI	B		1.19	a			203.75		a	2.4	ab
	imazamox	70	WG	50	G A/HA	2 TRI	B										
	Agral 90		SO	0.5	% V/V	2 TRI	B										
	UAN 28%		SO	4	L/HA	2 TRI	B										
13	imazamox	70	WG	25	G A/HA	2 TRI	B		0.89	a			162.50		a	2.0	b
	bentazon (Forte)	480	SN	600	G A/HA	2 TRI	B										
	UAN 28%		SO	2	L/HA	2 TRI	B										
14	imazamox	70	WG	50	G A/HA	2 TRI	B		1.29	a			231.25		a	2.4	ab
	bentazon (Forte)	480	SN	1200	G A/HA	2 TRI	B										
	UAN 28%		SO	4	L/HA	2 TRI	B										
15	imazethapyr	240	SN	75	G A/HA	2 TRI	B		1.33	a			228.75		a	2.3	ab
	bentazon (Forte)	480	SN	840	G A/HA	2 TRI	B										
	UAN 28%		SO	2	L/HA	2 TRI	B										
16	imazethapyr	240	SN	150	G A/HA	2 TRI	B		1.08	a			188.75		a	2.4	ab
	bentazon (Forte)	480	SN	1680	G A/HA	2 TRI	B										
	UAN 28%		SO	4	L/HA	2 TRI	B										
17	cloransulam-methyl	84	WG	17.5	G A/HA	2 TRI	B		1.44	a			246.25		a	2.5	ab
	Agral 90		SO	0.25	% V/V	2 TRI	B										
	UAN 28%		SO	2	L/HA	2 TRI	B										
18	cloransulam-methyl	84	WG	35	G A/HA	2 TRI	B		1.47	a			252.50		a	2.7	ab
	Agral 90		SO	0.5	% V/V	2 TRI	B										
	UAN 28%		SO	4	L/HA	2 TRI	B										
LSD (P=.05)								0.320	0.586	52.015	90.530	0.76					
Standard Deviation								0.220	0.402	35.848	62.029	0.54					
CV								35.71	33.46	32.18	29.73	22.39					

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

Trial Comments

Conclusions: This trial was kept weed-free to test for the effect of preemergence and postemergence herbicides on visual injury, height, fresh and dry weight and yields of lima beans. The following preemergence treatments were applied: s-metolachlor (1600 and 3200 g a.i. ha⁻¹), imazethapyr (75 and 150 g a.i. ha⁻¹), s-metolachlor+imazethapyr (1600+75 and 3200+150 g a.i. ha⁻¹) and flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹). Postemergence applications of fomesafen+imazamox (200+25 and 400+50 g a.i. ha⁻¹), imazamox+bentazon (25+600 and 50+1200 g a.i. ha⁻¹), imazethapyr+bentazon (75+840 and 150+1680 g a.i. ha⁻¹) and cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹) were made.

The flumioxazin (140 g a.i. ha⁻¹) caused significant visual injury 14 days after emergence (DAE). Postemergence treatments of fomesafen+imazamox (400+50 g a.i. ha⁻¹) and imazethapyr+bentazon (150+1680 g a.i. ha⁻¹) caused significant visual injury to lima beans at 7 and 14 days after treatment (DAT). Lima beans outgrew most of this visual injury by 28 DAE or DAT in the preemergence and postemergence treatments, respectively.

Height, fresh and dry weight, and lima bean yields were not significantly less in any treatment than in the untreated check.

TOLERANCE OF SNAP BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SN02T1

CROP: PHSVN, BEAN, SNAP (DANDY). Planted: Jun-10-02, 270000 SEEDS/HA, 5 CM Deep, 75 CM Row Width.

Planting Method: PRECISION PLANTER.

Emerged On: Jun-18-02.

PHSVN, BEAN, SNAP (IMPACT). Planted: Jun-10-02, 270000 SEEDS/HA, 5 CM Deep, 75 CM Row Width.

Planting Method: PRECISION PLANTER.

Emerged On: Jun-18-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-L6.

Site Description: Soil Texture: VERY FINE LOAMY SAND. %OM: 4.20 %Sand: 77.8 %Silt: 14.1 %Clay: 8.1 pH: 6.9

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A	B	Application:
Date	Jun-12-02	Jul-2-02	Crop 1 PHSLU
Time of Day	2:30 PM	8:50 PM	Height
Method	CO2 SPRAY	CO2 SPRAY	
Timing	PRE	2 TRI.	
Placement	SOIL	FOLIAR	
Air Temp.	29.2 C	22.5 C	
% Humidity	48	84	
Wind Speed	5 KPH	0 KPH	
Dew Present	N	Y	
Soil Temp.	29.0 C	32.0 C	
Soil Moist.	DRY	DRY	
Cloud Cover	100%	20%	
Equipment	CO2 SPRAY	CO2 SPRAY	
Pressure	207 kPa	207 kPa	
Nozzle Type	FLAT FAN	FLAT FAN	
Nozzle Size	8002 XR	8002 XR	
Noz.Spacing	50 CM	50 CM	
Boom Length	1.5 M	1.5 M	
Boom Height	50 CM	50 CM	
Carrier	WATER	WATER	
Appl.Volume	200 L/HA	200 L/HA	
Propellant	CO2	CO2	

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Assessed By	Trt-Eval Interval
PHSVN	1-8	INJURY	%	Jun-24-02	UNIFOL.	8-11 CM	DANDY		7 DAE
PHSVN	1-8	INJURY	%	Jun-24-02	UNIFOL.	8-11 CM	IMPACT		7DAE
PHSVN	1-8	INJURY	%	Jul-3-02	2 TRI	16-24 CM	DANDY		14 DAE
PHSVN	1-8	INJURY	%	Jul-3-02	2 TRI	15-20 CM	IMPACT		14 DAE
PHSVN	1-8	INJURY	%	Jul-15-02	4-5 TRI	36-50 CM	DANDY		28 DAE
PHSVN	1-8	INJURY	%	Jul-15-02	3-5 TRI	36-45 CM	IMPACT		28 DAE
PHSVN	9-18	INJURY	%	Jul-9-02	2-4 TRI	20-30 CM	DANDY		7 DAT
PHSVN	9-18	INJURY	%	Jul-9-02	2-4 TRI	20-30 CM	IMPACT		7 DAT

Trt	Treatment	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	7 DAE	7DAE	14 DAE	14 DAE	28 DAE	28 DAE	7 DAT	7 DAT	
1	untreated check							0	c 0	d 0	c 0	c 0	c 0	d 0	e 0	f
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	c 1	cd 0	c 0	c 0	c 0	d		
3	s-metolachlor	915	EC	3200	G A/HA	PRE	A	3	bc 2	cd 1	bc 0	c 0	c 0	d		
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A	1	bc 1	cd 1	bc 1	c 0	c 1	cd		
	imazethapyr	240	SN	75	G A/HA	PRE	A									
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A	2	bc 4	bc 1	bc 3	bc 0	c 1	cd		
	imazethapyr	240	SN	150	G A/HA	PRE	A									
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A	2	bc 3	bcd 1	bc 3	bc 1	c 2	bc		
7	flumioxazin	51	WG	70	G A/HA	PRE	A	4	ab 6	b 3	b 7	b 2	b 2	b		
8	flumioxazin	51	WG	140	G A/HA	PRE	A	6	a 10	a 8	a 18	a 4	a 5	a		
9	imazamox	70	WG	25	G A/HA	2 TRI	B							3	de	4
	fomesafen	240	SN	200	G A/HA	2 TRI	B									de
	Agral 90		SO	0.25	% V/V	2 TRI	B									
	UAN 28%		SO	2	L/HA	2 TRI	B									
10	imazamox	70	WG	50	G A/HA	2 TRI	B							3	cde	5
	fomesafen	240	SN	400	G A/HA	2 TRI	B									de
	Agral 90		SO	0.5	% V/V	2 TRI	B									
	UAN 28%		SO	4	L/HA	2 TRI	B									
11	imazamox	70	WG	25	G A/HA	2 TRI	B							4	bcd	4
	bentazon (Forte)	480	SN	600	G A/HA	2 TRI	B									de
	UAN 28%		SO	2	L/HA	2 TRI	B									
12	imazamox	70	WG	50	G A/HA	2 TRI	B							7	b	7
	bentazon (Forte)	480	SN	1200	G A/HA	2 TRI	B									bcd
	UAN 28%		SO	4	L/HA	2 TRI	B									
13	fomesafen	240	SN	140	G A/HA	2 TRI	B							4	bcd	5
	bentazon	480	SN	840	G A/HA	2 TRI	B									cde
	Assist		SO	2	L/HA	2 TRI	B									
14	bentazon (Forte)	480	SN	1080	G A/HA	2 TRI	B							5	bcd	6
	fenoxaprop-p-ethyl	80.5	EC	54	G A/HA	2 TRI	B									b-e
	Assist		SO	2	L/HA	2 TRI	B									
15	fomesafen	240	SN	280	G A/HA	2 TRI	B							11	a	12
	bentazon	480	SN	1680	G A/HA	2 TRI	B									a
	Assist		SO	4	L/HA	2 TRI	B									
16	bentazon (Forte)	480	SN	2160	G A/HA	2 TRI	B							11	a	9
	fenoxaprop-p-ethyl	80.5	EC	108	G A/HA	2 TRI	B									abc
	Assist		SO	4	L/HA	2 TRI	B									

TOLERANCE OF SNAP BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SN02T1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
	Crop Code							PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN		
	Part Rated							1-8	1-8	1-8	1-8	1-8	1-8	9-18	9-18		
	Rating Data Type							INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY		
	Rating Unit							%	%	%	%	%	%	%	%		
	Rating Date							Jun-24-02	Jun-24-02	Jul-3-02	Jul-3-02	Jul-15-02	Jul-15-02	Jul-9-02	Jul-9-02		
	Crop Stage							UNIFOL.	UNIFOL.	2 TRI	2 TRI	4-5 TRI	3-5 TRI	2-4 TRI	2-4 TRI		
	Crop Stage Scale							8-11 CM	8-11 CM	16-24 CM	15-20 CM	36-50 CM	36-45 CM	20-30 CM	20-30 CM		
	Weed Stage							DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT		
	Assessed By							DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT		
	Trt-Eval Interval							7 DAE	7DAE	14 DAE	14 DAE	28 DAE	28 DAE	7 DAT	7 DAT		
17	halosulfuron-methyl	75	WG	50	G A/HA	2 TRI	B							7	bc	9	ab
	Agral 90		SO	0.2	% V/V	2 TRI	B										
18	halosulfuron-methyl	75	WG	100	G A/HA	2 TRI	B							2	de	3	ef
	Agral 90		SO	0.4	% V/V	2 TRI	B										
	LSD (P=.05)							3.4	3.4	2.2	3.8	1.2	1.2	3.6	3.5		
	Standard Deviation							2.3	2.3	1.5	2.6	0.8	0.8	2.5	2.4		
	CV							113.65	73.15	86.02	65.13	111.74	64.64	48.89	42.22		

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

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
	Crop Code							PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN						
	Part Rated							9-18	9-18	9-18	9-18	1-8	1-8	9-18	9-18	9-18	9-18						
	Rating Data Type							INJURY	INJURY	INJURY	INJURY	HEIGHT	HEIGHT	HEIGHT	HEIGHT	HEIGHT	HEIGHT						
	Rating Unit							%	%	%	%	CM	CM	CM	CM	CM	CM						
	Rating Date							Jul-15-02	Jul-15-02	Jul-29-02	Jul-29-02	Jul-17-02	Jul-17-02	Jul-29-02	Jul-29-02	Jul-29-02	Jul-29-02						
	Crop Stage							4-5 TRI	3-5 TRI	6-10 TRI	6-10 TRI	3-5 TRI	3-5 TRI	6-10 TRI	6-10 TRI	6-10 TRI	6-10 TRI						
	Crop Stage Scale							36-50 CM	36-45 CM	29-51 CM	30-53 CM	29-51 CM	30-53 CM	29-51 CM	30-53 CM	30-53 CM	30-53 CM						
	Weed Stage							DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT						
	Assessed By							DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT	DANDY	IMPACT						
	Trt-Eval Interval							14 DAT	14 DAT	28 DAT	28 DAT	28 DAE	28 DAE	28 DAT	28 DAT	28 DAT	28 DAT						
1	untreated check							0	d	0	e	0	e	0	d	42.3	ab	40.7	c	43.4	ab	43.6	a
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A									42.7	a	42.7	abc				
3	s-metolachlor	915	EC	3200	G A/HA	PRE	A									45.7	a	45.7	ab				
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A									45.7	a	45.9	a				
	imazethapyr	240	SN	75	G A/HA	PRE	A																
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A									43.5	a	41.1	bc				
	imazethapyr	240	SN	150	G A/HA	PRE	A																
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A									42.8	a	42.5	abc				
7	flumioxazin	51	WG	70	G A/HA	PRE	A									42.6	a	39.3	c				
8	flumioxazin	51	WG	140	G A/HA	PRE	A									37.5	b	33.5	d	45.9	a	42.0	a
9	imazamox	70	WG	25	G A/HA	2 TRI	B	2	cd	2	de	1	cde	1	bcd					43.3	ab	43.1	a
	fomesafen	240	SN	200	G A/HA	2 TRI	B																
	Agral 90		SO	0.25	% V/V	2 TRI	B																
	UAN 28%		SO	2	L/HA	2 TRI	B																
10	imazamox	70	WG	50	G A/HA	2 TRI	B	3	bcd	4	bcd	2	a-e	1	a-d					45.7	ab	39.8	a
	fomesafen	240	SN	400	G A/HA	2 TRI	B																
	Agral 90		SO	0.5	% V/V	2 TRI	B																
	UAN 28%		SO	4	L/HA	2 TRI	B																
11	imazamox	70	WG	25	G A/HA	2 TRI	B	2	cd	3	cde	0	e	0	cd					43.6	ab	40.4	a
	bentazon (Forte)	480	SN	600	G A/HA	2 TRI	B																
	UAN 28%		SO	2	L/HA	2 TRI	B																
12	imazamox	70	WG	50	G A/HA	2 TRI	B	6	ab	5	a-d	2	a-d	2	abc					40.3	ab	40.4	a
	bentazon (Forte)	480	SN	1200	G A/HA	2 TRI	B																
	UAN 28%		SO	4	L/HA	2 TRI	B																
13	fomesafen	240	SN	140	G A/HA	2 TRI	B	5	ab	6	abc	3	ab	3	ab					39.5	b	38.2	a
	bentazon	480	SN	840	G A/HA	2 TRI	B																
	Assist		SO	2	L/HA	2 TRI	B																
14	bentazon (Forte)	480	SN	1080	G A/HA	2 TRI	B	4	abc	5	a-d	1	b-e	1	a-d					42.1	ab	42.9	a
	fenoxaprop-p-ethyl	80.5	EC	54	G A/HA	2 TRI	B																
	Assist		SO	2	L/HA	2 TRI	B																
15	fomesafen	240	SN	280	G A/HA	2 TRI	B	7	a	7	ab	3	abc	2	abc					41.3	ab	41.8	a
	bentazon	480	SN	1680	G A/HA	2 TRI	B																
	Assist		SO	4	L/HA	2 TRI	B																
16	bentazon (Forte)	480	SN	2160	G A/HA	2 TRI	B	7	a	8	a	2	a-d	2	abc					42.6	ab	41.4	a
	fenoxaprop-p-ethyl	80.5	EC	108	G A/HA	2 TRI	B																
	Assist		SO	4	L/HA	2 TRI	B																
17	halosulfuron-methyl	75	WG	50	G A/HA	2 TRI	B	6	a	8	a	3	a	3	a					43.3	ab	38.7	a
	Agral 90		SO	0.2	% V/V	2 TRI	B																
18	halosulfuron-methyl	75	WG	100	G A/HA	2 TRI	B	1	cd	2	de	1	de	2	a-d					43.2	ab	40.9	a
	Agral 90		SO	0.4	% V/V	2 TRI	B																
	LSD (P=.05)							3.2	3.4	1.7	2.0	4.76	4.78	6.35	6.25								
	Standard Deviation							2.2	2.4	1.2	1.4	3.23	3.25	4.39	4.32								
	CV							58.55	54.49	78.28	90.59	7.55	7.84	10.25	10.51								

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

TOLERANCE OF SNAP BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SN02T1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	PHSVN 1-8	PHSVN 1-8	PHSVN 9-18	PHSVN 9-18	PHSVN 1-8					
								FRESH WT.	FRESH WT.	FRESH WT.	FRESH WT.	DRY WT.					
								KG	KG	KG	KG	G					
								Jul-30-02	Jul-30-02	Aug-14-02	Aug-14-02	Aug-9-02					
								6-10 TRI	6-10 TRI	8-12 TRI	8-12 TRI						
								29-51 CM	30-53 CM	35-60 CM	35-60 CM						
								DANDY	IMPACT	DANDY	IMPACT	DANDY					
								1 M HARVEST	1 M HARVEST	1 M HARVEST	1 M HARVEST	1 M HARVEST					
								42 DAE	42 DAE	42 DAT	42 DAT						
1	untreated check							1.34	a	1.25	abc	1.50	a	1.36	a	200.94	a
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	1.33	a	1.42	ab					198.55	a
3	s-metolachlor	915	EC	3200	G A/HA	PRE	A	1.56	a	1.59	a					231.53	a
4	s-metolachlor imazethapyr	915 240	EC SN	1600 75	G A/HA	PRE	A	1.43	a	1.58	a					212.27	a
5	s-metolachlor imazethapyr	915 240	EC SN	3200 150	G A/HA	PRE	A	1.53	a	1.52	a					226.64	a
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A	1.47	a	1.43	ab					213.58	a
7	flumioxazin	51	WG	70	G A/HA	PRE	A	1.32	a	1.08	bc					205.16	a
8	flumioxazin	51	WG	140	G A/HA	PRE	A	1.27	a	0.98	c					199.21	a
9	imazamox fomesafen	70 240	WG SN	25 200	G A/HA	2 TRI	B					1.75	a	1.49	a		
	Agral 90		SO	0.25	% V/V	2 TRI	B										
	UAN 28%		SO	2	L/HA	2 TRI	B										
10	imazamox fomesafen	70 240	WG SN	50 400	G A/HA	2 TRI	B			1.65	a	1.46	a				
	Agral 90		SO	0.5	% V/V	2 TRI	B										
	UAN 28%		SO	4	L/HA	2 TRI	B										
11	imazamox bentazon (Forte)	70 480	WG SN	25 600	G A/HA	2 TRI	B			1.54	a	1.35	a				
	UAN 28%		SO	2	L/HA	2 TRI	B										
12	imazamox bentazon (Forte)	70 480	WG SN	50 1200	G A/HA	2 TRI	B			1.42	a	1.36	a				
	UAN 28%		SO	4	L/HA	2 TRI	B										
13	fomesafen bentazon	240 480	SN SN	140 840	G A/HA	2 TRI	B			1.55	a	1.61	a				
	Assist		SO	2	L/HA	2 TRI	B										
14	bentazon (Forte) fenoxaprop-p-ethyl	480 80.5	SN EC	1080 54	G A/HA	2 TRI	B			1.44	a	1.55	a				
	Assist		SO	2	L/HA	2 TRI	B										
15	fomesafen bentazon	240 480	SN SN	280 1680	G A/HA	2 TRI	B			1.38	a	1.48	a				
	Assist		SO	4	L/HA	2 TRI	B										
16	bentazon (Forte) fenoxaprop-p-ethyl	480 80.5	SN EC	2160 108	G A/HA	2 TRI	B			1.71	a	1.48	a				
	Assist		SO	4	L/HA	2 TRI	B										
17	halosulfuron-methyl Agral 90	75 SO	WG SO	50 0.2	G A/HA	2 TRI	B			1.72	a	1.57	a				
					% V/V	2 TRI	B										
18	halosulfuron-methyl Agral 90	75 SO	WG SO	100 0.4	G A/HA	2 TRI	B			1.51	a	1.59	a				
					% V/V	2 TRI	B										
LSD (P=.05)								0.301	0.369	0.415	0.363	40.659					
Standard Deviation								0.205	0.251	0.288	0.251	27.645					
CV								14.58	18.5	18.4	16.97	13.1					

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

TOLERANCE OF SNAP BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SN02T1

Crop Code	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN
Part Rated	1-8	9-18	9-18	2 M	PHSVN
Rating Data Type	DRY WT.	DRY WT.	DRY WT.	YIELD	YIELD
Rating Unit	G	G	G	T/HA	T/HA
Rating Date	Aug-9-02	Aug-22-02	Aug-22-02	Aug-20-02	Aug-15-02
Crop Stage					
Crop Stage Scale					
Weed Stage	IMPACT	DANDY	IMPACT	DANDY	IMPACT
Assessed By	1 M HARVEST	1 M HARVEST	1 M HARVEST		
Trt-Eval Interval				48 DAT	43 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
1	untreated check							179.01	abc	323.75	a	286.25	a	7.4	b-e	8.1	cd
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	201.88	ab					7.8	a-d	9.3	a-d
3	s-metolachlor	915	EC	3200	G A/HA	PRE	A	214.29	a					8.6	ab	9.7	abc
4	s-metolachlor imazethapyr	915 240	EC SN	1600 75	G A/HA	PRE	A	219.00	a					8.3	abc	10.0	ab
5	s-metolachlor imazethapyr	915 240	EC SN	3200 150	G A/HA	PRE	A	215.04	a					9.1	a	10.1	a
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A	203.38	a					8.6	ab	9.7	abc
7	flumioxazin	51	WG	70	G A/HA	PRE	A	156.51	bc					8.1	abc	9.1	a-d
8	flumioxazin	51	WG	140	G A/HA	PRE	A	144.89	c					7.3	b-e	8.5	a-d
9	imazamox fomesafen	70 240	WG SN	25 200	G A/HA	2 TRI	B			348.75	a	296.25	a	7.6	a-d	8.4	a-d
	Agral 90		SO	0.25	% V/V	2 TRI	B										
	UAN 28%		SO	2	L/HA	2 TRI	B										
10	imazamox fomesafen	70 240	WG SN	50 400	G A/HA	2 TRI	B			318.75	a	292.50	a	7.8	a-d	7.8	d
	Agral 90		SO	0.5	% V/V	2 TRI	B										
	UAN 28%		SO	4	L/HA	2 TRI	B										
11	imazamox bentazon (Forte)	70 480	WG SN	25 600	G A/HA	2 TRI	B			311.25	a	276.25	a	7.6	a-d	8.2	cd
	UAN 28%		SO	2	L/HA	2 TRI	B										
12	imazamox bentazon (Forte)	70 480	WG SN	50 1200	G A/HA	2 TRI	B			302.50	a	287.50	a	7.8	a-d	9.5	a-d
	UAN 28%		SO	4	L/HA	2 TRI	B										
13	fomesafen bentazon	240 480	SN SN	140 840	G A/HA	2 TRI	B			320.00	a	328.75	a	7.1	b-e	9.5	a-d
	Assist		SO	2	L/HA	2 TRI	B										
14	bentazon (Forte) fenoxaprop-p-ethyl	480 80.5	SN EC	1080 54	G A/HA	2 TRI	B			303.75	a	327.50	a	5.9	e	8.1	cd
	Assist		SO	2	L/HA	2 TRI	B										
15	fomesafen bentazon	240 480	SN SN	280 1680	G A/HA	2 TRI	B			291.25	a	298.75	a	6.2	de	8.9	a-d
	Assist		SO	4	L/HA	2 TRI	B										
16	bentazon (Forte) fenoxaprop-p-ethyl	480 80.5	SN EC	2160 108	G A/HA	2 TRI	B			358.75	a	292.50	a	6.9	cde	9.0	a-d
	Assist		SO	4	L/HA	2 TRI	B										
17	halosulfuron-methyl Agral 90	75 SO	WG WG	50 0.2	G A/HA	2 TRI	B			323.75	a	310.00	a	7.3	b-e	9.0	a-d
18	halosulfuron-methyl Agral 90	75 SO	WG WG	100 0.4	G A/HA	2 TRI	B			312.50	a	305.00	a	6.7	cde	8.2	bcd
	LSD (P=.05)							46.521		85.108		67.310		1.62		1.79	
	Standard Deviation							31.630		58.943		46.616		1.14		1.26	
	CV							16.5		18.45		15.53		15.14		14.11	

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

Trial Comments

Conclusions: This trial was kept weed-free to test for the effect of preemergence and postemergence herbicides on visual injury, height, fresh and dry weight and yields of 'Dandy' and 'Impact' snap beans. The following preemergence treatments were applied: s-metolachlor (1600 and 3200 g a.i. ha⁻¹), s-metolachlor+imazethapyr (1600+75 and 3200+150 g a.i. ha⁻¹) and flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹). Postemergence applications of imazamox+fomesafen (25+200 and 50+400 g a.i. ha⁻¹), imazamox+bentazon (25+600 and 50+1200 g a.i. ha⁻¹) bentazon+fenoxaprop-p-ethyl (1080+54 and 2160+108 g a.i. ha⁻¹) and halosulfuron-methyl (50 and 100 g a.i. ha⁻¹) were made.

Flumioxazin (140 g a.i. ha⁻¹) caused commercially unacceptable injury of Impact beans and some visual injury (8%) to Dandy snap beans by 14 days after emergence (DAE). By 28 DAE, visual injury was less than 10% in either variety. The other preemergence treatments did not cause significant visual injury (<5%).

Postemergence treatments of fomesafen+bentazon (140+840 g a.i. ha⁻¹) and bentazon+fenoxaprop-p-ethyl (2160+108 g a.i. ha⁻¹) caused commercially unacceptable injury to snap beans at 7 days after treatment (DAT). By 28 DAT, both snap bean varieties had outgrown most of the injury. The injury appeared as speckling and bronzing of the treated leaf surfaces - new leaf growth was uninjured.

Plant height and fresh weight were less in the flumioxazin (140 g a.i. ha⁻¹) treatment than in the untreated check, but no differences in plant dry weights were detected among the treatments.

Dandy snap bean yields were less in the bentazon+fenoxaprop (1080+54 and 2160+108 g a.i. ha⁻¹) and halosulfuron-methyl (100 g a.i. ha⁻¹) treatments than in the untreated check.

TOLERANCE OF PROCESSING PEAS TO PREEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PE02T1

CROP: PIBST, PEAS, PROCESSING (BOLERO). Planted: May-6-02, 230 KG/HA, 5 CM Deep, 17.5 CM Row Width.
 Planting Method: JOHN DEERE DRILL.
 Emerged On: May-22-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M. Expt. Location: RCAT-L6.

Site Description: Soil Texture: VERY FINE LOAMY SAND. %OM: 4.2 %Sand: 77.8 %Silt: 14.1 %Clay: 8.1 pH: 6.9

APPLICATION DESCRIPTION

Application: A
 Date : May-11-02
 Time of Day: 8:30 AM
 Method : C02
 Timing : PRE
 Placement : SOIL
 Air Temp. : 11.3 C
 % Humidity : 49
 Wind Speed : 0 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 5%
 Equipment : C02 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XPR
 Noz.Spacing: 50 CM
 Boom Length: 2 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	PIBSS	PIBSS	PIBSS	ABUTH PIBSS	CHEAL PIBSS	POLPE PIBSS	SOLPT PIBSS	STEME PIBSS
Crop Code								
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	May-29-02	Jun-5-02	Jun-18-02	Jun-18-02	Jun-18-02	Jun-18-02	Jun-18-02	Jun-18-02
Crop Stage	2-3 LF	4-5 LF	6-7 LF	6-7 LF	6-7 LF	6-7 LF	6-7 LF	6-7 LF
Crop Stage Scale	5 CM	8-11 CM	20-25 CM	20-25 CM	20-25 CM	20-25 CM	20-25 CM	20-25 CM
Weed Stage				3 LF	7 LF	4 LF	2 LF	8 LF
Weed Density, Unit				6.5 SQ.M.	23.5SQ.M.	5.5 SQ.M.	6.5 SQ.M.	32.5SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0	c	0	d	0	c	0	e	0
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	c	0	d	0	c	71	d	83
3	imazethapyr	240	SN	75	G A/HA	PRE	A	0	c	0	d	0	c	93	abc	94
4	cloransulam-methyl	84	WG	35	G A/HA	PRE	A	25	b	15	c	18	b	88	c	95
5	cloransulam-methyl	84	WG	70	G A/HA	PRE	A	75	a	60	b	64	a	93	abc	100
6	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	c	1	d	1	c	94	abc	98
	imazethapyr	240	SN	75	G A/HA	PRE	A						ab	91	a	100
7	s-metolachlor	915	EC	3200	G A/HA	PRE	A	2	c	3	d	3	c	95	abc	100
	imazethapyr	240	SN	150	G A/HA	PRE	A						a	98	a	100
8	imazethapyr	240	SN	75	G A/HA	PRE	A	12	bc	10	cd	18	b	98	ab	99
	cloransulam-methyl	84	WG	35	G A/HA	PRE	A						ab	99	ab	99
9	imazethapyr	240	SN	150	G A/HA	PRE	A	85	a	80	a	75	a	99	a	100
	cloransulam-methyl	84	WG	70	G A/HA	PRE	A						a	99	a	99
10	flumioxazin	51	WP	52.5	G A/HA	PRE	A	0	c	1	d	1	c	90	bc	94
11	flumioxazin	51	WP	70	G A/HA	PRE	A	0	c	1	d	0	c	88	c	95
12	flumioxazin	51	WP	140	G A/HA	PRE	A	5	c	5	cd	6	c	90	bc	99
	LSD (P=.05)							15.2		11.9	11.9		8.1	6.2	14.0	13.0
	Standard Deviation							10.6		8.2	8.2		5.6	4.3	9.7	9.0
	CV							61.93		56.91	53.45		6.77	4.85	11.86	10.79

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

TOLERANCE OF PROCESSING PEAS TO PREEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PE02T1

Weed Code	ABUTH	CHEAL	POLPE	STEME	SETVI		
Crop Code	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	TENDER	YIELD
Rating Unit	%	%	%	%	%		T/HA
Rating Date	Jul-3-02	Jul-3-02	Jul-3-02	Jul-3-02	Jul-3-02	Jul-9-02	Jul-9-02
Crop Stage	7-13 LF	7-13 LF	7-13 LF	7-13 LF	7-13 LF		
Crop Stage Scale	35-54 CM	35-54 CM	35-54 CM	35-54 CM	35-54 CM		
Weed Stage	5 LF	13 LF	5 LF	11 LF	4 LF		
Weed Density, Unit	5.5 SQ.M.	25 SQ.M.	2 SQ.M.	8 SQ.M.	6 SQ.M.		
Trt-Eval Interval	42 DAE	42 DAE	42 DAE	42 DAE	42 DAE	48 DAE	48 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code
1	untreated check						
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A
3	imazethapyr	240	SN	75	G A/HA	PRE	A
4	cloransulam-methyl	84	WG	35	G A/HA	PRE	A
5	cloransulam-methyl	84	WG	70	G A/HA	PRE	A
6	s-metolachlor	915	EC	1600	G A/HA	PRE	A
	imazethapyr	240	SN	75	G A/HA	PRE	A
7	s-metolachlor	915	EC	3200	G A/HA	PRE	A
	imazethapyr	240	SN	150	G A/HA	PRE	A
8	imazethapyr	240	SN	75	G A/HA	PRE	A
	cloransulam-methyl	84	WG	35	G A/HA	PRE	A
9	imazethapyr	240	SN	150	G A/HA	PRE	A
	cloransulam-methyl	84	WG	70	G A/HA	PRE	A
10	flumioxazin	51	WP	52.5	G A/HA	PRE	A
11	flumioxazin	51	WP	70	G A/HA	PRE	A
12	flumioxazin	51	WP	140	G A/HA	PRE	A
LSD (P=.05)							
Standard Deviation							
CV							

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

Trial Comments

Conclusions: This trial was established to determine the influence of various preemergence treatments on pea visual injury, tenderness, yield, and weed control. The following treatments were assessed: s-metolachlor (1600 g a.i. ha⁻¹), imazethapyr (75 g a.i. ha⁻¹), cloransulam-methyl (35 and 70 g a.i. ha⁻¹), s-metolachlor+imazethapyr (1600+75 and 3200+150 g a.i. ha⁻¹), imazethapyr+cloransulam-methyl (75+35 and 150+70 g a.i. ha⁻¹) and flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹).

Preemergence applications of cloransulam-methyl and imazethapyr+cloransulam-methyl caused commercially unacceptable injury to peas, regardless of application rate. These treatments reduced stand density, stunted plants, distorted leaf growth and reduced production of secondary root growth - 'bottle-brushing'.

Imazethapyr (75 g a.i. ha⁻¹) gave excellent season-long control of velvetleaf, common lamb's-quarters, lady's thumb, eastern black nightshade, and common chickweed, and good control of green foxtail. The tank mix of s-metolachlor+imazethapyr and imazethapyr+cloransulam-methyl (75+35 g a.i. ha⁻¹) provided excellent control of velvetleaf, common lamb's-quarters, lady's thumb eastern black nightshade, common chickweed and green foxtail.

Flumioxazin (140 g a.i. ha⁻¹) caused some early stand reduction and visual injury of peas, but the injury was commercially acceptable (<10%). Injury appeared as leaf distortion and stunting, but root growth was not affected. Flumioxazin (52.5 g a.i. ha⁻¹) gave excellent control of velvetleaf, common lamb's-quarters, lady's thumb, eastern black nightshade, common chickweed and good control of green foxtail.

Pea tenderness and yield were significantly lower in the cloransulam-methyl and imazethapyr+cloransulam-methyl tank mix than in the untreated check, regardless of the rate at which they were applied. Tenderness and yield in the remaining treatments were not different than in the untreated check.

TOLERANCE OF PROCESSING PEAS TO POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PE02T2

CROP: PIBSS, PEAS, PROCESSING (BOLERO). Planted: May-6-02, 230 KG/HA, 5 CM Deep, 17.5 CM Row Width.
 Planting Method: JOHN DEERE DRILL.
 Emerged On: May-22-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M. Expt. Location: RCAT-L6.

Site Description: Soil Texture: VERY FINE LOAMY SAND. %OM: 4.2 %Sand: 77.8 %Silt: 14.1 %Clay: 8.1 pH: 6.9

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-6-02	Crop 1 PIBSS 4 LF
Time of Day: 6:30 AM	Height : 11.5 CM
Method : CO2 SPRAY	
Timing : POST	Weed 1 AMARE 0.6 CM
Placement : FOLIAR	Stg.Scale: COTYLEDON
Air Temp. : 13.1 C	Density : 10 SQ.M.
% Humidity : 81	Weed 2 CHEAL 1.5 CM
Wind Speed : 3 KPH	Stg.Scale: 2 LF
Dew Present: Y	Density : 47.5 SQ.M.
Soil Moist.: MOIST	Weed 3 SOLPT 0.6 CM
Cloud Cover: 100%	Stg.Scale: COTYLEDON
Equipment : CO2 SPRAY	Density : 20 SQ.M.
Pressure : 207 kPa	Weed 4 STEME 1.6 CM
Nozzle Type: FLAT FAN	Stg.Scale: 2 LF
Nozzle Size: 8002 XR	Density : 48 SQ.M.
Noz.Spacing: 50 CM	Weed 5 SETVI 1.6 CM
Boom Length: 2 M	Stg.Scale: COTYLEDON
Boom Height: 50 CM	Density : 12 SQ.M.
Carrier : WATER	
Appl.Volume: 200 L/HA	
Propellant : CO2	

Weed Code	Crop Code	PIBSS	PIBSS	PIBSS	CHEAL	STEME	CHEAL	AMBEL	PIBSS	PIBSS
Part Rated	Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	TENDER	YIELD
Rating Unit	Rating Date	%	%	%	%	%	%	%	T/HA	T/HA
Rating Date	Crop Stage	Jun-13-02	Jun-19-02	Jul-3-02	Jul-3-02	Jul-3-02	Jul-16-02	Jul-16-02	Jul-10-02	Jul-10-02
Crop Stage Scale	Weed Stage	7-8 LF	8-10 LF	10-13 LF	10-13 LF	10-13 LF	11-14 LF	11-14 LF	40-55 CM	40-55 CM
Weed Density, Unit	Trt-Eval Interval	15-20 CM	23-32 CM	38-53 CM	38-53 CM	38-53 CM	40-55 CM	40-55 CM	34 DAT	34 DAT
Trt	Treatment	7 DAT	14 DAT	28 DAT	28 DAT	28 DAT	42 DAT	42 DAT	34 DAT	34 DAT
No.	Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code				
1	untreated check									
2	imazamox	70	WG	25	G A/HA	POST A	0	e 0	e 0	e 0
	Agral 90		SO	0.25	% V/V	POST A	0	e 0	e 0	e 0
	UAN 28%		SO	2	L/HA	POST A	0	e 0	e 0	e 0
3	imazamox	70	WG	50	G A/HA	POST A	4	bc 5	c 2	b 91
	Agral 90		SO	0.5	% V/V	POST A	4	bc 5	c 2	b 91
	UAN 28%		SO	4	L/HA	POST A	4	bc 5	c 2	b 91
4	bentazon (Forte)	480	SN	600	G A/HA	POST A	2	d 2	de 1	bc 78
	UAN 28%		SO	2	L/HA	POST A	2	d 2	de 1	bc 78
5	bentazon (Forte)	480	SN	1200	G A/HA	POST A	4	bc 4	c 1	bc 86
	UAN 28%		SO	4	L/HA	POST A	4	bc 4	c 1	bc 86
6	imazamox	70	WG	25	G A/HA	POST A	3	cd 4	cd 2	bc 91
	bentazon (Forte)	480	SN	600	G A/HA	POST A	3	cd 4	cd 2	bc 91
	UAN 28%		SO	2	L/HA	POST A	3	cd 4	cd 2	bc 91
7	imazamox	70	WG	50	G A/HA	POST A	6	b 5	c 2	bc 93
	bentazon (Forte)	480	SN	1200	G A/HA	POST A	6	b 5	c 2	bc 93
	UAN 28%		SO	4	L/HA	POST A	6	b 5	c 2	bc 93
8	cloransulam-methyl	84	WG	17.5	G A/HA	POST A	11	a 89	b 100	a 0
	Agral 90		SO	0.25	% V/V	POST A	11	a 89	b 100	a 0
	UAN 28%		SO	2.5	L/HA	POST A	11	a 89	b 100	a 0
9	cloransulam-methyl	84	WG	35	G A/HA	POST A	11	a 93	a 100	a 0
	Agral 90		SO	0.5	% V/V	POST A	11	a 93	a 100	a 0
	UAN 28%		SO	5	L/HA	POST A	11	a 93	a 100	a 0
	LSD (P=.05)						1.5	2.2	1.8	6.8
	Standard Deviation						1.1	1.5	1.2	4.7
	CV						23.55	6.64	5.36	8.17
	Means followed by same letter do not significantly differ (P=.05, LSD)									

Trial Comments

Conclusions: This trial was established to determine the influence of various postemergence treatments on pea visual injury, tenderness, yield, and weed control. The following treatments were assessed: imazamox (25 and 50 g a.i. ha⁻¹), bentazon (600 and 1200 g a.i. ha⁻¹), imazamox+bentazon (25+600 and 50+1200 g a.i. ha⁻¹) and cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹).

Postemergence applications of cloransulam-methyl reduced height and canopy growth of peas by 7 days after treatment (DAT), but by 28 DAT the pea stand was completely killed.

The high rate of imazamox+bentazon (50+1200 g a.i. ha⁻¹) caused some speckling and bronzing of the leaves, likely as a result of the nitrogen source (UAN 28%) and bentazon. This injury was commercially acceptable (<10%), and by 28 DAT the plants had outgrown most of the injury.

Imazamox (25 g a.i. ha⁻¹) alone gave good control of common chickweed and fair control of common lamb's-quarters by 28 DAT. By 42 DAT, control of common lamb's-quarters and ragweed was poor. Bentazon (600 g a.i. ha⁻¹) alone gave good control of common chickweed and fair control of common lamb's-quarters at 28 DAT. Season long control of lamb's-quarters was fair, and ragweed control was poor. The tank mix of imazamox+bentazon (25+600 g a.i. ha⁻¹) gave excellent control of common lamb's-quarters and good control of common chickweed by 28 DAT. By 42 DAT, control of common lamb's-quarters and ragweed was fair.

Pea tenderness was less at the high rate of imazamox (50 g a.i. ha⁻¹) and imazamox+bentazon (50+1200 g a.i. ha⁻¹) than in the untreated check.

Pea yields were reduced by both cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹) treatments.

TOLERANCE OF TRANSPLANTED PEPPERS TO VARIOUS HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PP02T1

CROP: CPSAN, PEPPER (ENTERPRISE). Planted: Jun-3-02, 15000 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-3-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-C1.

Site Description: Soil Texture: SANDY LOAM. %OM: 6.85 %Sand: 60.0 %Silt: 33.3 %Clay: 16.7 pH: 6.8

APPLICATION DESCRIPTION		STAGE AT APPLICATION			
Application:	A	B	Application:	A	B
Date	Jun-3-02	Jun-24-02	Crop 1 CPSAN		5-9 LF
Time of Day	11:30 AM	8:15 AM	Height		14.5 CM
Method	CO2 SPRAY	CO2 SPRAY	Weed 1 ABUTH		
Timing	PRE-T	POST	Stg.Scale:		2-3 LF
Placement	SOIL	FOLIAR	Density		8 SQ.M.
Air Temp.	14.6 C	28.9 C	Weed 2 AMARE		
% Humidity	60	63	Stg.Scale:		4-5 LF
Wind Speed	8 KPH	0 KPH	Density		12 SQ.M.
Dew Present	N	N	Weed 3 CHEAL		
Soil Moist.	MOIST	DRY	Stg.Scale:		4-5 LF
Cloud Cover	100%	5%	Density		22 SQ.M.
Equipment	CO2 SPRAY	CO2 SPRAY			
Pressure	207 kPa	207 kPa			
Nozzle Type	FLAT FAN	FLAT FAN			
Nozzle Size	8002 XR	8002 XR			
Noz.Spacing	50 CM	50 CM			
Boom Length	1.5 M	1.5 M			
Boom Height	50 CM	50 CM			
Carrier	WATER	WATER			
Appl.Volume	200 L/HA	200 L/HA			
Propellant	CO2	CO2			

Crop Code	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN
Part Rated	1-8	1-8	1-8	9-10	9-10	9-10	1-8	9-10
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	HEIGHT	HEIGHT
Rating Unit	%	%	%	%	%	%	CM	CM
Rating Date	Jun-9-02	Jun-18-02	Jul-2-02	Jul-2-02	Jul-9-02	Jul-23-02	Jun-24-02	Jul-15-02
Crop Stage	4-5 LF	4-6 LF	8-10 LF	8-10 LF	9-12 LF	12-15 LF	5-9 LF	12-15 LF
Crop Stage Scale	9-14 CM	10-14 CM	14-20 CM	14-20 CM	15-21 CM	20-26 CM	12-17 CM	13-24 CM
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAT	21 DAE	21 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code															
1	untreated check							0	c	0	b	0	b	0	c	0	c	0				
2	flumioxazin	51	WP	52.5	G A/HA	PRE-T	A	2	abc	0	b	0	b					13.6	ab	21.5	a	
3	flumioxazin	51	WP	70	G A/HA	PRE-T	A	2	ab	0	b	0	b					14.5	a			
4	flumioxazin	51	WP	140	G A/HA	PRE-T	A	1	bc	0	b	1	b					13.8	ab			
5	mesotrione	480	EC	175	G A/HA	PRE-T	A	2	ab	0	b	5	b					13.9	ab			
6	mesotrione	480	EC	350	G A/HA	PRE-T	A	4	a	4	a	47	a					13.5	ab			
7	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	A	1	bc	0	b	1	b					13.0	b			
8	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	A	1	bc	0	b	1	b					13.9	ab			
9	foramsulfuron	70	WG	70	G A/HA	POST	B							12	b	24	b	51	b	14.1	ab	
	MSO		SO	1.75	L/HA	POST	B															
	UAN 28%		SO	2.5	L/HA	POST	B															
10	foramsulfuron	70	WG	140	G A/HA	POST	B							14	a	31	a	66	a		18.0	ab
	MSO		SO	3.5	L/HA	POST	B															
	UAN 28%		SO	5	L/HA	POST	B															
	LSD (P=.05)							2.2	0.7	17.7	2.0	6.2	12.0	1.45	3.91							
	Standard Deviation							1.5	0.5	12.1	1.2	3.6	7.0	0.98	2.26							
	CV							93.02	104.33	177.14	13.86	19.7	17.8	7.13	12.56							

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

TOLERANCE OF TRANSPLANTED PEPPERS TO VARIOUS HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PP02T1

Crop Code	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN													
Part Rated	MARKET	NONMAR	MARKET	NONMAR	TOTAL													
Rating Data Type	AVG. FRUIT	AVG. FRUIT	YIELD	YIELD	YIELD													
Rating Unit	G	G	T/HA	T/HA	T/HA													
Rating Date		Oct-3-02																
Crop Stage	COMBINED		COMBINED	COMBINED	COMBINED													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code											
1	untreated check							124.7	a	41.6	ab	9.5	b	2.2	a	11.6	bc	
2	flumioxazin	51	WP	52.5	G A/HA	PRE-T	A	128.2	a	36.8	abc	11.4	ab	2.8	a	14.2	ab	
3	flumioxazin	51	WP	70	G A/HA	PRE-T	A	124.0	a	32.8	bc	11.3	ab	2.7	a	14.0	abc	
4	flumioxazin	51	WP	140	G A/HA	PRE-T	A	142.7	a	39.8	ab	12.6	a	2.6	a	15.1	a	
5	mesotrione	480	EC	175	G A/HA	PRE-T	A	126.4	a	31.0	bc	9.1	b	2.0	ab	11.1	c	
6	mesotrione	480	EC	350	G A/HA	PRE-T	A	129.3	a	53.3	a	5.2	c	1.0	bc	6.2	d	
7	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	A	131.1	a	34.0	bc	12.2	a	2.2	a	14.4	ab	
8	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	A	127.0	a	33.8	bc	11.5	ab	2.2	a	13.7	abc	
9	foramsulfuron	70	WG	70	G A/HA	POST	B	87.4	b	27.8	bc	0.4	d	0.7	c	1.1	e	
	MSO		SO	1.75	L/HA	POST	B											
	UAN 28%		SO	2.5	L/HA	POST	B											
10	foramsulfuron	70	WG	140	G A/HA	POST	B	0.0	c	20.6	c	0.0	d	0.1	c	0.1	e	
	MSO		SO	3.5	L/HA	POST	B											
	UAN 28%		SO	5	L/HA	POST	B											
LSD (P=.05)								29.36		17.92		2.60		1.07		3.06		
Standard Deviation								20.23		12.35		1.79		0.74		2.11		
CV								18.05		35.12		21.61		40.24		20.82		

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

Trial Comments

Conclusions: This trial was kept weed-free to test for the effect of preemergence applications of flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹), mesotrione (175 and 350 g a.i. ha⁻¹) and halosulfuron-methyl (50 and 100 g a.i. ha⁻¹) and postemergence applications of foramsulfuron (70 and 140 g a.i. ha⁻¹) on visual injury, height, fruit weight and marketable and total yields of peppers.

Immediately after planting, the transplants underwent 5 days without rainfall and temperatures above 30°C. The peppers showed signs of wilting in all treatments at 7 days after transplanting (DAE). Rainfall events on June 14th and 17th however, allowed the plants to overcome the drought stress in all but the mesotrione (350 g a.i. ha⁻¹) treatment by 14 DAE. By 28 DAE, significant leaf cupping and necrosis, as well as total plant death, had significantly reduced plant stands in the mesotrione (350 g a.i. ha⁻¹) treatment.

Preemergence treatments of flumioxazin and halosulfuron-methyl did not cause visual injury of peppers. Mean plant height was not less in either of these treatments when compared to the untreated check.

Foramsulfuron applied postemergence caused yellowing of the growing points. Injury increased to 51 and 63% in the 70 and 140 g a.i. ha⁻¹ treatments, respectively. Plant height was reduced at the higher rate when compared to the untreated check.

Marketable fruit size was not affected by any of the preemergence herbicide applications, but was significantly reduced in the foramsulfuron treatments. None of the plants produced marketable fruit at the high rate of foramsulfuron - the fruit were undersized, and produced on only a few plants in each plot. Marketable and total yields were less in both foramsulfuron treatments than in the untreated check.

All plants that survived the mesotrione (350 g a.i. ha⁻¹) treatment produced marketable fruit. However, due to the reduction in stand, marketable yields were significantly less than the untreated check.

Marketable and total yields in the flumioxazin and halosulfuron-methyl treatments were not different from the weed-free check.

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002M1

CROP: LYPES, TOMATO (H9478). Planted: Jun-7-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-7-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-C2.

Site Description: Soil Texture: LOAM. %OM: 6.02 %Sand: 48.7 %Silt: 32.1 %Clay: 19.2 pH: 6.9

APPLICATION DESCRIPTION

Application:	A	B	C	D	E
Date	Jun-6-02	Jun-20-02	Jul-5-02	Jul-23-02	Aug-1-02
Time of Day	4:00 PM	8:00 PM	6:25 AM	7:05 AM	9:05 PM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Timing	PPI	POST	POST	POST	POST
Placement	SOIL	FOLIAR	FOLIAR	FOLIAR	FOLIAR
Air Temp.	24.0 C	24.0 C	11.2 C	20.0 C	25.8 C
% Humidity	43	46	76	79	70
Wind Speed	5 KPH	5 KPH	0 KPH	5 KPH	4 KPH
Dew Present	N	N	Y	Y	N
Soil Moist.	MOIST	DRY	DRY	WET	DRY
Cloud Cover	65%	10%	5%	95%	65%
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	207 kPa
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	8002 XR
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	50 CM
Boom Length	1.5 M	1.5 M	1.5 M	1.5 M	1.5 M
Boom Height	50 CM	50 CM	50 CM	50 CM	50 CM
Carrier	WATER	WATER	WATER	WATER	WATER
Appl.Volume	200 L/HA	200 L/HA	200 L/HA	200 L/HA	200 L/HA
Propellant	CO2	CO2	CO2	CO2	CO2

STAGE AT APPLICATION

Crop 1 LYPES					
Height		13.8 CM	28.9 CM	41.2 CM	42 CM
Stg.Scale		5 LF	7 LF	9 LF	12 LF
Weed 1 ABUTH					
Stg.Scale		2.6 CM	9.4 CM	21 CM	48.6 CM
Density		1 LF	4 LF	5 LF	8 LF
		20.5 SQ.M.	16.5 SQ.M.	15.5 SQ.M.	13 SQ.M.
Weed 2 CHEAL					
Stg.Scale		1.1 CM	7.8 CM	17.5 CM	40 CM
Density		1 LF	5 LF	8 LF	12 LF
		14.5 SQ.M.	17 SQ.M.	13.5 SQ.M.	14 SQ.M.
Weed 3 SETVI					
Stg.Scale		2.8 CM	12.9 CM	19.1 CM	40 CM
Density		2 LF	4 LF	9 LF	11 LF
		10 SQ.M.	12.5 SQ.M.	17 SQ.M.	19.5 SQ.M.

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002M1

Weed Code											ABUTH	AMARE	CHEAL			
Crop Code											LYPES	LYPES	LYPES			
Part Rated																
Rating Data Type											CONTROL	CONTROL	CONTROL			
Rating Unit											%	%	%			
Rating Date											Aug-8-02	Aug-8-02	Aug-8-02			
Crop Stage											15-16 LF	15-16 LF	15-16 LF			
Crop Stage Scale											36-49 CM	36-49 CM	36-49 CM			
Weed Stage											9 LF	8 LF	14 LF			
Weed Density, Unit											16.5SQ.M.	2 SQ.M.	17 SQ.M.			
Trt-Eval Interval											42 DAT	42 DAT	42 DAT			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0	a 0	a 0	a 0	b 0	a 0	c 0	c 0	d
2	trifluralin	480	EC	1105	G A/HA	PPI	A	0	a 0	a 0	a 0	b 0	a 10	c 91	ab 73	bc
3	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	a 0	a 0	a 0	ab 0	a 19	bc 89	b 57	c
4	metribuzin	75	DF	700	G A/HA	PPI	A	0	a 0	a 0	a 0	b 0	a 23	bc 95	ab 74	bc
5	trifluralin	480	EC	1105	G A/HA	PPI	A	0	a 0	a 1	a 0	ab 1	a 19	bc 95	ab 71	bc
	s-metolachlor	915	EC	1600	G A/HA	PPI	A									
6	trifluralin	480	EC	1105	G A/HA	PPI	A	0	a 0	a 0	a 0	ab 1	a 40	b 98	ab 77	bc
	metribuzin	75	DF	700	G A/HA	PPI	A									
7	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	a 0	a 0	a 0	ab 0	a 1	c 100	a 91	ab
	metribuzin	75	DF	700	G A/HA	PPI	A									
8	trifluralin	480	EC	1105	G A/HA	PPI	A	1	a 0	a 1	a 1	a 1	a 42	b 100	a 90	ab
	s-metolachlor	915	EC	1600	G A/HA	PPI	A									
	metribuzin	75	DF	700	G A/HA	PPI	A									
9	s-metolachlor	915	EC	1600	G A/HA	PPI	A	1	a 0	a 1	a 1	ab 1	a 90	a 94	ab 79	b
	metribuzin	75	DF	150	G A/HA	POST 1	B									
	metribuzin	75	DF	150	G A/HA	POST 2	C									
	metribuzin	75	DF	150	G A/HA	POST 3	D									
	metribuzin	75	DF	150	G A/HA	POST 4	E									
10	s-metolachlor	915	EC	1600	G A/HA	PPI	A	1	a 0	a 1	a 0	b 0	a 100	a 100	a 90	ab
	metribuzin	75	DF	250	G A/HA	PPI	A									
	metribuzin	75	DF	150	G A/HA	POST 1	B									
	metribuzin	75	DF	150	G A/HA	POST 2	C									
	metribuzin	75	DF	150	G A/HA	POST 3	D									
	metribuzin	75	DF	150	G A/HA	POST 4	E									
11	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	a 0	a 0	a 0	b 0	a 98	a 100	a 100	a
	metribuzin	75	DF	250	G A/HA	PPI	A									
	metribuzin	75	DF	150	G A/HA	POST 1	B									
	metribuzin	75	DF	150	G A/HA	POST 2	C									
	thifensulfuron-methyl	75	DF	6	G A/HA	POST 2	C									
	Agral 90		SO	0.2	% V/V	POST 2	C									
	metribuzin	75	DF	150	G A/HA	POST 3	D									
	metribuzin	75	DF	150	G A/HA	POST 4	E									
12	metribuzin	75	DF	150	G A/HA	POST 1	B	0	a 0	a 0	a 0	b 0	a 93	a 96	ab 75	bc
	metribuzin	75	DF	150	G A/HA	POST 2	C									
	metribuzin	75	DF	150	G A/HA	POST 3	D									
	metribuzin	75	DF	150	G A/HA	POST 4	E									
13	metribuzin	75	DF	150	G A/HA	POST 1	B	0	a 0	a 0	a 0	b 0	a 88	a 96	ab 82	ab
	metribuzin	75	DF	150	G A/HA	POST 2	C									
	rimsulfuron	25	DF	15	G A/HA	POST 2	C									
	Agral 90		SO	0.2	% V/V	POST 2	C									
	metribuzin	75	DF	150	G A/HA	POST 3	D									
	metribuzin	75	DF	150	G A/HA	POST 4	E									
14	metribuzin	75	DF	150	G A/HA	POST 1	B	0	a 0	a 1	a 1	a 0	a 96	a 100	a 83	ab
	metribuzin	75	DF	150	G A/HA	POST 2	C									
	fluazifop-p-butyl	125	EC	250	G A/HA	POST 2	C									
	metribuzin	75	DF	150	G A/HA	POST 3	D									
	metribuzin	75	DF	150	G A/HA	POST 4	E									
LSD (P=.05)								1.0	0.3	1.0	0.7	0.8	28.0	10.5	20.0	
Standard Deviation								0.7	0.2	0.7	0.5	0.6	19.6	7.4	14.0	
CV								352.49	428.34	222.34	235.46	284.69	38.18	8.23	18.83	

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

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002M1

Weed Code	SETVI	ABUTH	AMARE	CHEAL	SETVI	ABUTH	AMARE
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Aug-8-02	Aug-21-02	Aug-21-02	Aug-21-02	Aug-21-02	Sep-4-02	Sep-4-02
Crop Stage	15-16 LF	15-16 LF	15-16 LF	15-16 LF	15-16 LF	15-16 LF	15-16 LF
Crop Stage Scale	36-49 CM	20-38 CM	20-38 CM	20-38 CM	20-38 CM	20-38 CM	20-38 CM
Weed Stage	7 LF	9 LF	16 LF	17 LF	8 LF	9 LF	16 LF
Weed Density, Unit	17 SQ.M.	14 SQ.M.	2 SQ.M.	10 SQ.M.	15.5SQ.M.	6.5 SQ.M.	1 SQ.M.
Trt-Eval Interval	42 DAT	63 DAT	63 DAT	63 DAT	63 DAT	76 DAT	76 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Grow Stg	Appl Code
1	untreated check						0
2	trifluralin	480	EC	1105	G A/HA	PPI A	d 0
3	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
4	metribuzin	75	DF	700	G A/HA	PPI A	e 0
5	trifluralin	480	EC	1105	G A/HA	PPI A	d 0
6	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
7	trifluralin	480	EC	1105	G A/HA	PPI A	d 0
8	metribuzin	75	DF	700	G A/HA	PPI A	d 0
9	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
10	metribuzin	75	DF	700	G A/HA	PPI A	d 0
11	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
12	metribuzin	75	DF	700	G A/HA	PPI A	d 0
13	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
14	metribuzin	75	DF	700	G A/HA	PPI A	d 0
15	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
16	metribuzin	75	DF	700	G A/HA	PPI A	d 0
17	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
18	metribuzin	75	DF	700	G A/HA	PPI A	d 0
19	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
20	metribuzin	75	DF	700	G A/HA	PPI A	d 0
21	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
22	metribuzin	75	DF	700	G A/HA	PPI A	d 0
23	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
24	metribuzin	75	DF	700	G A/HA	PPI A	d 0
25	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
26	metribuzin	75	DF	700	G A/HA	PPI A	d 0
27	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
28	metribuzin	75	DF	700	G A/HA	PPI A	d 0
29	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
30	metribuzin	75	DF	700	G A/HA	PPI A	d 0
31	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
32	metribuzin	75	DF	700	G A/HA	PPI A	d 0
33	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
34	metribuzin	75	DF	700	G A/HA	PPI A	d 0
35	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
36	metribuzin	75	DF	700	G A/HA	PPI A	d 0
37	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
38	metribuzin	75	DF	700	G A/HA	PPI A	d 0
39	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
40	metribuzin	75	DF	700	G A/HA	PPI A	d 0
41	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
42	metribuzin	75	DF	700	G A/HA	PPI A	d 0
43	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
44	metribuzin	75	DF	700	G A/HA	PPI A	d 0
45	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
46	metribuzin	75	DF	700	G A/HA	PPI A	d 0
47	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
48	metribuzin	75	DF	700	G A/HA	PPI A	d 0
49	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
50	metribuzin	75	DF	700	G A/HA	PPI A	d 0
51	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
52	metribuzin	75	DF	700	G A/HA	PPI A	d 0
53	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
54	metribuzin	75	DF	700	G A/HA	PPI A	d 0
55	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
56	metribuzin	75	DF	700	G A/HA	PPI A	d 0
57	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
58	metribuzin	75	DF	700	G A/HA	PPI A	d 0
59	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
60	metribuzin	75	DF	700	G A/HA	PPI A	d 0
61	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
62	metribuzin	75	DF	700	G A/HA	PPI A	d 0
63	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
64	metribuzin	75	DF	700	G A/HA	PPI A	d 0
65	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
66	metribuzin	75	DF	700	G A/HA	PPI A	d 0
67	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
68	metribuzin	75	DF	700	G A/HA	PPI A	d 0
69	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
70	metribuzin	75	DF	700	G A/HA	PPI A	d 0
71	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
72	metribuzin	75	DF	700	G A/HA	PPI A	d 0
73	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
74	metribuzin	75	DF	700	G A/HA	PPI A	d 0
75	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
76	metribuzin	75	DF	700	G A/HA	PPI A	d 0
77	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
78	metribuzin	75	DF	700	G A/HA	PPI A	d 0
79	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
80	metribuzin	75	DF	700	G A/HA	PPI A	d 0
81	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
82	metribuzin	75	DF	700	G A/HA	PPI A	d 0
83	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
84	metribuzin	75	DF	700	G A/HA	PPI A	d 0
85	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
86	metribuzin	75	DF	700	G A/HA	PPI A	d 0
87	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
88	metribuzin	75	DF	700	G A/HA	PPI A	d 0
89	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
90	metribuzin	75	DF	700	G A/HA	PPI A	d 0
91	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
92	metribuzin	75	DF	700	G A/HA	PPI A	d 0
93	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
94	metribuzin	75	DF	700	G A/HA	PPI A	d 0
95	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
96	metribuzin	75	DF	700	G A/HA	PPI A	d 0
97	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
98	metribuzin	75	DF	700	G A/HA	PPI A	d 0
99	s-metolachlor	915	EC	1600	G A/HA	PPI A	d 0
100	metribuzin	75	DF	700	G A/HA	PPI A	d 0
LSD (P=.05)							23.5
Standard Deviation							16.5
CV							30.01

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

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002M1

Weed Code	AMBEL	CHEAL	SETVI																		
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES				
Part Rated				RED	GREEN	ROTS	RED+GR														
Rating Data Type	CONTROL	CONTROL	CONTROL	YIELD	YIELD	YIELD	YIELD														
Rating Unit	%	%	%	T/HA	T/HA	T/HA	T/HA														
Rating Date	Sep-4-02	Sep-4-02	Sep-4-02	Sep-4-02	Sep-4-02	Sep-4-02	Sep-4-02														
Crop Stage	15-16 LF	15-16 LF	15-16 LF	WEEDY	WEEDY	WEEDY	WEEDY														
Crop Stage Scale	20-38 CM	20-38 CM	20-38 CM																		
Weed Stage	20 LF	20 LF	8 LF																		
Weed Density, Unit	0.5 SQ.M.	11.5SQ.M.	14.5SQ.M.																		
Trt-Eval Interval	76 DAT	76 DAT	76 DAT	76 DAT	76 DAT	76 DAT	76 DAT														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Grow Stg	Appl Code														
1	untreated check						0	c	0	e	0	f	7.3	f	1.2	e	0.2	b	8.5	e	
2	trifluralin	480	EC	1105	G A/HA	PPI	A	65	ab	66	bcd	34	cde	13.5	def	2.1	cde	0.2	ab	15.6	cde
3	s-metolachlor	915	EC	1600	G A/HA	PPI	A	59	b	55	d	62	ab	9.4	ef	1.6	de	0.1	b	11.0	de
4	metribuzin	75	DF	700	G A/HA	PPI	A	66	ab	66	bcd	41	b-e	17.7	bcd	2.8	b-e	0.3	ab	20.5	bc
5	trifluralin	480	EC	1105	G A/HA	PPI	A	70	ab	63	cd	56	abc	9.9	ef	1.3	e	0.1	b	11.2	de
	s-metolachlor	915	EC	1600	G A/HA	PPI	A														
6	trifluralin	480	EC	1105	G A/HA	PPI	A	80	ab	73	a-d	59	abc	20.3	a-d	3.5	a-e	0.4	ab	23.8	abc
	metribuzin	75	DF	700	G A/HA	PPI	A														
7	s-metolachlor	915	EC	1600	G A/HA	PPI	A	90	a	83	ab	76	a	13.6	def	1.8	de	0.3	ab	15.4	cde
	metribuzin	75	DF	700	G A/HA	PPI	A														
8	trifluralin	480	EC	1105	G A/HA	PPI	A			81	abc	50	abc	15.2	cde	4.1	a-e	0.4	ab	19.3	bcd
	s-metolachlor	915	EC	1600	G A/HA	PPI	A														
	metribuzin	75	DF	700	G A/HA	PPI	A														
9	s-metolachlor	915	EC	1600	G A/HA	PPI	A	73	ab	77	abc	61	abc	22.8	abc	4.6	a-d	0.8	ab	27.3	ab
	metribuzin	75	DF	150	G A/HA	POST 1	B														
	metribuzin	75	DF	150	G A/HA	POST 2	C														
	metribuzin	75	DF	150	G A/HA	POST 3	D														
	metribuzin	75	DF	150	G A/HA	POST 4	E														
10	s-metolachlor	915	EC	1600	G A/HA	PPI	A	74	ab	90	a	53	abc	25.3	a	5.2	abc	0.5	ab	30.5	a
	metribuzin	75	DF	250	G A/HA	PPI	A														
	metribuzin	75	DF	150	G A/HA	POST 1	B														
	metribuzin	75	DF	150	G A/HA	POST 2	C														
	metribuzin	75	DF	150	G A/HA	POST 3	D														
	metribuzin	75	DF	150	G A/HA	POST 4	E														
11	s-metolachlor	915	EC	1600	G A/HA	PPI	A	82	ab	92	a	19	ef	19.8	a-d	6.1	a	0.9	a	25.9	ab
	metribuzin	75	DF	250	G A/HA	PPI	A														
	metribuzin	75	DF	150	G A/HA	POST 1	B														
	metribuzin	75	DF	150	G A/HA	POST 2	C														
	thifensulfuron-methyl	75	DF	6	G A/HA	POST 2	C														
	Agral 90		SO	0.2	% V/V	POST 2	C														
	metribuzin	75	DF	150	G A/HA	POST 3	D														
	metribuzin	75	DF	150	G A/HA	POST 4	E														
12	metribuzin	75	DF	150	G A/HA	POST 1	B	72	ab	79	abc	23	def	22.2	abc	5.1	abc	0.5	ab	27.3	ab
	metribuzin	75	DF	150	G A/HA	POST 2	C														
	metribuzin	75	DF	150	G A/HA	POST 3	D														
	metribuzin	75	DF	150	G A/HA	POST 4	E														
13	metribuzin	75	DF	150	G A/HA	POST 1	B	73	ab	73	a-d	65	ab	24.7	ab	5.9	ab	0.8	ab	30.6	a
	metribuzin	75	DF	150	G A/HA	POST 2	C														
	rimsulfuron	25	DF	15	G A/HA	POST 2	C														
	Agral 90		SO	0.2	% V/V	POST 2	C														
	metribuzin	75	DF	150	G A/HA	POST 3	D														
	metribuzin	75	DF	150	G A/HA	POST 4	E														
14	metribuzin	75	DF	150	G A/HA	POST 1	B	77	ab	81	abc	46	bcd	27.0	a	2.8	b-e	0.8	ab	29.9	a
	metribuzin	75	DF	150	G A/HA	POST 2	C														
	fluazifop-p-butyl	125	EC	250	G A/HA	POST 2	C														
	metribuzin	75	DF	150	G A/HA	POST 3	D														
	metribuzin	75	DF	150	G A/HA	POST 4	E														
LSD (P=.05)								25.6	20.4	27.3	7.56	3.11	0.70	8.79							
Standard Deviation								15.7	14.2	19.1	5.29	2.17	0.49	6.15							
CV								23.19	20.38	41.51	29.78	63.45	106.9	29.02							

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

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002M1

Weed Code
Crop Code
Part Rated
Rating Data Type
Rating Unit
Rating Date
Crop Stage
Trt-Eval Interval

LYPES	LYPES	LYPES	LYPES
RED	GREEN	ROTS	RED+GR
YIELD	YIELD	YIELD	YIELD
T/HA	T/HA	T/HA	T/HA
Sep-4-02	Sep-4-02	Sep-4-02	Sep-4-02
WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
76 DAT	76 DAT	76 DAT	76 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	76 DAT	76 DAT	76 DAT	76 DAT	76 DAT
1	untreated check							32.8	ab 10.8	ab 0.6	ab 43.7	ab
2	trifluralin	480	EC	1105	G A/HA	PPI	A	34.2	ab 4.5	b 0.5	ab 38.7	ab
3	s-metolachlor	915	EC	1600	G A/HA	PPI	A	31.8	b 5.2	b 0.6	ab 37.0	ab
4	metribuzin	75	DF	700	G A/HA	PPI	A	28.5	b 3.7	b 0.4	b 32.2	b
5	trifluralin	480	EC	1105	G A/HA	PPI	A	37.1	ab 19.1	a 1.1	a 56.2	a
	s-metolachlor	915	EC	1600	G A/HA	PPI	A					
6	trifluralin	480	EC	1105	G A/HA	PPI	A	34.8	ab 7.4	b 0.4	b 42.3	ab
	metribuzin	75	DF	700	G A/HA	PPI	A					
7	s-metolachlor	915	EC	1600	G A/HA	PPI	A	31.9	b 6.1	b 0.7	ab 38.0	ab
	metribuzin	75	DF	700	G A/HA	PPI	A					
8	trifluralin	480	EC	1105	G A/HA	PPI	A	26.8	b 10.5	ab 0.6	ab 37.3	ab
	s-metolachlor	915	EC	1600	G A/HA	PPI	A					
	metribuzin	75	DF	700	G A/HA	PPI	A					
9	s-metolachlor	915	EC	1600	G A/HA	PPI	A	30.8	b 8.7	b 0.3	b 39.5	ab
	metribuzin	75	DF	150	G A/HA	POST 1	B					
	metribuzin	75	DF	150	G A/HA	POST 2	C					
	metribuzin	75	DF	150	G A/HA	POST 3	D					
	metribuzin	75	DF	150	G A/HA	POST 4	E					
10	s-metolachlor	915	EC	1600	G A/HA	PPI	A	24.6	b 4.0	b 0.6	ab 28.6	b
	metribuzin	75	DF	250	G A/HA	PPI	A					
	metribuzin	75	DF	150	G A/HA	POST 1	B					
	metribuzin	75	DF	150	G A/HA	POST 2	C					
	metribuzin	75	DF	150	G A/HA	POST 3	D					
	metribuzin	75	DF	150	G A/HA	POST 4	E					
11	s-metolachlor	915	EC	1600	G A/HA	PPI	A	28.5	b 3.7	b 0.4	b 32.2	b
	metribuzin	75	DF	250	G A/HA	PPI	A					
	metribuzin	75	DF	150	G A/HA	POST 1	B					
	metribuzin	75	DF	150	G A/HA	POST 2	C					
	thifensulfuron-methyl	75	DF	6	G A/HA	POST 2	C					
	Agral 90		SO	0.2	% V/V	POST 2	C					
	metribuzin	75	DF	150	G A/HA	POST 3	D					
	metribuzin	75	DF	150	G A/HA	POST 4	E					
12	metribuzin	75	DF	150	G A/HA	POST 1	B	48.4	a 4.3	b 0.6	ab 52.7	a
	metribuzin	75	DF	150	G A/HA	POST 2	C					
	metribuzin	75	DF	150	G A/HA	POST 3	D					
	metribuzin	75	DF	150	G A/HA	POST 4	E					
13	metribuzin	75	DF	150	G A/HA	POST 1	B	32.7	ab 5.0	b 0.4	b 37.6	ab
	metribuzin	75	DF	150	G A/HA	POST 2	C					
	rimsulfuron	25	DF	15	G A/HA	POST 2	C					
	Agral 90		SO	0.2	% V/V	POST 2	C					
	metribuzin	75	DF	150	G A/HA	POST 3	D					
	metribuzin	75	DF	150	G A/HA	POST 4	E					
14	metribuzin	75	DF	150	G A/HA	POST 1	B	33.2	ab 3.5	b 0.4	b 36.7	ab
	metribuzin	75	DF	150	G A/HA	POST 2	C					
	fluazifop-p-butyl	125	EC	250	G A/HA	POST 2	C					
	metribuzin	75	DF	150	G A/HA	POST 3	D					
	metribuzin	75	DF	150	G A/HA	POST 4	E					

LSD (P=.05)	15.91	9.71	0.57	19.96
Standard Deviation	11.13	6.80	0.40	13.97
CV	34.18	98.53	74.44	35.39

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

Trial Comments

Conclusions: One half of each plot in this trial was maintained weed-free to test for tolerance of tomatoes to various weed management programs. Weeds were left in the other half of each plot to determine the level of weed control of each herbicide program.

None of the treatments caused commercially unacceptable visual injury. Some distortion of the lower leaves was evident in the trifluralin+metribuzin (1105+700 g a.i. ha⁻¹), s-metolachlor+metribuzin (1600+700 g a.i. ha⁻¹), and the s-metolachlor+metribuzin (1600+250 g a.i. ha⁻¹) followed by sequential metribuzin (150 g a.i. ha⁻¹) micro-rate treatments at 7 DAT. In all cases, the injury was less than 1% and was no longer measurable by 35 DAT.

The trifluralin+s-metolachlor+metribuzin tank mix provided excellent season long control of redroot pigweed and common lamb's-quarters, but poor control of green foxtail.

Season long control of velvetleaf and redroot pigweed was observed following pre-plant incorporation (PPI) s-metolachlor (1600 g a.i. ha⁻¹) plus four sequential postemergence applications of metribuzin (150 g a.i. ha⁻¹). Common ragweed, common lamb's-quarters and green foxtail control were fair.

The s-metolachlor+metribuzin (1600+250 g a.i. ha⁻¹) PPI tank mix followed by four sequential postemergence metribuzin (150 g a.i. ha⁻¹) treatments gave excellent control of velvetleaf and common lamb's-quarters, but poor control of green foxtail. This treatment did not reduce marketable or total yields compared with the untreated check, and gave the best yields overall in the weedy half of each treatment. The addition of thifensulfuron-methyl (6 g a.i. ha⁻¹) to this treatment did not increase visual injury of tomatoes, nor did it result in a decrease in marketable or total yield in the weed-free portion of each plot. Excellent control of velvetleaf, common lamb's-quarters and redroot pigweed was obtained, but green foxtail control was still poor.

THE EFFECT OF APPLICATION TIMING ON TOMATO TOLERANCE AND WEED CONTROL WITH RIMSULFURON

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TO02M2

CROP: LYPES, TOMATO (H9478). Planted: Jun-7-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-7-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-C2.

Site Description: Soil Texture: LOAM. %OM: 6.02 %Sand: 48.7 %Silt: 32.1 %Clay: 19.2 pH: 6.9

APPLICATION DESCRIPTION

Application:	A	B	C	D	E	F
Date	Jun-12-02	Jun-20-02	Jun-28-02	Jun-30-02	Jul-5-02	Jul-10-02
Time of Day	9:05 PM	8:20 PM	7:55 AM	8:30 AM	6:40 AM	6:45 AM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPARY	CO2 SPRAY
Timing	POST	POST	POST	POST	POST	POST
Placement	FOLIAR	FOLIAR	FOLIAR	FOLIAR	FOLIAR	FOLIAR
Air Temp.	17.3 C	24.0 C	17.6 C	25.2 C	11.2 C	12.8 C
% Humidity	72	46	91	67	76	84
Wind Speed	4 KPH	5 KPH	2 KPH	4 KPH	0 KPH	4 KPH
Dew Present	Y	N	Y	N	Y	Y
Soil Moist.	DRY	DRY	DRY	DRY	DRY	DRY
Cloud Cover	70%	10%	0%	0%	5%	5%
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	207 kPa	207 kPa
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	8002 XR	8002 XR
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	50 CM	50 CM
Boom Length	1.5 M	1.5 M	1.5 M	1.5 M	1.5 M	1.5 M
Boom Height	50 CM	50 CM	50 CM	50 CM	50 CM	50 CM
Carrier	WATER	WATER	WATER	WATER	WATER	WATER
Appl.Vol:ume	200 L/HA	200 L/HA	200 L/HA	200 L/HA	200 L/HA	200 L/HA
Propellant	CO2	CO2	CO2	CO2	CO2	CO2

STAGE AT APPLICATION

Crop	1 LYPES	2 LF	3 LF	8 LF	8 LF	9 LF	11 LF
Height	9 CM	13 CM	16.1 CM	16.1 CM	24.8 CM	45 CM	
Weed 1 ABUTH	0.63 CM	1.2CM	5.8 CM	6.1 CM	10.6 CM	21.4 CM	
Stg.Scale:	COTYLEDON	1 LF	2 LF	3 LF	4 LF	6 LF	
Density	10 SQ.M.	8.2 SQ.M.	9.5 SQ.M.	9.5 SQ.M.	10 SQ.M.	7 SQ.M.	
Weed 2 CHEAL	0.25 CM	1.1 CM	3.0 CM	3.3 CM	8.6 CM	11.2 CM	
Stg.Scale:	COTYLEDON	1 LF	2 LF	3 LF	5 LF	11 LF	
Density	4 SQ.M.	5 SQ.M.	11 SQ.M.	11 SQ.M.	9 SQ.M.	9.5 SQ.M.	
Weed 3 SETVI	0.4 CM	1.5 CM	7.4 CM	7.8 CM	21.8 CM	18.4 CM	
Stg.Scale:	1 LF	1 LF	3 LF	4 LF	5 LF	6 LF	
Density	6.5 CM	7.5 SQ.M.	15.5 SQ.M.	15.5 SQ.M.	11.5 SQ.M.	15 SQ.M.	

Weed Code									
Crop Code	LYPES	LYPES	LYPES	ABUTH	CHEAL	SETVI	ABUTH	CHEAL	
Part Rated				LYPES	LYPES	LYPES	LYPES	LYPES	
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit	%	%	%	%	%	%	%	%	
Rating Date	Jun-25-02	Jun-28-02	Jul-9-02						
Crop Stage	8-9 LF	8-10 LF	11-14 LF						
Crop Stage Scale	16-21 CM	15-24 CM	24-35 CM						
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	28 DAT	28 DAT	28 DAT	56 DAT	56 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check							0	b 0	a 0	a 0	c 0	d 0	e 0	d 0
2	rimsulfuron	25	DF	15	G A/HA	POST 1	A	0	b 0	a 0	a 76	a 80	a 88	a 46	bc 72
	Agral 90		SO	0.2	% V/V	POST 1	A								a
3	rimsulfuron	25	DF	15	G A/HA	POST 2	B	0	b 0	a 0	a 85	a 66	b 85	ab 83	a 43
	Agral 90		SO	0.2	% V/V	POST 2	B								ab
4	rimsulfuron	25	DF	15	G A/HA	POST 3	C	1	a 0	a 0	a 69	a 68	ab 78	bc 63	ab 44
	Agral 90		SO	0.2	% V/V	POST 3	C								ab
5	rimsulfuron	25	DF	15	G A/HA	POST 4	D	0	b 0	a 0	a 71	a 66	b 78	bc 55	ab 30
	Agral 90		SO	0.2	% V/V	POST 4	D								bc
6	rimsulfuron	25	DF	15	G A/HA	POST 5	E	0	b 0	a 0	a 26	b 64	b 73	cd 20	cd 38
	Agral 90		SO	0.2	% V/V	POST 5	E								b
7	rimsulfuron	25	DF	15	G A/HA	POST 6	F	0	b 0	a 0	a 25	b 32	c 66	d 15	d 4
	Agral 90		SO	0.2	% V/V	POST 6	F								cd
LSD (P=.05)								0.0	0.3	0.3	22.1	12.1	8.9	28.9	29.5
Standard Deviation								0.0	0.2	0.2	14.9	8.1	6.0	19.5	19.8
CV								0.0	529.15	529.15	29.59	15.21	9.02	48.48	60.38

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

THE EFFECT OF APPLICATION TIMING ON TOMATO TOLERANCE AND WEED CONTROL WITH RIMSULFURON

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: T002M2

Weed Code	SETVI				
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	RED	GREEN	ROTS	RED+GR	
Rating Data Type	CONTROL	YIELD	YIELD	YIELD	YIELD
Rating Unit	%	T/HA	T/HA	T/HA	T/HA
Rating Date		Sep-4-02	Sep-4-02	Sep-4-02	Sep-4-02
Crop Stage		WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
Crop Stage Scale					
Trt-Eval Interval	56 DAT				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check						0	d	30.3	a	4.1	b	0.4	b	34.4	a
2	rimsulfuron	25	DF	15	G A/HA	POST 1 A	76	ab	32.4	a	10.5	a	1.0	a	42.9	a
	Agral 90		SO	0.2	% V/V	POST 1 A										
3	rimsulfuron	25	DF	15	G A/HA	POST 2 B	85	a	30.5	a	5.1	ab	0.7	ab	35.6	a
	Agral 90		SO	0.2	% V/V	POST 2 B										
4	rimsulfuron	25	DF	15	G A/HA	POST 3 C	76	ab	31.5	a	4.8	ab	0.6	ab	36.2	a
	Agral 90		SO	0.2	% V/V	POST 3 C										
5	rimsulfuron	25	DF	15	G A/HA	POST 4 D	63	bc	32.6	a	6.7	ab	0.6	ab	39.3	a
	Agral 90		SO	0.2	% V/V	POST 4 D										
6	rimsulfuron	25	DF	15	G A/HA	POST 5 E	56	c	32.4	a	5.4	ab	0.4	ab	37.7	a
	Agral 90		SO	0.2	% V/V	POST 5 E										
7	rimsulfuron	25	DF	15	G A/HA	POST 6 F	53	c	38.1	a	7.3	ab	0.5	ab	45.4	a
	Agral 90		SO	0.2	% V/V	POST 6 F										
LSD (P=.05)									19.1	8.74	5.95	0.55	13.04			
Standard Deviation									12.8	5.89	4.00	0.37	8.78			
CV									22.01	18.09	64.08	63.49	22.63			

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

Trial Comments

The ratings were taken 7, 14 and 28 days after each particular treatment spray date. For ease of analysis the data was combined into a total of three columns. The following are the correct crop stage, size and rating date for each treatment.

Treatment #	7 DAT	14 DAT	28 DAT
#2	JUN-25-02	JUN-28-02	JUL-9-02
Crop Stage	8-9 LF	8-10 LF	11-14 LF
Crop Size	16-21 CM	15-24 CM	24-35 CM
#3	JUN-28-02	JUL-4-02	JUL-19-02
Crop Stage	8-10 LF	10-12 LF	13-14 LF
Crop Size	15-24 CM	20-26 CM	35-38 CM
#4	JUL-4-02	JUL-10-02	JUL-24-02
Crop Stage	10-12 LF	11-14 LF	13-14 LF
Crop Size	20-26 CM	24-35 CM	36-41 CM
#5	JUL-9-02	JUL-15-02	JUL-29-02
Crop Stage	11-14 LF	13-15 LF	13-15 LF
Crop Size	24-35 CM	32-38 CM	36-41 CM
#6	JUL-11-02	JUL-15-02	JUL-31-02
Crop Stage	11-14 LF	13-15 LF	13-15 LF
Crop Size	24-37 CM	32-38 CM	36-41 CM
#7	JUL-15-02	JUL-24-02	AUG-7-02
Crop Stage	13-15 LF	13-15 LF	13-15 LF
Crop Size	32-38 CM	36-41 CM	36-41CM

For the Weed Control Ratings the **28 DAT** rating was done on the following dates and tomato stages:

TRT.	DATE	CROP STAGE	CROP HEIGHT
Trt #2:	Jul-9-02	11-14 LF	24-25 CM
Trt #3:	Jul-19-02	13-14 LF	35-38 CM
Trt #4:	Jul-24-02	13-14 LF	36-41 CM
Trt #5:	Jul-29-02	13-15 LF	36-41 CM
Trt #6:	Jul-31-02	13-15 LF	36-41 CM
Trt #7:	Aug-7-02	13-15 LF	36-41 CM

For the Weed Control Ratings the **56 DAT** rating was done on the following dates and tomato stages:

TRT.	DATE	CROP STAGE	CROP HEIGHT
Trt #2:	Aug-9-02	13-15 LF	36-41 CM
Trt #3:	Aug-14-02	13-15 LF	36-41 CM
Trt #4:	Aug-22-02	13-14 LF	36-41 CM
Trt #5:	Aug-22-02	13-14 LF	35-40 CM
Trt #6:	Aug-27-02	13-15 LF	32-36 CM
Trt #7:	Sep-3-02	13-15 LF	32-36 CM

THE EFFECT OF APPLICATION TIMING ON TOMATO TOLERANCE AND WEED CONTROL WITH RIMSULFURON

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TO02M2

The weeds rated were at the following stages for each treatment rating at 28 DAT:

TRT.	WEED	WEED STAGE	WEED HEIGHT	WEED DENSITY
Trt #2	ABUTH	5 LF	20.8 CM	8.5 SQ.M.
	CHEAL	8 LF	12.6 CM	11 SQ.M.
	SETVI	7 LF	24.5 CM	15 SQ.M.
Trt #3	ABUTH	6 LF	22 CM	11 SQ.M.
	CHEAL	9 LF	13.1 CM	7.5 SQ.M.
	SETVI	7 LF	26.6 CM	13.5 SQ.M.
Trt #4	ABUTH	6 LF	32.2 CM	7 SQ.M.
	CHEAL	9 LF	24.9 CM	12 SQ.M.
	SETVI	8 LF	30.4 CM	15.5 SQ.M.
Trt #5	ABUTH	7 LF	55.6 CM	10.5 SQ.M.
	CHEAL	14 LF	42.4 CM	7.5 SQ.M.
	SETVI	13 LF	37.1 CM	13 SQ.M.
Trt #6	ABUTH	7 LF	55.6 CM	10.5 SQ.M.
	CHEAL	14 LF	42.4 CM	7.5 SQ.M.
	SETVI	13 LF	37.1 CM	13 SQ.M.
Trt #7	ABUTH	8 LF	71.7 CM	10.5 SQ.M.
	CHEAL	16 LF	50.5 CM	18 SQ.M.
	SETVI	14 LF	46.9 CM	15.5 SQ.M.

The weeds rated were at the following stages for each treatment rating at 56 DAT:

TRT.	WEED	WEED STAGE	WEED HEIGHT	WEED DENSITY
Trt #2	ABUTH	8 LF	71.7 CM	10.5 SQ.M.
	CHEAL	16 LF	50.5 CM	18 SQ.M.
	SETVI	14 LF	46.9 CM	15.5 SQ.M.
Trt #3	ABUTH	8 LF	73 CM	8.5 SQ.M.
	CHEAL	16 LF	70.6 CM	23 SQ.M.
	SETVI	14 LF	49.8 CM	13.5 SQ.M.
Trt #4	ABUTH	8 LF	88.8 CM	6 SQ.M.
	CHEAL	17 LF	86.9 CM	12.5 SQ.M.
	SETVI	14 LF	57.6 CM	17.5 SQ.M.
Trt #5	ABUTH	8 LF	88.8 CM	6 SQ.M.
	CHEAL	17 LF	86.9 CM	12.5 SQ.M.
	SETVI	14 LF	57.6 CM	17.5 SQ.M.
Trt #6	ABUTH	8 LF	90.0 CM	8 SQ.M.
	CHEAL	18 LF	102.0 CM	8 SQ.M.
	SETVI	14 LF	62.9 CM	24.5 SQ.M.
Trt #7	ABUTH	8 LF	90.0 CM	8 SQ.M.
	CHEAL	18 LF	102.0 CM	8 SQ.M.
	SETVI	14 LF	62.9 CM	24.5 SQ.M.

Conclusions: One half of each plot was maintained weed free to examine the effect of delayed application timing (from cotyledon to 11 leaf stage of common lamb's-quarters) of rimsulfuron (15 g a.i. ha⁻¹) on tomato visual injury, yield and maturity. Weeds were left in the other half of each plot to determine the level of weed control of application timing.

None of the treatments caused commercially significant visual injury to tomatoes.

The application made at the cotyledon stage was too early to give good control of velvetleaf and green foxtail, though good control of common lamb's-quarters was obtained. Control of common lamb's-quarters was poor at 56 days after treatment (DAT), when rimsulfuron was applied after the cotyledon stage of this weed.

Commercially acceptable control of velvetleaf and green foxtail was obtained when applied to plants at the cotyledon to one leaf stage, but decreased when rimsulfuron was applied to weeds at the 2-leaf stage or greater.

Tomato marketable and total yields were not reduced by any application timings in the weed-free portion of each plot.

WEED MANAGEMENT IN TOMATOES WITH CLOMAZONE

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T1

CROP: LYPES, TOMATO (H9478). Planted: Jun-7-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-7-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-C2.

Site Description: Soil Texture: LOAM. %OM: 6.02 %Sand: 48.7 %Silt: 32.1 %Clay: 19.2 pH: 6.9

APPLICATION DESCRIPTION

Application: A
 Date : Jun-6-02
 Time of Day: 4:30 PM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 24 C
 % Humidity : 43
 Wind Speed : 5 KPH
 Dew Present: N
 Soil Moist.: MOIST
 Cloud Cover: 65%
 Equipment : CO2 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Noz.Spacing: 50 CM
 Boom Length: 1.5 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
LYPES	LYPES	LYPES	CONTROL	%	Jun-13-02	2-3 LF	10-12 CM	5 LF	7 DAE	
LYPES	LYPES	LYPES	CONTROL	%	Jun-19-02	3-4 LF	13-15 CM	12 LF	14 DAE	
LYPES	LYPES	LYPES	CONTROL	%	Jul-4-02	9-12 LF	20-26 CM	5 SQ.M.	28 DAE	
ABUTH	AMASS	CHEAL	CONTROL	%	Jul-19-02	12-13 LF	26-33 CM	2 SQ.M.	42 DAE	
AMASS	CHEAL	SETVI	CONTROL	%	Jul-19-02	12-13 LF	26-33 CM	13 SQ.M.	42 DAE	
CHEAL	SETVI	ABUTH	CONTROL	%	Jul-19-02	12-13 LF	26-33 CM	8.5 SQ.M.	42 DAE	
ABUTH	ABUTH		CONTROL	%	Aug-14-02	14-15 LF	35-42 CM	7 SQ.M.	70 DAE	
Trt	Treatment	Form	Form	Rate	Grow	Appl				
No.	Name	Conc	Type	Unit	Stg	Code				
1	untreated check									
2	clomazone	360	EC	120	G A/HA	PRE-T A				
3	clomazone	360	EC	240	G A/HA	PRE-T A				
4	clomazone	360	EC	360	G A/HA	PRE-T A				
5	clomazone	360	EC	480	G A/HA	PRE-T A				
6	clomazone	360	EC	600	G A/HA	PRE-T A				
7	clomazone	360	EC	720	G A/HA	PRE-T A				
8	clomazone	360	EC	840	G A/HA	PRE-T A				
LSD (P=.05)										
Standard Deviation										
CV										

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

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval
AMAPO	AMARE	CHEAL	CONTROL	%	Aug-14-02	14-15 LF	35-42 CM	13 LF	2 SQ.M.	70 DAE
AMARE	CHEAL	SETVI	CONTROL	%	Aug-14-02	14-15 LF	35-42 CM	13 LF	2.5 SQ.M.	70 DAE
CHEAL	SETVI	RED	CONTROL	%	Aug-14-02	14-15 LF	35-42 CM	16 LF	25.5 SQ.M.	70 DAE
SETVI	RED	GREEN	CONTROL	%	Aug-14-02	14-15 LF	35-42 CM	9 LF	23.5 SQ.M.	70 DAE
RED	GREEN	ROTS	CONTROL	%	Sep-6-02	WEEDFREE	WEEDFREE	WEEDFREE		92 DAE
GREEN	ROTS	YIELD	CONTROL	%	Sep-6-02	WEEDFREE	WEEDFREE	WEEDFREE		92 DAE
ROTS	YIELD		CONTROL	%	Sep-6-02	WEEDFREE	WEEDFREE	WEEDFREE		92 DAE
Trt	Treatment	Form	Form	Rate	Grow	Appl				
No.	Name	Conc	Type	Unit	Stg	Code				
1	untreated check									
2	clomazone	360	EC	120	G A/HA	PRE-T A				
3	clomazone	360	EC	240	G A/HA	PRE-T A				
4	clomazone	360	EC	360	G A/HA	PRE-T A				
5	clomazone	360	EC	480	G A/HA	PRE-T A				
6	clomazone	360	EC	600	G A/HA	PRE-T A				
7	clomazone	360	EC	720	G A/HA	PRE-T A				
8	clomazone	360	EC	840	G A/HA	PRE-T A				
LSD (P=.05)										
Standard Deviation										
CV										

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

WEED MANAGEMENT IN TOMATOES WITH CLOMAZONE

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T1

Weed Code
 Crop Code LYPES
 Part Rated RED+GR
 Rating Data Type YIELD
 Rating Unit T/HA
 Rating Date Sep-6-02
 Crop Stage WEEDFREE
 Crop Stage Scale
 Weed Stage
 Weed Density, Unit
 Trt-Eval Interval 92 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	untreated check							39.1	ab
2	clomazone	360	EC	120	G A/HA	PRE-T	A	41.3	ab
3	clomazone	360	EC	240	G A/HA	PRE-T	A	42.7	ab
4	clomazone	360	EC	360	G A/HA	PRE-T	A	34.7	b
5	clomazone	360	EC	480	G A/HA	PRE-T	A	41.0	ab
6	clomazone	360	EC	600	G A/HA	PRE-T	A	37.3	ab
7	clomazone	360	EC	720	G A/HA	PRE-T	A	45.6	a
8	clomazone	360	EC	840	G A/HA	PRE-T	A	37.9	ab
LSD (P=.05)								9.28	
Standard Deviation								6.31	
CV								15.8	

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

Trial Comments

Conclusions: One half of each plot was maintained weed-free to test for visual injury and yield of tomatoes following pre-plant incorporated treatments of clomazone applied at rates from 0 to 840 g a.i. ha⁻¹. Weeds were left in the other half of each plot to determine the level of weed control as a function of clomazone rate.

None of the treatments caused commercially unacceptable visual injury at 7 days after planting (DAP), however the injury was statistically significant as clomazone rate increased up to 840 g a.i. ha⁻¹ by 14 DAP. Tomatoes had outgrown the injury by 28 DAP.

At 42 DAP clomazone gave fair control of redroot and green pigweed, common lamb's-quarters and green foxtail, and poor control of velvetleaf at 840 g a.i. ha⁻¹. By 70 DAP clomazone gave fair control of the two pigweed species at 840 g a.i. ha⁻¹. Control of velvetleaf, common lamb's-quarters and green foxtail was poor at this rate of clomazone.

Total and marketable tomato yields were not reduced by application of clomazone at any of the rates tested in the weed-free portion of the trial.

POSTEMERGENCE WEED CONTROL IN TOMATOES WITH RIMSULFURON, THIFENSULFURON-METHYL AND KOCIDE OR BRAVO TANKMIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T2

CROP: LYPES, TOMATO (H9478). Planted: Jun-7-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-7-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-C2.

Site Description: Soil Texture: LOAM. %OM: 6.02 %Sand: 48.7 %Silt: 32.1 %Clay: 19.2 pH: 6.9

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-28-02	Crop 1 LYPES 7 LF
Time of Day: 7:05 AM	Height : 19.6 CM
Method : CO2 SPRAY	
Timing : POST	Weed 1 ABUTH 3.8 CM
Placement : FOLIAR	Stg.Scale: 3 LF
Air Temp. : 17.6 C	Density : 8 SQ.M.
% Humidity : 91	Weed 2 AMARE 3.9 CM
Wind Speed : 0 KPH	Stg.Scale: 3 LF
Dew Present: Y	Density : 7.5 SQ.M.
Soil Moist.: DRY	Weed 3 CHEAL 4.8 CM
Cloud Cover: 0%	Stg.Scale: 3 LF
Equipment : CO2 SPRAY	Density : 11 SQ.M.
Pressure : 207 kPa	Weed 4 SETVI 7.5 CM
Nozzle Type: FLAT FAN	Stg.Scale: 4 LF
Nozzle Size: 8002 XR	Density : 12.5 SQ.M.
Noz.Spacing: 50 CM	
Boom Length: 1.5 M	
Boom Height: 50 CM	
Carrier : WATER	
Appl.Volume: 200 L/HA	
Propellant : CO2	

Weed Code				ABUTH	AMARE	CHEAL	SETVI
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated							
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jul-5-02	Jul-11-02	Jul-24-02	Jul-25-02	Jul-25-02	Jul-25-02	Jul-25-02
Crop Stage	10-13 LF	12-13 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF
Crop Stage Scale	19-26 CM	30-40 CM	36-49 CM	36-49 CM	36-49 CM	36-49 CM	36-49 CM
Weed Stage				6 LF	7 LF	9 LF	4 LF
Weed Density, Unit				5.5 SQ.M.	6 SQ.M.	14.5SQ.M.	21.5SQ.M.
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check							0	b 0	a 0	a 0	f 0	g 0	f 0 j
2	rimsulfuron	25	DF	15	G A/HA	POST	A	0	b 0	a 0	a 74	a-d 91	a-d 79	cde 82 ab
	Agral 90		SO	0.2	% V/V	POST	A							
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0	b 0	a 0	a 70	a-d 90	a-d 80	b-e 60 ghi
	Agral 90		SO	0.2	% V/V	POST	A							
4	metribuzin	75	DF	150	G A/HA	POST	A	0	b 0	a 0	a 75	a-d 74	f 77	de 57 hi
5	rimsulfuron	25	DF	15	G A/HA	POST	A	0	b 0	a 0	a 78	abc 90	a-d 86	a-d 77 a-d
	metribuzin	75	DF	150	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0	b 0	a 0	a 60	de 90	bcd 93	a 63 f-i
	metribuzin	75	DF	150	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							
7	rimsulfuron	25	DF	15	G A/HA	POST	A	0	b 0	a 0	a 78	abc 93	abc 91	ab 84 ab
	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							
8	rimsulfuron	25	DF	30	G A/HA	POST	A	1	a 0	a 0	a 74	a-d 93	abc 95	a 81 abc
	metribuzin	75	DF	300	G A/HA	POST	A							
	Agral 90		SO	0.4	% V/V	POST	A							
9	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0	ab 0	a 0	a 65	cde 91	a-d 93	a 64 e-i
	metribuzin	75	DF	300	G A/HA	POST	A							
	Agral 90		SO	0.4	% V/V	POST	A							
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0	ab 0	a 0	a 85	a 93	abc 96	a 86 a
	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A							
	Agral 90		SO	0.4	% V/V	POST	A							
11	rimsulfuron	25	DF	15	G A/HA	POST	A	0	b 0	a 0	a 74	a-d 94	ab 71	e 77 a-e
	chlorothalonil	500	F	1600	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							
12	rimsulfuron	25	DF	15	G A/HA	POST	A	0	ab 0	a 0	a 53	e 75	f 70	e 73 b-g
	chlorothalonil	500	F	1600	G A/HA	POST	A							
	copper	40	DF	2250	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							
13	rimsulfuron	25	DF	15	G A/HA	POST	A	0	ab 0	a 0	a 76	abc 82	e 86	a-d 75 a-f
	metribuzin	75	DF	150	G A/HA	POST	A							
	chlorothalonil	500	F	1600	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							
14	rimsulfuron	25	DF	6	G A/HA	POST	A	0	b 0	a 0	a 64	cde 86	de 91	a 69 c-h
	metribuzin	75	DF	150	G A/HA	POST	A							
	chlorothalonil	500	F	1600	G A/HA	POST	A							
	copper	40	DF	2250	G A/HA	POST	A							
	Agral 90		SO	0.2	% V/V	POST	A							

POSTEMERGENCE WEED CONTROL IN TOMATOES WITH RIMSULFURON, THIFENSULFURON-METHYL AND KOCIDE OR BRAVO TANKMIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T2

Weed Code							ABUTH	AMARE	CHEAL	SETVI				
Crop Code							LYPES	LYPES	LYPES	LYPES	LYPES	LYPES		
Part Rated														
Rating Data Type							INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit							%	%	%	%	%	%	%	
Rating Date							Jul-5-02	Jul-11-02	Jul-24-02	Jul-25-02	Jul-25-02	Jul-25-02	Jul-25-02	
Crop Stage							10-13 LF	12-13 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF	
Crop Stage Scale							19-26 CM	30-40 CM	36-49 CM	36-49 CM	36-49 CM	36-49 CM	36-49 CM	
Weed Stage									6 LF	7 LF	9 LF	4 LF		
Weed Density, Unit									5.5 SQ.M.	6 SQ.M.	14.5SQ.M.	21.5SQ.M.		
Trt-Eval Interval							7 DAT	14 DAT	28 DAT	28 DAT	28 DAT	28 DAT		
15	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	0	b 0	a 0	a 76	a-d 96	a 88	abc 56	i
	chlorothalonil	500	F	1600	G A/HA	POST A								
	Agral 90		SO	0.2	% V/V	POST A								
16	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	0	b 0	a 0	a 67	b-e 90	a-d 77	de 62	f-i
	chlorothalonil	500	F	1600	G A/HA	POST A								
	copper	40	DF	2250	G A/HA	POST A								
	Agral 90		SO	0.2	% V/V	POST A								
17	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	0	b 0	a 0	a 81	ab 94	ab 86	a-d 65	d-i
	metribuzin	75	DF	150	G A/HA	POST A								
	chlorothalonil	500	F	1600	G A/HA	POST A								
	Agral 90		SO	0.2	% V/V	POST A								
18	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	0	b 0	a 0	a 68	b-e 87	cde 88	abc 69	c-h
	metribuzin	75	DF	150	G A/HA	POST A								
	chlorothalonil	500	F	1600	G A/HA	POST A								
	copper	40	DF	2250	G A/HA	POST A								
	Agral 90		SO	0.2	% V/V	POST A								
LSD (P=.05)							0.4	0.0	0.3	15.6	6.5	10.6	12.7	
Standard Deviation							0.3	0.0	0.2	11.0	4.6	7.5	9.0	
CV							328.99	0.0	486.69	16.33	5.53	9.35	13.45	

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

Weed Code							ABUTH	AMARE	CHEAL	SOLPT	SETVI				
Crop Code							LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES		
Part Rated												RED	GREEN		
Rating Data Type							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD	YIELD		
Rating Unit							%	%	%	%	%	T/HA	T/HA		
Rating Date							Aug-22-02	Aug-22-02	Aug-22-02	Aug-22-02	Aug-22-02	Sep-17-02	Sep-17-02		
Crop Stage							13-14 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF	WEEDY	WEEDY		
Crop Stage Scale							22-31 CM	22-31 CM	22-31 CM	22-31 CM	22-31 CM				
Weed Stage							7 LF	14 LF	15 LF	8 LF	9 LF				
Weed Density, Unit							6.5 SQ.M.	3 SQ.M.	9.5 SQ.M.	1 SQ.M.	7.5 SQ.M.				
Trt-Eval Interval							56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	81 DAT	81 DAT		
1	untreated check	14.9	h	0.3	d		0	f	0	i	0	e	0	c	0
	g														
2	rimsulfuron	25	DF	15	G A/HA	POST A	56	a-e 85	c-f 48	bcd 80	a 78	a 17.5	gh 0.7	bcd	
	Agral 90		SO	0.2	% V/V	POST A									
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	34	e 99	a 69	abc 45	b 56	a-e 27.0	c-g 1.3	abc	
	Agral 90		SO	0.2	% V/V	POST A									
4	metribuzin	75	DF	150	G A/HA	POST A	60	a-e 73	gh 69	abc 72	a 29	f 20.5	e-h 0.6	cd	
5	rimsulfuron	25	DF	15	G A/HA	POST A	73	ab 93	a-d 74	ab 70	a 68	a-d 29.3	b-f 1.5	ab	
	metribuzin	75	DF	150	G A/HA	POST A									
	Agral 90		SO	0.2	% V/V	POST A									
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	43	b-e 86	b-f 88	a 65	a 52	b-f 30.7	a-e 1.1	abc	
	metribuzin	75	DF	150	G A/HA	POST A									
	Agral 90		SO	0.2	% V/V	POST A									
7	rimsulfuron	25	DF	15	G A/HA	POST A	70	abc 100	a 86	a 67	a 73	ab 40.2	ab 1.2	abc	
	thifensulfuron-methyl	75	DF	6	G A/HA	POST A									
	Agral 90		SO	0.2	% V/V	POST A									
8	rimsulfuron	25	DF	30	G A/HA	POST A	68	a-d 99	a 93	a 69	a 70	abc 42.0	a 1.6	a	
	metribuzin	75	DF	300	G A/HA	POST A									
	Agral 90		SO	0.4	% V/V	POST A									
9	thifensulfuron-methyl	75	DF	12	G A/HA	POST A	48	a-e 98	ab 94	a 75	a 40	ef 25.1	c-h 1.1	abc	
	metribuzin	75	DF	300	G A/HA	POST A									
	Agral 90		SO	0.4	% V/V	POST A									
10	rimsulfuron	25	DF	30	G A/HA	POST A	77	a 98	ab 90	a 73	a 79	a 30.6	a-e 1.7	a	
	thifensulfuron-methyl	75	DF	12	G A/HA	POST A									
	Agral 90		SO	0.4	% V/V	POST A									
11	rimsulfuron	25	DF	15	G A/HA	POST A	55	a-e 86	b-f 39	d 70	a 71	ab 23.6	c-h 0.7	bcd	
	chlorothalonil	500	F	1600	G A/HA	POST A									
	Agral 90		SO	0.2	% V/V	POST A									
12	rimsulfuron	25	DF	15	G A/HA	POST A	40	cde 69	h 44	cd 77	a 70	abc 19.5	e-h 0.6	cd	
	chlorothalonil	500	F	1600	G A/HA	POST A									
	copper	40	DF	2250	G A/HA	POST A									
	Agral 90		SO	0.2	% V/V	POST A									
13	rimsulfuron	25	DF	15	G A/HA	POST A	73	ab 76	e-h 68	abc 70	a 57	a-e 32.1	abc 1.0	a-d	
	metribuzin	75	DF	150	G A/HA	POST A									
	chlorothalonil	500	F	1600	G A/HA	POST A									
	Agral 90		SO	0.2	% V/V	POST A									

POSTEMERGENCE WEED CONTROL IN TOMATOES WITH RIMSULFURON, THIFENSULFURON-METHYL AND KOCIDE OR BRAVO TANKMIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T2

Weed Code	ABUTH	AMARE	CHEAL	SOLPT	SETVI		
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated						RED	GREEN
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD	YIELD
Rating Unit	%	%	%	%	%	T/HA	T/HA
Rating Date	Aug-22-02	Aug-22-02	Aug-22-02	Aug-22-02	Aug-22-02	Sep-17-02	Sep-17-02
Crop Stage	13-14 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF	WEEDY	WEEDY
Crop Stage Scale	22-31 CM	22-31 CM	22-31 CM	22-31 CM	22-31 CM		
Weed Stage	7 LF	14 LF	15 LF	8 LF	9 LF		
Weed Density, Unit	6.5 SQ.M.	3 SQ.M.	9.5 SQ.M.	1 SQ.M.	7.5 SQ.M.		
Trt-Eval Interval	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	81 DAT	81 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code
14	rimsulfuron	25	DF	6	G A/HA	POST A	44 b-e 75 fgh 70 abc 78 a 46 c-f 18.2 fgh 1.2 abc
	metribuzin	75	DF	150	G A/HA	POST A	
	chlorothalonil	500	F	1600	G A/HA	POST A	
	copper	40	DF	2250	G A/HA	POST A	
	Agral 90		SO	0.2	% V/V	POST A	
15	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	56 a-e 95 abc 70 abc 75 a 44 def 24.5 c-h 0.7 bcd
	chlorothalonil	500	F	1600	G A/HA	POST A	
	Agral 90		SO	0.2	% V/V	POST A	
16	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	41 b-e 81 d-g 56 bcd 75 a 51 b-f 22.5 c-h 0.6 cd
	chlorothalonil	500	F	1600	G A/HA	POST A	
	copper	40	DF	2250	G A/HA	POST A	
	Agral 90		SO	0.2	% V/V	POST A	
17	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	72 ab 88 a-e 85 a 66 a 36 ef 32.1 a-d 1.1 abc
	metribuzin	75	DF	150	G A/HA	POST A	
	chlorothalonil	500	F	1600	G A/HA	POST A	
	Agral 90		SO	0.2	% V/V	POST A	
18	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	36 de 76 e-h 70 abc 75 a 55 a-e 20.6 d-h 0.7 bcd
	metribuzin	75	DF	150	G A/HA	POST A	
	chlorothalonil	500	F	1600	G A/HA	POST A	
	copper	40	DF	2250	G A/HA	POST A	
	Agral 90		SO	0.2	% V/V	POST A	
LSD (P=.05)							
Standard Deviation							
CV							

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

Weed Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES		
Crop Code	ROT	RED+GR	RED	GREEN	ROT	RED+GR		
Part Rated	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD		
Rating Data Type	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA		
Rating Unit	Sep-17-02	Sep-17-02	Sep-17-02	Sep-17-02	Sep-17-02	Sep-17-02		
Rating Date	WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE		
Crop Stage	WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE		
Crop Stage Scale								
Weed Stage								
Weed Density, Unit								
Trt-Eval Interval	81 DAT	81 DAT	81 DAT	81 DAT	81 DAT	81 DAT		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code	
1	untreated check						0.3 b 15.1 i 41.8 ab 4.2 abc 1.2 a-d 46.0 ab	
2	rimsulfuron	25	DF	15	G A/HA	POST A	0.6 ab 18.2 hi 40.2 b 2.4 c 0.6 bcd 42.6 b	
	Agral 90		SO	0.2	% V/V	POST A		
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	0.5 b 28.3 c-h 59.8 a 2.8 bc 1.2 a-d 62.6 a	
	Agral 90		SO	0.2	% V/V	POST A		
4	metribuzin	75	DF	150	G A/HA	POST A	0.6 ab 21.1 e-i 51.0 ab 5.2 a 1.2 a-d 56.2 ab	
5	rimsulfuron	25	DF	15	G A/HA	POST A	0.4 b 30.8 b-g 47.9 ab 3.4 abc 1.3 a-d 51.3 ab	
	metribuzin	75	DF	150	G A/HA	POST A		
	Agral 90		SO	0.2	% V/V	POST A		
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST A	0.5 b 31.8 a-f 49.6 ab 4.3 abc 1.3 abc 53.9 ab	
	metribuzin	75	DF	150	G A/HA	POST A		
	Agral 90		SO	0.2	% V/V	POST A		
7	rimsulfuron	25	DF	15	G A/HA	POST A	0.9 ab 41.5 ab 45.2 ab 4.1 abc 0.5 cd 49.3 ab	
	thifensulfuron-methyl	75	DF	6	G A/HA	POST A		
	Agral 90		SO	0.2	% V/V	POST A		
8	rimsulfuron	25	DF	30	G A/HA	POST A	1.4 a 43.6 a 50.2 ab 4.0 abc 1.3 abc 54.2 ab	
	metribuzin	75	DF	300	G A/HA	POST A		
	Agral 90		SO	0.4	% V/V	POST A		
9	thifensulfuron-methyl	75	DF	12	G A/HA	POST A	0.4 b 26.2 c-i 41.4 ab 3.3 abc 0.7 a-d 44.7 ab	
	metribuzin	75	DF	300	G A/HA	POST A		
	Agral 90		SO	0.4	% V/V	POST A		
10	rimsulfuron	25	DF	30	G A/HA	POST A	0.9 ab 32.3 a-e 42.9 ab 4.3 abc 0.5 d 47.2 ab	
	thifensulfuron-methyl	75	DF	12	G A/HA	POST A		
	Agral 90		SO	0.4	% V/V	POST A		
11	rimsulfuron	25	DF	15	G A/HA	POST A	0.2 b 24.3 c-i 47.7 ab 3.7 abc 1.5 a 51.4 ab	
	chlorothalonil	500	F	1600	G A/HA	POST A		
	Agral 90		SO	0.2	% V/V	POST A		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code												
12	rimsulfuron	25	DF	15	G A/HA	POST	A	0.7	ab	20.1	f-i	51.0	ab	4.0	abc	1.4	ab	55.0	ab
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	copper	40	DF	2250	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
13	rimsulfuron	25	DF	15	G A/HA	POST	A	0.3	b	33.1	a-d	53.7	ab	3.4	abc	0.9	a-d	57.0	ab
	metribuzin	75	DF	150	G A/HA	POST	A												
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
14	rimsulfuron	25	DF	6	G A/HA	POST	A	0.4	b	19.4	ghi	40.7	ab	4.5	ab	0.7	a-d	45.2	ab
	metribuzin	75	DF	150	G A/HA	POST	A												
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	copper	40	DF	2250	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
15	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.3	b	25.2	c-i	39.7	b	3.4	abc	1.2	a-d	43.1	ab
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
16	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.4	b	23.1	c-i	39.5	b	3.5	abc	0.6	bcd	43.0	ab
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	copper	40	DF	2250	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
17	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.9	ab	33.2	abc	49.1	ab	3.6	abc	1.2	a-d	52.8	ab
	metribuzin	75	DF	150	G A/HA	POST	A												
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
18	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0.3	b	21.3	d-i	39.3	b	3.0	bc	0.9	a-d	42.3	b
	metribuzin	75	DF	150	G A/HA	POST	A												
	chlorothalonil	500	F	1600	G A/HA	POST	A												
	copper	40	DF	2250	G A/HA	POST	A												
	Agral 90		SO	0.2	% V/V	POST	A												
LSD (P=.05)								0.82	11.87	19.55	2.10	0.83	19.84						
Standard Deviation								0.58	8.39	13.83	1.49	0.59	14.03						
CV								104.32	30.91	29.96	39.78	58.74	28.12						

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

Trial Comments

Conclusions: One half of each plot in this study was maintained weed-free to test for visual injury and tolerance of tomatoes to various tank mixes of rimsulfuron, thifensulfuron-methyl, metribuzin, chlorothalonil and chlorothalonil+copper. Weeds were left in the other half of each plot to determine the level of weed control of each treatment.

Visual injury was not significant in any of the treatments.

The tank mix of rimsulfuron+metribuzin (15+150 g a.i. ha⁻¹) provided fair control of velvetleaf and green foxtail up to 56 days after planting (DAP) and good to excellent control of redroot pigweed and common lamb's-quarters. This is in contrast to the rimsulfuron (15 g a.i. ha⁻¹) treatment, which gave poor control of velvetleaf and common lamb's-quarters, and the metribuzin (150 g a.i. ha⁻¹) treatment, which gave fair control of velvetleaf and poor control of green foxtail.

The tank mix of thifensulfuron-methyl+metribuzin (6+150 g a.i. ha⁻¹) provided good season long control of redroot pigweed and common lamb's-quarters, but poor control of velvetleaf and green foxtail. This contrasts with the thifensulfuron-methyl (6 g a.i. ha⁻¹) treatment alone, which gave good to excellent control of redroot pigweed, fair control of common lamb's-quarters and green foxtail, and the metribuzin (150 g a.i. ha⁻¹) treatment, which gave only fair season long control of redroot pigweed.

The rimsulfuron+thifensulfuron-methyl (15+6 g a.i. ha⁻¹) tank mix gave excellent control of redroot pigweed, good control of velvetleaf and common lamb's-quarters, and fair to good control of green foxtail. In the weedy portion of the trial, total and marketable tomato yields were greater in this treatment than in the rimsulfuron+metribuzin and thifensulfuron-methyl+metribuzin tank mixes.

There was no antagonism in the rimsulfuron+chlorothalonil or thifensulfuron-methyl+chlorothalonil treatments, compared with rimsulfuron or thifensulfuron-methyl alone. The addition of copper however, did reduce velvetleaf and redroot pigweed control in the rimsulfuron+chlorothalonil treatment. During mixing, it was noted that when copper was added, the herbicide did not dissolve as readily as without, which may have reduced spray coverage. The reduction in weed control did not correspond to a yield decrease. In the thifensulfuron-methyl+chlorothalonil treatment, the addition of copper reduced velvetleaf, redroot pigweed and common lamb's-quarters control, and corresponded to reduced yield, possibly due to the high density of common lamb's-quarters.

None of the treatments caused any yield reductions in the weed-free portion of the trial, and there was no increase in the amount of green fruit at harvest, indicating that maturity had not been delayed.

NEW HERBICIDE EVALUATIONS FOR PROCESSING TOMATOES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T3

CROP: LYPES, TOMATO (H9478). Planted: Jun-10-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: Jun-10-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-L1B.

Site Description: Soil Texture: VERY FINE LOAMY SAND. %OM: 4.47 %Sand: 78.6 %Silt: 15.4 %Clay: 6.0 pH: 6.4

APPLICATION DESCRIPTION			STAGE AT APPLICATION				
Application:	A	B	C	Application:	A	B	C
Date	Jun-9-02	Jun-9-02	Jul-2-02	Crop 1 LYPES			8 LF
Time of Day	8:30 AM	8:35 AM	9:30 PM	Height			37.6 CM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 1 AMARE			7 CM
Timing	PPI	PRE-T	POST	Stg.Scale:			4 LF
Placement	SOIL	SOIL	FOLIAR	Density			23 SQ.M.
Air Temp.	25.2 C	25.2 C	23.2 C	Weed 2 CHEAL			8.8 CM
% Humidity	64	64	80	Stg.Scale:			6 LF
Wind Speed	0 KPH	0 KPH	0 KPH	Density			52.5 SQ.M.
Dew Present	Y	Y	Y	Weed 3 SOLPT			4.4 CM
Soil Moist.	DRY	DRY	DRY	Stg.Scale:			3 LF
Cloud Cover	100%	100%	20%	Density			40 SQ.M.
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 4 ECHCG			8.3 CM
Pressure	207 kPa	207 kPa	207 kPa	Stg.Scale:			5 LF
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	Density			19 SQ.M.
Nozzle Size	8002 XR	8002 XR	8002 XR				
Noz.Spacing	50 CM	50 CM	50 CM				
Boom Length	1.5 M	1.5 M	1.5 M				
Boom Height	50 CM	50 CM	50 CM				
Carrier	WATER	WATER	WATER				
Appl.Volume	200 L/HA	200 L/HA	200 L/HA				
Propellant	CO2	CO2	CO2				

Weed Code									AMARE
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	Trt1-7	Trt1-7	Trt1-7	Trt1-7	Trt8-9	Trt8-9	Trt8-9	Trt8-9	Trt1-7
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL
Rating Unit	%	%	%	%	%	%	%	%	%
Rating Date	Jun-19-02	Jun-24-02	Jul-9-02	Jul-16-02	Jul-9-02	Jul-16-02	Jul-16-02	Jul-31-02	Jul-9-02
Crop Stage	3-5 LF	7-8 LF	7-8 LF	12-14 LF	7-8 LF	12-14 LF	13-14 LF	13-14 LF	7-8 LF
Crop Stage Scale	13-16 CM	16-22 CM	30-43 CM	43-47 CM	30-43 CM	43-47 CM	43-52 CM	30-43 CM	30-43 CM
Weed Stage									5 LF
Weed Density, Unit									18 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	35 DAE	7 DAT	14 DAT	28 DAT	28 DAE	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check							0	a 0	a 0	a 0	a 0	a 0	a 0	d
2	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	a 0	a 0	a 0	a		98	a
	metribuzin	75	DF	375	G A/HA	PPI	A								
	metribuzin	75	DF	150	G A/HA	POST 2	D								
	metribuzin	75	DF	150	G A/HA	POST 3	E								
	metribuzin	75	DF	150	G A/HA	POST 4	F								
3	flumioxazin	51	WP	52.5	G A/HA	PRE-T	B	0	a 0	a 0	a 0	a		30	c
4	flumioxazin	51	WP	70	G A/HA	PRE-T	B	0	a 0	a 0	a 0	a		43	c
5	flumioxazin	51	WP	140	G A/HA	PRE-T	B	1	a 0	a 0	a 0	a		70	b
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	B	1	a 0	a 0	a 0	a		73	b
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	B	1	a 0	a 0	a 0	a		86	ab
8	halosulfuron-methyl	75	WG	50	G A/HA	POST 1	C				0	a 0	a 0	a	
	Agral 90		SO	0.2	% V/V	POST 1	C								
9	halosulfuron-methyl	75	WG	100	G A/HA	POST 1	C				0	a 1	a 0	a	
	Agral 90		SO	0.4	% V/V	POST 1	C								
LSD (P=.05)								0.8	0.5	0.0	0.0	0.5	1.0	0.0	21.2
Standard Deviation								0.6	0.3	0.0	0.0	0.3	0.6	0.0	14.3
CV								223.96	322.03	0.0	0.0	346.41	346.41	0.0	25.08

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

NEW HERBICIDE EVALUATIONS FOR PROCESSING TOMATOES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T3

Weed Code	CHEAL	SOLPT	PANDI	AMARE	CHEAL	SOLPT	PANDI									
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES									
Part Rated	Trt1-7	Trt1-7	Trt1-7	Trt8-9	Trt8-9	Trt8-9	Trt8-9									
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL									
Rating Unit	%	%	%	%	%	%	%									
Rating Date	Jul-9-02	Jul-9-02	Jul-9-02	Jul-31-02	Jul-31-02	Jul-31-02	Jul-31-02									
Crop Stage	7-8 LF	7-8 LF	7-8 LF	13-14 LF	13-14 LF	13-14 LF	13-14 LF									
Crop Stage Scale	30-43 CM	30-43 CM	30-43 CM	43-52 CM	43-52 CM	43-52 CM	43-52 CM									
Weed Stage	8 LF	3 LF	6 LF	16 LF	11 LF	5 LF	8 LF									
Weed Density, Unit	52 SQ.M.	26 SQ.M.	15 SQ.M.	17.5SQ.M.	26 SQ.M.	56 SQ.M.	4.5 SQ.M.									
Trt-Eval Interval	28 DAE	28 DAE	28 DAE	28 DAT	28 DAT	28 DAT	28 DAT									
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0	d 0	c 0	d 0	b 0	b 0	a 0	b	
2	s-metolachlor	915	EC	1600	G A/HA	PPI	A	100	a 63	b 83	a					
	metribuzin	75	DF	375	G A/HA	PPI	A									
	metribuzin	75	DF	150	G A/HA	POST 2	D									
	metribuzin	75	DF	150	G A/HA	POST 3	E									
	metribuzin	75	DF	150	G A/HA	POST 4	F									
3	flumioxazin	51	WP	52.5	G A/HA	PRE-T	B	60	c 83	a 64	ab					
4	flumioxazin	51	WP	70	G A/HA	PRE-T	B	69	c 91	a 70	a					
5	flumioxazin	51	WP	140	G A/HA	PRE-T	B	80	b 91	a 73	a					
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	B	60	c 0	c 21	cd					
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	B	64	c 3	c 36	bc					
8	halosulfuron-methyl	75	WG	50	G A/HA	POST 1	C					80	a 51	a 8	a 50	a
	Agral 90		SO	0.2	% V/V	POST 1	C									
9	halosulfuron-methyl	75	WG	100	G A/HA	POST 1	C					82	a 58	a 5	a 49	a
	Agral 90		SO	0.4	% V/V	POST 1	C									
LSD (P=.05)								11.1	11.8	28.3	6.7	11.0	7.6	12.8		
Standard Deviation								7.5	8.0	19.0	3.9	6.4	4.4	7.4		
CV								12.1	16.89	38.41	7.24	17.53	105.83	22.5		

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

Weed Code	AMARE	CHEAL	SOLPT	PANDI	AMARE	CHEAL	SOLPT								
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES								
Part Rated	Trt1-7	Trt1-7	Trt1-7	Trt1-7	Trt8-9	Trt8-9	Trt8-9								
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL								
Rating Unit	%	%	%	%	%	%	%								
Rating Date	Aug-7-02	Aug-7-02	Aug-7-02	Aug-7-02	Aug-21-02	Aug-21-02	Aug-21-02								
Crop Stage	15-17 LF	15-17 LF	15-17 LF	15-17 LF	15-17 LF	15-17 LF	15-17 LF								
Crop Stage Scale	55-63 CM	55-63 CM	55-63 CM	55-63 CM	55-63 CM	55-63 CM	55-63 CM								
Weed Stage	18 LF	14 LF	6 LF	9 LF	18 LF	15 LF	6 LF								
Weed Density, Unit	11.5SQ.M.	10 SQ.M.	19 SQ.M.	15.5SQ.M.	15 SQ.M.	17 SQ.M.	24.5SQ.M.								
Trt-Eval Interval	56 DAE	56 DAE	56 DAE	56 DAE	56 DAT	56 DAT	56 DAT								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check							0	e 0	d 0	d 0	e 0	c 0	a 0	b
2	s-metolachlor	915	EC	1600	G A/HA	PPI	A	99	a 99	a 64	b 84	a			
	metribuzin	75	DF	375	G A/HA	PPI	A								
	metribuzin	75	DF	150	G A/HA	POST 2	D								
	metribuzin	75	DF	150	G A/HA	POST 3	E								
	metribuzin	75	DF	150	G A/HA	POST 4	F								
3	flumioxazin	51	WP	52.5	G A/HA	PRE-T	B	39	d 65	b 89	a 50	cd			
4	flumioxazin	51	WP	70	G A/HA	PRE-T	B	31	d 63	bc 92	a 63	bc 100	a 0	a 35	a
5	flumioxazin	51	WP	140	G A/HA	PRE-T	B	59	c 65	b 95	a 67	b			
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	B	66	bc 48	bc 18	c 50	cd			
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	B	84	ab 46	c 14	cd 46	d			
8	halosulfuron-methyl	75	WG	50	G A/HA	POST 1	C					97	b 10	a 14	b
	Agral 90		SO	0.2	% V/V	POST 1	C								
9	halosulfuron-methyl	75	WG	100	G A/HA	POST 1	C					100	a 37	a 8	b
	Agral 90		SO	0.4	% V/V	POST 1	C								
LSD (P=.05)								18.5	18.1	15.2	15.3	2.9	38.0	14.3	
Standard Deviation								12.4	12.2	10.2	10.3	1.6	20.9	7.9	
CV								23.08	22.08	19.33	20.07	2.15	179.11	55.17	

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

NEW HERBICIDE EVALUATIONS FOR PROCESSING TOMATOES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T3

Weed Code	PANDI						
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	Trt8-9	RED	GREEN	ROT	RED+GR	RED	GREEN
Rating Data Type	CONTROL	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	%	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA
Rating Date	Aug-21-02	Sep-19-02	Sep-19-02	Sep-19-02	Sep-19-02	Sep-19-02	Sep-19-02
Crop Stage	15-17 LF	WEEDY	WEEDY	WEEDY	WEEDY	WEEDFREE	WEEDFREE
Crop Stage Scale	55-63 CM						
Weed Stage	9 LF						
Weed Density, Unit	10 SQ.M.						
Trt-Eval Interval	56 DAT						

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							0	b	24.3	c	1.6	b	2.0	ab	25.9	c	84.1	c	12.0	abc
2	s-metolachlor	915	EC	1600	G A/HA	PPI	A			105.9	a	5.7	a	2.6	ab	111.6	a	122.5	a	9.0	c
	metribuzin	75	DF	375	G A/HA	PPI	A														
	metribuzin	75	DF	150	G A/HA	POST 2	D														
	metribuzin	75	DF	150	G A/HA	POST 3	E														
	metribuzin	75	DF	150	G A/HA	POST 4	F														
3	flumioxazin	51	WP	52.5	G A/HA	PRE-T	B			52.0	b	3.2	ab	1.9	ab	55.2	b	114.7	ab	7.7	c
4	flumioxazin	51	WP	70	G A/HA	PRE-T	B	45	a	58.5	b	3.8	ab	2.8	ab	62.3	b	112.9	ab	7.9	c
5	flumioxazin	51	WP	140	G A/HA	PRE-T	B			62.5	b	4.4	ab	4.1	a	67.0	b	117.5	ab	13.1	abc
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	B			57.8	b	3.0	ab	2.0	ab	60.8	b	117.2	ab	10.2	bc
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	B			47.3	bc	1.6	b	2.1	ab	48.9	bc	115.8	ab	16.4	ab
8	halosulfuron-methyl	75	WG	50	G A/HA	POST 1	C	31	ab	69.8	b	3.6	ab	1.7	b	73.4	b	97.7	bc	10.0	c
	Agral 90		SO	0.2	% V/V	POST 1	C														
9	halosulfuron-methyl	75	WG	100	G A/HA	POST 1	C	27	ab	51.8	b	1.4	b	1.7	b	53.2	b	110.1	ab	17.0	a
	Agral 90		SO	0.4	% V/V	POST 1	C														
LSD (P=.05)								32.1		24.21		3.90		2.25		27.23		24.65		6.29	
Standard Deviation								17.6		16.59		2.67		1.54		18.66		16.89		4.31	
CV								68.56		28.17		84.76		66.49		30.07		15.31		37.5	

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

Weed Code	LYPES	
Crop Code	LYPES	LYPES
Part Rated	ROT	RED+GR
Rating Data Type	YIELD	YIELD
Rating Unit	T/HA	T/HA
Rating Date	Sep-19-02	Sep-19-02
Crop Stage	WEEDFREE	WEEDFREE
Crop Stage Scale		
Weed Stage		
Weed Density, Unit		
Trt-Eval Interval		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							1.7	b	96.1	b					
2	s-metolachlor	915	EC	1600	G A/HA	PPI	A	1.8	b	131.5	a					
	metribuzin	75	DF	375	G A/HA	PPI	A									
	metribuzin	75	DF	150	G A/HA	POST 2	D									
	metribuzin	75	DF	150	G A/HA	POST 3	E									
	metribuzin	75	DF	150	G A/HA	POST 4	F									
3	flumioxazin	51	WP	52.5	G A/HA	PRE-T	B	2.4	ab	122.4	ab					
4	flumioxazin	51	WP	70	G A/HA	PRE-T	B	2.4	ab	120.8	ab					
5	flumioxazin	51	WP	140	G A/HA	PRE-T	B	2.0	ab	130.7	a					
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	B	2.5	ab	127.4	a					
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE-T	B	3.3	a	132.2	a					
8	halosulfuron-methyl	75	WG	50	G A/HA	POST 1	C	2.6	ab	107.7	ab					
	Agral 90		SO	0.2	% V/V	POST 1	C									
9	halosulfuron-methyl	75	WG	100	G A/HA	POST 1	C	2.2	ab	127.2	a					
	Agral 90		SO	0.4	% V/V	POST 1	C									
LSD (P=.05)								1.47		27.75						
Standard Deviation								1.01		19.02						
CV								43.83		15.62						

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

Trial Comments

Conclusions: One half of each plot was maintained weed-free to test for tolerance of tomatoes to preemergence applications of flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹) and preemergence and postemergence applications of halosulfuron-methyl (50 and 100 g a.i. ha⁻¹). Weeds were left in the other half of each plot to determine the level of weed control of each herbicide. A standard treatment of s-metolachlor+metribuzin (1600+375 g a.i. ha⁻¹) applied pre-plant incorporated, followed by three 150 g a.i. ha⁻¹ micro-rate applications of metribuzin was included for comparison. This study was established in an area infested with eastern black nightshade - mean densities of this weed were 26 plants per m² in the untreated check.

None of the treatments resulted in commercially unacceptable visual injury to tomatoes. Visual injury in the preemergence and postemergence applications of halosulfuron-methyl caused less than 1% visual injury up to 14 days after planting or treatment.

Excellent control of redroot pigweed, common lamb's-quarters and fall panicum was observed in the standard treatment. This treatment only provided fair control of eastern black nightshade.

Flumioxazin (52.5 and 70 g a.i. ha⁻¹) gave good (89% to excellent (92%) control of eastern black nightshade, respectively. Control of common lamb's-quarters and fall panicum was only fair at either rate, and flumioxazin did not control redroot pigweed.

The preemergence treatment of halosulfuron-methyl provided fair control of redroot pigweed and common lamb's-quarters and poor control of eastern black nightshade and fall panicum.

The postemergence treatment of halosulfuron-methyl gave good to excellent control of redroot pigweed, but poor control of common lamb's-quarters, eastern black nightshade and fall panicum.

There was no decrease in marketable or total yield in the weed-free portion of any of the treatments compared to the untreated check or the standard treatment, indicating that flumioxazin and halosulfuron-methyl are possible candidates for further analysis in tomatoes. The high level of eastern black nightshade control in the flumioxazin treatment further emphasizes the importance of continued evaluation of this compound for incorporation into current weed management practices.

TOLERANCE OF PROCESSING TOMATO CULTIVARS TO THIFENSULFURON-METHYL

Trial ID: T002T4
Location: RCAT-C1

Study Dir.: DARREN ROBINSON
Investigator: KRISTEN McNAUGHTON

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: SCIENTIST
Investigator: KRISTEN McNAUGHTON Title: WEED TECHNICIAN

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1.	ABUTH VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
2.	AMARE PIGWEED, REDROOT	AMARANTHUS RETROFLEXUS L.
3.	CHEAL LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	SETVI FOXTAIL, GREEN	SETARIA VIRIDIS (L.) P.BEAUV.

Crop 1: LYPES TOMATO Variety: 13 VARIOUS
Planting Date: Jun-7-02 Planting Method: TRANSPLANT
Rate: 29500 PLANTS/HA Depth: 5 CM
Row Spacing: 1.5 M Soil Moisture: DRY Emergence Date: Jun-7-02

SITE AND DESIGN

Plot Width, Unit: 1.5 M Plot Length, Unit: 40 M Reps: 4
Tillage Type: CONVENTIONAL Study Design: FACTORIAL

MAINTENANCE

Field Prep./Maintenance: COVER SPRAY OF S-METOLACHLOR (1600 G AI/HA) AND METRIBUZIN (375 G AI/HA) ON JUN-6-02.

SOIL DESCRIPTION

% Sand: 48.7 % OM: 6.02 Texture: LOAM
% Silt: 32.1 pH: 6.9
% Clay: 19.2

APPLICATION DESCRIPTION

A

Application Date: Jun-28-02
Time of Day: 6:00 AM
Application Method: CO2 SPRAY
Application Timing: POST
Applic. Placement: FOLIAR
Air Temp., Unit: 17.6 C
% Relative Humidity: 91
Wind Velocity, Unit: 0 KPH
Dew Presence (Y/N): Y
Soil Temp., Unit: 20.0 C
Soil Moisture: DRY
% Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: LYPES
Stage Scale: 6 LF
Height, Unit: 23 CM

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code, Stage: ABUTH 5.1 CM
Stage Scale: 3 LF
Density, Unit: 9.5 SQ.M.
Weed 2 Code, Stage: AMARE 3.5 CM
Stage Scale: 3 LF
Density, Unit: 4.5 SQ.M.
Weed 3 Code, Stage: CHEAL 4.2 CM
Stage Scale: 4 LF
Density, Unit: 19.5 SQ.M.
Weed 4 Code, Stage: SETVI 4.5 CM
Stage Scale: 2 LF
Density, Unit: 9 SQ.M.

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 SPRAY
Operating Pressure: 207 kPa
Nozzle Type: FLAT FAN
Nozzle Size: 8002 XR
Nozzle Spacing, Unit: 50 CM
Boom Length, Unit: 1.5 M
Boom Height, Unit: 50 CM
Carrier: WATER
Spray Volume, Unit: 200 L/HA
Propellant: CO2

TOLERANCE OF PROCESSING TOMATO CULTIVARS TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T4

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	5 PLNT	5 PLNT	5 PLNT	5 PLNT	5 PLNT	5 PLNT	5 PLNT	5 PLNT	5 PLNT
Rating Data Type	INJURY %	INJURY %	INJURY %	FRESH WT KG	DRY WT KG	YIELD T/HA	GREEN YIELD T/HA	ROT YIELD T/HA	RED+GR YIELD T/HA
Rating Unit	%	%	%	KG	KG	T/HA	T/HA	T/HA	T/HA
Rating Date	Jul-5-02	Jul-11-02	Jul-24-02	Jul-19-02	Jul-31-02				
Crop Stage	10-12 LF	11-13 LF	14-15 LF	12-13 LF	12-13 LF				
Crop Stage Scale	19-31 CM	26-42 CM	33-46 CM	27-44 CM	27-44 CM				
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	21 DAT	33 DAT				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
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TABLE OF R MEANS

Replicate 1	1	0	0	0.77	0.14	29.8	3.8	1.4	33.6
Replicate 2	0	0	0	0.82	0.15	36.6	3.6	1.0	40.2
Replicate 3	1	0	0	0.86	0.15	38.9	5.2	0.5	44.1
Replicate 4	1	1	0	0.83	0.14	36.6	5.2	0.6	41.8

TABLE OF A MEANS

1	Check					0a	0a	0a	0.77	0.14	33.8	5.5	1.1	39.3		
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.80	0.14	36.0	3.9	0.9	39.9
2	Agral 90		SO	0.100	% V/V	POST	A									
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	2b	1b	1b	0.88	0.15	36.6	4.1	0.7	40.6
3	Agral 90		SO	0.200	% V/V	POST	A									
						LSD=	0	0	0	NS	NS	NS	NS	NS	NS	
						CV=	127	0	0	107	120	94	202	186	96	

TABLE OF B MEANS

1	CC 337					0	0	0	0.72	0.13	34.2	3.2	0.4	37.5
2	H 9144					0	0	0	0.84	0.16	34.7	6.1	0.7	40.8
3	H 9314					0	0	0	1.08	0.20	38.9	3.4	0.7	42.3
4	H 9478					0	0	0	0.94	0.17	40.6	3.1	0.8	43.7
5	H 9492					0	0	0	0.82	0.15	35.7	5.3	1.1	41.0
6	H 9553					1	0	0	0.72	0.12	34.5	6.8	1.9	41.3
7	H 9909					2	1	1	0.84	0.13	36.5	4.5	0.8	40.9
8	N 1069					3	3	1	0.61	0.12	28.1	1.9	0.8	29.9
9	N 1082					0	0	0	0.68	0.13	27.8	2.6	1.1	30.4
10	N 1480E					1	0	1	0.84	0.14	36.0	3.1	0.9	39.1
11	N 1480L					0	0	0	0.87	0.15	32.7	8.6	0.7	41.3
12	N 1522					0	0	0	0.73	0.13	35.8	4.8	0.9	40.7
13	PETO 696					1	1	0	0.95	0.16	45.4	4.8	1.0	50.2

TABLE OF AB MEANS

1	Check					0a	0a	0a	0.70	0.13	32.4	2.7	0.3	35.1		
1	CC 337					0a	0a	0a	0.67	0.14	30.4	2.4	0.5	32.8		
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.79	0.13	39.9	4.5	0.5	44.4
2	Agral 90		SO	0.100	% V/V	POST	A									
1	CC 337					0a	0a	0a	0.80	0.15	38.5	8.0	1.1	46.4		
1	Check					0a	0a	0a	0.82	0.16	31.7	3.9	0.7	35.6		
2	H 9144					0a	0a	0a	0.82	0.16	31.7	3.9	0.7	35.6		
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.82	0.16	31.7	3.9	0.7	35.6
2	Agral 90		SO	0.100	% V/V	POST	A									
2	H 9144					0a	0a	0a	0.82	0.16	31.7	3.9	0.7	35.6		
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	1b	1b	1b	0.89	0.17	34.0	6.5	0.3	40.5
3	Agral 90		SO	0.200	% V/V	POST	A									
2	H 9144					0a	0a	0a	0.80	0.15	38.5	8.0	1.1	46.4		
1	Check					0a	0a	0a	1.06	0.20	43.6	4.8	0.9	48.4		
1	H 9314					0a	0a	0a	1.01	0.20	35.5	3.0	0.6	38.5		
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	1.01	0.20	35.5	3.0	0.6	38.5
2	Agral 90		SO	0.100	% V/V	POST	A									
3	H 9314					0a	0a	0a	1.18	0.19	37.7	2.4	0.5	40.1		
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0a	0a	0a	1.18	0.19	37.7	2.4	0.5	40.1
3	Agral 90		SO	0.200	% V/V	POST	A									
3	H 9314					0a	0a	0a	1.18	0.19	37.7	2.4	0.5	40.1		
1	Check					0a	0a	0a	0.96	0.15	44.7	4.6	0.7	49.3		
4	H 9478					0a	0a	0a	0.93	0.18	38.2	2.3	0.9	40.5		
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.93	0.18	38.2	2.3	0.9	40.5
2	Agral 90		SO	0.100	% V/V	POST	A									
4	H 9478					0a	0a	0a	0.93	0.18	38.2	2.3	0.9	40.5		
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0a	0a	0a	0.93	0.17	38.8	2.5	0.8	41.3
3	Agral 90		SO	0.200	% V/V	POST	A									
4	H 9478					0a	0a	0a	0.93	0.17	38.8	2.5	0.8	41.3		
1	Check					0a	0a	0a	0.69	0.13	35.0	9.5	1.0	44.4		
5	H 9492					0a	0a	0a	0.69	0.13	35.0	9.5	1.0	44.4		

TOLERANCE OF PROCESSING TOMATO CULTIVARS TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T4

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES							
Part Rated	5 PLNT	5 PLNT	RED	GREEN	ROT	RED+GR											
Rating Data Type	INJURY	INJURY	INJURY	FRESH WT	DRY WT	YIELD	YIELD	YIELD	YIELD	YIELD							
Rating Unit	%	%	%	KG	KG	T/HA	T/HA	T/HA	T/HA	T/HA							
Rating Date	Jul-5-02	Jul-11-02	Jul-24-02	Jul-19-02	Jul-31-02												
Crop Stage	10-12 LF	11-13 LF	14-15 LF	12-13 LF	12-13 LF												
Crop Stage Scale	19-31 CM	26-42 CM	33-46 CM	27-44 CM	27-44 CM												
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	21 DAT	33 DAT												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.83	0.14	36.8	3.2	1.1	40.0	
2	Agral 90		SO	0.100	% V/V	POST	A										
5	H 9492																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0a	0a	0a	0.94	0.17	35.3	3.3	1.1	38.6	
3	Agral 90		SO	0.200	% V/V	POST	A										
5	H 9492																
1	Check							0a	0a	0a	0.70	0.12	31.4	11.4	2.3	42.8	
6	H 9553																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.73	0.12	36.4	4.7	2.0	41.1	
2	Agral 90		SO	0.100	% V/V	POST	A										
6	H 9553																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	1b	1b	0a	0.73	0.12	35.7	4.2	1.4	39.9	
3	Agral 90		SO	0.200	% V/V	POST	A										
6	H 9553																
1	Check							0a	0a	0a	0.78	0.12	33.4	6.7	0.8	40.2	
7	H 9909																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	1b	1b	1b	0.81	0.14	35.5	3.5	0.8	39.0	
2	Agral 90		SO	0.100	% V/V	POST	A										
7	H 9909																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	4c	3c	1b	0.93	0.15	40.4	3.1	0.6	43.6	
3	Agral 90		SO	0.200	% V/V	POST	A										
7	H 9909																
1	Check							0a	0a	0a	0.67	0.10	25.0	2.1	0.6	27.1	
8	N 1069																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	1b	1b	1b	0.56	0.12	29.8	1.5	0.6	31.3	
2	Agral 90		SO	0.100	% V/V	POST	A										
8	N 1069																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	7c	8c	3c	0.60	0.12	29.4	2.0	1.0	31.4	
3	Agral 90		SO	0.200	% V/V	POST	A										
8	N 1069																
1	Check							0a	0a	0a	0.63	0.13	22.3	3.6	1.6	25.9	
9	N 1082																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.66	0.13	30.4	2.2	1.2	32.6	
2	Agral 90		SO	0.100	% V/V	POST	A										
9	N 1082																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	1b	0a	0a	0.74	0.12	30.6	2.0	0.5	32.7	
3	Agral 90		SO	0.200	% V/V	POST	A										
9	N 1082																
1	Check							0a	0a	0a	0.78	0.16	33.1	3.9	1.5	37.0	
10	N 1480E																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.83	0.14	36.6	2.6	1.1	39.2	
2	Agral 90		SO	0.100	% V/V	POST	A										
10	N 1480E																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	2b	1b	1b	0.91	0.14	38.3	2.8	0.2	41.1	
3	Agral 90		SO	0.200	% V/V	POST	A										
10	N 1480E																
1	Check							0a	0a	0a	0.79	0.13	33.7	6.5	0.7	40.3	
11	N 1480L																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.86	0.14	31.2	8.1	0.7	39.3	
2	Agral 90		SO	0.100	% V/V	POST	A										
11	N 1480L																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	0a	0a	1b	0.98	0.17	33.2	11.3	0.7	44.5	
3	Agral 90		SO	0.200	% V/V	POST	A										
11	N 1480L																
1	Check							0a	0a	0a	0.63	0.11	32.0	3.7	1.3	35.7	
12	N 1522																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.75	0.12	40.0	6.0	0.6	46.0	
2	Agral 90		SO	0.100	% V/V	POST	A										
12	N 1522																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	1b	1b	0a	0.82	0.15	35.5	4.7	0.6	40.2	
3	Agral 90		SO	0.200	% V/V	POST	A										
12	N 1522																
1	Check							0a	0a	0a	0.86	0.16	34.5	3.6	1.4	38.1	
13	PETO 696																
2	Thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	0a	0a	0a	0.96	0.14	54.9	7.3	1.4	62.1	
2	Agral 90		SO	0.100	% V/V	POST	A										
13	PETO 696																
3	Thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	3b	3b	0a	1.03	0.17	46.7	3.5	0.3	50.2	
3	Agral 90		SO	0.200	% V/V	POST	A										
13	PETO 696																

LSD= 1 1 1 NS NS NS NS NS NS NS
 CV= 158 0 0 23 26 19 74 96 21

TOLERANCE OF PROCESSING TOMATO CULTIVARS TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T4

Trial Comments

Harvest Dates:	H9478	September 9, 2002	N1480E	September 10, 2002
	CC337	September 10, 2002	Peto696	September 10, 2002
	H9144	September 10, 2002	N1480L	September 11, 2002
	H9314	September 10, 2002	N1522	September 11, 2002
	H9909	September 10, 2002	H9492	September 16, 2002
	N1069	September 10, 2002	H9553	September 16, 2002
	N1082	September 10, 2002		

Conclusions: This trial was maintained weed-free to examine the effect of thifensulfuron-methyl (applied postemergence at 6 and 12 g a.i. ha⁻¹) on visual injury and yield of 13 processing tomato varieties: CC337, H9144, H9314, H9478, H9492, H9553, H9909, N1069, N1082, N1480E, N1480L, N1522 and PETO696.

There was no commercially significant injury and no reduction in plant fresh or dry weight, marketable yield, or total yield in any of the 13 varieties tested. There also was not an increase in green fruit as thifensulfuron-methyl rate increased, indicating that maturity had not been delayed by the herbicide.

Some leaf cupping and distortion in H9909 and N1069, and slight chlorosis of the growing points of H9553, N1480E, PETO696 were observed at 7 days after treatment (DAT). By 14 DAT, H9553, N1480E and PETO 696 had recovered from the discoloration of the growing points. By 28 DAT, N1069 and H9909 had outgrown the visual injury observed earlier in the season.

EFFECT OF VARIOUS ADJUVANTS ON TOLERANCE OF TOMATOES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T002T5

CROP: LYPES, TOMATO (H 9478). Planted: Jun-19-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: Jun-19-02.

LYPES, TOMATO (H 9553). Planted: Jun-19-02, 29500 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: Jun-19-02.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 15 M. Expt. Location: RCAT-L1B.

Site Description: Soil Texture: VERY FINE LOAMY SAND. %OM: 4.47 %Sand: 78.6 %Silt: 15.4 %Clay: 6.0 pH: 6.4

APPLICATION DESCRIPTION STAGE AT APPLICATION
 Application: A Application: A
 Date : Jul-10-02 Crop 1 LYPES
 Time of Day: 6:15 AM Height : 26 CM
 Method : CO2 SPRAY Crop 2 LYPES
 Timing : POST Height : 27 CM
 Placement : FOLIAR
 Air Temp. : 12.8 C Weed 1
 % Humidity : 84 Stg.Scale:
 Wind Speed : 4 KPH Density :
 Dew Present: Y
 Soil Moist.: DRY
 Cloud Cover: 5%
 Equipment : CO2 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Noz.Spacing: 50 CM
 Boom Length: 1.5 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated								RED	GREEN
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	YIELD	YIELD
Rating Unit	%	%	%	%	%	%	%	T/HA	T/HA
Rating Date	Jul-15-02	Jul-15-02	Jul-24-02	Jul-24-02	Aug-7-02	Aug-7-02	Aug-7-02	Sep-26-02	Sep-26-02
Crop Stage	12-13 LF	12-13 LF	13-14 LF	13-14 LF	14-16 LF	14-16 LF	14-16 LF		
Crop Stage Scale	29-35 CM	29-35 CM	36-48 CM	36-48 CM	50-62 CM	50-62 CM	50-62 CM		
Weed Stage	H 9478	H 9553	H 9478	H 9553	H 9478	H 9553	H 9478	H 9478	H 9478
Trt-Eval Interval	7 DAT	7 DAT	14 DAT	14 DAT	28 DAT	28 DAT	28 DAT	78 DAT	78 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	0	b 2	ab 0	a 0	b 0	a 0	a 125.3	a 17.8	a
	Agral 90		SO	0.2	% V/V	A	A									
2	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	0	b 1	b 1	a 1	ab 0	a 0	a 102.1	a 16.1	a
	AgSurr		SO	0.2	% V/V	A	A									
3	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	1	b 2	ab 0	a 1	b 0	a 0	a 131.3	a 16.5	a
	Citowett		SO	0.2	% V/V	A	A									
4	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	1	b 2	ab 0	a 0	b 0	a 0	a 127.1	a 15.1	a
	Super Spreader		SO	0.2	% V/V	A	A									
5	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	2	a 3	a 0	a 2	a 0	a 1	a 131.9	a 23.2	a
	Activator 90		SO	0.2	% V/V	A	A									

LSD (P=.05)	1.1	1.3	0.6	1.2	0.0	1.1	35.34	14.20
Standard Deviation	0.7	0.9	0.4	0.8	0.0	0.7	22.94	9.21
CV	96.61	47.07	209.17	133.51	0.0	362.28	18.56	51.95

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

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	ROT	RED+GR	RED	GREEN	ROT	RED+GR
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA
Rating Date	Sep-26-02	Sep-26-02	Sep-26-02	Sep-26-02	Sep-26-02	Sep-26-02
Crop Stage						
Crop Stage Scale						
Weed Stage	H 9478	H 9478	H 9553	H 9553	H 9553	H 9553
Trt-Eval Interval	78 DAT	78 DAT	78 DAT	78 DAT	78 DAT	78 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code												
1	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	1.9	ab	143.1	ab	106.1	a	28.1	a	2.2	ab	134.3	a
	Agral 90		SO	0.2	% V/V	A	A												
2	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	3.5	a	118.2	b	133.8	a	25.6	a	3.9	a	159.3	a
	AgSurr		SO	0.2	% V/V	A	A												
3	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	2.6	ab	147.9	ab	114.2	a	27.9	a	1.6	b	142.2	a
	Citowett		SO	0.2	% V/V	A	A												
4	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	1.5	b	142.2	ab	116.7	a	27.1	a	1.5	b	143.8	a
	Super Spreader		SO	0.2	% V/V	A	A												
5	thifensulfuron-methyl	75	DF	6	G A/HA	A	A	3.6	a	155.1	a	117.8	a	32.2	a	1.9	b	150.0	a
	Activator 90		SO	0.2	% V/V	A	A												

LSD (P=.05)	1.77	36.71	31.83	24.66	1.86	35.09
Standard Deviation	1.15	23.83	20.66	16.00	1.21	22.78
CV	43.95	16.86	17.55	56.79	53.88	15.61

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

Trial Comments

Conclusions: This trial was maintained weed-free to determine the effect of adjuvant (Agral 90, AgSurf, Citowett, Super Spreader and Activator 90) on visual injury and yield of two tomato varieties (H9478 and H9553) caused by postemergence applications of thifensulfuron-methyl at 6 g a.i. ha⁻¹.

Though more visual injury was noted at 7 days after treatment (DAT) in the Activator 90 treatment than for the other adjuvants tested, the tomatoes outgrew this injury by 28 DAT. Injury appeared as yellowing of the new growth.

There were no significant differences in yield of either tomato variety in any of the treatments, and there were no differences in green fruit among the five treatments, indicating that maturity was not different in any of the treatments.

WEED MANAGEMENT PROGRAMS IN CUCUMBERS

DAVE BILYEA, DARREN ROBINSON

EXPERIMENT ID: VC02T1

CROP: CUMSA, CUCUMBER (VLASPIK M). Planted: May-28-02, 2.5 CM Deep, 2 M Row Width. Planting Method: PRECISION PLANTER.
 Emerged On: Jun-10-02.
 field Site. Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M.

Site Description: Soil Texture: LOAM. %OM: 6.63 %Sand: 42 %Silt: 36.1 %Clay: 21.9 pH: 7.4

APPLICATION DESCRIPTION				STAGE AT APPLICATION					
Application:	A	B	C	D	Application:	A	B	C	D
Date	May-29-02	Jun-05-02	Jun-12-02	Jun-18-02	Crop 1 CUMSA			COT-2 LF	COT-2 LF
Time of Day	9:30 AM	2:00 PM	2:00 PM	10:00 AM	Height			4 CM	5 CM
Method	C02 SPRAY	C02 SPRAY	C02 SPRAY	C02 SPRAY	Weed 1 ABUTH	COT	COT-3 LF	3-6 LF	3-10 LF
Timing	PRE	PRE	POST	POST	Stg.Scale	1 CM	1-7 CM	5-27 CM	7-42 CM
Placement	SOIL	SOIL	FOLIAR	FOLIAR	Density	4 SQ. M	16.5 SQ.M	5.5 SQ.M	6 SQ.M
Air Temp.	25 C	11 C	25 C	19 C	Weed 2 AMARE		COT-3 LF	4-10 LF	5-9 LF
% Humidity	85	85	70	63	Stg.Scale		.5-4 CM	4-16 LF	10-35 CM
Wind Speed	8 KPH	15.8 KPH	11 KPH	12 KPH	Density		18.5 SQ.M	35.5 SQ.M	12 SQ.M
Dew Present	N	N	N	N	Weed 3 AMBEL		2-3 LF	4-8 LF	3-6 LF
Soil Moist.	DRY	WET	DRY	DRY	Stg.Scale		2-8 CM	6-17 CM	10-32 CM
Cloud Cover	100%	100%	100%	50%	Density		9.5 SQ.M	4.5 SQ.M	8.5 SQ.M
Equipment	C02 SPRAY	C02 SPRAY	C02 Backp	C02 SPRAY	Weed 4 CHEAL		COT-3 LF	2-12 LF	2-17 LF
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	Stg.Scale		.5-4 CM	3-27 CM	5-50 CM
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	Density		86 SQ.M	96.5 SQ.M	137 SQ.M
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	Weed 5 SETVI		COT-3 LF	2-8 LF	2-11 LF
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	Stg.Scale		.5-8 CM	6-34 CM	10-37 CM
Boom Length	2 M	2 M	2 M	2 M	Density		97.5 SQ.M	100 SQ.M	81 SQ.M
Boom Height	48 CM	48 CM	50 CM	48 CM					
Carrier	WATER	WATER	WATER	WATER					
Appl.Volume	200 L/HA	200 L/HA	200 L/HA	200 L/HA					
Propellant	C02	C02	C02	C02					

Weed Code	CUMSA						ABUTH	AMARE
Crop Code	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA
Part Rated	1-7	1-7	1-7	8-11	8-11	8-11		
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-17-02	Jun-27-02	Jul-08-02	Jun-27-02	Jul-03-02	Jul-16-02	Jul-10-02	Jul-10-02
Crop Stage	COT	2 LF	4 LF	2 LF	3-4 LF	6 LF	4 LF	4 LF
Crop Stage Scale								
Weed Stage							3-6 LF	4-10 LF
Weed Density, Unit							5.5 M2	36 M2
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAE	28 DAE	28 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code											
1	untreated check							0	a 0	a 0	a		0	a 0	c 0	c		
2	naptalam	240	SN	3600	G A/HA	PRE	A	0	a 0	a 0	a		0	a 86	b 96	ab		
3	clomazone	360	EC	840	G A/HA	PRE	A	0	a 0	a 0	a		0	a 93	a 90	b		
4	naptalam	240	SN	3600	G A/HA	PRE	A	1	a 1	a 0	a		0	a 95	a 90	b		
	clomazone	360	EC	840	G A/HA	PRE	A											
5	naptalam	240	SN	1200	G A/HA	PRE	A	0	a 0	a 0	a		0	a 86	b 95	ab		
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	0	a 0	a 0	a		0	a 93	a 98	a		
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	0	a 0	a 0	a		0	a 92	a 97	a		
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B				0	b 0	a 0	a				
	Sure-Mix		SO	0.5	% V/V	POST	B											
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B				0	b 0	a 0	a				
	Sure-Mix		SO	0.5	% V/V	POST	B											
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B				0	b 0	a 0	a				
	Agral 90		SO	0.25	% V/V	POST	B											
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B				3	a 0	a 0	a				
	Agral 90		SO	0.25	% V/V	POST	B											
	LSD (P=.05)							1.4	0.8	0.0	1.7	0.0	0.0	5.3	6.8			
	Standard Deviation							0.9	0.6	0.0	1.0	0.0	0.0	3.6	4.6			
	CV							529.15	529.15	0.0	166.53	0.0	0.0	4.59	5.66			

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

WEED MANAGEMENT PROGRAMS IN CUCUMBERS

DAVE BILYEA, DARREN ROBINSON

EXPERIMENT ID: VC02T1

Weed Code	AMBEL	CHEAL	ECHCG	SETVI	ABUTH	AMARE	AMBEL
Crop Code	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jul-10-02	Jul-10-02	Jul-10-02	Jul-10-02	Jul-16-02	Jul-16-02	Jul-16-02
Crop Stage	4 LF	4 LF	4 LF	4 LF	4 LF	4 LF	4 LF
Crop Stage Scale							
Weed Stage	4-8	2-12 LF	4-11 LF	2-9 LF	3-10 LF	5-10 LF	3-6
Weed Density, Unit	4.5 M2	96.5M2	9 M2	100 M2	6 M2	12 M2	8.5 M2
Trt-Eval Interval	28 DAE	28 DAE	28 DAE	28 DAE	28 DAT	28 DAT	28 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Appl Code
1	untreated check						0
2	naptalam	240	SN	3600	G A/HA	PRE A	89
3	clomazone	360	EC	840	G A/HA	PRE A	89
4	naptalam	240	SN	3600	G A/HA	PRE A	91
	clomazone	360	EC	840	G A/HA	PRE A	91
5	naptalam	240	SN	1200	G A/HA	PRE A	90
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE A	93
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE A	92
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST B	
	Sure-Mix		SO	0.5	% V/V	POST B	
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST B	
	Sure-Mix		SO	0.5	% V/V	POST B	
10	halosulfuron-methyl	75	WG	50	G A/HA	POST B	
	Agral 90		SO	0.25	% V/V	POST B	
11	halosulfuron-methyl	75	WG	100	G A/HA	POST B	
	Agral 90		SO	0.25	% V/V	POST B	
LSD (P=.05)							8.0
Standard Deviation							5.4
CV							6.97

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

Weed Code	CHEAL	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL
Crop Code	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jul-16-02	Jul-16-02	Jul-16-02	Aug-01-02	Aug-01-02	Aug-01-02	Aug-01-02
Crop Stage	4 LF	4 LF	4 LF	4-6 LF	4-6 LF	4-6 LF	4-6 LF
Crop Stage Scale							
Weed Stage	2-17	4-8	2-11	3-6 LF	6-10 LF	4-8 LF	2- 20+LF
Weed Density, Unit	137 M2	5 M2	81 M2	5.5 M2	7 M2	2.5 M2	161 M2
Trt-Eval Interval	28 DAT	28 DAT	28 DAT	50 DAE	50 DAE	50 DAE	50 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Appl Code
1	untreated check						0
2	naptalam	240	SN	3600	G A/HA	PRE A	84
3	clomazone	360	EC	840	G A/HA	PRE A	95
4	naptalam	240	SN	3600	G A/HA	PRE A	95
	clomazone	360	EC	840	G A/HA	PRE A	95
5	naptalam	240	SN	1200	G A/HA	PRE A	84
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE A	83
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE A	95
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST B	0
	Sure-Mix		SO	0.5	% V/V	POST B	
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST B	0
	Sure-Mix		SO	0.5	% V/V	POST B	
10	halosulfuron-methyl	75	WG	50	G A/HA	POST B	70
	Agral 90		SO	0.25	% V/V	POST B	
11	halosulfuron-methyl	75	WG	100	G A/HA	POST B	86
	Agral 90		SO	0.25	% V/V	POST B	
LSD (P=.05)							11.6
Standard Deviation							7.3
CV							18.63

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

WEED MANAGEMENT PROGRAMS IN CUCUMBERS

DAVE BILYEA, DARREN ROBINSON

EXPERIMENT ID: VC02T1

Weed Code	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL	ECHCG	SETVI											
Crop Code	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA	CUMSA											
Part Rated																			
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL											
Rating Unit	%	%	%	%	%	%	%	%											
Rating Date	Aug-01-02	Aug-01-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02											
Crop Stage	4-6 LF	4-6 LF	6 LF	6 LF	6 LF	6 LF	6 LF	6LF											
Crop Stage Scale																			
Weed Stage	6-8 LF	2-10	3-6 LF	8-14 LF	8-12 LF	2-20+LF	6-11 LF	6-12											
Weed Density, Unit	5 M2	69 M2	5 M2	5 M2	0 M2	163 M2	3 M2	73.5											
Trt-Eval Interval	50 DAE	50 DAE	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code												
1	untreated check							0	b	0									
2	naptalam	240	SN	3600	G A/HA	PRE	A	84	a	84									
3	clomazone	360	EC	840	G A/HA	PRE	A	88	a	88									
4	naptalam	240	SN	3600	G A/HA	PRE	A	90	a	90									
	clomazone	360	EC	840	G A/HA	PRE	A												
5	naptalam	240	SN	1200	G A/HA	PRE	A	85	a	85									
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	19	b	18									
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	20	b	20									
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B				0	b 0	b 0	b 0	a 99	a	99	a	
	Sure-Mix		SO	0.5	% V/V	POST	B												
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B				0	b 0	b 0	b 0	a 99	a	99	a	
	Sure-Mix		SO	0.5	% V/V	POST	B												
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B				99	a 99	a 99	a 0	a 0	b	0	b	
	Agral 90		SO	0.25	% V/V	POST	B												
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B				99	a 99	a 99	a 0	a 0	b	0	b	
	Agral 90		SO	0.25	% V/V	POST	B												
LSD (P=.05)								29.0	28.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Standard Deviation								19.5	19.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CV								35.46	35.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Trial Comments

Conclusions One half of each plot in this trial was maintained weed free to examine the effect of naptalam (3600 g a.i. ha⁻¹), clomazone (840 g a.i. ha⁻¹), naptalam+clomazone, naptalam microrates (three applications at 1200 g a.i. ha⁻¹ each), halosulfuron-methyl (50 and 100 g a.i. ha⁻¹) applied preemergence and postemergence, and quizalofop-p-ethyl on visual injury and yield of cucumbers. The remaining half of each plot was left weedy to collect weed control data.

None of the treatments caused commercially significant injury at 7, 14 or 28 days after emergence (DAE) in preemergence treatments or days after application (DAT) in postemergence treatments.

Naptalam provided good control of velvetleaf, redroot pigweed, ragweed, barnyardgrass and green foxtail and fair control of common lamb's-quarters at 50 DAE. When tank mixed with clomazone, this treatment combination provided excellent control of velvetleaf, redroot pigweed, ragweed, barnyardgrass and green foxtail, and good control of common lamb's-quarters.

Halosulfuron-methyl (50 g a.i. ha⁻¹) gave good control of velvetleaf, ragweed, common lamb's-quarters and excellent control of redroot pigweed applied postemergence. Postemergence applications of halosulfuron-methyl (50 g a.i. ha⁻¹) provided excellent control of velvetleaf, redroot pigweed and ragweed, and fair control of velvetleaf. Neither the preemergence nor postemergence treatments controlled grassy weeds.

Quizalofop-p-ethyl (72 g a.i. ha⁻¹) gave excellent control of barnyardgrass and green foxtail.

Dry weather during the month of July caused abortion of flowers, so yield data was not collected.

WEED MANAGEMENT PROGRAMS IN PUMPKINS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC02T2

CROP: CUUPE, PUMPKIN (JACK OF ALL TRADES). Planted: May-28-02, 2.5 CM Deep, 3 M Row Width. Planting Method: PRECISION PLANTER.
 Emerged On: Jun-10-02.
 FIELD Site. Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M.

Site Description: Soil Texture: SANDY LOAM. %OM: 5.67 %Sand: 55.2 %Silt: 28.2 %Clay: 16.6 pH: 7.5

APPLICATION DESCRIPTION				STAGE AT APPLICATION					
Application:	A	B	C	D	Application:	A	B	C	D
Date	May-29-02	Jun-5-02	Jun-12-02	Jun-18-02	Crop 1 CUUPE			1-3 LF	6-9 LF
Time of Day	9:30 AM	2:00 PM	2:00 PM	10:00 AM	Height			9 CM	34 CM
Method	C02 SPRAY	C02 SPRAY	C02 SPRAY	C02 SPRAY	Weed 1 ABUTH	COT	1-3 LF	3-6 LF	3-7 LF
Timing	PRE	PRE	POST	POST	Stg.Scale:	1 CM	5-10 CM	15-39 CM	15-60 CM
Placement	SOIL	SOIL	FOLIAR	FOLIAR	Density	6 SQ.M	22.5 SQ. M	6.5 SQ.M	15.5 SQ.M
Air Temp.	25 C	11 C	25 C	19 C	Weed 2 AMARE		1-3 LF	3-10 LF	3-20+ LF
% Humidity	85	85	70	63	Stg.Scale:		3-10 CM	5-35 CM	10-75 CM
Wind Speed	8 KPH	15.8 KPH	11 KPH	12 KPH	Density		58.5 SQ. M	24.5 SQ.M	28.5 SQ.M
Dew Present:					Weed 3 AMBEL		2-3 LF	6-12LF	4-12 LF
Soil Moist.:	MOIST	WET	DRY	DRY	Stg.Scale:		2-5 CM	23-35 CM	12-50 CM
Cloud Cover:	100%	100%	100%	50%	Density		4 SQ. M	1.5 SQ.M	3.5 SQ.M
Equipment	C02 SPRAY	C02 SPRAY	C02 SPRAY	C02 Backp	Weed 4 CHEAL		1-4 LF	2-16 LF	3-15+ LF
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	Stg.Scale:		3-10 CM	2-50 CM	5-75 CM
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	Density		135 SQ M	125 SQ.M	114 SQ.M
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	Weed 5 ECHCG		608 LF		
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	Stg.Scale:		18-39 CM		
Boom Length	2 M	2 M	2 M	2 M	Density		4 SQ.M		
Boom Height	48 CM	48 CM	48 CM	50 CM	Weed 6 SETVI		1-3 LF	2-10LF	3-5 LF
Carrier	WATER	WATER	WATER	WATER	Stg.Scale:		3-10	3-48 CM	12-50 CM
Appl.Volume:	200 L/HA	200 L/HA	200 L/HA	200 L/HA	Density		99.5 SQ. M	80.5 SQ.M	79.5 SQ.M
Propellant	C02	C02	C02	C02					

Weed Code	CUUPE						ABUTH	AMARE
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	
Part Rated	1-7	1-7	1-7	8-11	8-11	8-11		
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	
Rating Unit	%	%	%	%	%	%	%	
Rating Date	Jun-17-02	Jun-24-02	Jul-8-02	Jun-19-02	Jun-26-02	Jul-10-02	Jul-10-02	
Crop Stage	2 LF	5-6 LF	5-9 LF	2-3 LF		5-9 LF	5-9 LF	
Crop Stage Scale								
Weed Stage						3-6 LF	3-10 LF	
Weed Density, Unit						7 M2	24.5M2	
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAT	28 DAE	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code											
1	untreated check							0	b 0	b 0	a			0	c 0	c		
2	naptalam	240	SN	3600	G A/HA	PRE	A	0	b 0	b 0	a			79	b 78	b		
3	clomazone	360	EC	840	G A/HA	PRE	A	0	b 0	b 0	a			93	a 78	b		
4	naptalam	240	SN	3600	G A/HA	PRE	A	0	b 0	b 0	a			95	a 84	ab		
	clomazone	360	EC	840	G A/HA	PRE	A											
5	naptalam	240	SN	1200	G A/HA	PRE	A	8	a 7	a 0	a			91	a 94	a		
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	1	b 1	b 0	a			89	ab 92	a		
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	1	b 2	b 0	a			91	a 95	a		
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B			0	b 0	a 0	a					
	Sure-Mix		SO	0.5	% V/V	POST	B											
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B			3	b 3	a 1	a					
	Sure-Mix		SO	0.5	% V/V	POST	B											
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B			8	a 3	a 1	a					
	Agral 90		SO	0.25	% V/V	POST	B											
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B			9	a 4	a 2	a					
	Agral 90		SO	0.25	% V/V	POST	B											
LSD (P=.05)								2.5	2.3	0.0	3.9	4.3	2.6	12.4	11.8			
Standard Deviation								1.7	1.6	0.0	2.4	2.7	1.6	8.4	8.0			
CV								111.98	105.9	0.0	48.53	117.16	187.6	10.9	10.74			

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

WEED MANAGEMENT PROGRAMS IN PUMPKINS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC02T2

Weed Code	AMBEL	CHEAL	ECHCG	SETVI	ABUTH	AMARE	AMBEL								
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE								
Part Rated															
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL								
Rating Unit	%	%	%	%	%	%	%								
Rating Date	Jul-10-02	Jul-10-02	Jul-10-02	Jul-10-02	Jul-16-02	Jul-16-02	Jul-16-02								
Crop Stage	5-9 LF	5-9 LF	5-9 LF	5-9 LF	3-9 LF	3-9 LF	3-9 LF								
Crop Stage Scale															
Weed Stage	6-12 LF	2-16 LF	6-8 LF	2-10 LF	3-6 LF	3-20+	4-12 lf								
Weed Density, Unit	2 M2	125 M2	4 M2	80.5M2	15.5M2	28.5M2	3.5 M2								
Trt-Eval Interval	28 DAE	28 DAE	28 DAE	28 DAE	28 DAT	28 DAT	28 DAT								
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check							0	b 0	c 0	c 0	b			
2	naptalam	240	SN	3600	G A/HA	PRE	A	71	a 56	b 64	b 66	a			
3	clomazone	360	EC	840	G A/HA	PRE	A	88	a 84	a 90	a 89	a			
4	naptalam	240	SN	3600	G A/HA	PRE	A	95	a 89	a 91	a 91	a			
	clomazone	360	EC	840	G A/HA	PRE	A								
5	naptalam	240	SN	1200	G A/HA	PRE	A	96	a 75	a 83	ab 83	a			
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	95	a 86	a 83	ab 83	a			
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	96	a 90	a 90	a 90	a			
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B					0	c 0	c 0	b
	Sure-Mix		SO	0.5	% V/V	POST	B								
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B					0	c 0	c 0	b
	Sure-Mix		SO	0.5	% V/V	POST	B								
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B					95	b 94	b 95	a
	Agral 90		SO	0.25	% V/V	POST	B								
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B					98	a 97	a 96	a
	Agral 90		SO	0.25	% V/V	POST	B								
LSD (P=.05)								26.6	15.0	23.6	25.3	1.6	3.0	1.6	
Standard Deviation								17.9	10.1	15.9	17.0	1.0	1.9	1.0	
CV								23.22	14.74	22.25	23.76	2.07	3.9	2.09	

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

Weed Code	CHEAL	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL							
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE							
Part Rated														
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL							
Rating Unit	%	%	%	%	%	%	%							
Rating Date	Jul-16-02	Jul-16-02	Jul-16-02	Aug-1-02	Aug-1-02	Aug-1-02	Aug-1-02							
Crop Stage	3-9 LF	3-9 LF	3-9 LF	8-9 LF	8-9 LF	8-9 LF	8-9 LF							
Crop Stage Scale														
Weed Stage	2-16 LF	3-6	3-5 LF	6 LF	20 + LF	6-12 LF	20 + LF							
Weed Density, Unit	114 M2	7.5 M2	79.5M2	8.5 M2	12.5M2	1.5 M2	114 M2							
Trt-Eval Interval	28 DAT	28 DAT	28 DAT	50 DAE	50 DAE	50 DAE	50 DAE							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check								0	d 0	d 0	c 0	d	
2	naptalam	240	SN	3600	G A/HA	PRE	A		85	c 93	ab 89	b 66	c	
3	clomazone	360	EC	840	G A/HA	PRE	A		94	ab 59	c 91	ab 89	a	
4	naptalam	240	SN	3600	G A/HA	PRE	A		97	a 83	b 96	a 88	a	
	clomazone	360	EC	840	G A/HA	PRE	A							
5	naptalam	240	SN	1200	G A/HA	PRE	A		86	bc 95	a 95	ab 78	b	
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A		90	abc 97	a 96	a 85	ab	
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A		95	a 98	a 97	a 88	a	
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B	0	b 99	a 99	a			
	Sure-Mix		SO	0.5	% V/V	POST	B							
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B	0	b 99	a 98	a			
	Sure-Mix		SO	0.5	% V/V	POST	B							
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B	43	a 13	b 13	b			
	Agral 90		SO	0.25	% V/V	POST	B							
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B	33	a 19	b 19	b			
	Agral 90		SO	0.25	% V/V	POST	B							
LSD (P=.05)								22.8	37.8	37.6	7.6	11.0	6.4	9.4
Standard Deviation								14.2	23.7	23.5	5.1	7.4	4.3	6.3
CV								75.95	41.29	41.25	6.59	9.86	5.37	8.96

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

WEED MANAGEMENT PROGRAMS IN PUMPKINS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC02T2

Weed Code	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL	ECHCG							
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE							
Part Rated														
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL							
Rating Unit	%	%	%	%	%	%	%							
Rating Date	Aug-1-02	Aug-1-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02							
Crop Stage	8-9 LF	8-9 LF	8-9 LF	8-9 LF	8-9 LF	8-9 LF	8-9 LF							
Crop Stage Scale														
Weed Stage	8-12	6-11	6-8 LF	20 +	8-12	20 + LF	12-14							
Weed Density, Unit	5 M2	120 M2	6.5 M2	12 M2	4.5 M2	146 M2	4 M2							
Trt-Eval Interval	50 DAE	50 DAE	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check							0	b 0	b				
2	naptalam	240	SN	3600	G A/HA	PRE	A	78	a 78	a				
3	clomazone	360	EC	840	G A/HA	PRE	A	86	a 88	a				
4	naptalam	240	SN	3600	G A/HA	PRE	A	91	a 89	a				
	clomazone	360	EC	840	G A/HA	PRE	A							
5	naptalam	240	SN	1200	G A/HA	PRE	A	88	a 89	a				
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	23	b 21	b				
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	0	b 0	b				
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B		0	b 0	b 0	b 0	a 99	a
	Sure-Mix		SO	0.5	% V/V	POST	B							
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B		0	b 0	b 0	b 0	a 99	a
	Sure-Mix		SO	0.5	% V/V	POST	B							
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B		99	a 99	a 99	a 0	a 0	b
	Agral 90		SO	0.25	% V/V	POST	B							
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B		99	a 99	a 99	a 0	a 0	b
	Agral 90		SO	0.25	% V/V	POST	B							
LSD (P=.05)								25.0	23.8	0.0	0.0	0.0	0.0	0.0
Standard Deviation								16.9	16.0	0.0	0.0	0.0	0.0	0.0
CV								32.32	30.87	0.0	0.0	0.0	0.0	0.0

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

Weed Code	SETVI												
Crop Code	CUUPE	CUUPE	CUUPE										
Part Rated													
Rating Data Type	CONTROL	YIELD	YIELD										
Rating Unit	%	NO/PLOT	T/HA										
Rating Date	Aug-13-02	Sep-30-02	Sep-30-02										
Crop Stage	8-9 LF	WEEDED	WEEDED										
Crop Stage Scale													
Weed Stage	8-14												
Weed Density, Unit	111 M2												
Trt-Eval Interval	56 DAT												
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code						
1	untreated check							5	ab	12.0	a		
2	naptalam	240	SN	3600	G A/HA	PRE	A	7	a	14.6	a		
3	clomazone	360	EC	840	G A/HA	PRE	A	4	b	9.8	a		
4	naptalam	240	SN	3600	G A/HA	PRE	A	6	ab	12.3	a		
	clomazone	360	EC	840	G A/HA	PRE	A						
5	naptalam	240	SN	1200	G A/HA	PRE	A	6	ab	15.0	a		
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	6	ab	13.9	a		
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	7	ab	14.4	a		
8	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B	99	a 5	ab 12.5	a		
	Sure-Mix		SO	0.5	% V/V	POST	B						
9	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B	99	a 6	ab 12.5	a		
	Sure-Mix		SO	0.5	% V/V	POST	B						
10	halosulfuron-methyl	75	WG	50	G A/HA	POST	B	0	b 6	ab 12.3	a		
	Agral 90		SO	0.25	% V/V	POST	B						
11	halosulfuron-methyl	75	WG	100	G A/HA	POST	B	0	b 6	ab 11.7	a		
	Agral 90		SO	0.25	% V/V	POST	B						
LSD (P=.05)								0.0	2.7	6.83			
Standard Deviation								0.0	1.9	4.73			
CV								0.0	33.29	36.92			

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

Trial Comments

Conclusions: One half of each plot in this trial was maintained weed free to examine the effect of naptalam (3600 g a.i. ha⁻¹), clomazone (840 g a.i. ha⁻¹), naptalam+clomazone, naptalam microrates (three applications at 1200 g a.i. ha⁻¹ each), halosulfuron-methyl (50 and 100 g a.i. ha⁻¹) applied preemergence and postemergence, and quizalofop-p-ethyl on visual injury and yield of pumpkins. The remaining half of each plot was left weedy to collect weed control data.

Naptalam caused significant injury to pumpkins applied as microrates 7 days apart from one another. Leaves puckering and petiole epinasty were observed. Postemergence applications of halosulfuron-methyl (50 and 100 g a.i. ha⁻¹) caused some stunting of the plants and chlorosis of new foliage 7 DAT. Most of the injury was outgrown by 28 DAT.

The tank mix combination of naptalam and clomazone provided excellent control of velvetleaf, ragweed, and barnyardgrass and good control of redroot pigweed, common lamb's-quarters and green foxtail. Halosulfuron-methyl applied as a preemergence treatment (50 g a.i. ha⁻¹) gave excellent control of redroot pigweed and ragweed, and good control of velvetleaf and common lamb's-quarters.

Postemergence applications of quizalofop-p-ethyl (72 g a.i. ha⁻¹) gave excellent control of barnyardgrass and green foxtail. Halosulfuron-methyl controlled velvetleaf, redroot pigweed and ragweed when applied postemergence at 50 g a.i. ha⁻¹.

Pumpkin fruit number and yield were not lower in any of the treated plots when compared with the untreated check.

WEED MANAGEMENT PROGRAMS IN SQUASH

DAVE BILEYA, DARREN ROBINSON

Experiment ID: VC02T3

CROP: CUUMA, SQUASH, WINTER (TAY BELLE PM). Planted: May-28-02, 2.5 CM Deep, 3 M Row Width. Planting Method: PRECISION PLANTER.
 Emerged On: Jun-10-02.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M.

Site Description: Soil Texture: SANDY LOAM. %OM: 5.67 %Sand: 55.2 %Silt: 28.2 %Clay: 16.6 pH: 7.5

APPLICATION DESCRIPTION				STAGE AT APPLICATION					
Application:	A	B	C	D	Application:	A	B	C	D
Date	May-29-02	Jun-5-02	Jun-12-02	Jun-18-02	Crop 1 CUUMA			2-3 LF	3 LF
Time of Day	9:30 AM	2:00 PM	2:00 PM	10:00 AM	Height			5 CM	6 CM
Method	C02 SPRAY	C02 SPRAY	C02 SPRAY	C02 SPRAY	Weed 1 ABUTH COT		2-4	3-6 LF	4-5 LF
Timing	PRE	PRE	POST	POST	Stg.Scale: 1 CM	3-8 CM	4-48 CM	18-65 CM	
Placement	SOIL	SOIL	FOLIAR	FOLIAR	Density: 5 SQ. M	9.5 SQ. M	7.5 SQ. M	5.5 SQ. M	
Air Temp.	25 C	11 C	25 C	19 C	Weed 2 AMARE	COT- 2 L	3-7 LF	2-20 LF	
% Humidity	85	85	70	63	Stg.Scale:	0.5-6 CM	8-37 CM	5-60 CM	
Wind Speed	8 KPH	16 KPH	11 KPH	12 KPH	Density:	29 SQ. M	10.5 SQ. M	16 SQ. M	
Dew Present	N	N	N	N	Weed 3 AMBEL	12 LF			
Soil Moist.	DRY	WET	DRY	DRY	Stg.Scale:	40-50 CM			
Cloud Cover	100%	100%	100%	50%	Density:	1 SQ. M			
Equipment	C02 SPRAY	C02 Backp	C02 Backp	C02 Backp	Weed 4 CHEAL	2-4 L	2-16 LF	3-15+ LF	
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	Stg.Scale:	1-8	4-47 CM	5-70 CM	
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	Density:	143 SQ. M	113 SQ. M	128 SQ. M	
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	Weed 5 ECHCG	1-5L	5-10 LF		
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	Stg.Scale:	3-13	6-37 CM		
Boom Length	2 M	2 M	2 M	1.5 M	Density:	28.5 SQ. M	17.5 SQ. M		
Boom Height		50 CM	50 CM	50 CM	Weed 6 SETVI	1-3	2-6 LF	3-6 LF	
Carrier	WATER	WATER	WATER	WATER	Stg.Scale:	4-11 CM	3-36 CM	15-50 CM	
Appl.Volume	200 L/HA	200 L/HA	200 L/HA	200 L/HA	Density:	55 SQ. M	69 SQ. M	56 SQ. M	
Propellant	C02	C02	C02	C02					

Weed Code	CUUMA						ABUTH	AMARE
Crop Code	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	
Part Rated	1-9	1-9			10-13			
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	CONTROL	
Rating Unit	%	%	%	%	%	%	%	
Rating Date	Jun-17-02	Jun-24-02	Jul-8-02	Jun-26-02	Jul-3-02	Jul-16-02	Jul-10-02	
Crop Stage	COT	2 LF	3-4 LF	COT- 2 L	2-4 LF	6-8 LF	4-10 LF	
Crop Stage Scale								
Weed Stage						3-6 LF	4-8 LF	
Weed Density, Unit						7.5 M2	10.5M2	
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAE	28 DAE	

Trt	Treatment	Form	Form	Rate	Grow	Appl									
No.	Name	Conc	Type	Rate	Unit	Stg	Code								
1	untreated check							0	c 0	c 0	c		0	f 0	e
2	naptalam	240	SN	3600	G A/HA	PRE	A	3	c 2	c 2	c		89	e 90	c
3	clomazone	360	EC	840	G A/HA	PRE	A	0	c 0	c 0	c		94	bcd 84	d
4	naptalam	240	SN	3600	G A/HA	PRE	A	0	c 0	c 0	c		95	a-d 90	c
	clomazone	360	EC	840	G A/HA	PRE	A								
5	naptalam	240	SN	1200	G A/HA	PRE	A	10	b 8	b 6	b		91	de 95	b
6	halosulfuron-methyl	75	WG	50	G A/HA	PRE	A	0	c 0	c 0	c		92	cde 96	ab
7	halosulfuron-methyl	75	WG	100	G A/HA	PRE	A	0	c 0	c 0	c		96	abc 97	ab
8	cloransulam-methyl	84	WG	17.5	G A/HA	PRE	A	13	b 8	b 7	b		97	ab 97	ab
9	cloransulam-methyl	84	WG	35	G A/HA	PRE	A	25	a 20	a 14	a		99	a 98	a
10	quizalofop-p-ethyl	96	EC	72	G A/HA	POST	B				0	b 0	b 0	c	
	Sure-Mix		SO	0.5	% V/V	POST	B								
11	quizalofop-p-ethyl	96	EC	144	G A/HA	POST	B				0	b 1	b 1	bc	
	Sure-Mix		SO	0.5	% V/V	POST	B								
12	halosulfuron-methyl	75	WG	50	G A/HA	POST	B				9	a 4	a 4	a	
	Agral 90		SO	0.25	% V/V	POST	B								
13	halosulfuron-methyl	75	WG	100	G A/HA	POST	B				11	a 3	a 3	ab	
	Agral 90		SO	0.25	% V/V	POST	B								
LSD (P=.05)								5.8	5.6	3.4	4.2	2.3	2.6	4.5	2.3
Standard Deviation								4.0	3.8	2.3	2.6	1.5	1.6	3.1	1.5
CV								71.94	90.83	73.65	52.7	75.12	84.39	3.66	1.87

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

WEED MANAGEMENT PROGRAMS IN SQUASH

DAVE BILEYA, DARREN ROBINSON

Experiment ID: VC02T3

Weed Code	AMBEL	CHEAL	ECHCG	SETVI	ABUTH	AMARE	AMBEL
Crop Code	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jul-10-02	Jul-10-02	Jul-10-02	Jul-10-02	Jul-16-02	Jul-16-02	Jul-16-02
Crop Stage	4-10 LF	4-10 LF	4-10 LF	4-10 LF	4-10 LF	4-10 LF	4-10 LF
Crop Stage Scale							
Weed Stage	6-8 LF	2-16 LF	5-10 LF	2-6 LF	4-5 LF	2-20+LF	12 LF
Weed Density, Unit	1 M2	112 M2	17.5M2	69 M2	5.5 M2	16 M2	1 M2
Trt-Eval Interval	28 DAE	28 DAE	28 DAE	28 DAE	28 DAT	28 DAT	28 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code
1	untreated check						
2	naptalam	240	SN	3600	G A/HA PRE	A	A
3	clomazone	360	EC	840	G A/HA PRE	A	A
4	naptalam	240	SN	3600	G A/HA PRE	A	A
	clomazone	360	EC	840	G A/HA PRE	A	A
5	naptalam	240	SN	1200	G A/HA PRE	A	A
6	halosulfuron-methyl	75	WG	50	G A/HA PRE	A	A
7	halosulfuron-methyl	75	WG	100	G A/HA PRE	A	A
8	cloransulam-methyl	84	WG	17.5	G A/HA PRE	A	A
9	cloransulam-methyl	84	WG	35	G A/HA PRE	A	A
10	quizalofop-p-ethyl	96	EC	72	G A/HA POST	B	B
	Sure-Mix		SO	0.5	% V/V POST	B	B
11	quizalofop-p-ethyl	96	EC	144	G A/HA POST	B	B
	Sure-Mix		SO	0.5	% V/V POST	B	B
12	halosulfuron-methyl	75	WG	50	G A/HA POST	B	B
	Agral 90		SO	0.25	% V/V POST	B	B
13	halosulfuron-methyl	75	WG	100	G A/HA POST	B	B
	Agral 90		SO	0.25	% V/V POST	B	B
LSD (P=.05)							
Standard Deviation							
CV							

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

Weed Code	CHEAL	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL
Crop Code	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jul-16-02	Jul-16-02	Jul-16-02	Aug-1-02	Aug-1-02	Aug-1-02	Aug-1-02
Crop Stage	4-10 LF	4-10 LF	4-10 LF	10-11 LF	10-11 LF	10-11 LF	10-11 LF
Crop Stage Scale							
Weed Stage	2-16 LF	5-10 LF	3-6 LF	6 LF	20 + LF	12 LF	20 + LF
Weed Density, Unit	128 M2	0 M2	56 M2	5.5 M2	5 M2	0 M2	133 M2
Trt-Eval Interval	28 DAT	28 DAT	28 DAT	50 DAE	50 DAE	50 DAE	50 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code
1	untreated check						
2	naptalam	240	SN	3600	G A/HA PRE	A	A
3	clomazone	360	EC	840	G A/HA PRE	A	A
4	naptalam	240	SN	3600	G A/HA PRE	A	A
	clomazone	360	EC	840	G A/HA PRE	A	A
5	naptalam	240	SN	1200	G A/HA PRE	A	A
6	halosulfuron-methyl	75	WG	50	G A/HA PRE	A	A
7	halosulfuron-methyl	75	WG	100	G A/HA PRE	A	A
8	cloransulam-methyl	84	WG	17.5	G A/HA PRE	A	A
9	cloransulam-methyl	84	WG	35	G A/HA PRE	A	A
10	quizalofop-p-ethyl	96	EC	72	G A/HA POST	B	B
	Sure-Mix		SO	0.5	% V/V POST	B	B
11	quizalofop-p-ethyl	96	EC	144	G A/HA POST	B	B
	Sure-Mix		SO	0.5	% V/V POST	B	B
12	halosulfuron-methyl	75	WG	50	G A/HA POST	B	B
	Agral 90		SO	0.25	% V/V POST	B	B
13	halosulfuron-methyl	75	WG	100	G A/HA POST	B	B
	Agral 90		SO	0.25	% V/V POST	B	B
LSD (P=.05)							
Standard Deviation							
CV							

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

WEED MANAGEMENT PROGRAMS IN SQUASH

DAVE BILEYA, DARREN ROBINSON

Experiment ID: VC02T3

Weed Code	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL	ECHCG
Crop Code	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA	CUUMA
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Aug-1-02	Aug-1-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02	Aug-13-02
Crop Stage	10-11 LF	10-11 LF	10-11 LF	10-11 LF	10-11 LF	10-11 LF	10-11 LF
Crop Stage Scale							
Weed Stage	6-13 LF	8-11 LF	6 LF	20+ LF	20+ LF	14 LF	14 LF
Weed Density, Unit	5 M2	37.5M2	4.5 M2	5 M2	132 M2	1 M2	1 M2
Trt-Eval Interval	50 DAE	50 DAE	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code
1	untreated check						0 c 0 d 0 c 0 e 0 e 0 d
2	naptalam	240	SN	3600	G A/HA PRE	A	76 b 69 c 88 b 89 bc 93 d 76 c
3	clomazone	360	EC	840	G A/HA PRE	A	88 a 89 a 96 a 70 d 95 cd 88 b
4	naptalam	240	SN	3600	G A/HA PRE	A	89 a 88 a 98 a 86 c 97 abc 89 b
	clomazone	360	EC	840	G A/HA PRE	A	
5	naptalam	240	SN	1200	G A/HA PRE	A	75 b 76 b 84 b 98 a 96 bc 75 c
6	halosulfuron-methyl	75	WG	50	G A/HA PRE	A	0 c 0 d 99 a 99 a 99 a 0 d
7	halosulfuron-methyl	75	WG	100	G A/HA PRE	A	0 c 0 d 99 a 98 a 98 ab 0 d
8	cloransulam-methyl	84	WG	17.5	G A/HA PRE	A	0 c 0 d 95 a 95 ab 99 a 0 d
9	cloransulam-methyl	84	WG	35	G A/HA PRE	A	0 c 0 d 98 a 98 a 99 a 0 d
10	quizalofop-p-ethyl	96	EC	72	G A/HA POST	B	0 c 0 e 0 a 0 e 99 a
	Sure-Mix		SO	0.5	% V/V POST	B	
11	quizalofop-p-ethyl	96	EC	144	G A/HA POST	B	0 c 0 e 0 a 0 e 99 a
	Sure-Mix		SO	0.5	% V/V POST	B	
12	halosulfuron-methyl	75	WG	50	G A/HA POST	B	98 a 99 a 0 a 99 a 0 d
	Agral 90		SO	0.25	% V/V POST	B	
13	halosulfuron-methyl	75	WG	100	G A/HA POST	B	99 a 99 a 0 a 99 a 0 d
	Agral 90		SO	0.25	% V/V POST	B	
LSD (P=.05)							5.9 7.3 4.8 6.3 0.0 2.8 5.0
Standard Deviation							4.1 5.0 3.3 4.4 0.0 2.0 3.5
CV							11.2 13.96 4.54 6.15 0.0 2.63 8.59

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

Weed Code	SETVI						
Crop Code	CUUMA	CUUMA	CUUMA				
Part Rated							
Rating Data Type	CONTROL	NO/PLOT	YIELD				
Rating Unit	%	#	T/HA				
Rating Date	Aug-13-02	Sep-30-02	Sep-30-02				
Crop Stage	10-11 LF						
Crop Stage Scale							
Weed Stage	10-16 LF						
Weed Density, Unit	98.5M2						
Trt-Eval Interval	56 DAT						
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code
1	untreated check						0 e 13 abc 9.1 a-d
2	naptalam	240	SN	3600	G A/HA PRE	A	69 d 12 abc 8.8 a-d
3	clomazone	360	EC	840	G A/HA PRE	A	89 b 15 ab 10.5 ab
4	naptalam	240	SN	3600	G A/HA PRE	A	88 b 13 abc 9.3 a-d
	clomazone	360	EC	840	G A/HA PRE	A	
5	naptalam	240	SN	1200	G A/HA PRE	A	76 c 11 abc 6.4 cd
6	halosulfuron-methyl	75	WG	50	G A/HA PRE	A	0 e 16 a 9.6 a-d
7	halosulfuron-methyl	75	WG	100	G A/HA PRE	A	0 e 16 a 11.3 a
8	cloransulam-methyl	84	WG	17.5	G A/HA PRE	A	0 e 12 abc 7.0 bcd
9	cloransulam-methyl	84	WG	35	G A/HA PRE	A	0 e 9 c 6.1 cd
10	quizalofop-p-ethyl	96	EC	72	G A/HA POST	B	99 a 11 abc 7.0 bcd
	Sure-Mix		SO	0.5	% V/V POST	B	
11	quizalofop-p-ethyl	96	EC	144	G A/HA POST	B	99 a 12 abc 7.8 a-d
	Sure-Mix		SO	0.5	% V/V POST	B	
12	halosulfuron-methyl	75	WG	50	G A/HA POST	B	0 e 15 ab 9.8 abc
	Agral 90		SO	0.25	% V/V POST	B	
13	halosulfuron-methyl	75	WG	100	G A/HA POST	B	0 e 10 bc 6.1 d
	Agral 90		SO	0.25	% V/V POST	B	
LSD (P=.05)							5.9 5.8 3.72
Standard Deviation							4.1 4.1 2.61
CV							10.28 32.43 31.14

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

Trial Comments

Conclusions: One half of each plot in this trial was maintained weed free to examine the effect of naptalam (3600 g a.i. ha⁻¹), clomazone (840 g a.i. ha⁻¹), naptalam+clomazone, naptalam microrates (three applications at 1200 g a.i. ha⁻¹ each), halosulfuron-methyl (50 and 100 g a.i. ha⁻¹) applied preemergence and postemergence, cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹), and quizalofop-p-ethyl on visual injury and yield of squash. The remaining half of each plot was left weedy to collect weed control data.

Significant visual injury was observed in the naptalam microrate treatment - injury included leaf puckering and petiole epinasty. Cloransulam-methyl reduced plant stand and canopy growth of squash at 17.5 and 35 g a.i. ha⁻¹. The postemergence treatment of halosulfuron-methyl injured squash at both 50 and 100 g a.i. ha⁻¹. None of the other treatments caused commercially unacceptable or statistically significant visual injury.

The preemergence tank mix of naptalam+clomazone gave excellent control of velvetleaf, redroot pigweed, ragweed, common lamb's-quarters, barnyardgrass and green foxtail. The preemergence application of halosulfuron-methyl gave excellent control of velvetleaf, redroot pigweed ragweed and common lamb's-quarters and fair control of barnyardgrass and green foxtail.

Cloransulam-methyl gave excellent control of velvetleaf, redroot pigweed, ragweed and lamb's-quarters, but did not control grasses.

The postemergence application of quizalofop-p-ethyl gave excellent control of barnyardgrass and green foxtail.

The postemergence application of halosulfuron-methyl provided excellent season-long control of velvetleaf, redroot pigweed and ragweed. This treatment did not control barnyardgrass or green foxtail.

Yields were reduced in the naptalam microrate treatment, the preemergence cloransulam-methyl treatments and the postemergence treatment of halosulfuron (100 g a.i. ha⁻¹).

PREFAR APPLIED PREPLANT INCORPORATED IN PUMPKINS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC02T4

CROP: CUUPE, PUMPKIN (JACK OF ALL TRADES). Planted: May-28-02, 2.5 cm Deep, 3 M Row Width. Planting Method: PRECISION PLANTER.
Emerged On: Jun-10-02.

FIELD Site. Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M.

Site Description: Soil Texture: SANDY LOAM. %OM: 5.67 %Sand: 55.2 %Silt: 28.2 %Clay: 16.6 pH: 7.5

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A	Application:	B
Date	May-27-02	May-29-02	Crop 1 CUUPE
Time of Day	10:00 AM	9:30 AM	Height :
Method	C02 SPRAY	C02 SPRAY	
Timing	PPI	PRE	Weed 1 ABUTH 4-6 LF 2-6 LF
Placement	SOIL	SOIL	Stg.Scale: 12-47 CM 13-50 CM
Air Temp.	23 C	25 C	Density : 5 SQ.M 114 SQ.M
% Humidity	70	85	Weed 2 CHEAL 3-25 LF 2-15 LF
Wind Speed	8 KPH	8 KPH	Stg.Scale: 2-28 CM 5-55 CM
Dew Present	N	N	Density : 133 SQ.M 114 SQ.M
Soil Moist.	DRY	DRY	Weed 3 ECHCG 4-12 LF
Cloud Cover	10%	100%	Stg.Scale: 10-45 CM
Equipment	C02 SPRAY	C02 SPRAY	Density :
Pressure	207 kPa	207 kPa	Weed 4 SETVI 3-12 LF 3-5 LF
Nozzle Type	FLAT FAN	FLAT FAN	Stg.Scale: 10-45 CM 13-50 CM
Nozzle Size	8002 XR	8002 XR	Density : 114 SQ.M 59.5 SQ.M
Noz.Spacing	50 CM	50 CM	
Boom Length	2 M	2 M	
Boom Height	50 CM	50 CM	
Incorporatn	Roto-till		
Hrs to Incp	0.5		
Carrier	WATER	WATER	
Appl.Volume	200 L/HA	200 L/HA	
Propellant	C02	C02	

Weed Code	Crop Code	CUUPE	CUUPE	CUUPE	ABUTH	CHEAL	ECHCG	SETVI	ABUTH
Part Rated									
Rating Data Type		INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit		%	%	%	%	%	%	%	%
Rating Date		Jun-17-02	Jun-27-02	Jul-10-02	Jul-10-02	Jul-10-02	Jul-10-02	Jul-10-02	Aug-1-02
Crop Stage		COT	2 LF	4- 12 LF	4- 12 LF	4- 12 LF	4- 12 LF	4- 12 LF	2-6 LF
Weed Stage					4-6 LF	2-20 + L	4-12 LF	3-12 LF	2-6 LF
Weed Density, Unit					13.3M2	133 M2	1.5 M2	114 M2	11.5M2
Trt-Eval Interval		7 DAE	14 DAE	30 DAE	30 DAE	30 DAE	30 DAE	30 DAE	52 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check							0	a 0	a 0	a 0	a 0	c 0	c 0
2	bensulide	480	EC	6720	G A/HA	PPI	A	0	a 0	a 0	a 0	a 63	ab 54	b 75
3	bensulide	480	EC	13440	G A/HA	PPI	A	0	a 0	a 0	a 0	a 63	ab 58	b 75
4	bensulide	480	EC	6720	G A/HA	PPI	A	0	a 0	a 0	a 0	a 74	a 73	a 79
	napropamide	50	DF	2250	G A/HA	PRE	B						a 75	a 81
5	napropamide	50	DF	2250	G A/HA	PRE	B	0	a 0	a 0	a 61	b 55	b 63	b 59

LSD (P=.05)	0.0	0.0	0.0	12.1	11.6	8.1	7.4	13.0
Standard Deviation	0.0	0.0	0.0	7.8	7.5	5.2	4.8	8.5
CV	0.0	0.0	0.0	15.08	15.71	9.0	8.59	14.83

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

Weed Code	Crop Code	CHEAL	ECHCG	SETVI	CUUPE	CUUPE
Part Rated						
Rating Data Type		CONTROL	CONTROL	CONTROL	NO/PLOT	YIELD
Rating Unit		%	%	%	#	T/HA
Rating Date		Aug-1-02	Aug-1-02	Aug-1-02	Sep-30-02	Sep-30-02
Crop Stage		2-20+LF	3-6 LF	3-5 LF		
Weed Stage		2-16 LF	4-8 LF	3-5		
Weed Density, Unit		113 M2	1.5 M2	59.5M2		
Trt-Eval Interval		52 DAE	52 DAE	52 DAE		

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code						
1	untreated check							0	c 0	c 0	c 4	a 8.8	b
2	bensulide	480	EC	6720	G A/HA	PPI	A	50	b 89	a 89	a 4	a 10.1	ab
3	bensulide	480	EC	13440	G A/HA	PPI	A	64	ab 89	a 91	a 4	a 11.9	a
4	bensulide	480	EC	6720	G A/HA	PPI	A	76	a 88	a 76	ab 5	a 10.9	ab
	napropamide	50	DF	2250	G A/HA	PRE	B						
5	napropamide	50	DF	2250	G A/HA	PRE	B	64	ab 66	b 63	b 4	a 9.8	ab

LSD (P=.05)	15.6	13.6	23.6	1.0	3.00
Standard Deviation	10.1	8.8	15.3	0.6	1.95
CV	19.89	13.34	24.04	14.73	18.87

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

Trial Comments

Conclusions: One half of each plot in this trial was maintained weed free to examine the effect of bensulide (6720 and 13440 g a.i. ha⁻¹), napropamide (2250 g a.i. ha⁻¹) and bensulide+napropamide (6750+2250 g a.i. ha⁻¹) on visual injury and yield of pumpkins. The remaining half of each plot was left weedy to collect weed control data.

None of the treatments caused significant visual injury to pumpkins.

Bensulide (6720 g a.i. ha⁻¹) alone gave good control of barnyardgrass and green foxtail, fair control of velvetleaf and poor control of common lamb's-quarters. Napropamide alone gave fair control of each weed species. The tank mix of bensulide+napropamide gave good control of velvetleaf and barnyardgrass and fair control of common lamb's-quarters and green foxtail at 52 DAE.

None of the treatments reduced pumpkin number or yield compared to the untreated check.

PREFAR APPLIED PREPLANT INCORPORATED IN SQUASH

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC02T5

CROP: CUUMA, SQUASH, WINTER (TAY BELLE PM). Planted: May-28-02, 2.5 CM Deep, 3 M Row Width. Planting Method: PRECISION PLANTER.
 Emerged On: Jun-10-02.
 FIELD Site. Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M.

Site Description: Soil Texture: LOAM. %OM: 6.02 %Sand: 48.7 %Silt: 32.1 %Clay: 19.2 pH: 6.9

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A	B	Application:
Date	May-27-02	May-29-02	Crop 1 CUUMA
Time of Day	10:00	9:30	Height :
Method	C02 SPRAY	C02 SPRAY	
Timing	PPI	PRE	Weed 1 ABUTH 3-9 LF
Placement	SOIL	SOIL	Stg.Scale: 5-55 CM
Air Temp.	23 C	25 C	Density : 12 SQ.M
% Humidity	70	85	Weed 2 CHEAL 4-40+ LF
Wind Speed	8 KPH	8 KPH	Stg.Scale: 12-49 CM
Dew Present:			Density : 55 SQ.M
Soil Moist.:	ADEQUATE	ADEQUATE	Weed 3 SETVI 1-10+ LF
Cloud Cover:	10%	100%	Stg.Scale: 2-47 CM
Equipment	C02 SPRAY	C02 Backp	Density : 44 SQ.M
Pressure	207 KPA	207 kPa	
Nozzle Type:	FLAT FAN	FLAT FAN	
Nozzle Size:	8002 XR	8002 XR	
Noz.Spacing:	50 CM	50 CM	
Boom Length:	2 M	2 M	
Boom Height:	50 CM	50 CM	
Incorporatn:	Roto-till		
Hrs to Incp:	0.5		
Carrier	WATER	WATER	
Appl.Volume:	200 L/HA	200 L/HA	
Propellant	C02	C02	

Weed Code	Crop Code	CUUPE	CUUPE	CUUPE	ABUTH	CHEAL	SETVI	ABUTH	CHEAL
Part Rated									
Rating Data Type		INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit		%	%	%	%	%	%	%	%
Rating Date		Jun-17-02	Jun-27-02	Jul-10-02	Jul-10-02	Jul-10-02	Jul-10-02	Aug-1-02	Aug-1-02
Crop Stage		COT	2 LF	4-8 LF	4-8 LF	4-8 LF	4-8 LF	5-7 LF	5-7 LF
Crop Stage Scale									
Weed Stage					3-9 LF	4-20+	1-10 LF	4-7 LF	4-16 LF
Weed Density, Unit					12 M2	55 M2	44 M2	16 M2	80 M2
Trt-Eval Interval		7 DAE	14 DAE	28 DAE	30 DAE	30 DAE	30 DAE	52 DAE	52 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check			0		a 0	a 0	a 0	c 0	d 0	d 0	b 0	c	
2	bensulide	480	EC	6720	G A/HA	PPI A	A	0	a 0	a 0	a 66	ab 65	c 65	c 64
3	bensulide	480	EC	13440	G A/HA	PPI A	A	0	a 0	a 0	a 60	b 79	b 79	b 50
4	bensulide	480	EC	6720	G A/HA	PPI A	A	0	a 0	a 0	a 73	a 89	a 89	a 58
	napropamide	50	DF	2250	G A/HA	PRE B	B							
5	napropamide	50	DF	2250	G A/HA	PRE B	B	0	a 0	a 0	a 75	a 81	ab 81	ab 64
	LSD (P=.05)							0.0	0.0	0.0	9.2	9.8	9.8	17.8
	Standard Deviation							0.0	0.0	0.0	6.0	6.3	6.3	11.6
	CV							0.0	0.0	0.0	10.93	10.11	10.11	24.59

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

PREFAR APPLIED PREPLANT INCORPORATED IN SQUASH

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC02T5

Weed Code	SETVI		
Crop Code	CUUPE	CUUPE	CUUPE
Part Rated			
Rating Data Type	CONTROL	NO/PLOT	YIELD
Rating Unit	%	#	T/HA
Rating Date	Aug-1-02	Sep-30-02	Sep-30-02
Crop Stage	5-7 LF		
Crop Stage Scale			
Weed Stage	3-6 LF		
Weed Density, Unit	43 M2		
Trt-Eval Interval	52 DAE		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	untreated check							0	c 9	a 4.5	a
2	bensulide	480	EC	6720	G A/HA	PPI	A	95	a 11	a 6.2	a
3	bensulide	480	EC	13440	G A/HA	PPI	A	97	a 9	a 4.6	a
4	bensulide	480	EC	6720	G A/HA	PPI	A	92	a 10	a 5.2	a
	napropamide	50	DF	2250	G A/HA	PRE	B				
5	napropamide	50	DF	2250	G A/HA	PRE	B	69	b 10	a 5.5	a
LSD (P=.05)								11.4	2.9	2.32	
Standard Deviation								7.4	1.9	1.51	
CV								10.51	19.49	28.99	

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

Trial Comments

Conclusions: One half of each plot in this trial was maintained weed free to examine the effect of bensulide (6720 and 13440 g a.i. ha⁻¹), napropamide (2250 g a.i. ha⁻¹) and bensulide+napropamide (6750+2250 g a.i. ha⁻¹) on visual injury and yield of squash. The remaining half of each plot was left weedy to collect weed control data.

None of the treatments caused significant visual injury to squash.

Bensulide alone at 6720 g a.i. ha⁻¹ gave excellent season-long control of green foxtail, fair control of common lamb's-quarters and poor control of velvetleaf. Napropamide alone at 2250 g a.i. ha⁻¹ gave fair control of common lamb's-quarters, and poor control of velvetleaf and green foxtail. The tank mix of bensulide+napropamide (6720+2250 g a.i. ha⁻¹) gave good season long control of common lamb's-quarters, excellent control of green foxtail and poor control of velvetleaf.

None of the treatments reduced squash number or yield compared to the untreated check.