

ACKNOWLEDGEMENTS

Purpose of this Booklet

This booklet is provided as a guide to the 2003 vegetable weed control research plots. The experiments outlined in this booklet were 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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**2003
RIDGETOWN
WEATHER DATA**

RAINFALL IN MM.

DATE	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.
1	3.8	15.2	0	0	0	25.0	0
2	0	12.4	0	0	5.2	0.4	0.2
3	0	0	0	0	21.0	0	4.8
4	25.0	0	0.8	1.8	0.2	0	0.6
5	0.4	16.8	0.4	0	7.6	0	0
6	6.2	0	0	0	1.0	0	0
7	0.2	0	0	0	0	0	0
8	0	1.6	11.8	0.2	0	0	0
9	0	2.4	0.2	1.4	0	0	0
10	0	0.4	0	12.2	0	0	0
11	0	7.2	0.6	1.2	0	0.2	0
12	0	0.6	17.0	3.0	1.6	0	0
13	0	0.2	0.2	0.2	0.2	0	0
14	0	0	0.2	0	0	0.6	34.4
15	0	1.2	0	4.6	0	19.8	2.4
16	0	1.6	0	0.2	1.0	0	0
17	0	0	0.2	0	0	0	0
18	0	0	0	0	0	0	0
19	0	0	12.2	0	0	29.6	0
20	2.6	13.8	0	1.8	0	0	0
21	0	0	0	8.8	0	0	0
22	0	0.2	0	0.6	0	24.8	4.2
23	0.2	11.7	0	0	0	0.2	0
24	0	1.5	0	0	0	5.8	0.2
25	0	0	0	0	0	1.2	2.4
26	0	0	4.6	0	13.0	0.6	7.0
27	0.2	3.0	0.2	0	0	14.0	0
28	0	0	0	0	0	0	7.6
29	0	0	5.2	0	1.0	0.2	0.2
30	55.8	0.8	0	0	0	0.2	0
31		18.4		0	0.8		0
TOTAL	94.4	109.0	41.4	36.0	52.6	122.6	64.0
30 YEAR AVG.	80.2	75.4	80.0	83.6	100.0	90.7	62.2

TEMPERATURE (C)

MEAN MAX	26.4	23.5	30.9	30.5	31.3	26.9	25.7
MEAN MIN	-6.3	1.5	4.2	8.4	6.5	3.6	-2.4
MEAN	10.0	12.5	17.6	19.4	18.9	15.2	11.6

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

**2003
EXETER
WEATHER DATA**

RAINFALL IN MM.

DATE	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.
1	2.25	23.5	0	0	3.75	0.25	1.75
2	0	1.5	0	0	1.0	0	5.0
3	0.75	0	0	0	12.0	0	7.25
4	0	0	6.25	0	0	0	6.0
5	0	15.25	0.75	1.5	2.25	0	0.75
6	0.5	0	0	3.0	0	0	0.25
7	0	0	0.5	3.0	0	0	0
8	0	0	9.25	0	0	0	0
9	5.5	0	0	0	0	0	0
10	0	9.25	0	1.75	0	0	0
11	0	12.0	0	10.25	0.25	0	0
12	0	3.75	22.25	1.5	6.0	0	0.25
13	0	0.5	1.25	0	0	0	0
14	0	0	0	0	0	1.0	20.25
15	0	0	0	3.25	0	27.0	0.75
16	0	9.25	0	0	0.25	0	0
17	1.5	0	0	0	0	0	0
18	0	0	23.5	0	0	1.5	0
19	0	0	0	0	0	17.0	0.25
20	0.25	3.5	0	2.0	0	0	0
21	0.5	0	0	15.75	4.75	0	0
22	0	0	0	0	0	21.5	0
23	0	13.8	0	0	0.25	0	2.0
24	0	1.6	0	0	0	8.25	1.75
25	0	0	0	0	0	0.25	5.25
26	0	0	0.5	0.25	2.5	1.5	5.25
27	0	2.5	0	0.25	0	3.5	1.75
28	0	0	0	0	0	8.75	4.5
29	0	0	4.0	0	0	8.25	0.25
30	16.5	0.5	0	7.5	0	0	0
31		0.25		0	0		0
TOTAL	27.75	97.15	68.25	50.0	33.0	98.75	63.25
30 YEAR AVG.	79.5	77.4	77.7	84.9	85.7	114.5	86.5

MEAN MAX	28.3	23.6	32.7	31.0	32.4	29.1	25.5
MEAN MIN	-5.7	1.6	2.2	8.5	6.7	4.4	-3.0
MEAN	11.3	12.6	17.45	19.75	19.55	16.75	11.25

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>
ACARH	Three-seeded mercury	<i>Acalypha rhombiodes</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>
ARTBI	Biennial wormwood	<i>Artemisia biennis</i>
ATXPA	Spreading atriplex	<i>Atriplex patula</i>
CAGSE	Hedge bindweed	<i>Calystegia sepium</i>
CAPBP	Shepherd's-purse	<i>Capsella bursa-pastoris</i>
CHEAL	Common lamb's-quarters	<i>Chenopodium album</i>
CIRAR	Canada thistle	<i>Cirsium arvense</i>
CONAR	Field bindweed	<i>Convolvulus arvensis</i>
DAUCA	Wild carrot	<i>Daucus carota</i>
EQUAR	Field horsetail	<i>Equisetum arvense</i>
ERIAN	Annual fleabane	<i>Erigeron annuus</i>
ERICA	Canada fleabane	<i>Erigeron canadensis</i>
ERYCH	Wormseed mustard	<i>Erysimum cheiranthoides</i>
GAETE	Hempnettle	<i>Galeopsis tetrahit</i>
HIBTR	Flower-of-an-hour	<i>Hibiscus trionum</i>
LACSE	Prickly lettuce	<i>Lactuca serriola</i>
LAMAM	Henbit	<i>Lamium amplexicaule</i>
OXAST	Common yellow woodsorrel	<i>Oxalis stricta</i>
PLAMA	Broad-leaved plantain	<i>Plantago major</i>
POLCO	Wild buckwheat	<i>Polygonum convolvulus</i>
POLLA	Green smartweed	<i>Polygonum lapathifolium</i>
POLPE	Lady's-thumb	<i>Polygonum persicaria</i>
POROL	Purslane	<i>Portulaca oleracea</i>
SINAR	Wild mustard	<i>Sinapis arvensis</i>
SIYAN	Bur-cucumber	<i>Sicyos angulatus</i>
SOLCA	Horsenettle	<i>Solanum carolinense</i>
SOLPT	Eastern black nightshade	<i>Solanum ptycanthum</i>
SONAR	Perennial sowthistle	<i>Sonchus arvensis</i>
SONAS	Spiny annual sowthistle	<i>Sonchus asper</i>
SONOL	Annual sowthistle	<i>Sonchus oleraceus</i>
SOOCA	Canada goldenrod	<i>Solidago canadensis</i>
STAPA	Marsh hedge-nettle	<i>Stachys palustris</i>
STEME	Common chickweed	<i>Stellaria media</i>
TAROF	Dandelion	<i>Taraxacum officinale</i>
THLAR	Field pennycress	<i>Thlaspi arvense</i>
TRFPR	Red clover	<i>Trifolium pratense</i>
TRFSS	Clover species	<i>Trifolium spp.</i>
XANST	Common cocklebur	<i>Xanthium strumarium</i>
AGRGI	Redtop	<i>Agrostis gigantea</i>
AGRRE	Quackgrass	<i>Agropyron repens</i>
CCHPA	Longspine sandbur	<i>Cenchrus pauciflorus</i>
DIGIS	Smooth crabgrass	<i>Digitaria ischaemum</i>
DIGSA	Large (hairy) crabgrass	<i>Digitaria sanguinalis</i>
ECHCG	Barnyard grass	<i>Echinochloa crus-galli</i>
PANCA	Witch grass	<i>Panicum capillare</i>
PANDI	Fall panicum	<i>Panicum dichotomiflorum</i>
PANMI	Proso millet	<i>Panicum miliaceum</i>
SETFA	Giant foxtail	<i>Setaria faberii</i>
SETLU	Yellow foxtail	<i>Setaria glauca</i>
SETVI	Green foxtail	<i>Setaria viridis</i>

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TOLERANCE OF TRANSPLANTED BROCCOLI TO SULFONYLUREA HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T1

CROP: BRSOK, BROCCOLI (PARAGON). Planted: May-28-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-28-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-M3.

Site Description: Soil Texture: LOAMY FINE SAND. %OM: 5.7 %Sand: 78.6 %Silt: 13.0 %Clay: 8.4 pH: 6.7 CEC: 8.

APPLICATION DESCRIPTION STAGE AT APPLICATION
 Application: A Application: A
 Date : Jun-18-03 Crop 1 BRSOK
 Time of Day: 6:00 AM Height : 12.3 CM
 Method : CO2 SPRAY
 Timing : 21 DAT Weed 1 ABUTH 1 LF
 Placement : FOLIAR Stg.Scale: 2.4 CM
 Air Temp. : 16.9 C Density : 14.5 SQ.M.
 % Humidity : 90 Weed 2 AMASS 2 LF
 Wind Speed : 0 KPH Stg.Scale: 1.7 CM
 Dew Present: Y Density : 94.5 SQ.M.
 Soil Moist.: MOIST Weed 3 CHEAL 4 LF
 Cloud Cover: 100% Stg.Scale: 1.8 CM
 Equipment : CO2 SPRAY Density : 20.5 SQ.M.
 Pressure : 207 kPa Weed 4 LAMAM 2 LF
 Nozzle Type: FLAT FAN Stg.Scale: 1.7 CM
 Nozzle Size: 8002 XR Density : 18.5 SQ.M.
 Noz.Spacing: 50 CM Weed 5 SOLPT 1 LF
 Boom Length: 1.5 M Stg.Scale: 0.8 CM
 Boom Height: 50 CM Density : 26.5 SQ.M.
 Carrier : WATER Weed 6 STEME 4 LF
 Appl.Volume: 200 L/HA Stg.Scale: 2.5 CM
 Propellant : CO2 Density : 193 SQ.M.

Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
Part Rated					MARKET	MARKET	MARKET	MARKET	NONMKT
Rating Data Type	INJURY	INJURY	INJURY	COUNTS	AVG. WT.	AVG. WT.	AVG. WT.	AVG. WT.	
Rating Unit	%	%	%	#/8M	G	G	G	G	G
Rating Date	Jun-24-03	Jul-3-03	Jul-16-03	Jul-3-03	Jul-16-03	Jul-23-03	Jul-28-03	Jul-28-03	
Crop Stage	4-7 LF	8-10 LF	11-13 LF	8-10 LF	11-13 LF	11-13 LF	11-13 LF	11-13 LF	
Crop Stage Scale	15-30 CM	22-40 CM	55-60 CM	22-40 CM	55-60 CM	55-60 CM	55-60 CM	55-60 CM	
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	14 DAT	28 DAT	35 DAT	40 DAT	40 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Rate Unit	Grow Stg	Appl Code											
1	untreated check							0	c 0	e 0	d 16	a	130.0	ab 373.6	a 294.4	a 50.4	abc	
2	foramsulfuron	70	WG	70 G A/HA	POST A			46	a 95	ab 100	a 5	de	0.0	b 0.0	b 0.0	b 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			34	b 89	ab 97	a 6	cd	0.0	b 0.0	b 0.0	b 0.0	c	
	Agral 90		SO	0.2 % V/V	POST A													
4	rimsulfuron	25	DF	15 G A/HA	POST A			35	b 95	ab 98	a 5	cd	0.0	b 0.0	b 0.0	b 0.0	c	
	Agral 90		SO	0.2 % V/V	POST A													
5	triflusulfuron-methyl	50	DF	35 G A/HA	POST A			31	b 74	d 45	c 12	b	0.0	b 0.0	b 290.0	a 85.0	ab	
	Agral 90		SO	0.25 % V/V	POST A													
6	ethametsulfuron-methyl	75	DF	15 G A/HA	POST A			8	c 6	e 4	d 19	a	340.0	a 389.9	a 240.9	ab 88.6	ab	
	Agral 90		SO	0.2 % V/V	POST A													
7	thifensulfuron-methyl	75	DF	6 G A/HA	POST A			31	b 71	d 64	b 12	b	0.0	b 0.0	b 45.0	ab 34.9	bc	
	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			54	a 99	a 100	a 1	e	0.0	b 0.0	b 0.0	b 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			49	a 95	ab 100	a 3	de	0.0	b 0.0	b 0.0	b 0.0	c	
	Agral 90		SO	0.4 % V/V	POST A													
10	rimsulfuron	25	DF	30 G A/HA	POST A			50	a 95	ab 99	a 3	de	0.0	b 0.0	b 0.0	b 0.0	c	
	Agral 90		SO	0.4 % V/V	POST A													
11	triflusulfuron-methyl	50	DF	70 G A/HA	POST A			46	a 86	bc 61	b 9	bc	0.0	b 0.0	b 0.0	b 47.7	abc	
	Agral 90		SO	0.5 % V/V	POST A													
12	ethametsulfuron-methyl	75	DF	30 G A/HA	POST A			1	c 1	e 0	d 18	a	115.7	ab 441.0	a 118.5	ab 98.8	a	
	Agral 90		SO	0.4 % V/V	POST A													
13	thifensulfuron-methyl	75	DF	12 G A/HA	POST A			35	b 75	cd 71	b 10	b	0.0	b 0.0	b 41.3	ab 55.8	abc	
	Agral 90		SO	0.2 % V/V	POST A													
	UAN 28%		SO	4 L/HA	POST A													

LSD (P=.05)	11.2	11.6	13.5	3.8	227.52	74.40	262.57	60.79
Standard Deviation	7.8	8.1	9.4	2.6	159.21	52.06	183.74	42.54
CV	24.27	11.95	14.63	28.92	353.4	56.19	231.89	119.89

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: CO03T1

Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
Part Rated	TOT.MK	MK+NON	TOT.MK	MK+NON	TOT.MK	MK+NON
Rating Data Type	AVG. WT.	AVG. WT.	YIELD	YIELD	YIELD	YIELD
Rating Unit	G	G	T/HA	T/HA	T/AC	T/AC
Rating Date						
Crop Stage						
Crop Stage Scale						
Tri-Eval Interval						

Tri No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code												
1	untreated check							343.8	a	305.5	a	3.9	a	4.0	b	1.8	a	1.8	b
2	foramsulfuron	70	WG	70	G A/HA	POST	A	0.0	b	0.0	c	0.0	b	0.0	c	0.0	b	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	b	0.0	c	0.0	b	0.0	c	0.0	b	0.0	c
	Agral 90		SO	0.2	% V/V	POST	A												
4	rimsulfuron	25	DF	15	G A/HA	POST	A	0.0	b	0.0	c	0.0	b	0.0	c	0.0	b	0.0	c
	Agral 90		SO	0.2	% V/V	POST	A												
5	triflurosulfuron-methyl	50	DF	35	G A/HA	POST	A	290.0	a	130.8	b	0.2	b	0.7	c	0.1	b	0.3	c
	Agral 90		SO	0.25	% V/V	POST	A												
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	374.6	a	333.4	a	4.8	a	5.1	a	2.2	a	2.3	a
	Agral 90		SO	0.2	% V/V	POST	A												
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	45.0	b	38.5	c	0.0	b	0.2	c	0.0	b	0.1	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	b	0.0	c	0.0	b	0.0	c	0.0	b	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	b	0.0	c	0.0	b	0.0	c	0.0	b	0.0	c
	Agral 90		SO	0.4	% V/V	POST	A												
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0.0	b	0.0	c	0.0	b	0.0	c	0.0	b	0.0	c
	Agral 90		SO	0.4	% V/V	POST	A												
11	triflurosulfuron-methyl	50	DF	70	G A/HA	POST	A	0.0	b	47.7	c	0.0	b	0.3	c	0.0	b	0.1	c
	Agral 90		SO	0.5	% V/V	POST	A												
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	340.4	a	323.2	a	5.0	a	5.3	a	2.2	a	2.4	a
	Agral 90		SO	0.4	% V/V	POST	A												
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	41.3	b	61.0	bc	0.0	b	0.1	c	0.0	b	0.1	c
	Agral 90		SO	0.2	% V/V	POST	A												
	UAN 28%		SO	4	L/HA	POST	A												

LSD (P=.05)	240.77	69.80	1.12	1.06	0.50	0.47
Standard Deviation	168.48	48.85	0.78	0.74	0.35	0.33
CV	152.62	51.2	72.04	61.01	72.04	61.01

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

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 head number or marketable head size of broccoli at the 1X or 2X rates.

Ethametsulfuron-methyl did not reduce total or marketable broccoli yields at the 1X or 2X rates.

TOLERANCE OF TRANSPLANTED CABBAGE TO SULFONYLUREA HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T2

CROP: BRSOL, CABBAGE (BAYOU DYNASTY). Planted: May-29-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: May-29-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-M3.

Site Description: Soil Texture: LOAMY FINE SAND. %OM: 5.7 %Sand: 78.6 %Silt: 13.0 %Clay: 8.4 pH: 6.7 CEC: 8.

APPLICATION DESCRIPTION STAGE AT APPLICATION
 Application: A Application: A
 Date : Jun-18-03 Crop 1 BRSOL 7 LF
 Time of Day: 6:30 AM Height : 13.9 CM
 Method : CO2 SPRAY
 Timing : 21 DAT Weed 1 AMASS 2 LF
 Placement : FOLIAR Stg.Scale: 1.8 CM
 Air Temp. : 16.9 C Density : 25 SQ.M.
 % Humidity : 90 Weed 2 CHEAL 2 LF
 Wind Speed : 0 KPH Stg.Scale: 1.4 CM
 Dew Present: Y Density : 89.5 SQ.M.
 Soil Moist.: MOIST Weed 3 SOLPT 2 LF
 Cloud Cover: 100% Stg.Scale: 0.8 CM
 Equipment : CO2 SPRAY Density : 34 SQ.M.
 Pressure : 207 kPa Weed 4 STEME 4 LF
 Nozzle Type: FLAT FAN Stg.Scale: 1.5 CM
 Nozzle Size: 8002 XR Density : 104 SQ.M.
 Noz.Spacing: 50 CM Weed 5 DIGSA 2 LF
 Boom Length: 1.5 M Stg.Scale: 1 CM
 Boom Height: 50 CM Density : 38.5 SQ.M.
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Crop Code	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	COUNTS	NONMKT	MARKET	TOTAL	
Rating Unit	%	%	%	#/8M	AVG. HEAD	AVG. HEAD	AVG. HEAD	
Rating Date	Jun-24-03	Jul-3-03	Jul-15-03	Jul-3-03	Aug-8-03	Aug-8-03	Aug-8-03	
Crop Stage	6-7 LF	10-13 LF	IN HEAD	10-13 LF	IN HEAD	IN HEAD	IN HEAD	
Crop Stage Scale	15-20 CM	22-25 CM	35-40 CM	22-25 CM	35-40 CM	35-40 CM	35-40 CM	
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	14 DAT	51 DAT	51 DAT	51 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code											
1	untreated check						0	f	0	e	0	f	20	ab 565.0	a 2.35	a 2.31	a
2	foramsulfuron MSO	70	WG	70 G A/HA	POST	A	38	ab	87	a	97	a	18	ab 0.0	c 0.00	c 0.00	e
	UAN 28%		SO	1.75 L/HA	POST	A											
3	nicosulfuron Agral 90	75	DF	25 G A/HA	POST	A	28	bcd	82	a	92	ab	21	a 0.0	c 0.00	c 0.00	e
	UAN 28%		SO	0.2 % V/V	POST	A											
4	rimsulfuron Agral 90	25	DF	15 G A/HA	POST	A	26	cd	64	b	69	c	19	ab 54.3	bc 0.00	c 0.05	e
	UAN 28%		SO	0.2 % V/V	POST	A											
5	triflusalufuron-methyl Agral 90	50	DF	35 G A/HA	POST	A	20	de	39	d	36	e	18	ab 401.9	ab 0.68	b 0.55	c
	UAN 28%		SO	0.25 % V/V	POST	A											
6	ethametsulfuron-methyl Agral 90	75	DF	15 G A/HA	POST	A	0	f	0	e	0	f	20	ab 192.8	abc 2.33	a 2.20	a
	UAN 28%		SO	0.2 % V/V	POST	A											
7	thifensulfuron-methyl Agral 90	75	DF	6 G A/HA	POST	A	13	e	31	d	38	e	20	ab 273.5	abc 0.31	c 0.28	d
	UAN 28%		SO	0.1 % V/V	POST	A											
8	foramsulfuron MSO	70	WG	140 G A/HA	POST	A	39	a	90	a	99	a	18	ab 0.0	c 0.00	c 0.00	e
	UAN 28%		SO	3.5 L/HA	POST	A											
9	nicosulfuron Agral 90	75	DF	50 G A/HA	POST	A	36	abc	82	a	93	ab	18	ab 0.0	c 0.00	c 0.00	e
	UAN 28%		SO	0.4 % V/V	POST	A											
10	rimsulfuron Agral 90	25	DF	30 G A/HA	POST	A	39	a	86	a	87	b	17	b 0.0	c 0.00	c 0.00	e
	UAN 28%		SO	0.4 % V/V	POST	A											
11	triflusalufuron-methyl Agral 90	50	DF	70 G A/HA	POST	A	35	abc	51	c	59	d	20	ab 134.9	bc 0.00	c 0.13	de
	UAN 28%		SO	0.5 % V/V	POST	A											
12	ethametsulfuron-methyl Agral 90	75	DF	30 G A/HA	POST	A	0	f	3	e	0	f	20	ab 155.5	bc 2.02	a 1.81	b
	UAN 28%		SO	0.4 % V/V	POST	A											
13	thifensulfuron-methyl Agral 90	75	DF	12 G A/HA	POST	A	29	a-d	34	d	43	e	19	ab 124.1	bc 0.00	c 0.12	de
	UAN 28%		SO	0.2 % V/V	POST	A											
	UAN 28%		SO	4 L/HA	POST	A											

LSD (P=.05)	10.8	7.9	8.1	3.1	384.27	0.341	0.166
Standard Deviation	7.6	5.5	5.7	2.2	268.90	0.238	0.116
CV	32.61	11.1	10.42	11.26	183.79	40.34	20.29

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: CO03T2

Crop Code	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated	TOTAL	TOTAL	MARKET	MARKET
Rating Data Type	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/AC	T/HA	T/AC
Rating Date	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03
Crop Stage	IN HEAD	IN HEAD	IN HEAD	IN HEAD
Crop Stage Scale	35-40 CM	35-40 CM	35-40 CM	35-40 CM
Trt-Eval Interval	51 DAT	51 DAT	51 DAT	51 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check							38.5	a	17.2	a	37.6	a	16.8	a
2	foramsulfuron MSO	70	WG	70	G A/HA	POST	A	0.0	d	0.0	d	0.0	d	0.0	d
	UAN 28%		SO	1.75	L/HA	POST	A								
			SO	2.5	L/HA	POST	A								
3	nicosulfuron	75	DF	25	G A/HA	POST	A	0.0	d	0.0	d	0.0	d	0.0	d
	Agral 90		SO	0.2	% V/V	POST	A								
4	rimsulfuron	25	DF	15	G A/HA	POST	A	0.9	d	0.4	d	0.0	d	0.0	d
	Agral 90		SO	0.2	% V/V	POST	A								
5	triflusulfuron-methyl	50	DF	35	G A/HA	POST	A	8.7	c	3.9	c	4.2	c	1.9	c
	Agral 90		SO	0.25	% V/V	POST	A								
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	36.1	a	16.1	a	35.9	a	16.0	a
	Agral 90		SO	0.2	% V/V	POST	A								
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	6.0	c	2.7	c	0.3	d	0.1	d
	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	0.0	d	0.0	d	0.0	d	0.0	d
	UAN 28%		SO	3.5	L/HA	POST	A								
			SO	5	L/HA	POST	A								
9	nicosulfuron	75	DF	50	G A/HA	POST	A	0.0	d	0.0	d	0.0	d	0.0	d
	Agral 90		SO	0.4	% V/V	POST	A								
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0.0	d	0.0	d	0.0	d	0.0	d
	Agral 90		SO	0.4	% V/V	POST	A								
11	triflusulfuron-methyl	50	DF	70	G A/HA	POST	A	2.1	d	0.9	d	0.0	d	0.0	d
	Agral 90		SO	0.5	% V/V	POST	A								
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	31.0	b	13.8	b	30.6	b	13.7	b
	Agral 90		SO	0.4	% V/V	POST	A								
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	2.3	d	1.0	d	0.0	d	0.0	d
	Agral 90		SO	0.2	% V/V	POST	A								
	UAN 28%		SO	4	L/HA	POST	A								

LSD (P=.05)	3.16	1.41	3.10	1.38
Standard Deviation	2.21	0.99	2.17	0.97
CV	22.89	22.89	25.99	25.99

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 and nicosulfuron 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 foramsulfuron, nicosulfuron and rimsulfuron.

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

Marketable head size and yield of cabbage were 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) and total yield were less at the 2X rate of ethametsulfuron than in the untreated check.

TOLERANCE OF TRANSPLANTED CAULIFLOWER TO SULFONYLUREA HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T3

CROP: BR SOB, CAULIFLOWER (WENTWORTH). Planted: May-29-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: May-29-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-M3.

Site Description: Soil Texture: LOAMY FINE SAND. %OM: 5.7 %Sand: 78.6 %Silt: 13.0 %Clay: 8.4 pH: 6.7 CEC: 8.

APPLICATION DESCRIPTION	STAGE AT APPLICATION
Application: A	Application: A
Date : Jun-18-03	Crop 1 BR SOB 7 LF
Time of Day: 7:00 AM	Height : 10.4 CM
Method : CO2 SPRAY	
Timing : 21 DAT	Weed 1 AMASS 2 LF
Placement : FOLIAR	Stg.Scale: 2.7 CM
Air Temp. : 16.9 C	Density : 55 SQ.M.
% Humidity : 90	Weed 2 CHEAL 2 LF
Wind Speed : 0 KPH	Stg.Scale: 1.4 CM
Dew Present: Y	Density : 92 SQ.M.
Soil Moist.: MOIST	Weed 3 SOLPT 1 LF
Cloud Cover: 100%	Stg.Scale: 0.7 CM
Equipment : CO2 SPRAY	Density : 11.5 SQ.M.
Pressure : 207 kPa	Weed 4 STEME 2 LF
Nozzle Type: FLAT FAN	Stg.Scale: 1.5 CM
Nozzle Size: 8002 XR	Density : 68.5 SQ.M.
Noz.Spacing: 50 CM	Weed 5 DIGSA 2 LF
Boom Length: 1.5 M	Stg.Scale: 1.2 CM
Boom Height: 50 CM	Density : 15 SQ.M.
Carrier : WATER	Weed 6 SETLU 3 LF
Appl.Volume: 200 L/HA	Stg.Scale: 3 CM
Propellant : CO2	Density : 9.5 SQ.M.

Crop Code	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB	BR SOB
Part Rated	INJURY	INJURY	INJURY	COUNTS	MARKET	TOTAL	MARKET
Rating Data Type	%	%	%	#/8M	AVG. HEAD	AVG. HEAD	YIELD
Rating Unit	Jun-24-03	Jul-3-03	Jul-15-03	Jul-3-03	KG	KG	T/HA
Rating Date	5-7 LF	8-9 LF	10-13 LF	8-9 LF	IN HEAD	IN HEAD	IN HEAD
Crop Stage	15-25 CM	25-36 CM	48-60 CM	25-36 CM	50-75 CM	50-75 CM	50-75 CM
Crop Stage Scale	7 DAT	14 DAT	28 DAT	14 DAT			79 DAT
Trt-Eval Interval							

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code												
1	untreated check						0	d	0	d	0	e	19	a	1.73	a	22.7	a
2	foramsulfuron	70	WG	70 G A/HA	POST	A	41	abc	92	a	96	a	14	bcd	0.17	cd	0.1	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	38	bc	88	a	88	a	16	ab	0.00	d	0.0	c
	Agral 90		SO	0.2 % V/V	POST	A												
4	rimsulfuron	25	DF	15 G A/HA	POST	A	43	abc	84	a	70	b	16	abc	0.94	b	0.53	c
	Agral 90		SO	0.2 % V/V	POST	A												
5	triflusulfuron-methyl	50	DF	35 G A/HA	POST	A	34	c	41	bc	20	d	18	a	1.23	b	1.13	b
	Agral 90		SO	0.25 % V/V	POST	A												
6	ethametsulfuron-methyl	75	DF	15 G A/HA	POST	A	1	d	0	d	0	e	18	a	1.61	a	1.61	a
	Agral 90		SO	0.2 % V/V	POST	A												
7	thifensulfuron-methyl	75	DF	6 G A/HA	POST	A	35	bc	36	c	28	d	18	a	1.10	b	0.93	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	50	a	97	a	100	a	10	d	0.00	d	0.00	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	50	a	93	a	99	a	10	d	0.00	d	0.00	d
	Agral 90		SO	0.4 % V/V	POST	A												
10	rimsulfuron	25	DF	30 G A/HA	POST	A	45	ab	91	a	91	a	12	cd	0.38	c	0.38	cd
	Agral 90		SO	0.4 % V/V	POST	A												
11	triflusulfuron-methyl	50	DF	70 G A/HA	POST	A	49	a	55	b	23	d	18	a	1.25	b	1.13	b
	Agral 90		SO	0.5 % V/V	POST	A												
12	ethametsulfuron-methyl	75	DF	30 G A/HA	POST	A	3	d	3	d	4	e	19	a	1.62	a	1.57	a
	Agral 90		SO	0.4 % V/V	POST	A												
13	thifensulfuron-methyl	75	DF	12 G A/HA	POST	A	51	a	40	c	45	c	17	ab	1.24	b	0.96	b
	Agral 90		SO	0.2 % V/V	POST	A												
	UAN 28%		SO	4 L/HA	POST	A												

LSD (P=.05)	10.6	14.1	11.7	4.2	0.349	0.395	4.75
Standard Deviation	7.4	9.8	8.2	2.9	0.244	0.277	3.32
CV	21.93	17.78	16.13	18.73	28.19	35.43	38.94

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: CO03T3

Crop Code	BRSOB	BRSOB	BRSOB
Part Rated	MARKET	MARKET	MARKET
Rating Data Type	YIELD	YIELD	YIELD
Rating Unit	T/AC	T/HA	T/AC
Rating Date	Sep-5-03		
Crop Stage	IN HEAD	IN HEAD	IN HEAD
Crop Stage Scale	50-75 CM	50-75 CM	50-75 CM
Trt-Eval Interval	79 DAT		

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code						
1	untreated check							10.1	a	23.1	a	10.3	a
2	foramsulfuron	70	WG	70	G A/HA	POST	A	0.1	c	0.1	c	0.1	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	0.1	c	0.0	c
	Agral 90		SO	0.2	% V/V	POST	A						
4	rimsulfuron	25	DF	15	G A/HA	POST	A	1.2	c	4.0	c	1.8	c
	Agral 90		SO	0.2	% V/V	POST	A						
5	triflurosulfuron-methyl	50	DF	35	G A/HA	POST	A	5.8	b	13.6	b	6.1	b
	Agral 90		SO	0.25	% V/V	POST	A						
6	ethametsulfuron-methyl	75	DF	15	G A/HA	POST	A	9.0	a	20.2	a	9.0	a
	Agral 90		SO	0.2	% V/V	POST	A						
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	4.8	b	11.3	b	5.1	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	c	0.0	c	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	0.0	c	0.0	c
	Agral 90		SO	0.4	% V/V	POST	A						
10	rimsulfuron	25	DF	30	G A/HA	POST	A	0.2	c	0.5	c	0.2	c
	Agral 90		SO	0.4	% V/V	POST	A						
11	triflurosulfuron-methyl	50	DF	70	G A/HA	POST	A	5.0	b	11.8	b	5.3	b
	Agral 90		SO	0.5	% V/V	POST	A						
12	ethametsulfuron-methyl	75	DF	30	G A/HA	POST	A	8.9	a	20.2	a	9.0	a
	Agral 90		SO	0.4	% V/V	POST	A						
13	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	4.4	b	10.7	b	4.8	b
	Agral 90		SO	0.2	% V/V	POST	A						
	UAN 28%		SO	4	L/HA	POST	A						

LSD (P=.05)	2.12	4.44	1.98
Standard Deviation	1.48	3.10	1.38
CV	38.94	34.94	34.94

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), triflurosulfuron-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).

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

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 head number or marketable head size of broccoli at the 1X or 2X rates.

Ethametsulfuron-methyl did not reduce total or marketable broccoli yields at the 1X or 2X rates.

TOLERANCE OF TRANSPLANTED CABBAGE TO S-METOLACHLOR/BENOXACOR APPLICATION

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T4

CROP: BRSOL, CABBAGE (CHEERS). Planted: Apr-30-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Apr-30-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-M1.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 6.1 %Sand: 73.1 %Silt: 15.1 %Clay: 11.8 pH: 7.2 CEC: 11.

APPLICATION DESCRIPTION			STAGE AT APPLICATION				
Application:	A	B	C	Application:	A	B	C
Date	: Apr-29-03	Apr-29-03	May-1-03	Crop 1 BRSOL			2-4 LF
Time of Day	: 3:30 PM	3:30 PM	7:05 PM	Height			5 CM
Method	: CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 1			
Timing	: PPI	PRE-T	POST	Stg.Scale:			
Placement	: SOIL	SOIL	FOLIAR	Density			0 SQ.M.
Air Temp.	: 18.2 C	18.2 C	15.2 C				
% Humidity	: 34	34	80				
Wind Speed	: 5 KPH	5 KPH	0 KPH				
Dew Present	: N	N	Y				
Soil Moist.	: DRY	DRY	WET				
Cloud Cover	: 15%	15%	90%				
Equipment	: CO2 SPRAY	CO2 SPRAY	CO2 SPRAY				
Pressure	: 207 kPa	207 kPa	207 kPa				
Nozzle Type	: FLAT FAN	FLAT FAN	FLAT FAN				
Nozzle Size	: 8002 XR	8002 XR	8002 XR				
Noz.Spacing	: 50 CM	50 CM	50 CM				
Boom Length	: 1.5 M	2 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	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	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
	AMASS	CHEAL	SOLPT	AMASS						
	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL			
	%	%	%	%	%	%	%			
	May-7-03	May-14-03	May-29-03	May-29-03	May-29-03	May-29-03	May-29-03	Jun-25-03		
	3-4 LF	5-6 LF	9 LF	9 LF	9 LF	9 LF	9 LF	12-14 LF		
	4-5 CM	7-9 CM	15-18 CM	15-18 CM	15-18 CM	15-18 CM	15-18 CM	30-42 CM		
				2 LF	4 LF	1 LF		6 LF		
				798 SQ.M	442 SQ.M	72.5SQ.M		40.5SQ.M		
	7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE		56 DAE		

Trt	Treatment	Form	Form	Rate	Grow	Appl															
No.	Name	Conc	Type	Rate	Unit	Stg	Code														
1	untreated check						0	a	0	a	0	b	0	d	0	d	0	d	0	f	
2	s-metolachlor/benoxacor	915	EC	800	G A/HA	PPI	A	0	a	0	a	1	b	75	bc	53	c	75	c	53	b-e
3	s-metolachlor/benoxacor	915	EC	800	G A/HA	PRE-T	B	0	a	0	a	0	b	65	c	66	bc	76	c	36	e
4	s-metolachlor/benoxacor	915	EC	800	G A/HA	POST	C	0	a	0	a	0	b	98	a	80	ab	99	a	59	a-d
5	s-metolachlor/benoxacor	915	EC	1600	G A/HA	PPI	A	0	a	0	a	0	b	71	c	68	abc	84	bc	48	cde
6	s-metolachlor/benoxacor	915	EC	1600	G A/HA	PRE-T	B	0	a	1	a	0	b	68	c	71	abc	80	c	39	de
7	s-metolachlor/benoxacor	915	EC	1600	G A/HA	POST	C	0	a	1	a	0	b	94	ab	75	ab	93	ab	76	a
8	s-metolachlor/benoxacor	915	EC	2400	G A/HA	PPI	A	0	a	1	a	4	a	69	c	59	bc	80	c	73	ab
9	s-metolachlor/benoxacor	915	EC	2400	G A/HA	PRE-T	B	0	a	1	a	0	b	78	abc	61	bc	83	bc	60	abc
10	s-metolachlor/benoxacor	915	EC	2400	G A/HA	POST	C	0	a	1	a	0	b	98	a	89	a	99	a	79	a
LSD (P=.05)								0.0	1.1	1.1		20.8	21.3	9.9		20.0					
Standard Deviation								0.0	0.7	0.7		14.4	14.7	6.8		13.8					
CV								0.0	181.3	156.79		20.12	23.62	8.89		26.45					

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
	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET		
	CONTROL	CONTROL	HEAD SIZE	HEAD SIZE	YIELD	YIELD	YIELD			
	%	%	G	G	T/HA	T/AC	T/HA			
	Jun-25-03	Jun-25-03	Jul-25-03	Jul-25-03	Jul-25-03	Jul-25-03	Jul-25-03	Jul-25-03		
	12-14 LF	12-14 LF	WEEDY	WEEDFREE	WEEDY	WEEDY	WEEDFREE			
	30-42 CM	30-42 CM								
	8 LF	5 LF								
	79 SQ.M	6 SQ.M								
	56 DAE	56 DAE	86 DAE	86 DAE	86 DAE	86 DAE	86 DAE	86 DAE		

Trt	Treatment	Form	Form	Rate	Grow	Appl															
No.	Name	Conc	Type	Rate	Unit	Stg	Code														
1	untreated check						0	e	0	d	836.0	d	3439.7	ab	3.22	d	1.44	d	26.99	a	
2	s-metolachlor/benoxacor	915	EC	800	G A/HA	PPI	A	28	d	70	c	949.0	d	2961.8	bc	3.90	d	1.74	d	23.45	abc
3	s-metolachlor/benoxacor	915	EC	800	G A/HA	PRE-T	B	38	bcd	69	c	1476.4	bcd	3074.5	abc	5.53	cd	2.46	cd	21.88	bcd
4	s-metolachlor/benoxacor	915	EC	800	G A/HA	POST	C	59	abc	74	bc	1877.7	bc	3561.8	a	10.80	bc	4.82	bc	26.71	ab
5	s-metolachlor/benoxacor	915	EC	1600	G A/HA	PPI	A	45	a-d	69	c	1397.5	bcd	3041.4	bc	5.34	cd	2.38	cd	21.72	cd
6	s-metolachlor/benoxacor	915	EC	1600	G A/HA	PRE-T	B	39	bcd	73	c	1403.8	bcd	3380.2	ab	5.80	cd	2.59	cd	23.27	abc
7	s-metolachlor/benoxacor	915	EC	1600	G A/HA	POST	C	61	ab	81	ab	2097.5	b	3335.2	ab	13.49	b	6.02	b	25.53	abc
8	s-metolachlor/benoxacor	915	EC	2400	G A/HA	PPI	A	44	bcd	75	bc	1256.5	cd	2599.4	c	4.65	d	2.08	d	17.85	d
9	s-metolachlor/benoxacor	915	EC	2400	G A/HA	PRE-T	B	35	cd	76	bc	1191.7	cd	3283.6	ab	3.35	d	1.49	d	22.49	a-d
10	s-metolachlor/benoxacor	915	EC	2400	G A/HA	POST	C	70	a	86	a	3138.5	a	3571.3	a	19.60	a	8.74	a	26.02	abc
LSD (P=.05)								26.2	7.5	754.78		506.50	5.495	2.451	4.917						
Standard Deviation								18.1	5.2	520.19		349.08	3.787	1.689	3.388						
CV								43.25	7.71	33.29		10.82	50.04	50.04	14.36						

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

TOLERANCE OF TRANSPLANTED CABBAGE TO S-METOLACHLOR/BENOXACOR APPLICATION

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T4

Crop Code BRSOL
 Part Rated MARKET
 Rating Data Type YIELD
 Rating Unit T/AC
 Rating Date Jul-25-03
 Crop Stage WEEDFREE
 Trt-Eval Interval 86 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code		
1	untreated check							12.04	a
2	s-metolachlor/benoxacor	915	EC	800	G A/HA	PPI	A	10.46	abc
3	s-metolachlor/benoxacor	915	EC	800	G A/HA	PRE-T	B	9.76	bcd
4	s-metolachlor/benoxacor	915	EC	800	G A/HA	POST	C	11.91	ab
5	s-metolachlor/benoxacor	915	EC	1600	G A/HA	PPI	A	9.69	cd
6	s-metolachlor/benoxacor	915	EC	1600	G A/HA	PRE-T	B	10.38	abc
7	s-metolachlor/benoxacor	915	EC	1600	G A/HA	POST	C	11.39	abc
8	s-metolachlor/benoxacor	915	EC	2400	G A/HA	PPI	A	7.96	d
9	s-metolachlor/benoxacor	915	EC	2400	G A/HA	PRE-T	B	10.03	a-d
10	s-metolachlor/benoxacor	915	EC	2400	G A/HA	POST	C	11.61	abc

LSD (P=.05) 2.193
 Standard Deviation 1.512
 CV 14.36

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

Trial Comments

MAY-14 INJURY: LEAVES APPEAR TO BE SMALLER THEN UNTREATED (LESS DEVELOPPED) AND ARE STILL PURPLE ON UNDERSIDE FROM COLD STRESS. THEY JUST APPEAR TO NOT BE THRIVING AS WELL AS THE UNTREATED, INJURY IS STILL SLIGHT.

Conclusions: One half of each plot was maintained weed free to examine the effect of s-metolachlor/benoxacor applied at 800, 1600 and 2400 g ai. ha⁻¹, pre-plant incorporated, preemergence, and postemergence (3rd leaf of cabbage) on visual injury and yield of transplanted cabbage. Weeds were left in the other half of each plot to determine the level of weed control by each treatment.

None of the treatments caused commercially significant visual injury of transplanted cabbage. Slight visual injury (<5%) was noted in the PPI treatments at 800 and 2400 g a.i. ha⁻¹ of s-metolachlor/benoxacor.

Early season control (28 days after emergence) of pigweed spp. and common lamb's-quarters and was excellent in the POST-T application timing, and poor to fair in the PPI and PRE-T application timings when s-metolachlor was applied at 1600 g a.i. ha⁻¹. At 28 DAE, control of eastern black nightshade was good regardless of application timing. By 56 DAE, the POST application of s-metolachlor (1600 g a.i. ha⁻¹) gave fair control of pigweed spp., poor control of common lamb's-quarters and good control of eastern black nightshade. The PPI and PRE-T application timings gave poor control of pigweed spp. and common lamb's-quarters, and poor to fair control of eastern black nightshade by 56 DAT.

Marketable head size and marketable yield were less than the untreated control and the POST application of s-metolachlor (2400 g a.i. ha⁻¹), when s-metolachlor was applied at 2400 g a.i. ha⁻¹ in the PPI timing. Marketable yield in the POST timing of s-metolachlor (1600 g a.i. ha⁻¹) was less than in the untreated control.

Though there were no other statistical differences in marketable head size and marketable yield, both variables tended to be less in the PPI and PRE treatments than in the POST application timings at each rate of s-metolachlor.

WEED CONTROL AND TOLERANCE OF TRANSPLANTED BROCCOLI TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T5

CROP: BRSOK, BROCCOLI (WENTWORTH). Planted: Jun-5-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-5-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-D1&D2.

Site Description: Soil Texture: LOAM. %OM: 4.8 %Sand: 42.7 %Silt: 31.6 %Clay: 25.7 pH: 7.0 CEC: 10.

APPLICATION DESCRIPTION

Application: A
 Date : Jun-4-03
 Time of Day: 7:00 PM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 13.7 C
 % Humidity : 86
 Wind Speed : 5 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 100%
 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	BRSOK	BRSOK	BRSOK	BRSOK	AMBEL	CHEAL	SETVI	ABUTH
Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	COUNT	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	#/8M	%	%	%	%
Rating Date	Jun-11-03	Jun-19-03	Jul-3-03	Jun-19-03	Jul-3-03	Jul-3-03	Jul-3-03	Jul-28-03
Crop Stage	2-3 LF	3-5 LF	6-8 LF	3-5 LF	6-8 LF	6-8 LF	6-8 LF	8-13 LF
Crop Stage Scale	9-10 CM	9-12 CM	14-20 CM	9-12 CM	14-20 CM	14-20 CM	14-20 CM	25-48 CM
Weed Stage					6 LF	4 LF	5 LF	5 LF
Weed Density, Unit					18.5SQ.M.	37.5SQ.M.	26.5SQ.M.	3.5 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	14 DAE	28 DAE	28 DAE	28 DAE	56 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code										
1	untreated check							0	b 0	b 0	c 18	c 0	f 0	d 0	f 0	e	
2	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	b 0	b 0	c 20	ab 45	e 68	c 96	ab 41	d	
3	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	0	b 0	b 4	ab 19	abc 70	d 85	b 100	a 58	cd	
4	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	0	b 0	b 0	c 20	a 53	e 96	ab 62	e 84	ab	
5	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	2	a 1	b 0	c 19	bc 80	bcd 100	a 80	cd 88	ab	
6	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A	2	a 3	a 5	a 18	c 76	cd 96	ab 68	de 80	abc	
7	oxyfluorfen	240	EC	1120	G A/HA	PRE-T	A	0	b 1	ab 0	c 19	bc 95	a 100	a 84	bc 100	a	
8	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	b 1	b 3	ab 19	abc 88	abc 100	a 92	abc 76	bc	
	sulfentrazone	75	DF	210	G A/HA	PRE-T	A										
9	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	b 2	ab 2	bc 20	a 95	ab 100	a 99	ab 85	ab	
	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A										

LSD (P=.05)	1.2	1.9	2.6	1.2	15.2	13.5	14.6	23.9
Standard Deviation	0.8	1.3	1.8	0.8	10.4	9.2	10.0	16.4
CV	206.65	170.76	112.21	4.36	15.65	11.16	13.28	24.12

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

WEED CONTROL AND TOLERANCE OF TRANSPLANTED BROCCOLI TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T5

Weed Code	AMBEL	CHEAL	POLPE	ECHCG	SETVI											
Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	
Part Rated											COMBND	COMBND	COMBND	COMBND	COMBND	
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	HEAD SIZE	HEAD SIZE	HEAD SIZE	HEAD SIZE	HEAD SIZE	
Rating Unit	%	%	%	%	%	%	%	%	%	%	G	G	G	G	G	
Rating Date	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03	Jul-28-03						
Crop Stage	8-13 LF	8-13 LF	8-13 LF	8-13 LF	8-13 LF	8-13 LF	8-13 LF	8-13 LF	8-13 LF	8-13 LF	MARKET	MARKET	MARKET	MARKET	MARK+NON	
Crop Stage Scale	25-48 CM	25-48 CM	25-48 CM	25-48 CM	25-48 CM	25-48 CM	25-48 CM	25-48 CM	25-48 CM	25-48 CM						
Weed Stage	14 LF	14 LF	9 LF	16 LF	10 LF	10 LF	10 LF	10 LF	10 LF	10 LF	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	
Weed Density, Unit	18 SQ.M.	37.5SQ.M.	4.5 SQ.M.	4 SQ.M.	30.5SQ.M.	30.5SQ.M.	30.5SQ.M.	30.5SQ.M.	30.5SQ.M.	30.5SQ.M.						
Trt-Eval Interval	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE						
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0	e 0	c 0	f 0	d 0	f 176.5	a 113.9	c	
2	dimethenamid-p	720	EC	750	G A/HA PRE-T A			23	d 44	b 23	ef 86	a 97	ab 211.0	a 165.1	bc	
3	dimethenamid-p	720	EC	1500	G A/HA PRE-T A			48	bc 56	b 41	de 99	a 100	a 226.6	a 172.3	bc	
4	sulfentrazone	75	DF	210	G A/HA PRE-T A			29	cd 95	a 51	cd 19	cd 49	e 220.0	a 220.0	ab	
5	sulfentrazone	75	DF	420	G A/HA PRE-T A			68	ab 95	a 74	bc 39	bc 70	cde 278.3	a 211.3	abc	
6	oxyfluorfen	240	EC	560	G A/HA PRE-T A			66	ab 89	a 92	ab 28	c 65	de 261.8	a 231.7	ab	
7	oxyfluorfen	240	EC	1120	G A/HA PRE-T A			83	a 97	a 100	a 60	b 76	bcd 296.6	a 267.6	ab	
8	dimethenamid-p	720	EC	750	G A/HA PRE-T A			79	a 95	a 96	ab 84	a 89	abc 292.3	a 245.4	ab	
	sulfentrazone	75	DF	210	G A/HA PRE-T A											
9	dimethenamid-p	720	EC	750	G A/HA PRE-T A			83	a 93	a 91	ab 100	a 95	ab 288.8	a 280.6	a	
	oxyfluorfen	240	EC	560	G A/HA PRE-T A											
	LSD (P=.05)							21.9	25.3	25.7	23.7	21.9	125.91	103.37		
	Standard Deviation							15.0	17.4	17.5	16.2	15.0	86.27	70.83		
	CV							28.3	23.56	27.86	28.33	21.14	34.48	33.41		

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

Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	
Part Rated	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	
Rating Data Type	HEAD SIZE	HEAD SIZE	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	
Rating Unit	G	G	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	T/HA	
Crop Stage	MARKET	MARK+NON	MARKET	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARKET	
Weed Stage	WEEDFREE	WEEDFREE	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDFREE	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							339.5	a 339.5	a 0.4	d 0.6	d 0.2	d 0.3	d 2.2	ab	
2	dimethenamid-p	720	EC	750	G A/HA PRE-T A			318.0	a 318.0	a 1.0	bcd 1.1	bcd 0.4	bcd 0.5	bcd 2.5	ab	
3	dimethenamid-p	720	EC	1500	G A/HA PRE-T A			298.2	a 260.9	a 0.8	cd 0.9	cd 0.4	cd 0.4	cd 1.8	b	
4	sulfentrazone	75	DF	210	G A/HA PRE-T A			298.8	a 289.2	a 1.7	ab 1.7	ab 0.8	ab 0.8	ab 2.1	ab	
5	sulfentrazone	75	DF	420	G A/HA PRE-T A			322.7	a 302.4	a 1.1	a-d 1.3	abc 0.5	a-d 0.6	abc 1.9	b	
6	oxyfluorfen	240	EC	560	G A/HA PRE-T A			327.9	a 311.6	a 1.5	abc 1.6	abc 0.7	abc 0.7	abc 1.7	b	
7	oxyfluorfen	240	EC	1120	G A/HA PRE-T A			363.1	a 355.3	a 1.8	a 1.9	a 0.8	a 0.9	a 2.9	a	
8	dimethenamid-p	720	EC	750	G A/HA PRE-T A			365.8	a 319.2	a 1.7	ab 1.8	ab 0.8	ab 0.8	ab 2.2	ab	
	sulfentrazone	75	DF	210	G A/HA PRE-T A											
9	dimethenamid-p	720	EC	750	G A/HA PRE-T A			307.8	a 289.7	a 1.6	abc 1.7	ab 0.7	abc 0.8	ab 1.9	b	
	oxyfluorfen	240	EC	560	G A/HA PRE-T A											
	LSD (P=.05)							99.39	99.24	0.79	0.75	0.35	0.33	0.92		
	Standard Deviation							68.10	68.00	0.54	0.51	0.24	0.23	0.63		
	CV							20.83	21.97	41.85	36.41	41.85	36.41	29.33		

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

Crop Code	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	BRSOK	
Part Rated	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	COMBND	
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	
Rating Unit	T/HA	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC	
Crop Stage	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARK+NON	MARKET	MARKET	
Weed Stage	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							2.2	ab 1.0	ab 1.0	ab					
2	dimethenamid-p	720	EC	750	G A/HA PRE-T A			2.5	ab 1.1	ab 1.1	ab					
3	dimethenamid-p	720	EC	1500	G A/HA PRE-T A			1.9	b 0.8	b 0.9	b					
4	sulfentrazone	75	DF	210	G A/HA PRE-T A			2.1	ab 0.9	ab 0.9	ab					
5	sulfentrazone	75	DF	420	G A/HA PRE-T A			2.0	b 0.9	b 0.9	b					
6	oxyfluorfen	240	EC	560	G A/HA PRE-T A			1.7	b 0.8	b 0.8	b					
7	oxyfluorfen	240	EC	1120	G A/HA PRE-T A			2.9	a 1.3	a 1.3	a					
8	dimethenamid-p	720	EC	750	G A/HA PRE-T A			2.3	ab 1.0	ab 1.0	ab					
	sulfentrazone	75	DF	210	G A/HA PRE-T A											
9	dimethenamid-p	720	EC	750	G A/HA PRE-T A			1.9	b 0.8	b 0.9	b					
	oxyfluorfen	240	EC	560	G A/HA PRE-T A											
	LSD (P=.05)							0.92	0.41	0.41						
	Standard Deviation							0.63	0.28	0.28						
	CV							28.91	29.33	28.91						

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

WEED CONTROL AND TOLERANCE OF TRANSPLANTED BROCCOLI TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T5

Trial Comments

Conclusions: One half of each plot was maintained weed free to examine the effect of dimethenamid-p (750 and 1500 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), oxyfluorfen (560 and 1120 g a.i. ha⁻¹), dimethenamid-p+sulfentrazone (750+210 g a.i. ha⁻¹) and dimethenamid-p+oxyfluorfen (750+560 g a.i. ha⁻¹) on visual injury and yield of transplanted broccoli. Weeds were left in the other half of each plot to determine the level of weed control by each treatment.

None of the treatments caused commercially unacceptable visual injury (i.e. injury <5%) or reduced broccoli stand compared with the untreated check.

Dimethenamid-p (750 g a.i. ha⁻¹) provided excellent season-long control of green foxtail, good control of barnyardgrass, and poor control of all broadleaf weed species in the trial.

Sulfentrazone (210 g a.i. ha⁻¹) gave excellent season-long control of common lamb's-quarters, good control of velvetleaf and poor control of common ragweed and lady's-thumb.

Oxyfluorfen (560 g a.i. ha⁻¹) gave excellent control of lady's-thumb, good control of velvetleaf and common lamb's-quarters and fair control of common ragweed.

The tank mix of dimethenamid-p+sulfentrazone provided excellent season-long control of common lamb's-quarters and lady's-thumb, good control of green foxtail and barnyardgrass, and fair to good control of velvetleaf and common ragweed. The tank mix of dimethenamid-p+oxyfluorfen provided excellent control of common lamb's-quarters, lady's-thumb, barnyardgrass and green foxtail, and good to excellent control of velvetleaf and common ragweed.

None of the treatments reduced marketable or total head size, or marketable or total yield compared to the untreated, weed-free check. In the weedy portions of each plot, broccoli head size and yield were greater in the herbicide treatments compared to the untreated check.

WEED CONTROL AND TOLERANCE OF TRANSPLANTED CABBAGE TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T6

CROP: BRSOL, CABBAGE (BAYOU DYNASTY). Planted: Jun-2-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.

Emerged On: Jun-2-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-M1.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 6.1 %Sand: 73.1 %Silt: 15.1 %Clay: 11.8 pH: 7.2 CEC: 11.

APPLICATION DESCRIPTION

Application: A
 Date : Jun-2-03
 Time of Day: 9:30 AM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 16.5 C
 % Humidity : 56
 Wind Speed : 2 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 0%
 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					AMASS	CHEAL	LAMAM	STEME
Crop Code	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	PLANT STAND	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	#/8M	%	%	%	%
Rating Date	Jun-11-03	Jun-16-03	Jul-2-03	Jun-16-03	Jul-2-03	Jul-2-03	Jul-2-03	Jul-2-03
Crop Stage	4-5 LF	5-7 LF	8-12 LF	5-7 LF	8-12 LF	8-12 LF	8-12 LF	8-12 LF
Crop Stage Scale	7-10 CM	9-13 CM	14-20 CM	9-13 CM	14-20 CM	14-20 CM	14-20 CM	14-20 CM
Weed Stage					6 LF	8 LF	4 LF	4 LF
Weed Density, Unit					89.5SQ.M.	96 SQ.M.	38.5SQ.M.	49 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE

Trt	Treatment	Form	Form	Rate	Grow	Appl								
No.	Name	Conc	Type	Rate	Unit	Stg	Code	a	b	c	d	e	f	
1	untreated check							0	a	0	a	0	b	21
2	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	a	0	a	0	b	20
3	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	0	a	0	a	0	b	21
4	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	0	a	0	a	0	b	21
5	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	0	a	0	a	0	b	21
6	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A	0	a	0	a	0	b	21
7	oxyfluorfen	240	EC	1120	G A/HA	PRE-T	A	0	a	1	a	0	b	21
8	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	a	1	a	1	a	21
	sulfentrazone	75	DF	210	G A/HA	PRE-T	A							
9	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	a	1	a	0	ab	21
	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A							

LSD (P=.05)	0.0	0.7	0.4	1.2	14.8	17.1	13.0	17.5
Standard Deviation	0.0	0.5	0.2	0.8	10.1	11.7	8.9	12.0
CV	0.0	300.0	294.39	3.9	13.42	16.39	10.65	22.7

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

Crop Code					BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated					NONMKT	MARKET	NONMKT	MARKET	TOTAL	TOTAL	TOTAL
Rating Data Type					AVG. HEAD	AVG. HEAD	AVG. HEAD	AVG. HEAD	YIELD	YIELD	YIELD
Rating Unit					G	KG	G	KG	T/HA	T/HA	T/AC
Rating Date					Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03
Crop Stage					HEAD	HEAD	HEAD	HEAD	HEAD	HEAD	HEAD
Crop Stage Scale					26-45 CM	26-45 CM	26-45 CM	26-45 CM	26-45 CM	26-45 CM	26-45 CM
Weed Stage					WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDY	WEEDFREE	WEEDY
Trt-Eval Interval					67 DAE	67 DAE	67 DAE	67 DAE	67 DAE	67 DAE	67 DAE

Trt	Treatment	Form	Form	Rate	Grow	Appl								
No.	Name	Conc	Type	Rate	Unit	Stg	Code	129.1	a	0.27	b	533.8	a	2.11
1	untreated check							129.1	a	0.27	b	533.8	a	2.11
2	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	256.3	a	0.30	b	169.4	ab	1.94
3	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	454.1	a	1.27	a	118.8	ab	2.00
4	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	507.4	a	1.51	a	541.9	a	2.17
5	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	480.0	a	1.72	a	52.5	b	2.06
6	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A	427.9	a	1.37	a	323.8	ab	1.90
7	oxyfluorfen	240	EC	1120	G A/HA	PRE-T	A	478.3	a	1.37	a	72.9	b	2.01
8	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	208.8	a	1.62	a	76.3	b	1.87
	sulfentrazone	75	DF	210	G A/HA	PRE-T	A							
9	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	491.7	a	1.55	a	166.3	ab	1.90
	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A							

LSD (P=.05)	509.06	0.468	445.28	0.274	3.48	3.61	1.55
Standard Deviation	348.80	0.320	305.10	0.188	2.38	2.47	1.06
CV	91.43	26.26	133.59	9.43	28.53	16.23	28.53

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

WEED CONTROL AND TOLERANCE OF TRANSPLANTED CABBAGE TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T6

Crop Code	BRSOL	BRSOL	BRSOL	BRSOL	BRSOL
Part Rated	TOTAL	MARKET	MARKET	MARKET	MARKET
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/AC	T/HA	T/HA	T/AC	T/AC
Rating Date	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03
Crop Stage	HEAD	HEAD	HEAD	HEAD	HEAD
Crop Stage Scale	26-45 CM	26-45 CM	26-45 CM	26-45 CM	26-45 CM
Weed Stage	WEEDFREE	WEEDY	WEEDFREE	WEEDY	WEEDFREE
Trt-Eval Interval	67 DAE	67 DAE	67 DAE	67 DAE	67 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Yield		Yield		Yield			
1	untreated check							6.9	abc	0.2	c	15.0	ab		
2	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	5.8	c	0.3	c	12.8	b		
3	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	7.1	abc	2.3	c	15.9	ab		
4	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	7.7	a	10.4	ab	16.1	ab		
5	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	7.4	ab	13.9	a	16.6	a		
6	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A	6.9	abc	8.2	b	15.0	ab		
7	oxyfluorfen	240	EC	1120	G A/HA	PRE-T	A	6.3	abc	8.2	b	13.8	ab		
8	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	7.0	abc	12.3	ab	15.6	ab		
9	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	6.0	bc	8.1	b	13.3	ab		
	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A								
LSD (P=.05)								1.61		4.28		3.54		1.91	1.58
Standard Deviation								1.10		2.93		2.42		1.31	1.08
CV								16.23		41.27		16.26		41.27	16.26

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 examine the effect of dimethenamid-p (750 and 1500 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), oxyfluorfen (560 and 1120 g a.i. ha⁻¹), dimethenamid-p+sulfentrazone (750+210 g a.i. ha⁻¹) and dimethenamid-p+oxyfluorfen (750+560 g a.i. ha⁻¹) on visual injury and yield of transplanted cabbage. Weeds were left in the other half of each plot to determine the level of weed control by each treatment.

None of the treatments caused commercially unacceptable visual injury (i.e. injury <5%) or reduced cabbage stand compared with the untreated check.

Dimethenamid-p gave good control of henbit, and poor to fair control of pigweed species, common lamb's-quarters and common chickweed.

Sulfentrazone gave excellent control of common lamb's-quarters, good control of henbit, and fair control of pigweed species and common chickweed.

Oxyfluorfen gave excellent control of henbit, good control of pigweed species and common lamb's-quarters and poor control of common chickweed.

The tank mix of dimethenamid-p+sulfentrazone gave excellent control of pigweed species, common chickweed and henbit, and good control of common chickweed. The tank mix of dimethenamid-p+oxyfluorfen gave excellent control of pigweed species and henbit, good control of common lamb's-quarters and fair control of common chickweed.

In the weedy portions of the plots, marketable and total cabbage head size, and marketable and total yields were greater in the treated plots than in the untreated check. In the weed-free portion of the plots, head size and yield of cabbage were equivalent among all treatments and the untreated check.

WEED CONTROL AND TOLERANCE OF TRANSPLANTED CAULIFLOWER TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T7

CROP: BRSOB, CAULIFLOWER (WENTWORTH). Planted: Jun-5-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT
 Emerged On: Jun-5-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-D1&D2.
 Site Description: Soil Texture: LOAM. %OM: 4.8 %Sand: 42.7 %Silt: 31.6 %Clay: 25.7 pH: 7.0 CEC: 10.

APPLICATION DESCRIPTION

Application: A
 Date : Jun-4-03
 Time of Day: 7:20 PM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 13.7 C
 % Humidity : 85
 Wind Speed : 5 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 100%
 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	BRSOB				AMASS	CHEAL	SETVI	AMASS
Crop Code	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	COUNT	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	#/8M	%	%	%	%
Rating Date	Jun-11-03	Jun-19-03	Jul-3-03	Jun-19-03	Jul-3-03	Jul-3-03	Jul-3-03	Jul-28-03
Crop Stage	1-3 LF	4-5 LF	8-9 LF	4-5 LF	8-9 LF	8-9 LF	8-9 LF	10-14 LF
Crop Stage Scale	8-11 CM	8-11 CM	14-20 CM	8-11 CM	14-20 CM	14-20 CM	14-20 CM	30-53 CM
Weed Stage					6 LF	6 LF	4 LF	16 LF
Weed Density, Unit					6 SQ.M.	9.5 SQ.M.	12 SQ.M.	6 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	14 DAE	28 DAE	28 DAE	28 DAE	56 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code																
1	untreated check							0	a	0	a	0	b	18	a	0	c	0	c	0	d	0	c
2	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	1	a	0	a	0	b	18	a	100	a	79	b	89	ab	100	a
3	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	0	a	0	a	2	ab	19	a	100	a	81	b	100	a	100	a
4	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	0	a	0	a	1	b	19	a	100	a	100	a	73	c	93	b
5	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	1	a	0	a	3	ab	17	a	100	a	100	a	79	bc	98	ab
6	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A	0	a	0	a	0	b	19	a	98	b	96	a	70	c	96	ab
7	oxyfluorfen	240	EC	1120	G A/HA	PRE-T	A	0	a	0	a	1	ab	18	a	100	a	99	a	88	ab	100	a
8	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	a	0	a	3	ab	18	a	100	a	100	a	94	a	97	ab
	sulfentrazone	75	DF	210	G A/HA	PRE-T	A																
9	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0	a	0	a	4	a	19	a	100	a	97	a	100	a	98	ab
	oxyfluorfen	240	EC	560	G A/HA	PRE-T	A																

LSD (P=.05)	1.1	0.4	2.9	2.2	2.4	10.5	12.9	6.3
Standard Deviation	0.8	0.3	2.0	1.5	1.7	7.2	8.8	4.3
CV	454.61	360.56	146.39	8.18	1.88	8.66	11.5	4.97

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

WEED CONTROL AND TOLERANCE OF TRANSPLANTED CAULIFLOWER TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: CO03T7

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	SETVI	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB
								TOT.MK	TOT.MK	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	AVG.HEAD WT	
								%	%	G	G	G	G	G	
1	untreated check							0	e 0	e 716.6	bc 288.9	d 946.4	b 889.7	b	
2	dimethenamid-p	720	EC	750	G A/HA PRE-T A			53	d 94	a 426.5	c 455.8	cd 1026.6	ab 977.4	ab	
3	dimethenamid-p	720	EC	1500	G A/HA PRE-T A			63	cd 98	a 812.5	ab 812.5	b 1060.6	ab 1060.6	ab	
4	sulfentrazone	75	DF	210	G A/HA PRE-T A			94	ab 54	cd 1056.4	ab 903.9	ab 1082.7	ab 978.6	ab	
5	sulfentrazone	75	DF	420	G A/HA PRE-T A			99	a 71	bc 864.0	ab 756.1	b 944.3	b 900.7	b	
6	oxyfluorfen	240	EC	560	G A/HA PRE-T A			76	bc 49	d 860.7	ab 723.9	bc 978.1	b 961.5	ab	
7	oxyfluorfen	240	EC	1120	G A/HA PRE-T A			88	ab 69	bcd 1162.2	a 1138.3	a 1104.3	ab 1104.3	ab	
8	dimethenamid-p	720	EC	750	G A/HA PRE-T A			100	a 90	ab 998.4	ab 872.1	ab 1287.3	a 1239.1	a	
9	dimethenamid-p	720	EC	750	G A/HA PRE-T A			90	ab 88	ab 860.2	ab 740.4	b 928.6	b 891.8	b	
	oxyfluorfen	240	EC	560	G A/HA PRE-T A										
LSD (P=.05)								19.3	21.8	379.04	269.87	303.12	295.07		
Standard Deviation								13.3	14.9	259.71	184.91	207.69	202.18		
CV								18.04	21.9	30.13	24.87	19.97	20.21		

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	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB	BRSOB
								TOT.MK	MK+NON	TOT.MK	MK+NON	TOT.MK	MK+NON	TOT.MK	MK+NON
								YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	
								T/HA	T/HA	T/AC	T/AC	T/HA	T/HA	T/AC	T/AC
								WEEDY	WEEDY	WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
1	untreated check							1.5	d 1.7	d 0.7	d 0.8	d 5.2	b 5.6	b 2.3	b 2.5
2	dimethenamid-p	720	EC	750	G A/HA PRE-T A			2.7	cd 2.9	cd 1.2	cd 1.3	cd 6.7	ab 6.8	ab 3.0	ab 3.0
3	dimethenamid-p	720	EC	1500	G A/HA PRE-T A			5.1	b 5.1	b 2.3	b 2.3	b 4.7	b 4.7	b 2.1	b 2.1
4	sulfentrazone	75	DF	210	G A/HA PRE-T A			5.4	b 6.0	ab 2.4	b 2.7	ab 6.1	b 6.3	ab 2.7	b 2.8
5	sulfentrazone	75	DF	420	G A/HA PRE-T A			5.0	b 5.2	b 2.2	b 2.3	b 5.4	b 5.6	b 2.4	b 2.5
6	oxyfluorfen	240	EC	560	G A/HA PRE-T A			4.5	bc 5.2	b 2.0	bc 2.3	b 6.8	ab 6.8	ab 3.0	ab 3.0
7	oxyfluorfen	240	EC	1120	G A/HA PRE-T A			7.4	a 7.5	a 3.3	a 3.3	a 5.8	b 5.8	b 2.6	b 2.6
8	dimethenamid-p	720	EC	750	G A/HA PRE-T A			4.4	bc 4.7	bc 1.9	bc 2.1	bc 8.3	a 8.4	a 3.7	a 3.7
9	dimethenamid-p	720	EC	750	G A/HA PRE-T A			5.7	ab 6.0	ab 2.6	ab 2.7	ab 5.3	b 5.4	b 2.4	b 2.4
	oxyfluorfen	240	EC	560	G A/HA PRE-T A										
LSD (P=.05)								1.96	1.95	0.87	0.87	2.09	2.12	0.93	0.95
Standard Deviation								1.34	1.33	0.60	0.60	1.43	1.46	0.64	0.65
CV								28.97	27.07	28.97	27.07	23.66	23.68	23.66	23.68

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 examine the effect of dimethenamid-p (750 and 1500 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), oxyfluorfen (560 and 1120 g a.i. ha⁻¹), dimethenamid-p+sulfentrazone (750+210 g a.i. ha⁻¹) and dimethenamid-p+oxyfluorfen (750+560 g a.i. ha⁻¹) on visual injury and yield of transplanted cauliflower. Weeds were left in the other half of each plot to determine the level of weed control by each treatment.

None of the treatments caused commercially unacceptable visual injury (i.e. injury <4%) or reduced cauliflower stand compared with the untreated check.

Dimethenamid-p gave excellent control of green foxtail and pigweed species, and poor control of common lamb's-quarters.

Sulfentrazone gave excellent control of pigweed species and common lamb's-quarters, and poor control of green foxtail.

Oxyfluorfen provided excellent control of pigweed species, fair control of common lamb's-quarters and poor control of green fox tail.

The tank mix of dimethenamid-p+sulfentrazone gave excellent control of pigweed species, common lamb's-quarters and green foxtail. The tank mix of dimethenamid-p+oxyfluorfen gave excellent control of pigweed species and common lamb's-quarters and good control of green foxtail.

In the weedy portions of the plots, marketable head size and total and marketable yield were greater in all herbicide treatments than in the untreated check. In the weed-free portions of the plots, total and marketable head size, and total and marketable yields were the same as the untreated check.

TOLERANCE OF LIMA BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: LB03T1

CROP: PHSLU, BEAN, LIMA (IMPROVED KINGSTON). Planted: Jun-18-03, 392250 SEEDS/HA, 3 CM Deep, 75 CM Row Width. Planting Method: MONOSEM.

Emerged On: Jun-25-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-D1&D2.

Site Description: Soil Texture: LOAM. %OM: 4.8 %Sand: 42.7 %Silt: 31.6 %Clay: 25.7 pH: 7.0 CEC: 10.

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A B	Application:	A B
Date	: Jun-18-03 Jul-8-03	Crop 1	PHSLU
Time of Day	: 8:00 PM 5:40 AM	Height	: 10 CM
Method	: CO2 SPRAY CO2 SPRAY		
Timing	: PRE 2 TRIFOL.		
Placement	: SOIL FOLIAR		
Air Temp.	: 18.2 C 20.3 C		
% Humidity	: 87 89		
Wind Speed	: 8 KPH 0 KPH		
Dew Present	: N Y		
Soil Moist.	: MOIST DRY		
Cloud Cover	: 50% 60%		
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 M
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	HEIGHT	FRESH WT.	
Rating Unit	%	%	%	%	%	%	CM	G	
Rating Date	Jul-3-03	Jul-9-03	Jul-23-03	Jul-15-03	Jul-21-03	Aug-6-03	Aug-6-03	Aug-20-03	
Crop Stage	UNI-1TRI	2 TRI.	5-6 TRI.	4-5 TRI.	5-6 TRI.	7-8 TRI.	7-8 TRI.	PODS	
Crop Stage Scale	5-7 CM	12-14 CM	25-30 CM	13-20 CM	25-30 CM	26-41 CM	26-41 CM	26-41 CM	
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAT	28 DAT	42 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code												
1	untreated check							0	d	0	d	0	e	0	e	0	c 39.5 a	1592.8 a	
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	d	2	cd	0	e				37.5 abc	1535.0 ab	
3	imazethapyr	240	SN	75	G A/HA	PRE	A	0	d	0	d	1	de				38.9 a	1364.5 abc	
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	d	2	cd	1	cde				36.7 abc	1220.8 a-d	
	imazethapyr	240	SN	75	G A/HA	PRE	A												
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A	0	d	1	cd	4	b-e				37.1 abc	1465.8 ab	
	imazethapyr	240	SN	150	G A/HA	PRE	A												
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A	4	bc	7	b	3	b-e				35.7 bcd	1255.3 a-d	
7	flumioxazin	51	WG	70	G A/HA	PRE	A	6	b	8	b	5	b				37.5 abc	1461.8 ab	
8	flumioxazin	51	WG	140	G A/HA	PRE	A	12	a	14	a	10	a				36.4 abc	1253.3 a-d	
9	sulfentrazone	75	DG	210	G A/HA	PRE	A	2	cd	4	c	4	bcd				37.4 abc	980.0 cde	
10	sulfentrazone	75	DG	420	G A/HA	PRE	A	5	b	7	b	5	bc				36.9 abc	847.0 de	
11	imazamox bentazon (Forte) UAN 28%	70	WG	25	G A/HA	POST	B					5	d	4	d	3	bc	37.9 abc	1274.0 abc
	UAN 28%	480	SN	600	G A/HA	POST	B												
	UAN 28%	SO	2	L/HA	POST	B													
12	imazamox bentazon (Forte) UAN 28%	70	WG	50	G A/HA	POST	B					11	c	8	c	5	b	38.2 ab	1124.3 b-e
	UAN 28%	480	SN	1200	G A/HA	POST	B												
	UAN 28%	SO	4	L/HA	POST	B													
13	fomesafen bentazon Assist	240	SN	140	G A/HA	POST	B					18	b	11	b	14	a	33.0 d	1011.5 cde
	UAN 28%	480	SN	840	G A/HA	POST	B												
	UAN 28%	SO	2	L/HA	POST	B													
14	fomesafen bentazon Assist	240	SN	280	G A/HA	POST	B					36	a	23	a	18	a	29.1 e	790.8 e
	UAN 28%	480	SN	1680	G A/HA	POST	B												
	UAN 28%	SO	4	L/HA	POST	B													
15	cloransulam-methyl 84 Agral 90 UAN 28%	84	WG	17.5	G A/HA	POST	B					3	d	3	de	4	bc	37.8 abc	1138.5 b-e
	UAN 28%	SO	0.25	% V/V	POST	B													
	UAN 28%	SO	2	L/HA	POST	B													
16	cloransulam-methyl 84 Agral 90 UAN 28%	84	WG	35	G A/HA	POST	B					4	d	4	d	3	bc	34.8 cd	1131.3 b-e
	UAN 28%	SO	0.5	% V/V	POST	B													
	UAN 28%	SO	4	L/HA	POST	B													

LSD (P=.05)	2.7	3.1	3.8	2.3	3.5	4.1	3.15	424.64
Standard Deviation	1.8	2.2	2.6	1.6	2.3	2.7	2.20	297.14
CV	66.44	50.04	81.16	14.24	31.77	40.84	6.03	24.45

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: LB03T1

Crop Code	PHSLU	PHSLU	PHSLU
Part Rated	1M	7 M	7 M
Rating Data Type	DRY WT.	YIELD	YIELD
Rating Unit	G	T/HA	T/AC
Rating Date	Aug-26-03	Sep-23-01	Sep-23-01
Crop Stage	PODS		
Crop Stage Scale	26-41 CM		
Trt-Eval Interval	42 DAT	71 DAT	71 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	untreated check							258.0	a	4.2	abc	1.9	abc
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	259.0	a	4.4	ab	2.0	ab
3	imazethapyr	240	SN	75	G A/HA	PRE	A	242.8	ab	4.0	abc	1.8	abc
4	s-metolachlor imazethapyr	915 240	EC SN	1600 75	G A/HA	PRE	A	205.3	abc	4.2	abc	1.9	abc
5	s-metolachlor imazethapyr	915 240	EC SN	3200 150	G A/HA	PRE	A	237.0	ab	3.9	abc	1.8	abc
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A	205.0	abc	4.1	abc	1.8	abc
7	flumioxazin	51	WG	70	G A/HA	PRE	A	242.3	ab	4.5	a	2.0	a
8	flumioxazin	51	WG	140	G A/HA	PRE	A	206.5	abc	4.1	abc	1.8	abc
9	sulfentrazone	75	DG	210	G A/HA	PRE	A	174.5	bc	2.7	d	1.2	d
10	sulfentrazone	75	DG	420	G A/HA	PRE	A	162.3	c	3.2	cd	1.4	cd
11	imazamox bentazon (Forte) UAN 28%	70 480 SO	WG SN 2	25 600	G A/HA	POST	B	213.8	abc	3.3	bcd	1.5	bcd
12	imazamox bentazon (Forte) UAN 28%	70 480 SO	WG SN 4	50 1200	G A/HA	POST	B	193.3	abc	4.6	a	2.0	a
13	fomesafen bentazon Assist	240 480 SO	SN SN 2	140 840	G A/HA	POST	B	182.3	bc	3.2	cd	1.4	cd
14	fomesafen bentazon Assist	240 480 SO	SN SN 4	280 1680	G A/HA	POST	B	147.3	c	3.5	a-d	1.6	a-d
15	cloransulam-methyl Agral 90 UAN 28%	84 SO SO	WG SO 2	17.5 0.25	G A/HA % V/V	POST POST	B B	199.5	abc	4.0	abc	1.8	abc
16	cloransulam-methyl Agral 90 UAN 28%	84 SO SO	WG SO 4	35 0.5	G A/HA % V/V	POST POST	B B	194.8	abc	4.1	abc	1.8	abc

LSD (P=.05)	69.01	1.14	0.51
Standard Deviation	48.29	0.80	0.35
CV	23.25	20.59	20.59

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 bean. The following preemergence treatments were applied: s-metolachlor (1600 g a.i. ha⁻¹), imazethapyr (75 g a.i. ha⁻¹), s-metolachlor+imazethapyr (1600+75 and 3200+150 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹), and sulfentrazone (210 and 420 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), and cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹) were made.

Lima bean had excellent tolerance to s-metolachlor+imazethapyr (3200+150 g a.i. ha⁻¹), the low rates of flumioxazin (52.5 and 70 g a.i. ha⁻¹), and cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹).

Flumioxazin (140 g a.i. ha⁻¹) caused commercially significant visual injury to lima bean, which included leaf distortion and leaf burning. While sulfentrazone did not cause commercially unacceptable visual injury, it did reduce plant fresh and dry weight, and caused a reduction in yield.

The high rate of imazamox+bentazon (50+1200 g a.i. ha⁻¹) and both rates of fomesafen+bentazon also caused visual injury to lima bean. Injured plants were stunted and showed leaf burning. Despite the significant visual injury and decrease in plant fresh weight in the imazamox+bentazon (50+1200 g a.i. ha⁻¹) treatment, plant dry weight and yield were not less than in the untreated check. Fomesafen+bentazon reduced plant height, and fresh and dry weight of lima bean, but yields were not less than in the untreated check.

TOLERANCE OF SNAP BEANS TO PREEMERGENCE AND POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SN03T1

CROP: PHSVN, BEAN, SNAP (CELTIC). Planted: Jun-18-03, 392250 SEEDS/HA, 3 CM Deep, 75 CM Row Width. Planting Method: MONOSEM.
 Emerged On: Jun-25-03.
 PHSVN, BEAN, SNAP (PLS 72). Planted: Jun-18-03, 392250 SEEDS/HA, 3 CM Deep, 75 CM Row Width. Planting Method: MONOSEM.
 Emerged On: Jun-25-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-D1&D2.

Site Description: Soil Texture: LOAM. %OM: 4.8 %Sand: 42.7 %Silt: 31.6 %Clay: 25.7 pH: 7.0 CEC: 10.

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A	B	
Date	Jun-18-03	Jul-8-03	Crop 1 PHSVN
Time of Day	9:00 PM	6:00 AM	Height :
Method	CO2 SPRAY	CO2 SPRAY	Crop 2 PHSVN
Timing	PRE	2 TRI.	Height :
Placement	SOIL	FOLIAR	
Air Temp.	18.2 C	21.4 C	
% Humidity	87	89	
Wind Speed	5 KPH	0 KPH	
Dew Present	N	Y	
Soil Moist.	MOIST	DRY	
Cloud Cover	95%	60%	
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
Part Rated	1-10	1-10	1-10	1-10	1-10	1-10	11-16	11-16
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jul-3-03	Jul-3-03	Jul-9-03	Jul-9-03	Jul-23-03	Jul-23-03	Jul-15-03	Jul-15-03
Crop Stage	UNI-1TRI	UNI-1TRI	2 TRI.	2-3 TRI.	5-6 TRI.	5-6 TRI.	4-5 TRI.	4-5 TRI.
Crop Stage Scale	5-6 CM	6-10 CM	8-10 CM	12-13 CM	22-26 CM	25-38 CM	12-16 CM	16-22 CM
Weed Stage	CELTIC	PLS 72	CELTIC	PLS 72	CELTIC	PLS 72	CELTIC	PLS 72
Trt-Eval Interval	7 DAE	7 DAE	14 DAE	14 DAE	28 DAE	28 DAE	7 DAT	7 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code								
1	untreated check							0	c	0	d	0	b	0	d
2	s-metolachlor	915	EC	1600	G A/HA PRE	A		0	c	1	cd	0	b	1	cd
3	imazethapyr	240	SN	75	G A/HA PRE	A		1	c	2	bc	0	b	1	cd
4	s-metolachlor	915	EC	1600	G A/HA PRE	A		1	c	3	bc	1	b	2	bcd
5	imazethapyr	240	SN	75	G A/HA PRE	A									
5	s-metolachlor	915	EC	3200	G A/HA PRE	A		1	bc	2	bcd	2	b	4	b
5	imazethapyr	240	SN	150	G A/HA PRE	A									
6	flumioxazin	51	WG	52.5	G A/HA PRE	A		1	bc	3	b	2	b	3	bc
7	flumioxazin	51	WG	70	G A/HA PRE	A		3	b	3	b	3	b	4	b
8	flumioxazin	51	WG	140	G A/HA PRE	A		6	a	5	a	11	a	8	a
9	sulfentrazone	75	DG	210	G A/HA PRE	A		0	c	2	bcd	0	b	0	d
10	sulfentrazone	75	DG	420	G A/HA PRE	A		1	bc	1	cd	1	b	1	cd
11	imazamox	70	WG	25	G A/HA POST	B									
11	bentazon (Forte)	480	SN	600	G A/HA POST	B									
11	UAN 28%		SO	2	L/HA POST	B									
12	imazamox	70	WG	50	G A/HA POST	B									
12	bentazon (Forte)	480	SN	1200	G A/HA POST	B									
12	UAN 28%		SO	4	L/HA POST	B									
13	imazamox	70	WG	25	G A/HA POST	B									
13	fomesafen	240	SN	200	G A/HA POST	B									
13	Agral 90		SO	0.25	% V/V POST	B									
14	imazamox	70	WG	50	G A/HA POST	B									
14	fomesafen	240	SN	400	G A/HA POST	B									
14	Agral 90		SO	0.5	% V/V POST	B									
15	cloransulam-methyl 84	WG		17.5	G A/HA POST	B									
15	Agral 90		SO	0.25	% V/V POST	B									
15	UAN 28%		SO	2	L/HA POST	B									
16	cloransulam-methyl 84	WG		35	G A/HA POST	B									
16	Agral 90		SO	0.5	% V/V POST	B									
16	UAN 28%		SO	4	L/HA POST	B									

LSD (P=.05)	2.3	1.9	4.2	2.4	3.6	1.9	3.6	2.0
Standard Deviation	1.6	1.3	2.9	1.6	2.5	1.3	2.4	1.3
CV	122.04	66.04	149.08	77.58	319.82	212.61	29.91	21.64

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: SN03T1

		PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU	PHSLU										
		11-16	11-16	11-16	11-16	HEIGHT	HEIGHT	FRESH WT.	FRESH WT.														
		INJURY	INJURY	INJURY	INJURY	CM	CM	G	G														
		%	%	%	%																		
		Jul-21-03	Jul-21-03	Aug-6-03	Aug-6-03	Aug-6-03	Aug-6-03	Aug-20-03	Aug-20-03														
		5-6 TRI.	5-6 TRI.	BEANS	BEANS	BEANS	BEANS	BEANS	BEANS														
		22-26 CM	25-32 CM	27-43 CM	34-51 CM	27-43 CM	34-51 CM	27-43 CM	34-51 CM														
		CELTIC	PLS 72	CELTIC	PLS 72	CELTIC	PLS 72	CELTIC	PLS 72														
		14 DAT	14 DAT	28 DAT	28 DAT	28 DAT	28 DAT	42 DAT	42 DAT														
Trt	Treatment	Form	Form	Rate	Rate	Grow	Appl																
No.	Name	Conc	Type	Unit	Unit	Stg	Code																
1	untreated check							0	c	0	d	0	b	0	b	37.0	abc	45.9	a	1339.8	b-e	1648.5	abc
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A									37.3	abc	42.4	abc	1687.8	ab	1877.5	ab
3	imazethapyr	240	SN	75	G A/HA	PRE	A									39.4	a	43.5	abc	1641.5	ab	2011.5	ab
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A									39.1	a	44.7	ab	1717.3	ab	1855.6	ab
5	imazethapyr	240	SN	75	G A/HA	PRE	A																
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A									35.4	a-e	41.5	bcd	1355.5	bcd	1290.3	c
	imazethapyr	240	SN	150	G A/HA	PRE	A																
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A									36.3	a-d	43.7	abc	1625.8	abc	1953.5	ab
7	flumioxazin	51	WG	70	G A/HA	PRE	A									38.3	a	41.2	bcd	1810.5	ab	1694.5	abc
8	flumioxazin	51	WG	140	G A/HA	PRE	A									33.6	b-e	40.5	cd	1414.0	bcd	1560.8	abc
9	sulfentrazone	75	DG	210	G A/HA	PRE	A									37.5	ab	44.6	ab	1784.0	ab	1976.3	ab
10	sulfentrazone	75	DG	420	G A/HA	PRE	A									39.0	a	43.6	abc	1515.5	a-d	2014.5	a
11	imazamox	70	WG	25	G A/HA	POST	B	0	c	1	cd	2	b	2	ab	37.0	abc	43.4	abc	1902.3	a	1905.5	ab
	bentazon (Forte)	480	SN	600	G A/HA	POST	B																
	UAN 28%		SO	2	L/HA	POST	B																
12	imazamox	70	WG	50	G A/HA	POST	B	3	bc	3	c	5	ab	2	ab	35.9	a-e	41.6	bcd	1464.8	a-d	2011.8	ab
	bentazon (Forte)	480	SN	1200	G A/HA	POST	B																
	UAN 28%		SO	4	L/HA	POST	B																
13	imazamox	70	WG	25	G A/HA	POST	B	2	c	1	cd	5	ab	3	ab	38.5	a	45.8	a	1404.5	bcd	1903.5	ab
	fomesafen	240	SN	200	G A/HA	POST	B																
	Agral 90		SO	0.25	% V/V	POST	B																
14	imazamox	70	WG	50	G A/HA	POST	B	4	bc	3	c	9	a	3	a	32.4	de	42.7	abc	1148.8	cde	1924.5	ab
	fomesafen	240	SN	400	G A/HA	POST	B																
	Agral 90		SO	0.5	% V/V	POST	B																
15	cloransulam-methyl 84	WG	17.5	G A/HA	POST	B	8	b	6	b	4	ab	1	ab	33.3	cde	41.1	bcd	863.3	e	1535.5	bc	
	Agral 90		SO	0.25	% V/V	POST	B																
	UAN 28%		SO	2	L/HA	POST	B																
16	cloransulam-methyl 84	WG	35	G A/HA	POST	B	24	a	14	a	8	a	2	ab	32.0	e	37.8	d	1092.8	de	1657.5	abc	
	Agral 90		SO	0.5	% V/V	POST	B																
	UAN 28%		SO	4	L/HA	POST	B																
LSD (P=.05)				5.5	1.9	5.4	2.7	4.15	3.97	485.53	477.41												
Standard Deviation				3.7	1.3	3.6	1.8	2.90	2.78	339.76	334.07												
CV				64.48	32.12	81.59	106.94	7.98	6.5	22.87	18.55												

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: SN03T1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	PHSLU 1 M	PHSLU 1M	PHSLU 2 M	PHSLU 2 M	PHSLU 2 M	PHSLU 2 M
1	untreated check							213.8 bcd	284.3 abc	11.4 bcd	5.1 bcd	15.8 abc	7.1 abc
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	303.8 ab	319.0 abc	15.0 a	6.7 a	15.6 abc	7.0 abc
3	imazethapyr	240	SN	75	G A/HA	PRE	A	291.8 abc	291.0 abc	12.9 ab	5.8 ab	15.3 a-d	6.8 a-d
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A	278.0 abc	363.3 ab	12.6 abc	5.6 abc	15.4 a-d	6.9 a-d
5	imazethapyr	240	SN	75	G A/HA	PRE	A						
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A	208.3 bcd	234.0 c	11.0 b-e	4.9 b-e	12.9 de	5.7 de
6	imazethapyr	240	SN	150	G A/HA	PRE	A						
6	flumioxazin	51	WG	52.5	G A/HA	PRE	A	277.3 abc	362.5 ab	12.1 bc	5.4 bc	13.9 b-e	6.2 b-e
7	flumioxazin	51	WG	70	G A/HA	PRE	A	254.5 a-d	300.3 abc	11.8 bcd	5.3 bcd	14.0 a-e	6.3 a-e
8	flumioxazin	51	WG	140	G A/HA	PRE	A	205.3 bcd	282.3 abc	10.2 cde	4.6 cde	14.2 a-d	6.3 a-d
9	sulfentrazone	75	DG	210	G A/HA	PRE	A	270.3 abc	370.3 ab	11.5 bcd	5.1 bcd	15.7 abc	7.0 abc
10	sulfentrazone	75	DG	420	G A/HA	PRE	A	238.3 a-d	362.3 ab	12.7 ab	5.6 ab	14.9 a-d	6.6 a-d
11	imazamox	70	WG	25	G A/HA	POST	B	321.5 a	325.8 abc	12.9 ab	5.8 ab	15.5 abc	6.9 abc
	bentazon (Forte)	480	SN	600	G A/HA	POST	B						
	UAN 28%		SO	2	L/HA	POST	B						
12	imazamox	70	WG	50	G A/HA	POST	B	231.8 a-d	353.3 ab	11.4 bcd	5.1 bcd	16.1 ab	7.2 ab
	bentazon (Forte)	480	SN	1200	G A/HA	POST	B						
	UAN 28%		SO	4	L/HA	POST	B						
13	imazamox	70	WG	25	G A/HA	POST	B	223.8 a-d	388.3 a	11.5 bcd	5.1 bcd	16.5 a	7.4 a
	fomesafen	240	SN	200	G A/HA	POST	B						
	Agral 90		SO	0.25	% V/V	POST	B						
14	imazamox	70	WG	50	G A/HA	POST	B	196.0 cd	342.3 abc	8.6 ef	3.8 ef	13.6 cde	6.0 cde
	fomesafen	240	SN	400	G A/HA	POST	B						
	Agral 90		SO	0.5	% V/V	POST	B						
15	cloransulam-methyl	84	WG	17.5	G A/HA	POST	B	164.0 d	261.8 bc	9.5 def	4.2 def	13.8 b-e	6.1 b-e
	Agral 90		SO	0.25	% V/V	POST	B						
	UAN 28%		SO	2	L/HA	POST	B						
16	cloransulam-methyl	84	WG	35	G A/HA	POST	B	165.0 d	311.3 abc	7.6 f	3.4 f	11.5 e	5.1 e
	Agral 90		SO	0.5	% V/V	POST	B						
	UAN 28%		SO	4	L/HA	POST	B						
	LSD (P=.05)							99.30	118.00	2.42	1.08	2.52	1.13
	Standard Deviation							69.48	82.57	1.69	0.75	1.77	0.79
	CV							28.93	25.65	14.84	14.84	12.04	12.04

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 'Celtic' and 'PLS72' snap beans. The following preemergence treatments were applied: s-metolachlor (1600 g a.i. ha⁻¹), imazethapyr (75 g a.i. ha⁻¹), s-metolachlor +imazethapyr (1600+75 and 3200+150 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹), and sulfentrazone (210 and 420 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) and cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹) were made.

S-metolachlor, imazethapyr, s-metolachlor+imazethapyr, sulfentrazone, imazamox+bentazon, and imazamox+fomesafen did not cause commercially unacceptable visual injury to snap bean. There was some leaf burning and chlorosis evident in the imazamox+bentazon treatments at 7 days after treatment (DAT). By 28 DAT, snap bean had outgrown this injury.

Flumioxazin (140 g a.i. ha⁻¹) caused significant visual injury to snap bean. Injury included leaf distortion and leaf burning.

Cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹) caused significant visual injury to snap bean when applied as a postemergence treatment. Injury included chlorosis and a delay in the growth of the plants.

The following treatments reduced snap bean height: s-metolachlor+imazethapyr (3200+150 g a.i. ha⁻¹), flumioxazin (140 g a.i. ha⁻¹), imazamox+fomesafen (50+400 g a.i. ha⁻¹) and cloransulam-methyl (17.5 and 35 g a.i. ha⁻¹).

S-metolachlor+imazethapyr (3200+150 g a.i. ha⁻¹) reduced plant dry weight and yield. The high rate of imazamox+fomesafen (50+400 g a.i. ha⁻¹) reduced yield of each snap bean variety. Cloransulam-methyl caused a reduction in dry weight and yield of either snap bean variety.

S-metolachlor, imazethapyr, flumioxazin, sulfentrazone, and imazamox+bentazon did not reduce fresh weight, dry weight or yield of either snap bean variety.

TOLERANCE OF PROCESSING PEAS TO PREEMERGENCE HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: PE03T1

CROP: PIBSS, PEAS, PROCESSING (BOLERO). Planted: May-19-03, 250 KG/HA, 3.5 CM Deep, 18 CM Row Width.
 Planting Method: IH 5100 DRILL.
 Emerged On: May-30-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M. Expt. Location: RCAT-D3&D4.

Site Description: Soil Texture: CLAY LOAM. %OM: 6.0 %Sand: 29.4 %Silt: 36.2 %Clay: 34.5 pH: 6.9 CEC: 15.

APPLICATION DESCRIPTION

Application: A
 Date : May-21-03
 Time of Day: 8:15 PM
 Method : CO2 SPRAY
 Timing : PRE
 Placement : SOIL
 Air Temp. : 6.2 C
 % Humidity : 74
 Wind Speed : 3 KPH
 Dew Present: N
 Soil Moist.: MOIST
 Cloud Cover: 20%
 Equipment : CO2 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 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	AMBEL	CHEAL	ECHCG	ABUTH	AMBEL
Crop Code	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-6-03	Jun-13-03	Jun-26-03	Jun-26-03	Jun-26-03	Jun-26-03	Jul-10-03	Jul-10-03
Crop Stage	2 LF	3-5 LF	7-8 LF	7-8 LF	7-8 LF	7-8 LF	8-10 LF	8-10 LF
Crop Stage Scale	3-5 CM	4-10 CM	25-29 CM	25-29 CM	25-29 CM	25-29 CM	42 DAE	42 DAE
Weed Stage				6 LF	4 LF	4 LF	5 LF	6 LF
Weed Density, Unit				10 SQ.M.	4.5 SQ.M.	5 SQ.M.	5 SQ.M.	5.5 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE	42 DAE	42 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	0	c 0	c 0	c 0	e 0	c 0	d 0	b 0	d
1	untreated check							0	c 0	c 0	c 0	e 0	c 0	d 0	b 0	d
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	c 0	c 0	c 70	d 92	b 96	a 97	a 50	c
3	imazethapyr	240	SN	75	G A/HA	PRE	A	0	c 1	c 0	c 88	bc 99	a 94	a 96	a 85	ab
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A	0	c 0	c 1	c 94	ab 100	a 100	a 96	a 88	ab
	imazethapyr	240	SN	75	G A/HA	PRE	A									
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A	0	c 1	c 1	c 100	a 100	a 100	a 100	a 96	a
	imazethapyr	240	SN	150	G A/HA	PRE	A									
6	sulfentrazone	75	DF	210	G A/HA	PRE	A	0	c 2	c 1	c 76	d 100	a 90	a 100	a 76	b
7	sulfentrazone	75	DF	420	G A/HA	PRE	A	0	c 2	c 1	c 79	cd 100	a 95	a 100	a 75	b
8	mesotrione	480	EC	175	G A/HA	PRE	A	20	b 75	b 88	b 92	ab 100	a 39	c 96	a 87	ab
9	mesotrione	480	EC	350	G A/HA	PRE	A	49	a 97	a 99	a 95	ab 100	a 56	b 99	a 91	ab

LSD (P=.05)	5.9	7.2	3.7	10.2	4.1	10.8	5.3	16.6
Standard Deviation	4.1	4.9	2.5	7.0	2.8	7.4	3.6	11.3
CV	52.97	25.16	11.99	9.12	3.16	9.98	4.14	15.77

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: PE03T1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	ECHCG	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS
1	untreated check							0	c 0	d 110	a 5.2	a 2.3	a 5.3	a 2.3	a	
2	s-metolachlor	915	EC	1600	G A/HA	PRE	A	95	b 94	a 113	a 4.9	a 2.2	a 4.9	a 2.2	a	
3	imazethapyr	240	SN	75	G A/HA	PRE	A	100	a 98	a 113	a 5.1	a 2.3	a 5.1	a 2.3	a	
4	s-metolachlor	915	EC	1600	G A/HA	PRE	A	100	a 99	a 114	a 5.2	a 2.3	a 5.0	a 2.2	a	
5	imazethapyr	240	SN	75	G A/HA	PRE	A									
5	s-metolachlor	915	EC	3200	G A/HA	PRE	A	100	a 100	a 113	a 5.0	a 2.2	a 4.9	a 2.2	a	
6	imazethapyr	240	SN	150	G A/HA	PRE	A									
6	sulfentrazone	75	DF	210	G A/HA	PRE	A	100	a 95	a 110	a 4.8	a 2.1	a 4.8	a 2.1	a	
7	sulfentrazone	75	DF	420	G A/HA	PRE	A	100	a 98	a 115	a 5.0	a 2.2	a 4.8	a 2.1	a	
8	mesotrione	480	EC	175	G A/HA	PRE	A	100	a 18	c 60	b 0.9	b 0.4	b 1.5	b 0.7	b	
9	mesotrione	480	EC	350	G A/HA	PRE	A	100	a 40	b 0	c 0.0	b 0.0	b 0.0	b 0.0	b	
LSD (P=.05)								4.8	10.8	21.4	1.80	0.80	1.82	0.81		
Standard Deviation								3.3	7.4	14.6	1.23	0.55	1.24	0.56		
CV								3.71	10.4	15.57	30.62	30.62	30.85	30.85		

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), s-metolachlor+imazethapyr (1600+75 and 3200+150 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹) and mesotrione (175 and 350 g a.i. ha⁻¹).

S-metolachlor (1600 g a.i. ha⁻¹) gave excellent season-long control of barnyardgrass and poor control of common ragweed. Imazethapyr (75 g a.i. ha⁻¹) gave good season long control of common ragweed, and excellent control of common lamb's-quarters, velvetleaf and barnyardgrass. The tank mix combination of s-metolachlor +imazethapyr (1600+75 g a.i. ha⁻¹) gave excellent control of common ragweed, common lamb's-quarters, velvetleaf and barnyardgrass. When applied at 1600+75 and 3200+150 g a.i. ha⁻¹, s-metolachlor+imazethapyr did not cause significant visual injury, nor did it reduce pea tenderness or yield.

Sulfentrazone (210 and 420 g a.i. ha⁻¹) did not cause commercially significant (2%) or statistically significant injury to pea. Injury appeared as slight leaf burning, but shoot and root growth were not affected. Sulfentrazone (210 g a.i. ha⁻¹) gave excellent season long control of velvetleaf, common lamb's-quarters, and barnyardgrass, and fair control of common ragweed. Tenderness and yield in the sulfentrazone treatments were not different than in the untreated check.

Preemergence applications of mesotrione caused commercially unacceptable injury to peas, regardless of application rate. These treatments reduced stand density, stunted plants, distorted leaf growth and bleached the foliage and stems. Pea tenderness and yield were significantly lower when mesotrione was applied at 175 g a.i. ha⁻¹ compared to the untreated check. Complete mortality resulted in complete loss of yield when mesotrione was applied at 350 g a.i. ha⁻¹.

TOLERANCE OF PROCESSING PEAS TO POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PE03T2

CROP: PIBSS, PEAS, PROCESSING (BOLERO). Planted: May-19-03, 250 KG/HA, 3.5 CM Deep, 18 CM Row Width. Planting Method: IH 5100 DRILL.

Emerged On: May-30-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M. Expt. Location: RCAT-D1&D2.

Site Description: Soil Texture: LOAM. %OM: 4.8 %Sand: 42.7 %Silt: 31.6 %Clay: 25.7 pH: 7.0 CEC: 10.

APPLICATION DESCRIPTION STAGE AT APPLICATION
 Application: A Application: A
 Date : Jun-13-03 Crop 1 PIBSS 4 LF
 Time of Day: 6:35 PM Height : 9 CM
 Method : CO2 SPRAY
 Timing : POST Weed 1 ABUTH 1 LF
 Placement : FOLIAR Stg.Scale: 0.8 CM
 Air Temp. : 21.9 C Density : 8 SQ.M.
 % Humidity : 75 Weed 2 AMASS 1 LF
 Wind Speed : 2 KPH Stg.Scale: 0.6 CM
 Dew Present: Y Density : 3.5 SQ.M.
 Soil Moist.: WET Weed 3 CHEAL 1 LF
 Cloud Cover: 100% Stg.Scale: 1.1 CM
 Equipment : CO2 SPRAY Density : 50 SQ.M.
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Noz.Spacing: 50 CM
 Boom Length: 2 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	ABUTH	AMASS	CHEAL	SETVI	ABUTH											
Crop Code	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS											
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL											
Rating Unit	%	%	%	%	%											
Rating Date	Jun-19-03	Jun-26-03	Jul-10-03	Jul-10-03	Jul-10-03											
Crop Stage	5-6 LF	9-10 LF	10-11 LF	10-11 LF	10-11 LF											
Crop Stage Scale	18-21 CM	28-32 CM	35-40 CM	35-40 CM	35-40 CM											
Weed Stage			5 LF	4 LF	6 LF											
Weed Density, Unit			4 SQ.M.	3 SQ.M.	34 SQ.M.											
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	28 DAT	28 DAT											
Trt	Form	Form	Rate	Grow	Appl											
No.	Name	Conc	Type	Unit	Stg											
1	untreated check					0	c 0	d 0	c 0	b 0	b 0	b 0	c 0	b		
2	imazamox	70	WG	25	G A/HA	POST	A	1	c 3	c 2	c 100	a 100	a 98	a 99	a 100	a
	Agral 90		SO	0.25	% V/V	POST	A									
	UAN 28%		SO	2	L/HA	POST	A									
3	imazamox	70	WG	50	G A/HA	POST	A	9	a 12	a 15	a 100	a 100	a 75	a 99	a 100	a
	Agral 90		SO	0.5	% V/V	POST	A									
	UAN 28%		SO	4	L/HA	POST	A									
4	bentazon (Forte)	480	SN	600	G A/HA	POST	A	0	c 1	cd 1	c 100	a 100	a 100	a 86	b 100	a
	UAN 28%		SO	2	L/HA	POST	A									
5	bentazon (Forte)	480	SN	1200	G A/HA	POST	A	4	b 3	c 3	c 100	a 100	a 100	a 85	b 100	a
	UAN 28%		SO	4	L/HA	POST	A									
6	imazamox	70	WG	25	G A/HA	POST	A	1	c 2	cd 8	b 100	a 100	a 99	a 100	a 100	a
	bentazon (Forte)	480	SN	600	G A/HA	POST	A									
	UAN 28%		SO	2	L/HA	POST	A									
7	imazamox	70	WG	50	G A/HA	POST	A	8	a 8	b 11	b 100	a 100	a 100	a 100	a 100	a
	bentazon (Forte)	480	SN	1200	G A/HA	POST	A									
	UAN 28%		SO	4	L/HA	POST	A									

LSD (P=.05)	1.2	2.3	4.4	0.6	0.0	27.9	8.5	0.0
Standard Deviation	0.8	1.6	3.0	0.4	0.0	18.7	5.8	0.0
CV	24.67	38.31	53.23	0.44	0.0	22.95	7.08	0.0

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

TOLERANCE OF PROCESSING PEAS TO POSTEMERGENCE HERBICIDES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: PE03T2

Weed Code	AMASS	CHEAL	SETVI	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS							
Crop Code	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS	PIBSS							
Rating Data Type	CONTROL	CONTROL	CONTROL	TENDER	YIELD	YIELD	ADJ. YIELD	ADJ. YIELD	ADJ. YIELD							
Rating Unit	%	%	%	T/HA	T/HA	T/AC	T/HA	T/AC	T/AC							
Rating Date	Jul-24-03	Jul-24-03	Jul-24-03	Jul-19-03	Jul-19-03	Jul-19-03	Jul-19-03	Jul-19-03	Jul-19-03							
Crop Stage	HARVESTD	HARVESTD	HARVESTD													
Crop Stage Scale	10-15 CM	10-15 CM	10-15 CM													
Weed Stage	8 LF	14 LF	6 LF													
Weed Density, Unit	4 SQ.M.	31.5SQ.M.	3.5 SQ.M.													
Trt-Eval Interval	56 DAT	56 DAT	56 DAT	36 DAT	36 DAT	36 DAT	36 DAT	36 DAT	36 DAT							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	untreated check							0	c 0	c 0	c 118	a 3.2	b 1.4	b 3.0	c 1.4	c
2	imazamox	70	WG	25	G A/HA	POST	A	100	a 97	b 97	a 86	b 3.4	ab 1.5	ab 5.1	b 2.3	b
	Agral 90		SO	0.25	% V/V	POST	A									
	UAN 28%		SO	2	L/HA	POST	A									
3	imazamox	70	WG	50	G A/HA	POST	A	100	a 99	ab 100	a 70	c 3.3	ab 1.5	ab 7.9	a 3.5	a
	Agral 90		SO	0.5	% V/V	POST	A									
	UAN 28%		SO	4	L/HA	POST	A									
4	bentazon (Forte)	480	SN	600	G A/HA	POST	A	92	b 99	ab 73	b 120	a 4.1	a 1.8	a 3.8	bc 1.7	bc
	UAN 28%		SO	2	L/HA	POST	A									
5	bentazon (Forte)	480	SN	1200	G A/HA	POST	A	98	a 100	ab 73	b 115	a 3.7	ab 1.7	ab 3.6	bc 1.6	bc
	UAN 28%		SO	4	L/HA	POST	A									
6	imazamox	70	WG	25	G A/HA	POST	A	100	a 100	ab 98	a 108	a 3.3	ab 1.5	ab 3.6	c 1.6	c
	bentazon (Forte)	480	SN	600	G A/HA	POST	A									
	UAN 28%		SO	2	L/HA	POST	A									
7	imazamox	70	WG	50	G A/HA	POST	A	100	a 100	a 100	a 70	c 3.5	ab 1.6	ab 7.9	a 3.5	a
	bentazon (Forte)	480	SN	1200	G A/HA	POST	A									
	UAN 28%		SO	4	L/HA	POST	A									
	LSD (P=.05)							5.1	2.7	6.3	13.0	0.81	0.36	1.57	0.70	
	Standard Deviation							3.4	1.8	4.3	8.8	0.54	0.24	1.06	0.47	
	CV							4.07	2.11	5.53	8.97	15.5	15.5	21.2	21.2	

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), and imazamox+bentazon (25+600 and 50+1200 g a.i. ha⁻¹).

Imazamox (50 g a.i. ha⁻¹) and imazamox+bentazon (50+1200 g a.i. ha⁻¹) caused significant visual injury to pea that would be considered commercially unacceptable (11-15%). Either treatment caused some speckling and bronzing of the leaves, likely as a result of the nitrogen source (UAN 28%) and bentazon. Plants appeared stunted compared with the untreated check, and pea tenderness in the imazamox (25 and 50 g a.i. ha⁻¹) and imazamox+bentazon (25+600 and 50+1200 g a.i. ha⁻¹), indicating that maturity had been delayed.

Imazamox (25 g a.i. ha⁻¹) alone gave excellent season long control of velvetleaf, pigweed, common lamb's-quarters, and green foxtail. Bentazon (600 g a.i. ha⁻¹) alone gave excellent control of common lamb's-quarters. The tank mix of imazamox+bentazon (25+600 g a.i. ha⁻¹) gave excellent control of common lamb's-quarters pigweed, velvetleaf and green foxtail.

WEED CONTROL AND TOLERANCE OF TRANSPLANTED PEPPERS TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: PP03T1

CROP: CPSAN, PEPPER (ENTERPRISE). Planted: May-29-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-29-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-E1&E2.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION

Application: A
 Date : May-29-03
 Time of Day: 7:15 AM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 13.1 C
 % Humidity : 87
 Wind Speed : 0 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 10%
 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	CPSAN	CPSAN	CPSAN	CPSAN	ABUTH CPSAN	AMASS CPSAN	AMBEL CPSAN	CHEAL CPSAN
Crop Code								
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	CM	%	%	%	%
Rating Date	Jun-6-03	Jun-11-03	Jun-25-03	Jun-19-03	Jun-25-03	Jun-25-03	Jun-25-03	Jun-25-03
Crop Stage	4 LF	4-5 LF	5-8 LF	5-6 LF	5-8 LF	5-8 LF	5-8 LF	5-8 LF
Crop Stage Scale	7-10 CM	8-10 CM	8-10 CM	6-10 CM	8-10 CM	8-10 CM	8-10 CM	8-10 CM
Weed Stage					3 LF	2 LF	4 LF	4 LF
Weed Density, Unit					7.5 SQ.M.	5.5 SQ.M.	1.5 SQ.M.	139 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	21 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							
2	flumioxazin	51	WG	52.5	G A/HA	PRE-T	A	0 b 0 b 0 b 8.9 a 0 d 0 d 0 c 0 e
3	flumioxazin	51	WG	70	G A/HA	PRE-T	A	0 b 0 b 1 b 9.3 a 85 abc 80 abc 73 ab 83 ab
4	flumioxazin	51	WG	140	G A/HA	PRE-T	A	0 b 1 b 4 b 8.7 a 93 a 95 a 84 ab 78 bc
5	clomazone	360	EC	420	G A/HA	PRE-T	A	0 b 0 b 0 b 9.1 a 90 ab 100 a 91 ab 95 a
6	clomazone	360	EC	840	G A/HA	PRE-T	A	0 b 0 b 0 b 9.5 a 86 abc 70 c 73 ab 50 d
7	halosulfuron-methyl	75	WG	25	G A/HA	PRE-T	A	0 b 0 b 0 b 8.4 a 95 a 88 abc 78 ab 65 cd
8	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	A	1 b 2 b 5 b 8.6 a 83 abc 100 a 98 a 83 ab
9	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	3 a 23 a 41 a 8.7 a 100 a 99 a 100 a 88 ab
10	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	0 b 0 b 0 b 8.5 a 85 abc 73 bc 75 ab 88 ab
11	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	0 b 0 b 2 b 9.3 a 65 bc 93 ab 65 b 90 ab
12	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	0 b 0 b 2 b 8.6 a 78 abc 86 abc 93 ab 63 cd
								0 b 0 b 2 b 8.9 a 61 c 90 abc 90 ab 74 bc
LSD (P=.05)								1.0 12.3 13.7 1.27 25.3 21.9 30.7 16.8
Standard Deviation								0.7 8.5 9.5 0.88 17.5 15.2 21.3 11.7
CV								255.92 404.51 195.7 9.93 22.83 18.73 27.84 16.39

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

WEED CONTROL AND TOLERANCE OF TRANSPLANTED PEPPERS TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: PP03T1

Weed Code	ABUTH	AMASS	AMBEL	CHEAL	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN							
Crop Code	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN							
Part Rated														MARKET							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT	AVG. FRUIT							
Rating Unit	%	%	%	%	G	G	G	G	G	G	G	G	G	G							
Rating Date	Jul-23-03	Jul-23-03	Jul-23-03	Jul-23-03																	
Crop Stage	10-15 LF	10-15 LF	10-15 LF	10-15 LF	MKT+NONM	MKT+NONM	MKT+NONM	MKT+NONM	MKT+NONM	MKT+NONM	MKT+NONM	MKT+NONM	MKT+NONM	TOT.MARK							
Crop Stage Scale	16-20 CM	16-20 CM	16-20 CM	16-20 CM	WEEDY	WEEDFREE	WEEDY	WEEDFREE	WEEDY	WEEDFREE	WEEDY	WEEDFREE	WEEDY	WEEDY							
Weed Stage	7 LF	12 LF	6 LF	12 LF																	
Weed Density, Unit	28 SQ.M.	6 SQ.M.	2.5 SQ.M.	171 SQ.M.																	
Trt-Eval Interval	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	f	0	d	0	d	0	h	0.0	f	135.4	abc	0.0	e
2	flumioxazin	51	WG	52.5	G A/HA	PRE-T A		66	bc	94	a	43	c	46	de	111.2	abc	145.0	ab	145.3	ab
3	flumioxazin	51	WG	70	G A/HA	PRE-T A		55	cd	96	a	88	ab	45	de	116.2	ab	119.7	c	166.9	ab
4	flumioxazin	51	WG	140	G A/HA	PRE-T A		83	ab	90	a	84	ab	73	b	138.8	a	133.7	abc	157.5	ab
5	clomazone	360	EC	420	G A/HA	PRE-T A		81	ab	0	d	61	bc	9	gh	8.8	ef	148.0	a	0.0	e
6	clomazone	360	EC	840	G A/HA	PRE-T A		100	a	33	c	54	bc	30	ef	75.5	bcd	125.7	abc	93.1	bcd
7	halosulfuron-methyl	75	WG	25	G A/HA	PRE-T A		55	cd	100	a	100	a	50	cd	60.5	cde	122.7	bc	66.0	cde
8	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T A		68	bc	98	a	100	a	56	bcd	89.4	a-d	123.5	bc	101.9	bcd
9	sulfentrazone	75	DF	210	G A/HA	PRE-T A		54	cd	65	b	44	c	68	bc	120.6	ab	140.0	abc	132.1	abc
10	sulfentrazone	75	DF	420	G A/HA	PRE-T A		61	bc	96	a	39	c	92	a	137.9	a	143.0	ab	187.9	a
11	dimethenamid-p	720	EC	750	G A/HA	PRE-T A		26	e	90	a	80	ab	26	fg	42.8	def	130.5	abc	41.9	de
12	dimethenamid-p	720	EC	1500	G A/HA	PRE-T A		31	de	97	a	84	ab	20	fg	45.9	def	128.6	abc	35.9	de

LSD (P=.05)	26.0	22.9	35.2	17.9	55.28	23.11	78.25
Standard Deviation	18.0	15.9	24.4	12.4	38.28	16.00	54.19
CV	31.81	22.22	37.76	28.94	48.49	12.03	57.63

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

Weed Code	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN							
Crop Code	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN	CPSAN							
Part Rated	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET	MARKET							
Rating Data Type	AVG. FRUIT	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD							
Rating Unit	G	T/HA	T/AC	T/HA	T/AC	T/HA	T/AC	T/HA	T/AC	T/HA	T/AC	T/HA	T/AC	T/HA							
Rating Date																					
Crop Stage	TOT.MARK	MKT+NONM	MKT+NONM	TOT.MARK	TOT.MARK	MKT+NONM	TOT.MARK	TOT.MARK	MKT+NONM	TOT.MARK	MKT+NONM	TOT.MARK	MKT+NONM	TOT.MARK							
Crop Stage Scale	WEEDFREE	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDFREE	WEEDY	WEEDFREE	WEEDY	WEEDFREE	WEEDY							
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							185.6	a	0.0	b	0.0	b	0.0	b	0.0	b	7.0	b		
2	flumioxazin	51	WG	52.5	G A/HA	PRE-T A		194.1	a	0.7	b	0.3	b	0.6	b	0.3	b	6.8	b		
3	flumioxazin	51	WG	70	G A/HA	PRE-T A		180.1	a	0.6	b	0.3	b	0.5	b	0.2	b	8.1	ab		
4	flumioxazin	51	WG	140	G A/HA	PRE-T A		180.5	a	2.5	a	1.1	a	2.2	a	1.0	a	7.0	b		
5	clomazone	360	EC	420	G A/HA	PRE-T A		190.9	a	0.0	b	0.0	b	0.0	b	0.0	b	8.9	a		
6	clomazone	360	EC	840	G A/HA	PRE-T A		176.5	a	0.4	b	0.2	b	0.1	b	0.1	b	8.1	ab		
7	halosulfuron-methyl	75	WG	25	G A/HA	PRE-T A		173.4	a	0.3	b	0.1	b	0.2	b	0.1	b	6.6	b		
8	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T A		178.7	a	0.1	b	0.1	b	0.1	b	0.1	b	4.4	c		
9	sulfentrazone	75	DF	210	G A/HA	PRE-T A		184.1	a	0.8	b	0.4	b	0.8	b	0.3	b	8.2	ab		
10	sulfentrazone	75	DF	420	G A/HA	PRE-T A		187.8	a	2.3	a	1.0	a	2.1	a	0.9	a	8.3	ab		
11	dimethenamid-p	720	EC	750	G A/HA	PRE-T A		180.3	a	0.2	b	0.1	b	0.1	b	0.0	b	6.9	b		
12	dimethenamid-p	720	EC	1500	G A/HA	PRE-T A		177.0	a	0.3	b	0.1	b	0.1	b	0.1	b	7.0	b		

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

WEED CONTROL AND TOLERANCE OF TRANSPLANTED PEPPERS TO VARIOUS HERBICIDES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: PP03T1

Weed Code									
Crop Code						CPSAN	CPSAN	CPSAN	
Part Rated						MARKET	MARKET	MARKET	
Rating Data Type						YIELD	YIELD	YIELD	
Rating Unit						T/AC	T/HA	T/AC	
Rating Date									
Crop Stage						MKT+NONM	TOT.MARK	TOT.MARK	
Crop Stage Scale						WEEDFREE	WEEDFREE	WEEDFREE	
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							3.1	b	6.0	b	2.7	b
2	flumioxazin	51	WG	52.5	G A/HA	PRE-T	A	3.0	b	6.0	b	2.7	b
3	flumioxazin	51	WG	70	G A/HA	PRE-T	A	3.6	ab	7.2	ab	3.2	ab
4	flumioxazin	51	WG	140	G A/HA	PRE-T	A	3.1	b	6.1	b	2.7	b
5	clomazone	360	EC	420	G A/HA	PRE-T	A	4.0	a	8.1	a	3.6	a
6	clomazone	360	EC	840	G A/HA	PRE-T	A	3.6	ab	7.1	ab	3.2	ab
7	halosulfuron-methyl	75	WG	25	G A/HA	PRE-T	A	2.9	b	5.8	b	2.6	b
8	halosulfuron-methyl	75	WG	50	G A/HA	PRE-T	A	2.0	c	3.5	c	1.6	c
9	sulfentrazone	75	DF	210	G A/HA	PRE-T	A	3.6	ab	7.3	ab	3.3	ab
10	sulfentrazone	75	DF	420	G A/HA	PRE-T	A	3.7	ab	7.4	ab	3.3	ab
11	dimethenamid-p	720	EC	750	G A/HA	PRE-T	A	3.1	b	6.2	b	2.7	b
12	dimethenamid-p	720	EC	1500	G A/HA	PRE-T	A	3.1	b	6.3	b	2.8	b

LSD (P=.05)	0.81	1.68	0.75
Standard Deviation	0.56	1.16	0.52
CV	17.34	18.07	18.07

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 effect of preemergence applications of flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹), clomazone (420 and 840 g a.i. ha⁻¹), halosulfuron-methyl (50 and 100 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹) and dimethenamid-p (750 and 1500 g a.i. ha⁻¹) on visual injury, height, fruit weight and marketable and total yields of peppers. The other half of each plot was not hand-weeded to determine the level of weed control in each treatment.

Halosulfuron-methyl (50 g a.i. ha⁻¹) applied preemergence caused significant visual injury to pepper. Plants appeared chlorotic, stunted and wilted. The remaining treatments did not cause significant visual injury to pepper.

Flumioxazin gave excellent control of pigweed species, fair control of velvetleaf and poor control of common ragweed and common lamb's-quarters.

Clomazone gave good control of velvetleaf, fair control of common ragweed, and poor control of pigweed species and common lamb's-quarters.

Halosulfuron-methyl gave excellent control of pigweed species and common ragweed, and poor control of velvetleaf and common lamb's-quarters.

Sulfentrazone gave fair control of velvetleaf, pigweed species and common lamb's-quarters, and poor control of common ragweed.

Dimethenamid-p gave excellent control of pigweed species, good control of common ragweed, and poor control of velvetleaf and common lamb's-quarters.

Halosulfuron-methyl did not reduce marketable fruit size, but total yield was less than in the untreated, weed-free check. The remaining herbicide treatments did not reduce weed-free yield of pepper compared to the untreated check.

The extremely high density of late-emerging common lamb's-quarters (171 plants m⁻²) was likely responsible for the yield reductions in the weedy portions of the herbicide treatments, despite the excellent early season (i.e. 28 DAT) weed control provided by flumioxazin and sulfentrazone.

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO THIFENSULFURON - I

Trial ID: SC03T1A
Location: RCAT - K

Study Dir.: KRISTEN MCNAUGHTON
Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: KRISTEN MCNAUGHTON Title: RESEARCH TECHNICIAN
Investigator: DARREN ROBINSON Title: SCIENTIST

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

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

Crop 1: ZEAMS CORN, SWEET Variety: 8 VARIOUS
Planting Date: Jun-5-03 Planting Method: MONOSEM
Rate: 93860 SEEDS/HA Depth: 4 CM
Row Spacing: 75 CM Spacing Within Row: 14 CM Seed Bed: VERY FINE
Soil Moisture: MOIST Emergence Date: Jun-11-03

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 AI/HA. FIELD WORKED 3X WITH S-TINE CULTIVATOR.

SOIL DESCRIPTION

% Sand: 49.6 % OM: 8.2 Texture: LOAM
% Silt: 29.5 pH: 6.8
% Clay: 20.9 CEC: 13

APPLICATION DESCRIPTION

A

Application Date: Jun-24-03
Time of Day: 7:30 PM
Application Method: CO2 SPRAY
Application Timing: 4-5 LF
Applic. Placement: FOLIAR
Air Temp., Unit: 23.0 C
% Relative Humidity: 65
Wind Velocity, Unit: 5 KPH
Dew Presence (Y/N): N
Soil Temp., Unit: 23 C
Soil Moisture: MOIST
% Cloud Cover: 10

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
Stage Scale: 4-5 LF
Height, Unit: 22 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 THIFENSULFURON - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T1A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated					MARKET	NONMKT
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG. COB WT	AVG. COB WT
Rating Unit	%	%	%	CM	G	G
Rating Date	Jul-2-03	Jul-8-03	Jul-21-03	Jul-15-03		
Crop Stage	6-7 LF	7-9 LF	11-13 LF	9-11 LF		
Crop Stage Scale	28-48 CM	60-75 CM	1.2-1.4M	26-135CM		
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						
TABLE OF R MEANS													
Replicate 1								7	24	21	90.4	215.96	109.97
Replicate 2								9	24	23	97.1	227.50	107.14
Replicate 3								9	27	20	91.2	229.55	97.29
Replicate 4								10	27	23	90.9	221.54	108.81

TABLE OF A MEANS													
1	untreated check							0a	0a	0a	113.5a	294.26a	103.53
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	11b	28b	23b	88.0b	238.53b	117.56
2	Agral 90	SO	0.1	%	V/V	POST	A						
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	16c	48c	42c	75.6c	138.12c	96.32
3	Agral 90	SO	0.2	%	V/V	POST	A						
								LSD= 2	3	2	7	35	NS
								CV= 30	21	19	12	26	30

TABLE OF B MEANS													
1	GG 214							7	5	2	108.7	316.82	78.78
2	Delmonte 2038							14	50	59	57.6	81.15	95.99
3	GH 2547							2	1	0	112.3	314.90	163.76
4	GSS 9299							6	3	2	101.6	260.83	67.05
5	GH 1861							15	36	27	93.2	256.65	92.20
6	GH 2684							9	35	28	92.9	215.96	125.12
7	Empire							9	36	28	84.3	182.93	111.82
8	GH 2298							9	36	28	88.6	159.85	111.69

TABLE OF AB MEANS													
1	untreated check							0a	0a	0a	112.7a	311.44a	81.95a
1	GG 214												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	8b	6b	1a	109.4a	339.10a	79.76a
2	Agral 90	SO	0.1	%	V/V	POST	A						
1	GG 214												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	13c	10c	4b	104.1a	299.92a	74.64a
3	Agral 90	SO	0.2	%	V/V	POST	A						
1	GG 214												
1	untreated check							0a	0a	0a	111.9a	243.46a	132.72a
2	Delmonte 2038												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	15b	65b	81b	33.6b	0.00b	87.33b
2	Agral 90	SO	0.1	%	V/V	POST	A						
2	Delmonte 2038												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	26c	85c	96c	27.2b	0.00b	67.92b
3	Agral 90	SO	0.2	%	V/V	POST	A						
1	GG 214												
1	untreated check							0a	0a	0a	116.0a	310.54a	162.53a
3	GH 2547												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	1a	0a	0a	112.3a	321.96a	168.10a
2	Agral 90	SO	0.1	%	V/V	POST	A						
3	GH 2547												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	6b	3a	0a	108.7a	312.19a	160.65a
3	Agral 90	SO	0.2	%	V/V	POST	A						
3	GH 2547												
1	untreated check							0a	0a	0a	104.6a	260.28a	63.03a
4	GSS 9299												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	4b	2a	0a	104.5a	261.61a	67.92a
2	Agral 90	SO	0.1	%	V/V	POST	A						
4	GSS 9299												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	14c	8b	5b	95.6a	260.58a	70.20a
3	Agral 90	SO	0.2	%	V/V	POST	A						
4	GSS 9299												
1	untreated check							0a	0a	0a	116.3a	320.10a	81.75a
5	GH 1861												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	20b	42b	25b	90.8b	272.56a	105.71a
2	Agral 90	SO	0.1	%	V/V	POST	A						
5	GH 1861												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	26c	68c	58c	72.4c	177.29b	89.14a
3	Agral 90	SO	0.2	%	V/V	POST	A						
5	GH 1861												
1	untreated check							0a	0a	0a	120.8a	321.86a	107.43b
6	GH 2684												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	12b	39b	25b	88.0b	271.03b	145.74a
2	Agral 90	SO	0.1	%	V/V	POST	A						
6	GH 2684												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	13b	68c	58c	69.9c	55.00c	122.20ab
3	Agral 90	SO	0.2	%	V/V	POST	A						
6	GH 2684												

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO THIFENSULFURON - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T1A

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
								INJURY	INJURY	INJURY	HEIGHT	MARKET	NONMKT
								%	%	%	CM	AVG. COB WT	AVG. COB WT
								G	G	G		G	G
								Jul-2-03	Jul-8-03	Jul-21-03	Jul-15-03		
								6-7 LF	7-9 LF	11-13 LF	9-11 LF		
								28-48 CM	60-75 CM	1.2-1.4M	26-135C M		
								7 DAT	14 DAT	28 DAT	21 DAT		
1	untreated check							0a	0a	0a	114.1a	291.85a	100.11b
7	Empire												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	13b	38b	26b	80.8b	256.93a	145.02a
2	Agral 90	SO	0.1	%	V/V	POST	A						
7	Empire												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	15b	70c	59c	58.0c	0.00b	90.33b
3	Agral 90	SO	0.2	%	V/V	POST	A						
7	Empire												
1	untreated check							0a	0a	0a	112.1a	294.55a	98.69b
8	GH 2298												
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	13b	38b	26b	84.9b	185.00b	140.91a
2	Agral 90	SO	0.1	%	V/V	POST	A						
8	GH 2298												
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	14b	70c	58c	68.9c	0.00c	95.47b
3	Agral 90	SO	0.2	%	V/V	POST	A						
8	GH 2298												
								LSD=3	4	3	11	75	28
								CV= 27	11	10	8	24	18

Crop Code	Part Rated	Rating Data Type	Rating Unit	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
				TOTAL	TOTAL	TOTAL	MARKET	MARKET
				AVG. COB WT	YIELD	YIELD	YIELD	YIELD
				G	T/HA	T/AC	T/HA	T/AC
1	untreated check			216.70a	19.3a	8.6a	14.9a	6.7a
2	thifensulfuron-methyl 75	DF	6	179.93b	16.2b	7.2b	9.5b	4.2b
2	Agral 90	SO	0.1					
3	thifensulfuron-methyl 75	DF	12	138.81c	11.1c	4.9c	6.3c	2.8c
3	Agral 90	SO	0.2					
				LSD=23	3	1	2	1
				CV= 21	28	28	34	33

TABLE OF B MEANS	1	2	3	4	5	6	7	8
GG 214	223.04	19.2	8.6	16.4	7.3			
Delmonte 2038	123.77	7.1	3.2	4.5	2.0			
GH 2547	250.26	28.5	12.7	20.5	9.1			
GSS 9299	196.75	14.1	6.3	12.5	5.6			
GH 1861	158.24	14.2	6.3	8.6	3.8			
GH 2684	175.70	15.1	6.8	7.9	3.5			
Empire	150.97	13.0	5.8	5.9	2.6			
GH 2298	149.10	12.9	5.7	5.4	2.4			

TABLE OF AB MEANS	1	2	3	1	2	3	1	2	3
untreated check	237.45a	17.7a	7.9a	15.7a	7.0a				
GG 214									
thifensulfuron-methyl 75	235.92a	21.1	9.4a	18.2a	8.1a				
Agral 90									
GG 214									
thifensulfuron-methyl 75	195.75b	18.8a	8.4a	15.4a	6.9a				
Agral 90									
GG 214									
untreated check	216.07a	20.1a	9.0a	13.4a	6.0a				
Delmonte 2038									
thifensulfuron-methyl 75	87.33b	1.0b	0.4b	0.0b	0.0b				
Agral 90									
Delmonte 2038									
thifensulfuron-methyl 75	67.92b	0.3b	0.1b	0.0b	0.0b				
Agral 90									
GG 214									
untreated check	238.30a	26.0b	11.6b	17.3b	7.7b				
GH 2547									
thifensulfuron-methyl 75	258.91a	31.1a	13.9a	22.9a	10.2a				
Agral 90									

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO THIFENSULFURON - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T1A

Crop Code		ZEAMS		ZEAMS		ZEAMS		ZEAMS		ZEAMS		
Part Rated		TOTAL		TOTAL		MARKET		MARKET		MARKET		
Rating Data Type		AVG. COB WT		YIELD		YIELD		YIELD		YIELD		
Rating Unit		G		T/HA		T/AC		T/HA		T/AC		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	Appl Code					
3	GH 2547							253.58a	28.6ab	12.8ab	21.3ab	9.5ab
3	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A					
3	Agral 90		SO	0.2	% V/V	POST	A					
3	GH 2547							204.70a	13.4a	6.0a	12.1a	5.4a
1	untreated check											
4	GSS 9299											
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	196.56a	14.1a	6.3a	12.6a	5.6a
2	Agral 90		SO	0.1	% V/V	POST	A					
4	GSS 9299											
3	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	188.98a	14.9a	6.6a	12.8a	5.7a
3	Agral 90		SO	0.2	% V/V	POST	A					
4	GSS 9299											
1	untreated check							210.35a	19.9a	8.9a	16.3a	7.3a
5	GH 1861											
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	170.24b	14.5b	6.5b	8.8b	3.9b
2	Agral 90		SO	0.1	% V/V	POST	A					
5	GH 1861											
3	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	94.14c	8.1c	3.6c	0.7c	0.3c
3	Agral 90		SO	0.2	% V/V	POST	A					
5	GH 1861											
1	untreated check							214.19a	18.1a	8.1a	13.8a	6.1a
6	GH 2684											
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	188.63a	20.1a	9.0a	9.8a	4.4a
2	Agral 90		SO	0.1	% V/V	POST	A					
6	GH 2684											
3	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	124.27b	7.2b	3.2b	0.3b	0.1b
3	Agral 90		SO	0.2	% V/V	POST	A					
6	GH 2684											
1	untreated check							208.02a	20.0a	8.9a	15.8a	7.1a
7	Empire											
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	154.56b	14.4b	6.4b	2.0b	0.9b
2	Agral 90		SO	0.1	% V/V	POST	A					
7	Empire											
3	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	90.33c	4.6c	2.1c	0.0b	0.0b
3	Agral 90		SO	0.2	% V/V	POST	A					
7	Empire											
1	untreated check							204.56b	19.0a	8.5a	14.8a	6.6a
8	GH 2298											
2	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	147.26a	13.5b	6.0b	1.4b	0.6b
2	Agral 90		SO	0.1	% V/V	POST	A					
8	GH 2298											
3	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A	95.47b	6.2c	2.8c	0.0b	0.0b
3	Agral 90		SO	0.2	% V/V	POST	A					
8	GH 2298											
								LSD=28	5	2	5	2
								CV= 11	22	22	33	33

Trial Comments

HARVEST DATES: August 18, 2003 GH 1861. August 21, 2003 GG 214, Delmonte 2038, GH 2684, Empire, and GH 2298. August 25, 2003 GH 2547 and GSS 9299.

Conclusions: This trial was maintained weed free to test for the effect of thifensulfuron-methyl applied postemergence (4-5 leaf stage) at 6 and 12 g a.i. ha⁻¹, on eight processing sweet corn cultivars: GG214, Delmonte 2038, GH2547, GSS9299, GH1861, GH2684, Empire, and GH2298.

Sweet corn visual injury ranged from 1 to 20% in all eight varieties at 6 g a.i. ha⁻¹, at 7 DAT. Visual injury consisted of chlorotic bands, similar to those caused by nicosulfuron, and burning around the outer margins of the leaves. Plants also appeared stunted, though height data were not taken until 21 DAT. The level of visual injury declined with time in GG214, GH2547, and GSS9299. Visual injury increased with time in Delmonte 2038, GH1861, GH2684 and GH2298, and ranged from as low as 15% (7 DAT) to 96% by 28 DAT among the different varieties.

Sweet corn height at 21 DAT, marketable cob weight, and marketable yield showed a significant decrease in all varieties except GG214, GH2547, and GSS9299 - the same varieties that appeared to recover from thifensulfuron-methyl injury with time. Despite the lack of a statistically significant reduction in height, marketable cob weight, and marketable yield of GG214, GH2547 and GSS9299, each variable did tend to decrease as a result of application of thifensulfuron-methyl, especially at 12 g a.i. ha⁻¹.

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO THIFENSULFURON - II

Trial ID: SC03T1B
 Location: HRS - N1

Study Dir.: TODD COWAN
 Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: RESEARCH SCIENTIST
 Affiliation: RIDGETOWN COLLEGE OF AGRICULTURAL TECH. (U. OF GUELPH)
 Postal Code: N0P 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: May-1-03
 Country: CANADA Planned Completion Date: Dec-31-03

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

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

Crop 1: ZEAMS CORN, SWEET Variety: 8 VARIOUS
 Planting Date: Jun-3-03 Planting Method: PRECISION PLANTER
 Rate: 50000 S/H Depth: 5 CM
 Row Spacing: 75 CM Seed Bed: FINE
 Emergence Date: Jun-13-03

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 2002
- 2. EDIBLE BEANS 2001

MAINTENANCE

Field Prep./Maintenance: COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG AI/HA. 373 KG/HA OF 37.9-5.2-6 APPLIED BROADCAST PREPLANT

SOIL DESCRIPTION

% Sand: 23 % OM: 4 Texture: MEDIUM
 % Silt: 47 pH: 7.7 Soil Name: PERTH CLAY LOAM
 % Clay: 30 CEC: 31

APPLICATION DESCRIPTION

A
 Application Date: Jun-24-03
 Time of Day: 7:20 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 19.9 C
 % Relative Humidity: 78
 Wind Velocity, Unit: 1.2 KPH
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 22 C
 Soil Moisture: SB-M SF-D
 % Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: ZEAMS 3 LEAF
 Height, Unit: 17.6 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 THIFENSULFURON - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T1B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	ZEAMS	ZEAMS	ZEAMS	ZEAMS	TOTAL	MARKT	TOTAL	TOTAL	
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG.COB WT	AVG.COB WT	YIELD	YIELD	
Rating Unit	%	%	%	CM	G	G	T/HA	T/AC	
Rating Date	Jul-2-03	Jul-8-03	Jul-22-03	Jul-16-03					
Crop Stage	7 LEAF	9 LEAF	12 LEAF						
Crop Stage Scale	39.5 CM	69.5 CM	129.5 CM						
Footnote Number	1	2	2						
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								20	21	15	81.5	176.0	286.9	16.9	7.5
Replicate 2								19	19	15	78.8	179.2	283.6	17.3	7.7
Replicate 3								20	21	12	75.3	172.2	286.6	15.6	7.0
Replicate 4								23	22	13	78.4	173.9	306.5	15.2	6.8

TABLE OF A MEANS

1	untreated check							0a	0a	0a	93.9c	210.5c	330.0b	19.9c	8.9c
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	26b	20b	13b	76.1b	168.5b	280.7a	15.7b	7.0b
2	Agral 90	SO	0.1	%	V/V	POST	A								
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	35c	42c	29c	65.5a	147.0a	261.9a	13.1a	5.8a
3	Agral 90	SO	0.2	%	V/V	POST	A								
								LSD= 5	4	6	4	18	38	1	1
								CV= 42	32	70	7	16	22	13	13

TABLE OF B MEANS

1	GG 214							6	2	0	91.2	217.0	356.8	20.2	9.0
2	GSS 9299							4	2	0	81.8	197.2	300.5	15.9	7.1
3	GH 1861							30	28	11	81.4	156.0	289.9	15.3	6.8
4	GH 2684							30	21	10	85.1	194.8	319.3	18.9	8.4
5	Empire							29	27	15	72.2	152.3	273.2	13.7	6.1
6	GH 2547							2	1	0	90.7	204.5	334.9	20.6	9.2
7	GH 2298							32	31	14	75.6	159.2	295.8	16.8	7.5
8	Delmonte 2038							31	53	60	49.9	121.7	156.6	8.3	3.7

TABLE OF AB MEANS

1	untreated check							0a	0a	0a	92.8a	228.5a	352.5a	20.7a	9.2a
1	GG 214														
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	3a	1ab	0a	92.3a	210.7a	372.6a	20.6a	9.2a
2	Agral 90	SO	0.1	%	V/V	POST	A								
1	GG 214														
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	16b	6b	1a	88.7a	211.9a	345.3a	19.4a	8.7a
3	Agral 90	SO	0.2	%	V/V	POST	A								
1	untreated check							0a	0a	0a	85.5b	195.9a	315.9a	16.3a	7.3a
2	GSS 9299														
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	4ab	3a	0a	80.8ab	191.5a	296.5a	15.4a	6.9a
2	Agral 90	SO	0.1	%	V/V	POST	A								
2	GSS 9299														
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	8b	5a	1a	79.2a	204.0a	289.1a	16.0a	7.2a
3	Agral 90	SO	0.2	%	V/V	POST	A								
2	GSS 9299														
1	untreated check							0a	0a	0a	96.9c	196.8c	322.3b	19.3c	8.6c
3	GH 1861														
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	34b	20b	1a	83.1b	157.3b	288.3ab	15.8b	7.0b
2	Agral 90	SO	0.1	%	V/V	POST	A								
3	GH 1861														
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	58c	63c	33b	64.3a	113.9a	259.0	11.0a	4.9a
3	Agral 90	SO	0.2	%	V/V	POST	A								
3	GH 1861														
1	untreated check							0a	0a	0a	97.7c	226.3c	341.7a	22.3c	10.0c
4	GH 2684														
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	39b	13b	4a	85.2b	196.8b	325.3a	18.3b	8.2b
2	Agral 90	SO	0.1	%	V/V	POST	A								
4	GH 2684														
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	50c	50c	28b	72.5b	161.4a	290.8a	15.9a	7.1a
3	Agral 90	SO	0.2	%	V/V	POST	A								
4	GH 2684														
1	untreated check							0a	0a	0a	88.4c	194.3c	315.9b	18.6c	8.3c
5	Empire														
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	40b	16b	8b	78.2b	160.6b	292.5b	15.2b	6.8b
2	Agral 90	SO	0.1	%	V/V	POST	A								
5	Empire														
3	thifensulfuron-methyl 75	DF	12	G	A/HA	POST	A	48c	65c	38c	50.0a	102.0c	211.3a	7.3a	3.3a
3	Agral 90	SO	0.2	%	V/V	POST	A								
5	Empire														
1	untreated check							0a	0a	0a	93.6a	201.7a	322.2a	19.4a	8.7a
6	GH 2547														
2	thifensulfuron-methyl 75	DF	6	G	A/HA	POST	A	1a	1	0a	88.7a	201.5a	332.5a	20.5ab	9.1ab
2	Agral 90	SO	0.1	%	V/V	POST	A								
6	GH 2547														

TOLERANCE OF PROCESSING SWEET CORN HYBRIDS TO THIFENSULFURON - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T1B

Crop Code							ZEAMS	ZEAMS
Part Rated							MARKT	MARKT
Rating Data Type							YIELD	YIELD
Rating Unit							T/HA	T/AC

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code		
TABLE OF AB MEANS									
1	untreated check							16.3a	7.3a
1	GG 214								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	16.1a	7.2a
2	Agral 90	SO		0.1	% V/V	POST	A		
1	GG 214								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	15.5a	6.9a
3	Agral 90	SO		0.2	% V/V	POST	A		
1	GG 214								
1	untreated check							11.6a	5.2a
2	GSS 9299								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	11.3a	5.0a
2	Agral 90	SO		0.1	% V/V	POST	A		
2	GSS 9299								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	11.7a	5.2a
3	Agral 90	SO		0.2	% V/V	POST	A		
2	GSS 9299								
1	untreated check							13.5c	6.0c
3	GH 1861								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	9.2b	4.1b
2	Agral 90	SO		0.1	% V/V	POST	A		
3	GH 1861								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	1.9a	0.8a
3	Agral 90	SO		0.2	% V/V	POST	A		
3	GH 1861								
1	untreated check							15.9c	7.1c
4	GH 2684								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	10.1b	4.5b
2	Agral 90	SO		0.1	% V/V	POST	A		
4	GH 2684								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	5.0a	2.2a
3	Agral 90	SO		0.2	% V/V	POST	A		
4	GH 2684								
1	untreated check							11.2b	5.0c
5	Empire								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	8.3b	3.7b
2	Agral 90	SO		0.1	% V/V	POST	A		
5	Empire								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	0.9a	0.4a
3	Agral 90	SO		0.2	% V/V	POST	A		
5	Empire								
1	untreated check							15.6a	7.0a
6	GH 2547								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	15.9a	7.1a
2	Agral 90	SO		0.1	% V/V	POST	A		
6	GH 2547								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	17.4a	7.8a
3	Agral 90	SO		0.2	% V/V	POST	A		
6	GH 2547								
1	untreated check							11.0b	4.9c
7	GH 2298								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	8.4b	3.7b
2	Agral 90	SO		0.1	% V/V	POST	A		
7	GH 2298								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	1.0a	0.5a
3	Agral 90	SO		0.2	% V/V	POST	A		
7	GH 2298								
1	untreated check							17.7b	7.9b
8	Delmonte 2038								
2	thifensulfuron-methyl 75	DF		6	G A/HA	POST	A	0.1a	0.0a
2	Agral 90	SO		0.1	% V/V	POST	A		
8	Delmonte 2038								
3	thifensulfuron-methyl 75	DF		12	G A/HA	POST	A	0.1a	0.0a
3	Agral 90	SO		0.2	% V/V	POST	A		
8	Delmonte 2038								
								LSD=	3
								CV=	18
									1
									17

Trial Comments

HARVEST DATES: GH 1861 - AUG-22-03. GG 214, GSS 9299, GH 2684, DELMONTE 2038 - AUG-25-03. EMPIRE, GH 2298 - AUG-26-03. GH 2547 - SEP-02-03.

NOTE: PLOT 212 - 36 PLANT FINAL STAND and PLOT 224 - 31 PLANT FINAL STAND.

Conclusions: This trial was maintained weed free to test for the effect of thifensulfuron-methyl applied postemergence (4-5 leaf stage) at 6 and 12 g a.i. ha⁻¹, on eight processing sweet corn cultivars: GG214, Delmonte 2038, GH2547, GSS9299, GH1861, GH2684, Empire, and GH2298.

Sweet corn visual injury ranged from 1 to 45% among the eight varieties at 6 g a.i. ha⁻¹, at 7 DAT. Visual injury consisted of chlorotic bands, similar to those caused by nicosulfuron, and burning around the outer margins of the leaves. Plants also appeared stunted, though height data were not taken until 21 DAT. The level of visual injury declined for all varieties with the exception of Delmonte 2038. By 28 DAT, visual injury ranged from as low as 0% to 85% among the different varieties.

Sweet corn height at 21 DAT, marketable cob weight, and marketable yield showed a significant decrease in all varieties except GG214, GH2547, and GSS9299 – these varieties showed less than 10% visual injury at 6 g a.i. ha⁻¹ of thifensulfuron-methyl.

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

Trial ID: SC03T2A
Location: RCAT - K

Study Dir.: KRISTEN MCNAUGHTON
Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: KRISTEN MCNAUGHTON Title: RESEARCH TECHNICIAN
Investigator: DARREN ROBINSON Title: SCIENTIST

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: Jun-5-03 Planting Method: MONOSEM
Rate: 93860 SEEDS/HA Depth: 4 CM
Row Spacing: 75 CM Spacing Within Row: 14 CM Seed Bed: VERY FINE
Soil Moisture: MOIST Emergence Date: Jun-11-03

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 AI/HA. FIELD WORKED 3X WITH S-TINE CULTIVATOR.

SOIL DESCRIPTION

% Sand: 49.4 % OM: 9.2 Texture: LOAM
% Silt: 33.6 pH: 7.2
% Clay: 17.0 CEC: 20

APPLICATION DESCRIPTION

A

Application Date: Jun-24-03
Time of Day: 8:35 PM
Application Method: CO2 SPRAY
Application Timing: 4-5 LF
Applic. Placement: FOLIAR
Air Temp., Unit: 21.0 C
% Relative Humidity: 65
Wind Velocity, Unit: 4 KPH
Dew Presence (Y/N): N
Soil Temp., Unit: 23 C
Soil Moisture: MOIST
% Cloud Cover: 10

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
Stage Scale: 4-5 LF
Height, Unit: 33 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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T2A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	INJURY	INJURY	INJURY	HEIGHT	MARKET	NONMKT	TOTAL
Rating Data Type	%	%	%	CM	AVG. COB WT	AVG. COB WT	AVG. COB WT
Rating Unit	Jul-2-03	Jul-8-03	Jul-21-03	Jul-15-03	G	G	G
Rating Date	5-7 LF	8-9 LF	10-13 LF	9-12 LF			
Crop Stage	31-42 CM	70-80 CM	1.3-1.7M	0-144CM			
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	6	12	10	111.8	298.80	110.20	207.77
Replicate 2	6	13	10	115.1	298.95	101.52	205.98
Replicate 3	6	11	10	104.6	287.39	119.34	205.09
Replicate 4	5	11	10	101.7	297.68	115.52	212.08

TABLE OF A MEANS

1 untreated check							0a	0a	0a	120.3a	332.84a	127.35	240.07a
2 nicosulfuron	75	DF	25	G A/HA	POST A		6b	14b	13b	106.2b	280.89b	102.84	196.61b
2 Agral 90		SO	0.2	% V/V	POST A								
3 nicosulfuron	75	DF	50	G A/HA	POST A		11c	21c	16c	98.5c	273.40b	104.74	186.51b
3 Agral 90		SO	0.4	% V/V	POST A								
							LSD=1	1	1	7	17	NS	17
							CV= 32	20	13	11	9	52	14

TABLE OF B MEANS

1 GG 214							1	1	0	122.0	335.60	73.60	234.11
2 Delmonte 2038							13	64	67	50.1	108.88	41.50	79.67
3 GH 2547							0	0	0	112.8	327.80	160.45	253.15
4 GG 446							1	0	0	130.6	384.70	183.59	260.10
5 GH 1861							10	7	3	118.4	302.54	86.75	198.86
6 GH 2684							7	7	2	118.6	309.41	99.72	219.53
7 Empire							5	5	2	110.0	311.70	95.15	211.18
8 GH 2298							9	10	5	103.9	285.03	152.41	205.25

TABLE OF AB MEANS

1 untreated check							0a	0a	0a	119.1a	324.50a	69.80	245.35a
1 GG 214													
2 nicosulfuron	75	DF	25	G A/HA	POST A		0a	0a	0a	126.9a	338.09a	77.89	220.93a
2 Agral 90		SO	0.2	% V/V	POST A								
1 GG 214													
3 nicosulfuron	75	DF	50	G A/HA	POST A		3b	3a	1b	120.1a	344.21a	73.12	236.04a
3 Agral 90		SO	0.4	% V/V	POST A								
1 GG 214													
1 untreated check							0a	0a	0a	117.1a	326.64a	124.51	239.02a
2 Delmonte 2038													
2 nicosulfuron	75	DF	25	G A/HA	POST A		15b	93b	100b	0.0c	0.00b	0.00	0.00b
2 Agral 90		SO	0.2	% V/V	POST A								
2 Delmonte 2038													
3 nicosulfuron	75	DF	50	G A/HA	POST A		24c	98c	100b	33.1b	0.00b	0.00	0.00b
3 Agral 90		SO	0.4	% V/V	POST A								
2 Delmonte 2038													
1 untreated check							0a	0a	0a	126.3a	331.29a	164.66	258.02a
3 GH 2547													
2 nicosulfuron	75	DF	25	G A/HA	POST A		0a	0a	0a	123.7a	338.26a	159.72	258.61a
2 Agral 90		SO	0.2	% V/V	POST A								
3 GH 2547													
3 nicosulfuron	75	DF	50	G A/HA	POST A		0a	0a	0a	88.5b	313.84a	156.96	242.81a
3 Agral 90		SO	0.4	% V/V	POST A								
3 GH 2547													
1 untreated check							0a	0a	0a	134.4a	379.43a	182.12	244.30a
4 GG 446													
2 nicosulfuron	75	DF	25	G A/HA	POST A		0a	0a	0a	130.9a	388.89a	183.64	271.76a
2 Agral 90		SO	0.2	% V/V	POST A								
4 GG 446													
3 nicosulfuron	75	DF	50	G A/HA	POST A		1a	0a	0a	126.6a	385.79a	185.00	264.25a
3 Agral 90		SO	0.4	% V/V	POST A								
4 GG 446													
1 untreated check							0a	0a	0a	121.1a	319.58a	74.75	205.30a
5 GH 1861													
2 nicosulfuron	75	DF	25	G A/HA	POST A		9b	4b	1b	122.8a	283.50a	88.06	195.30a
2 Agral 90		SO	0.2	% V/V	POST A								
5 GH 1861													
3 nicosulfuron	75	DF	50	G A/HA	POST A		20c	18c	7c	111.4a	304.55a	97.45	195.97a
3 Agral 90		SO	0.4	% V/V	POST A								
5 GH 1861													
1 untreated check							0a	0a	0a	120.6a	332.21a	100.58	229.81a
6 GH 2684													
2 nicosulfuron	75	DF	25	G A/HA	POST A		7b	4b	1b	122.0a	313.37ab	107.24	230.27a
2 Agral 90		SO	0.2	% V/V	POST A								
6 GH 2684													
3 nicosulfuron	75	DF	50	G A/HA	POST A		15c	16c	6c	113.3a	282.65b	91.32	198.53a

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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T2A

Crop Code						ZEAMS		ZEAMS		ZEAMS		ZEAMS	
Part Rated						TOTAL		TOTAL		MARKET		MARKET	
Rating Data Type						YIELD		YIELD		YIELD		YIELD	
Rating Unit						T/HA		T/AC		T/HA		T/AC	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
2	nicosulfuron	75	DF	25	G A/HA	POST	A	31.2a	13.9a	22.6a	10.1a		
2	Agral 90		SO	0.2	% V/V	POST	A						
3	GH 2547												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	28.7ab	12.8a	20.4a	9.1a		
3	Agral 90		SO	0.4	% V/V	POST	A						
3	GH 2547												
1	untreated check							22.2a	9.9a	10.9a	4.8a		
4	GG 446												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	23.8a	10.6a	14.4a	6.4a		
2	Agral 90		SO	0.2	% V/V	POST	A						
4	GG 446												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	23.7a	10.6a	13.8a	6.1a		
3	Agral 90		SO	0.4	% V/V	POST	A						
4	GG 446												
1	untreated check							19.7a	8.8a	16.3a	7.3a		
5	GH 1861												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	20.2a	9.0a	16.1a	7.2a		
2	Agral 90		SO	0.2	% V/V	POST	A						
5	GH 1861												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	18.2a	8.1a	13.4a	6.0a		
3	Agral 90		SO	0.4	% V/V	POST	A						
5	GH 1861												
1	untreated check							21.1a	9.4a	17.0a	7.6a		
6	GH 2684												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	22.0a	9.8a	17.9a	8.0a		
2	Agral 90		SO	0.2	% V/V	POST	A						
6	GH 2684												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	19.4a	8.6a	15.3a	6.8a		
3	Agral 90		SO	0.4	% V/V	POST	A						
6	GH 2684												
1	untreated check							22.7a	10.1a	18.5a	8.2a		
7	Empire												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	20.1ab	9.0a	16.5ab	7.4ab		
2	Agral 90		SO	0.2	% V/V	POST	A						
7	Empire												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	18.8b	8.4a	13.8b	6.1b		
3	Agral 90		SO	0.4	% V/V	POST	A						
7	Empire												
1	untreated check							19.1a	8.5a	13.2a	5.9a		
8	GH 2298												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	18.2a	8.1ab	11.0a	4.9a		
2	Agral 90		SO	0.2	% V/V	POST	A						
8	GH 2298												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	14.5b	6.5b	4.6b	2.1b		
3	Agral 90		SO	0.4	% V/V	POST	A						
8	GH 2298												
								LSD=3	2	4	2		
								CV= 12	12	19	19		

Trial Comments

HARVEST DATES: August 18, 2003 GH 1861. August 21, 2003 GG 214, Delmonte 2038, GG 446, GH 2684, Empire, and GH 2298. August 25, 2003 GH 2547.

Conclusions: This trial was maintained weed free to test for the effect of nicosulfuron applied postemergence (4-5 leaf stage) at 25 and 50 g a.i. ha⁻¹, on eight processing sweet corn cultivars: GG214, Delmonte 2038, GH2547, GG446, GH1861, GH2684, Empire, and GH2298.

Visual injury was significant in Delmonte 2038, GH1861, GH2684, Empire and GH2298, ranging from 11 to 24% at 50 g a.i. ha⁻¹ at 7 DAT. Though all of these varieties partially recovered from the visual injury, which consisted of chlorosis and burning around the margins of the leaves, it was too great to be considered for registration under the minor use program. GG214, GH2547, and GG446 all showed no to negligible injury (3% or less) at 7, 14 and 28 DAT.

There was a statistically significant reduction in sweet corn height in Delmonte 2038, GH2547. There was also a trend toward reduced height in GH 1861, GH2684, Empire and GH2298. Neither GG214 nor GG446 were stunted by nicosulfuron application.

Marketable cob weight and marketable yields were reduced in Delmonte 2038, GH2684 and GH2298. GH1861 and Empire tended to have lower cob weights and yields at the high rate of nicosulfuron than in the untreated check.

GG214, GH2547 and GG446 showed excellent tolerance to nicosulfuron applied at 25 and 50 g a.i. ha⁻¹ (twice the registered rate).

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

Trial ID: SC03T2B
 Location: HRS - N1

Study Dir.: TODD COWAN
 Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: RESEARCH SCIENTIST
 Affiliation: RIDGETOWN COLLEGE OF AGRICULTURAL 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: May-1-03
 Country: CANADA Planned Completion Date: Dec-31-03

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: Jun-3-03 Planting Method: PRECISION PLANTER
 Rate: 50000 S/H Depth: 5 CM
 Row Spacing: 75 CM Seed Bed: FINE
 Emergence Date: Jun-13-03

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 2002
- 2. EDIBLE BEANS 2001

MAINTENANCE

Field Prep./Maintenance: COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG AI/HA.

SOIL DESCRIPTION

% Sand: 23 % OM: 4 Texture: MEDIUM
 % Silt: 47 pH: 7.7 Soil Name: PERTH CLAY LOAM
 % Clay: 30 CEC: 31

APPLICATION DESCRIPTION

A

Application Date: Jun-24-03
 Time of Day: 7:45 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 20.5 C
 % Relative Humidity: 79
 Wind Velocity, Unit: 2.5 KPH
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 24 C
 Soil Moisture: SB-M SF-D
 % Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS 3 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 PROCESSING SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T2B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated					TOTAL	MARKET	TOTAL	TOTAL	
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG.COB WT	AVG.COB WT	YIELD	YIELD	
Rating Unit	%	%	%	CM	G	G	T/HA	T/AC	
Rating Date	Jul-2-03	Jul-8-03	Jul-22-03	Jul-16-03					
Crop Stage	7 LEAF	9 LEAF	12 LEAF						
Crop Stage Scale	43 CM	72.3 CM	125.5 CM						
Footnote Number	1	1	2						
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	6	9	8	90.1	206.5	331.4	18.6	8.3
Replicate 2	8	9	8	89.1	200.4	326.5	18.9	8.4
Replicate 3	6	9	8	85.6	203.0	331.6	17.7	7.9
Replicate 4	7	9	8	89.5	203.7	328.0	17.0	7.6

TABLE OF A MEANS

1 untreated check					0a	0a	0a	97.4b	211.2	337.6	19.9b	8.9b	
2 nicosulfuron	75	DF	25	G A/HA POST A	6b	12b	13b	85.4a	207.6	333.0	17.4a	7.8a	
2 Agral 90		SO	0.2	% V/V POST A									
3 nicosulfuron	75	DF	50	G A/HA POST A	14c	15c	13b	82.9a	191.4	317.5	16.8a	7.5a	
3 Agral 90		SO	0.4	% V/V POST A									
					LSD=	2	0	0	5	NS	NS	2	1
					CV=	38	6	0	9	14	14	19	19

TABLE OF B MEANS

1 GG 214	0	0	0	90.2	202.8	331.0	18.4	8.2
2 GG 446	0	0	0	103.3	241.4	390.5	24.0	10.7
3 GH 1861	5	2	0	98.1	170.4	309.7	16.9	7.5
4 GH 2684	4	1	0	99.2	206.7	333.9	20.1	9.0
5 Empire	4	3	0	88.3	173.1	315.6	16.9	7.5
6 GH 2547	1	0	0	97.7	224.5	328.6	19.5	8.7
7 GH 2298	12	5	0	88.1	198.9	324.5	20.6	9.2
8 Delmonte 2038	29	60	67	43.5	209.4	301.2	8.1	3.6

TABLE OF AB MEANS

1 untreated check					0a	0a	0a	89.7a	213.4	339.5	19.6a	8.8a
1 GG 214												
2 nicosulfuron	75	DF	25	G A/HA POST A	0a	0a	0a	91.5a	204.5	334.8	17.8a	8.0a
2 Agral 90		SO	0.2	% V/V POST A								
1 GG 214												
3 nicosulfuron	75	DF	50	G A/HA POST A	1a	0a	0a	89.5a	190.7	318.7	17.6a	7.9a
3 Agral 90		SO	0.4	% V/V POST A								
1 GG 214												
1 untreated check					0a	0a	0a	104.3a	254.7	408.1	25.0a	11.2a
2 GG 446												
2 nicosulfuron	75	DF	25	G A/HA POST A	0a	0a	0a	103.7a	241.8	377.1	23.8a	10.6a
2 Agral 90		SO	0.2	% V/V POST A								
2 GG 446												
3 nicosulfuron	75	DF	50	G A/HA POST A	0a	0a	0a	101.9a	227.9	386.2	23.1a	10.3a
3 Agral 90		SO	0.4	% V/V POST A								
2 GG 446												
1 untreated check					0a	0a	0a	102.4b	184.2	323.3	18.4b	8.2b
3 GH 1861												
2 nicosulfuron	75	DF	25	G A/HA POST A	3b	2b	0a	97.4ab	169.6	302.4	16.9ab	7.5ab
2 Agral 90		SO	0.2	% V/V POST A								
3 GH 1861												
3 nicosulfuron	75	DF	50	G A/HA POST A	10c	4c	0	94.5a	157.2	303.3	15.5a	6.9a
3 Agral 90		SO	0.4	% V/V POST A								
3 GH 1861												
1 untreated check					0a	0a	0a	103.5b	219.2	338.5	21.3b	9.5b
4 GH 2684												
2 nicosulfuron	75	DF	25	G A/HA POST A	1a	1a	0a	96.8a	200.6	333.0	20.0ab	8.9ab
2 Agral 90		SO	0.2	% V/V POST A								
4 GH 2684												
3 nicosulfuron	75	DF	50	G A/HA POST A	11b	3b	0a	97.2a	200.3	330.1	19.0a	8.5a
3 Agral 90		SO	0.4	% V/V POST A								
4 GH 2684												
1 untreated check					0a	0a	0a	93.9b	182.1	315.9	17.4a	7.8a
5 Empire												
2 nicosulfuron	75	DF	25	G A/HA POST A	1a	2b	0a	87.4a	166.5	307.6	16.7a	7.5a
2 Agral 90		SO	0.2	% V/V POST A								
5 Empire												
3 nicosulfuron	75	DF	50	G A/HA POST A	10b	7c	0a	83.8a	170.8	323.4	16.6a	7.4a
3 Agral 90		SO	0.4	% V/V POST A								
5 Empire												
1 untreated check					0a	0a	0a	98.4a	225.4	322.8	18.2a	8.1a
6 GH 2547												
2 nicosulfuron	75	DF	25	G A/HA POST A	0a	0a	0a	99.9a	220.0	328.4	19.8ab	8.8ab
2 Agral 90		SO	0.2	% V/V POST A								
6 GH 2547												

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

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T2B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS							
Part Rated	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS							
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG.COB WT	AVG.COB WT	YIELD	YIELD								
Rating Unit	%	%	%	CM	G	G	T/HA	T/AC								
Rating Date	Jul-2-03	Jul-8-03	Jul-22-03	Jul-16-03												
Crop Stage	7 LEAF	9 LEAF	12 LEAF													
Crop Stage Scale	43 CM	72.3 CM	125.5 CM													
Footnote Number	1	1	2													
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									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	2a	1a	0a	94.8a	228.1	334.6	20.5b	9.1b	
3	Agral 90		SO	0.4	% V/V	POST	A									
6	GH 2547															
1	untreated check							0a	0a	0a	90.8b	190.9	321.9	18.1a	8.1a	
7	GH 2298															
2	nicosulfuron	75	DF	25	G A/HA	POST	A	6b	1a	0a	89.0ab	215.9	338.4	22.6b	10.1b	
2	Agral 90		SO	0.2	% V/V	POST	A									
7	GH 2298															
3	nicosulfuron	75	DF	50	G A/HA	POST	A	31c	13b	0a	84.6a	190.0	313.1	21.0b	9.4b	
3	Agral 90		SO	0.4	% V/V	POST	A									
7	GH 2298															
1	untreated check							0a	0a	0a	96.6b	219.7	330.8	21.4b	9.5b	
8	Delmonte 2038															
2	nicosulfuron	75	DF	25	G A/HA	POST	A	40b	90b	100b	17.2a	242.2	342.5	1.6a	0.7a	
2	Agral 90		SO	0.2	% V/V	POST	A									
8	Delmonte 2038															
3	nicosulfuron	75	DF	50	G A/HA	POST	A	48c	91b	100b	16.7a	166.4	230.4	1.2a	0.5a	
3	Agral 90		SO	0.4	% V/V	POST	A									
8	Delmonte 2038															
								LSD=	3	2	0	6	NS	NS	2	1
								CV=	30	12	0	5	13	11	8	8

Column 1 Footnote: INJURY SEEN AS LEAF DISTORTION, NECROSIS AND REDUCED GROWTH.
 Column 2 Footnote: INJURY SEEN AS LEAF DISTORTION, NECROSIS AND REDUCED GROWTH.
 Column 3 Footnote: INJURY SEEN AS REDUCED GROWTH AND NECROSIS

Crop Code	ZEAMS	ZEAMS							
Part Rated	MARKET	MARKET							
Rating Data Type	YIELD	YIELD							
Rating Unit	T/HA	T/AC							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
TABLE OF R MEANS									
Replicate 1								13.0	5.8
Replicate 2								13.1	5.8
Replicate 3								12.0	5.3
Replicate 4								10.7	4.8
TABLE OF A MEANS									
1	untreated check							13.6	6.1
2	nicosulfuron	75	DF	25	G A/HA	POST	A	11.6	5.2
2	Agral 90		SO	0.2	% V/V	POST	A		
3	nicosulfuron	75	DF	50	G A/HA	POST	A	11.4	5.1
3	Agral 90		SO	0.4	% V/V	POST	A		
								LSD=	NS
								CV=	30
TABLE OF B MEANS									
1	GG 214							13.1	5.8
2	GG 446							17.5	7.8
3	GH 1861							11.0	4.9
4	GH 2684							12.8	5.7
5	Empire							9.6	4.3
6	GH 2547							15.7	7.0
7	GH 2298							12.1	5.4
8	Delmonte 2038							5.9	2.7
TABLE OF AB MEANS									
1	untreated check							14.6b	6.5b
1	GG 214								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	12.0a	5.4a
2	Agral 90		SO	0.2	% V/V	POST	A		
1	GG 214								
3	nicosulfuron	75	DF	50	G A/HA	POST	A	12.7ab	5.7ab
3	Agral 90		SO	0.4	% V/V	POST	A		
1	GG 214								
1	untreated check							18.2a	8.1a
2	GG 446								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	17.6a	7.8a
2	Agral 90		SO	0.2	% V/V	POST	A		
2	GG 446								

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

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T2B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ZEAMS		
								MARKET YIELD T/HA	MARKET YIELD T/AC	
3	nicosulfuron	75	DF	50	G A/HA	POST	A	16.8a	7.5a	
3	Agral 90		SO	0.4	% V/V	POST	A			
2	GG 446									
1	untreated check							12.6b	5.6b	
3	GH 1861									
2	nicosulfuron	75	DF	25	G A/HA	POST	A	11.4b	5.1b	
2	Agral 90		SO	0.2	% V/V	POST	A			
3	GH 1861									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9.1a	4.1a	
3	Agral 90		SO	0.4	% V/V	POST	A			
3	GH 1861									
1	untreated check							13.4a	6.0a	
4	GH 2684									
2	nicosulfuron	75	DF	25	G A/HA	POST	A	12.3a	5.5	
2	Agral 90		SO	0.2	% V/V	POST	A			
4	GH 2684									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	12.6a	5.6	
3	Agral 90		SO	0.4	% V/V	POST	A			
4	GH 2684									
1	untreated check							10.1a	4.5a	
5	Empire									
2	nicosulfuron	75	DF	25	G A/HA	POST	A	8.8a	3.9	
2	Agral 90		SO	0.2	% V/V	POST	A			
5	Empire									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9.8a	4.4a	
3	Agral 90		SO	0.4	% V/V	POST	A			
5	Empire									
1	untreated check							14.6a	6.5a	
6	GH 2547									
2	nicosulfuron	75	DF	25	G A/HA	POST	A	15.4ab	6.9ab	
2	Agral 90		SO	0.2	% V/V	POST	A			
6	GH 2547									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	17.1b	7.6b	
3	Agral 90		SO	0.4	% V/V	POST	A			
6	GH 2547									
1	untreated check							9.9a	4.4a	
7	GH 2298									
2	nicosulfuron	75	DF	25	G A/HA	POST	A	14.3c	6.4b	
2	Agral 90		SO	0.2	% V/V	POST	A			
7	GH 2298									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	12.0b	5.3a	
3	Agral 90		SO	0.4	% V/V	POST	A			
7	GH 2298									
1	untreated check							15.8b	7.1b	
8	Delmonte 2038									
2	nicosulfuron	75	DF	25	G A/HA	POST	A	1.1a	0.5a	
2	Agral 90		SO	0.2	% V/V	POST	A			
8	Delmonte 2038									
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0.8a	0.4a	
3	Agral 90		SO	0.4	% V/V	POST	A			
8	Delmonte 2038									
								LSD=	2	1
								CV=	12	12

Trial Comments

HARVEST DATES: GH 1861 - AUG-22-03. GG 214, GH 2684, DELMONTE 2038 - AUG-25-03. EMPIRE, GH 2298 - AUG-26-03. GG 446 - AUG-28-03. GH 2547 - SEP-02-03.

PLOT 219 - 36 FINAL PLANT STAND.

Conclusions: This trial was maintained weed free to test for the effect of nicosulfuron applied postemergence (4-5 leaf stage) at 25 and 50 g a.i. ha⁻¹, on eight processing sweet corn cultivars: GG214, Delmonte 2038, GH2547, GG446, GH1861, GH2684, Empire, and GH2298.

Visual injury was significant in Delmonte 2038, GH1861, GH2684, Empire and GH2298, ranging from 10 to 48% at 50 g a.i. ha⁻¹ at 7 DAT. Though all of these varieties partially recovered from the visual injury, which consisted of chlorosis and burning around the margins of the leaves, it was too great to be considered for registration under the minor use program. GG214, GH2547, and GG446 all showed no to negligible injury (2% or less) at 7, 14 and 28 DAT.

There was a statistically significant reduction in sweet corn height in GH 1861, GH2684, Empire, GG 2298 and Delmonte 2038. GG214, GG446, and GH2547 were not stunted by nicosulfuron application at either rate tested, compared to the untreated check.

There were no statistical differences in marketable cob weight for any varieties treated with nicosulfuron, when compared to the untreated check. However, marketable yields were reduced in GH 1861 and Delmonte 2038.

Of the eight varieties tested, GG214, GH2547 and GG446 showed excellent tolerance to nicosulfuron applied at 25 and 50 g a.i. ha⁻¹ (twice the registered rate).

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - I

Trial ID: SC03T3A
 Location: RCAT - K

Study Dir.: KRISTEN MCNAUGHTON
 Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: KRISTEN MCNAUGHTON Title: RESEARCH TECHNICIAN
 Investigator: DARREN ROBINSON Title: SCIENTIST

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: Jun-5-03 Planting Method: MONOSEM
 Rate: 93860 SEEDS/HA Depth: 4 CM
 Row Spacing: 75 CM Spacing Within Row: 14 CM Seed Bed: VERY FINE
 Soil Moisture: MOIST Emergence Date: Jun-11-03

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 AI/HA. FIELD WORKED 3X WITH S-TINE CULTIVATOR.

SOIL DESCRIPTION

% Sand: 49.4 % OM: 9.2 Texture: LOAM
 % Silt: 33.6 pH: 7.2
 % Clay: 17.0 CEC: 20

APPLICATION DESCRIPTION

A
 Application Date: Jun-24-03
 Time of Day: 9:00 PM
 Application Method: CO2 SPRAY
 Application Timing: 4-5 LF
 Applic. Placement: FOLIAR
 Air Temp., Unit: 18.9 C
 % Relative Humidity: 66
 Wind Velocity, Unit: 2 KPH
 Dew Presence (Y/N): N
 Soil Temp., Unit: 28 C
 Soil Moisture: MOIST
 % Cloud Cover: 5

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: ZEAMS
 Stage Scale: 4-5 LF
 Height, Unit: 30 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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T3A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	INJURY	INJURY	INJURY	HEIGHT	MARKET	NONMKT	TOTAL
Rating Data Type	%	%	%	CM	AVG. COB WT	AVG. COB WT	AVG. COB WT
Rating Unit	Jul-2-03	Jul-8-03	Jul-21-03	Jul-15-03	G	G	G
Rating Date	6-8 LF	8-9 LF	11-13 LF	8-10 LF			
Crop Stage	42-50 CM	60-82 CM	1.2-1.7M	89-137CM			
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	0	0	0	119.7	315.10	119.15	237.17
Replicate 2	0	0	0	115.1	308.06	114.96	222.33
Replicate 3	0	0	0	106.4	293.29	122.05	216.06
Replicate 4	0	0	0	107.1	304.38	163.12	237.44

TABLE OF A MEANS

1	untreated check					0a	0	0	112.3	307.11	155.76	237.94	
2	clpyralid	360	SN	200	G A/HA POST A	0a	0	0	113.5	308.70	119.94	230.08	
3	clpyralid	360	SN	400	G A/HA POST A	0a	0	0	110.5	299.81	113.76	216.74	
						LSD=	0	NS	NS	NS	NS	NS	
						CV=	0	0	0	16	14	93	17

TABLE OF B MEANS

1	GG 214					0	0	0	114.8	315.45	150.79	266.28
2	Delmonte 2038					0	0	0	118.1	339.78	145.01	257.75
3	GH 2547					0	0	0	116.0	310.89	196.63	262.22
4	GSS 9299					1	0	1	102.5	239.35	102.56	188.50
5	GH 1861					1	0	0	111.2	317.13	78.71	209.84
6	GH 2684					0	0	0	116.0	329.30	115.70	226.52
7	Empire					0	0	0	107.7	292.47	127.99	208.54
8	GH 2298					0	0	0	110.3	297.28	121.16	206.35

TABLE OF AB MEANS

1	untreated check					0	0	0a	112.9	304.46	292.28	296.80
1	GG 214					0	0	0a	121.0	332.17	80.39	267.86
2	clpyralid	360	SN	200	G A/HA POST A	0	0	0a	110.4	309.71	79.70	234.19
1	GG 214					0	0	0a	110.4	309.71	79.70	234.19
1	untreated check					0	0	0a	111.5	370.03	146.67	274.66
2	Delmonte 2038					0	0	0a	111.5	370.03	146.67	274.66
2	clpyralid	360	SN	200	G A/HA POST A	0	0	0a	122.6	327.74	158.91	249.43
2	Delmonte 2038					0	0	0a	122.6	327.74	158.91	249.43
3	clpyralid	360	SN	400	G A/HA POST A	1	0	0a	120.1	321.58	129.45	249.17
2	Delmonte 2038					1	0	0a	120.1	321.58	129.45	249.17
1	untreated check					0	0	0a	115.0	316.71	223.30	272.82
3	GH 2547					0	0	0a	115.0	316.71	223.30	272.82
2	clpyralid	360	SN	200	G A/HA POST A	0	0	0a	116.1	313.27	198.84	263.89
3	GH 2547					0	0	0a	116.1	313.27	198.84	263.89
3	clpyralid	360	SN	400	G A/HA POST A	0	0	0a	117.1	302.69	167.74	249.94
3	GH 2547					0	0	0a	117.1	302.69	167.74	249.94
1	untreated check					0	0	0a	104.1	234.49	109.61	193.09
4	GSS 9299					0	0	0a	104.1	234.49	109.61	193.09
2	clpyralid	360	SN	200	G A/HA POST A	1	0	0a	104.4	255.54	101.97	194.94
4	GSS 9299					1	0	0a	104.4	255.54	101.97	194.94
3	clpyralid	360	SN	400	G A/HA POST A	1	1	4b	99.1	228.00	96.12	177.47
4	GSS 9299					1	1	4b	99.1	228.00	96.12	177.47
1	untreated check					0	0	0a	115.0	332.21	94.99	224.00
5	GH 1861					0	0	0a	115.0	332.21	94.99	224.00
2	clpyralid	360	SN	200	G A/HA POST A	1	0	0a	110.5	303.36	65.64	203.49
5	GH 1861					1	0	0a	110.5	303.36	65.64	203.49
3	clpyralid	360	SN	400	G A/HA POST A	1	0	0a	108.1	315.84	75.51	202.04
5	GH 1861					1	0	0a	108.1	315.84	75.51	202.04
1	untreated check					0	0	0a	119.1	328.06	103.32	222.28
6	GH 2684					0	0	0a	119.1	328.06	103.32	222.28
2	clpyralid	360	SN	200	G A/HA POST A	0	0	0a	116.7	334.65	119.69	232.77
6	GH 2684					0	0	0a	116.7	334.65	119.69	232.77
3	clpyralid	360	SN	400	G A/HA POST A	0	0	0a	112.3	325.17	124.08	224.50
6	GH 2684					0	0	0a	112.3	325.17	124.08	224.50
1	untreated check					0	0	0a	108.3	287.75	137.40	213.84
7	Empire					0	0	0a	108.3	287.75	137.40	213.84
2	clpyralid	360	SN	200	G A/HA POST A	0	0	0a	108.2	291.19	127.01	210.64
7	Empire					0	0	0a	108.2	291.19	127.01	210.64
3	clpyralid	360	SN	400	G A/HA POST A	0	0	0a	106.5	298.46	119.55	201.15
7	Empire					0	0	0a	106.5	298.46	119.55	201.15
1	untreated check					0	0	0a	112.2	283.15	138.56	206.01
8	GH 2298					0	0	0a	112.2	283.15	138.56	206.01
2	clpyralid	360	SN	200	G A/HA POST A	1	0	0a	108.6	311.66	107.03	217.58
8	GH 2298					1	0	0a	108.6	311.66	107.03	217.58
3	clpyralid	360	SN	400	G A/HA POST A	0	0	0a	110.1	297.05	117.90	195.47
8	GH 2298					0	0	0a	110.1	297.05	117.90	195.47

LSD=	NS	NS	1	NS	NS	NS	NS	NS
CV=	0	0	0	6	7	66	12	

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T3A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	TOTAL	TOTAL	MARKET	MARKET
Rating Data Type	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/AC	T/HA	T/AC

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	ZEAMS T/HA	ZEAMS T/AC	ZEAMS T/HA	ZEAMS T/AC
TABLE OF R MEANS											
Replicate 1								21.0	9.4	16.4	7.3
Replicate 2								19.7	8.8	14.8	6.6
Replicate 3								19.4	8.6	13.7	6.1
Replicate 4								20.5	9.1	14.6	6.5

TABLE OF A MEANS												
1	untreated check							20.6	9.2	14.8	6.6	
2	clopyralid	360	SN	200	G	A/HA	POST A	20.3	9.0	15.3	6.8	
3	clopyralid	360	SN	400	G	A/HA	POST A	19.6	8.7	14.6	6.5	
								LSD=	NS	NS	NS	
								CV=	17	17	39	39

TABLE OF B MEANS											
1	GG 214							17.2	7.7	14.7	6.5
2	Delmonte 2038							22.6	10.1	17.2	7.7
3	GH 2547							27.5	12.3	18.5	8.2
4	GSS 9299							11.5	5.1	8.7	3.9
5	GH 1861							20.4	9.1	17.0	7.6
6	GH 2684							21.6	9.6	16.3	7.3
7	Empire							20.8	9.3	13.9	6.2
8	GH 2298							19.6	8.7	12.8	5.7

TABLE OF AB MEANS												
1	untreated check							19.4	8.7	15.0	6.7	
1	GG 214											
2	clopyralid	360	SN	200	G	A/HA	POST A	16.8	7.5	15.5	6.9	
1	GG 214											
3	clopyralid	360	SN	400	G	A/HA	POST A	15.4	6.9	13.5	6.0	
1	GG 214											
1	untreated check							22.8	10.2	17.5	7.8	
2	Delmonte 2038											
2	clopyralid	360	SN	200	G	A/HA	POST A	22.7	10.1	16.0	7.1	
2	Delmonte 2038											
3	clopyralid	360	SN	400	G	A/HA	POST A	22.4	10.0	18.0	8.0	
2	Delmonte 2038											
1	untreated check							28.0	12.5	17.3	7.7	
3	GH 2547											
2	clopyralid	360	SN	200	G	A/HA	POST A	27.4	12.2	18.2	8.1	
3	GH 2547											
3	clopyralid	360	SN	400	G	A/HA	POST A	27.0	12.0	20.0	8.9	
3	GH 2547											
1	untreated check							10.7	4.8	8.2	3.7	
4	GSS 9299											
2	clopyralid	360	SN	200	G	A/HA	POST A	12.6	5.6	9.4	4.2	
4	GSS 9299											
3	clopyralid	360	SN	400	G	A/HA	POST A	11.1	4.9	8.6	3.8	
4	GSS 9299											
1	untreated check							21.3	9.5	17.4	7.7	
5	GH 1861											
2	clopyralid	360	SN	200	G	A/HA	POST A	19.4	8.6	16.8	7.5	
5	GH 1861											
3	clopyralid	360	SN	400	G	A/HA	POST A	20.5	9.1	16.9	7.5	
5	GH 1861											
1	untreated check							21.1	9.4	16.5	7.3	
6	GH 2684											
2	clopyralid	360	SN	200	G	A/HA	POST A	22.9	10.2	17.3	7.7	
6	GH 2684											
3	clopyralid	360	SN	400	G	A/HA	POST A	20.8	9.3	15.1	6.7	
6	GH 2684											
1	untreated check							21.0	9.4	14.3	6.4	
7	Empire											
2	clopyralid	360	SN	200	G	A/HA	POST A	20.9	9.3	14.3	6.4	
7	Empire											
3	clopyralid	360	SN	400	G	A/HA	POST A	20.5	9.2	13.1	5.8	
7	Empire											
1	untreated check							20.4	9.1	12.1	5.4	
8	GH 2298											
2	clopyralid	360	SN	200	G	A/HA	POST A	19.5	8.7	14.7	6.6	
8	GH 2298											
3	clopyralid	360	SN	400	G	A/HA	POST A	18.9	8.4	11.6	5.2	
8	GH 2298											
								LSD=	NS	NS	NS	
								CV=	13	13	21	22

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T3A

Trial Comments

HARVEST DATES: August 18, 2003 GH 1861. August 21, 2003 GG 214, Delmonte 2038, GH 2684, Empire, and GH 2298.
August 25, 2003 GH 2547.

Conclusions: This trial was maintained weed free to test for the tolerance of eight sweet corn varieties (GG214, Delmonte 2038, GH2547, GSS9299, GH1861, GH2684, Empire and GH2298) 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. GSS9299 showed slight (4%) visual injury 28 days after treatment, that was associated with a trend toward reduced height, but there was no corresponding reduction in marketable cob size or marketable yield.

There was no effect of clopyralid on sweet corn 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 - I

Trial ID: SC03T3B
 Location: HRS - N1

Study Dir.: TODD COWAN
 Investigator: Darren Robinson

GENERAL TRIAL INFORMATION

Study Director: DARREN ROBINSON Title: RESEARCH SCIENTIST
 Affiliation: RIDGETOWN COLLEGE OF AGRICULTURAL 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: May-1-03
 Country: CANADA Planned Completion Date: Dec-31-03

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: Jun-3-03 Planting Method: PRECISION PLANTER
 Rate: 50000 S/H Depth: 5 CM
 Row Spacing: 75 CM Seed Bed: FINE
 Emergence Date: Jun-13-03

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 2002
 2. EDIBLE BEANS 2001

MAINTENANCE

Field Prep./Maintenance: COVER SPRAY OF PRIMEXTRA II MAGNUM AT 2.16 KG AI/HA.

SOIL DESCRIPTION

% Sand: 23 % OM: 4 Texture: MEDIUM
 % Silt: 47 pH: 7.7 Soil Name: PERTH CLAY LOAM
 % Clay: 30 CEC: 31

APPLICATION DESCRIPTION

A
 Application Date: Jun-24-03
 Time of Day: 8:00 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 20.5 C
 % Relative Humidity: 79
 Wind Velocity, Unit: 2.5 KPH
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 24 C
 Soil Moisture: SB-M SF-D
 % Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: ZEAMS 3 LEAF
 Height, Unit: 16.4 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: SC03T3B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated									
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG.COB WT	AVG.COB WT	YIELD	YIELD	
Rating Unit	%	%	%	CM	G	G	T/HA	T/AC	
Rating Date	Jul-2-03	Jul-8-03	Jul-22-03	Jul-16-03					
Crop Stage	7 LEAF	9 LEAF	11 LEAF						
Crop Stage Scale	35.3 CM	65.8 CM	98.5 CM						
Footnote Number	1	1							
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								
TABLE OF R MEANS															
Replicate 1								0	1	0	83.3	179.9	315.2	16.3	7.3
Replicate 2								0	0	0	85.6	191.2	308.9	17.5	7.8
Replicate 3								0	0	0	78.7	164.7	296.8	14.6	6.5
Replicate 4								0	0	0	86.0	177.4	310.7	16.2	7.2

TABLE OF A MEANS																
1	untreated check							0	0	0a	83.4	177.0	302.0	16.1	7.2	
2	clpyralid	360	SN	200	G A/HA	POST	A	0	0	0a	84.2	180.7	302.0	16.2	7.2	
3	clpyralid	360	SN	400	G A/HA	POST	A	0	1	0a	82.6	177.2	319.7	16.2	7.2	
								LSD=	NS	NS	0	NS	NS	NS	NS	
								CV=	0	0	0	24	18	17	29	30

TABLE OF B MEANS															
1	GG 214							0	0	0	83.9	177.8	314.9	15.6	7.0
2	GSS 9299							0	1	0	78.3	189.0	270.7	14.9	6.7
3	GH 1861							0	0	0	84.4	158.9	302.2	15.7	7.0
4	GH 2684							0	0	0	87.4	181.3	315.3	17.5	7.8
5	Empire							0	0	0	75.6	158.4	309.5	14.8	6.6
6	GH 2547							0	0	0	84.4	182.0	302.1	14.8	6.6
7	GH 2298							0	0	0	79.9	170.2	320.6	15.6	7.0
8	Delmonte 2038							0	0	0	93.3	208.8	328.0	20.1	9.0

TABLE OF AB MEANS															
1	untreated check							0	0	0a	84.9	183.5	316.2	16.1	7.2
1	GG 214														
2	clpyralid	360	SN	200	G A/HA	POST	A	0	0	0a	85.8	177.9	313.1	15.7	7.0
1	GG 214														
3	clpyralid	360	SN	400	G A/HA	POST	A	0	1	0a	81.2	172.2	315.4	15.0	6.7
1	GG 214														
1	untreated check							0	0	0a	78.6	157.7	270.2	12.7	5.7
2	GSS 9299														
2	clpyralid	360	SN	200	G A/HA	POST	A	0	0	0a	78.9	245.5	266.5	18.7	8.3
2	GSS 9299														
3	clpyralid	360	SN	400	G A/HA	POST	A	1	2	0a	77.3	163.7	275.6	13.5	6.0
2	GSS 9299														
1	untreated check							0	0	0a	82.5	163.1	308.8	16.1	7.2
3	GH 1861														
2	clpyralid	360	SN	200	G A/HA	POST	A	1	0	0a	88.5	150.8	293.3	15.2	6.8
3	GH 1861														
3	clpyralid	360	SN	400	G A/HA	POST	A	1	1	0a	82.3	163.0	304.3	15.9	7.1
3	GH 1861														
1	untreated check							0	0	0a	88.5	189.8	297.9	18.4	8.2
4	GH 2684														
2	clpyralid	360	SN	200	G A/HA	POST	A	0	0	0a	87.6	174.9	313.9	17.1	7.6
4	GH 2684														
3	clpyralid	360	SN	400	G A/HA	POST	A	0	0	0a	86.2	179.1	334.0	17.0	7.6
4	GH 2684														
1	untreated check							0	0	0a	76.6	165.5	297.6	15.2	6.8
5	Empire														
2	clpyralid	360	SN	200	G A/HA	POST	A	0	1	0a	75.0	156.2	298.1	14.3	6.4
5	Empire														
3	clpyralid	360	SN	400	G A/HA	POST	A	0	1	0a	75.2	153.4	332.7	15.0	6.7
5	Empire														
1	untreated check							0	0	0a	86.2	180.3	300.7	14.5	6.5
6	GH 2547														
2	clpyralid	360	SN	200	G A/HA	POST	A	1	0	0a	83.5	177.5	291.9	13.7	6.1
6	GH 2547														
3	clpyralid	360	SN	400	G A/HA	POST	A	0	0	0a	83.5	188.2	313.6	16.1	7.2
6	GH 2547														
1	untreated check							0	0	0a	79.1	168.4	311.8	15.5	6.9
7	GH 2298														
2	clpyralid	360	SN	200	G A/HA	POST	A	0	0	0a	79.8	164.0	312.1	15.4	6.9
7	GH 2298														
3	clpyralid	360	SN	400	G A/HA	POST	A	0	0	0a	80.9	178.2	337.8	15.9	7.1
7	GH 2298														
1	untreated check							0	0	0a	91.0	207.9	313.0	19.9	8.9
8	Delmonte 2038														
2	clpyralid	360	SN	200	G A/HA	POST	A	0	1	0a	94.9	198.7	326.9	19.5	8.7
8	Delmonte 2038														
3	clpyralid	360	SN	400	G A/HA	POST	A	0	0	0a	93.9	219.9	344.1	21.0	9.4
8	Delmonte 2038														
								LSD=	NS	NS	0	NS	NS	NS	NS
								CV=	0	0	0	6	18	7	17

Column 1 Footnote: INJURY SEEN AS REDUCED GROWTH and Column 2 Footnote: INJURY SEEN AS REDUCED GROWTH

TOLERANCE OF EIGHT SWEET CORN HYBRIDS TO CLOPYRALID - II

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T3B

Crop Code							ZEAMS	ZEAMS
Part Rated							MARKET	MARKET
Rating Data Type							YIELD	YIELD
Rating Unit							T/HA	T/AC

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								8.4	3.7
Replicate 2								8.8	3.9
Replicate 3								5.8	2.6
Replicate 4								8.4	3.8

TABLE OF A MEANS

1	untreated check							8.2	3.7
2	clopyralid	360	SN	200	G	A/HA	POST A	7.2	3.2
3	clopyralid	360	SN	400	G	A/HA	POST A	8.1	3.6
								LSD= NS	NS
								CV= 95	94

TABLE OF B MEANS

1	GG 214							8.8	3.9
2	GSS 9299							6.5	2.9
3	GH 1861							8.3	3.7
4	GH 2684							6.0	2.7
5	Empire							4.9	2.2
6	GH 2547							9.4	4.2
7	GH 2298							5.4	2.4
8	Delmonte 2038							13.6	6.1

TABLE OF AB MEANS

1	untreated check							9.4	4.2
1	GG 214								
2	clopyralid	360	SN	200	G	A/HA	POST A	8.7	3.9
1	GG 214								
3	clopyralid	360	SN	400	G	A/HA	POST A	8.1	3.6
1	GG 214								
1	untreated check							6.2	2.8
2	GSS 9299								
2	clopyralid	360	SN	200	G	A/HA	POST A	6.7	3.0
2	GSS 9299								
3	clopyralid	360	SN	400	G	A/HA	POST A	6.5	2.9
2	GSS 9299								
1	untreated check							9.3	4.2
3	GH 1861								
2	clopyralid	360	SN	200	G	A/HA	POST A	7.3	3.3
3	GH 1861								
3	clopyralid	360	SN	400	G	A/HA	POST A	8.2	3.7
3	GH 1861								
1	untreated check							6.2	2.7
4	GH 2684								
2	clopyralid	360	SN	200	G	A/HA	POST A	6.2	2.8
4	GH 2684								
3	clopyralid	360	SN	400	G	A/HA	POST A	5.7	2.5
4	GH 2684								
1	untreated check							6.3	2.8
5	Empire								
2	clopyralid	360	SN	200	G	A/HA	POST A	3.5	1.6
5	Empire								
3	clopyralid	360	SN	400	G	A/HA	POST A	4.8	2.1
5	Empire								
1	untreated check							9.6	4.3
6	GH 2547								
2	clopyralid	360	SN	200	G	A/HA	POST A	8.3	3.7
6	GH 2547								
3	clopyralid	360	SN	400	G	A/HA	POST A	10.3	4.6
6	GH 2547								
1	untreated check							5.2	2.3
7	GH 2298								
2	clopyralid	360	SN	200	G	A/HA	POST A	4.5	2.0
7	GH 2298								
3	clopyralid	360	SN	400	G	A/HA	POST A	6.6	3.0
7	GH 2298								
1	untreated check							13.6	6.0
8	Delmonte 2038								
2	clopyralid	360	SN	200	G	A/HA	POST A	12.3	5.5
8	Delmonte 2038								
3	clopyralid	360	SN	400	G	A/HA	POST A	14.9	6.6
8	Delmonte 2038								

LSD= NS NS
CV= 23 12

Trial Comments

HARVEST DATES: GH 1861 - AUG-22-03. GG 214, GSS 9299, GH 2684 - AUG-25-03. EMPIRE, GH 2298, DELMONTE 2038 - AUG-27-03. GH 2547 - SEP-02-03.

PLOT203 - 36 FINAL PLANT STAND and PLOT 208 - 32 FINAL PLANT STAND and PLOT 218 - 34 FINAL PLANT STAND and PLOT 224 - 34 FINAL PLANT STAND.

Conclusions: This trial was maintained weed free to test for the tolerance of eight sweet corn varieties (GG214, Delmonte 2038, GH2547, GSS9299, GH1861, GH2684, Empire and GH2298) 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. In all cases, where visual injury was observed, it was less than 3%, regardless of variety or clopyralid rate.

There was no effect of clopyralid on sweet corn 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 FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXYNIL - I

Trial ID: SC03T5A
 Location: RCAT - K

Study Dir.: KRISTEN MCNAUGHTON
 Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: KRISTEN MCNAUGHTON Title: RESEARCH TECHNICIAN
 Investigator: DARREN ROBINSON Title: SCIENTIST

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: Jun-5-03 Planting Method: MONOSEM
 Rate: 93860 SEEDS/HA Depth: 4 CM
 Row Spacing: 75 CM Spacing Within Row: 14 CM Seed Bed: VERY FINE
 Soil Moisture: MOIST Emergence Date: Jun-11-03

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 AI/HA. FIELD WORKED 3X WITH S-TINE CULTIVATOR.

SOIL DESCRIPTION

% Sand: 49.4 % OM: 9.2 Texture: LOAM
 % Silt: 33.6 pH: 7.2
 % Clay: 17.0 CEC: 20

APPLICATION DESCRIPTION

A

Application Date: Jun-24-03
 Time of Day: 9:30 PM
 Application Method: CO2 SPRAY
 Application Timing: 4-5 LF
 Applic. Placement: FOLIAR
 Air Temp., Unit: 18.9 C
 % Relative Humidity: 66
 Wind Velocity, Unit: 2 KPH
 Dew Presence (Y/N): N
 Soil Temp., Unit: 28 C
 Soil Moisture: MOIST
 % Cloud Cover: 5

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
 Stage Scale: 4-5 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 FOUR SWEET CORN HYBRIDS TO A POSTEMERGENCE TANK MIX OF NICOSULFURON PLUS BROMOXNYL - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T5A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated					MARKET	NONMKT	TOTAL
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG. COB WT	AVG. COB WT	AVG. COB WT
Rating Unit	%	%	%	CM	G	G	G
Rating Date	Jul-2-03	Jul-8-03	Jul-21-03	Jul-15-03	Aug-27-03	Aug-27-03	Aug-27-03
Crop Stage	5 LF	5-9 LF	11-12 LF	9-10 LF			
Crop Stage Scale	23-25 CM	25-80 CM	1.2-1.7M	54-128CM			
Tri-Eval Interval	7 DAT	14 DAT	28 DAT	21 DAT	64 DAT	64 DAT	64 DAT

Tri No.	Treatment	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
TABLE OF R MEANS														
Replicate 1								5	4	2	96.2	293.71	81.75	213.86
Replicate 2								4	3	1	79.4	270.60	112.57	199.71
Replicate 3								3	2	1	69.3	275.56	145.85	197.65
Replicate 4								3	2	1	73.1	286.86	118.02	201.65

TABLE OF A MEANS															
1	untreated check							0a	0a	0a	83.7	289.90	123.37	208.41	
2	nicosulfuron	75	DF	25	G A/HA	POST A		1b	1ab	0a	88.7	286.64	106.23	212.38	
2	Agral 90		SO	0.2	% V/V	POST A									
3	nicosulfuron	75	DF	50	G A/HA	POST A		2c	3cd	1a	78.3	284.13	115.27	201.33	
3	Agral 90		SO	0.4	% V/V	POST A									
4	bromoxynil	280	EC	280	G A/HA	POST A		3d	2bc	1a	83.1	286.12	101.64	200.94	
5	bromoxynil	280	EC	560	G A/HA	POST A		5e	3cd	0a	77.3	278.84	114.41	206.26	
6	nicosulfuron	75	DF	25	G A/HA	POST A		6f	4d	1a	77.3	270.52	114.01	195.92	
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		8g	7e	4b	68.3	275.63	126.91	197.29	
7	bromoxynil	280	EC	560	G A/HA	POST A									
7	Agral 90		SO	0.4	% V/V	POST A									
								LSD=	1	2	2	NS	NS	NS	NS
								CV=	44	106	204	24	13	32	12

TABLE OF B MEANS														
1	FTF 246							3	2	0	92.8	302.95	136.33	212.77
2	BSS 5362							5	5	2	77.3	273.77	110.94	188.19
3	CNS 710R							3	2	1	75.8	301.70	122.61	217.72
4	GSS 9299							3	2	1	72.2	248.32	88.31	194.20

TABLE OF AB MEANS														
1	untreated check							0a	0a	0	92.0	301.77	154.00	221.81
1	FTF 246													
2	nicosulfuron	75	DF	25	G A/HA	POST A		0a	0a	0	100.6	308.82	124.32	207.88
2	Agral 90		SO	0.2	% V/V	POST A								
1	FTF 246													
3	nicosulfuron	75	DF	50	G A/HA	POST A		1a	0a	0	94.8	306.61	139.87	215.34
3	Agral 90		SO	0.4	% V/V	POST A								
1	FTF 246													
4	bromoxynil	280	EC	280	G A/HA	POST A		3b	1a	0	102.3	297.77	93.68	196.44
1	FTF 246													
5	bromoxynil	280	EC	560	G A/HA	POST A		6c	3b	0	92.3	301.95	144.73	223.77
1	FTF 246													
6	nicosulfuron	75	DF	25	G A/HA	POST A		7c	3b	1	89.1	299.68	141.96	214.01
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		7c	7c	2	78.2	304.06	155.78	210.18
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	0	83.7	292.14	121.41	203.98
2	BSS 5362													
2	nicosulfuron	75	DF	25	G A/HA	POST A		4b	6c	1	85.4	271.17	98.79	187.00
2	Agral 90		SO	0.2	% V/V	POST A								
2	BSS 5362													
3	nicosulfuron	75	DF	50	G A/HA	POST A		6c	9d	3	74.4	273.04	126.47	185.46
3	Agral 90		SO	0.4	% V/V	POST A								
2	BSS 5362													
4	bromoxynil	280	EC	280	G A/HA	POST A		3b	3b	1	78.7	279.58	109.08	198.80
2	BSS 5362													
5	bromoxynil	280	EC	560	G A/HA	POST A		6c	3b	1	75.5	264.96	100.83	188.19
2	BSS 5362													
6	nicosulfuron	75	DF	25	G A/HA	POST A		6c	6c	3	76.3	261.64	101.97	179.55
6	bromoxynil	280	EC	280	G A/HA	POST A								
6	Agral 90		SO	0.2	% V/V	POST A								
2	BSS 5362													
7	nicosulfuron	75	DF	50	G A/HA	POST A		10d	10d	7	66.8	273.85	118.02	174.35
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	0	78.9	320.38	131.75	212.09
3	CNS 710R													

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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T5A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS							
Part Rated	INJURY	INJURY	INJURY	HEIGHT	MARKET	NONMKT	TOTAL								
Rating Data Type	%	%	%	CM	AVG. COB WT	AVG. COB WT	AVG. COB WT								
Rating Unit	Jul-2-03	Jul-8-03	Jul-21-03	Jul-15-03	G	G	G								
Rating Date	5 LF	5-9 LF	11-12 LF	9-10 LF	Aug-27-03	Aug-27-03	Aug-27-03								
Crop Stage	23-25 CM	25-80 CM	1.2-1.7M	54-128CM											
Crop Stage Scale	7 DAT	14 DAT	28 DAT	21 DAT	64 DAT	64 DAT	64 DAT								
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0	88.4	293.91	109.86	233.62	
2	Agral 90		SO	0.2	% V/V	POST	A								
3	CNS 710R														
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0a	0	73.3	310.82	133.36	214.10	
3	Agral 90		SO	0.4	% V/V	POST	A								
3	CNS 710R														
4	bromoxynil	280	EC	280	G A/HA	POST	A	3b	3b	1	76.6	317.03	116.18	224.33	
3	CNS 710R														
5	bromoxynil	280	EC	560	G A/HA	POST	A	5c	3b	0	71.8	301.36	120.82	224.78	
3	CNS 710R														
6	nicosulfuron	75	DF	25	G A/HA	POST	A	6cd	3b	1	74.6	278.74	124.90	200.77	
6	bromoxynil	280	EC	280	G A/HA	POST	A								
6	Agral 90		SO	0.2	% V/V	POST	A								
3	CNS 710R														
7	nicosulfuron	75	DF	50	G A/HA	POST	A	7d	5b	4	67.1	289.65	121.40	214.33	
7	bromoxynil	280	EC	560	G A/HA	POST	A								
7	Agral 90		SO	0.4	% V/V	POST	A								
3	CNS 710R														
1	untreated check							0a	0a	0	80.1	245.32	86.30	195.75	
4	GSS 9299														
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0	80.2	272.68	91.93	221.00	
2	Agral 90		SO	0.2	% V/V	POST	A								
4	GSS 9299														
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	1ab	1	70.6	246.06	61.39	190.44	
3	Agral 90		SO	0.4	% V/V	POST	A								
4	GSS 9299														
4	bromoxynil	280	EC	280	G A/HA	POST	A	2b	3bc	1	74.9	250.11	87.61	184.21	
4	GSS 9299														
5	bromoxynil	280	EC	560	G A/HA	POST	A	4c	2ab	1	69.4	247.09	91.28	188.31	
4	GSS 9299														
6	nicosulfuron	75	DF	25	G A/HA	POST	A	6d	3bc	1	69.1	242.04	87.21	189.37	
6	bromoxynil	280	EC	280	G A/HA	POST	A								
6	Agral 90		SO	0.2	% V/V	POST	A								
4	GSS 9299														
7	nicosulfuron	75	DF	50	G A/HA	POST	A	7d	5c	6	61.1	234.95	112.45	190.30	
7	bromoxynil	280	EC	560	G A/HA	POST	A								
7	Agral 90		SO	0.4	% V/V	POST	A								
4	GSS 9299														
								LSD=	2	3	NS	NS	NS	NS	NS
								CV=	45	73	165	8	6	21	9

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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T5A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	TOTAL	TOTAL	MARKET	MARKET
Rating Data Type	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/AC	T/HA	T/AC
Rating Date	Aug-27-03	Aug-27-03	Aug-27-03	Aug-27-03
Trt-Eval Interval	64 DAT	64 DAT	64 DAT	64 DAT

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

Replicate 1								17.0	7.6	14.3	6.4
Replicate 2								14.8	6.6	10.6	4.7
Replicate 3								16.6	7.4	8.7	3.9
Replicate 4								18.8	8.4	12.3	5.5

TABLE OF A MEANS

1	untreated check							17.4	7.7	11.1	5.0
2	nicosulfuron	75	DF	25	G A/HA	POST	A	17.2	7.7	12.8	5.7
2	Agral 90		SO	0.2	% V/V	POST	A				
3	nicosulfuron	75	DF	50	G A/HA	POST	A	17.3	7.7	11.0	4.9
3	Agral 90		SO	0.4	% V/V	POST	A				
4	bromoxynil	280	EC	280	G A/HA	POST	A	16.9	7.5	12.3	5.5
5	bromoxynil	280	EC	560	G A/HA	POST	A	16.9	7.5	12.3	5.5
6	nicosulfuron	75	DF	25	G A/HA	POST	A	16.4	7.3	11.3	5.0
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	15.8	7.0	9.5	4.2
7	bromoxynil	280	EC	560	G A/HA	POST	A				
7	Agral 90		SO	0.4	% V/V	POST	A				

LSD= NS NS NS NS
CV= 18 18 41 41

TABLE OF B MEANS

1	FTF 246							18.4	8.2	11.0	4.9
2	BSS 5362							19.9	8.9	13.3	6.0
3	CNS 710R							16.2	7.2	11.1	4.9
4	GSS 9299							12.7	5.7	10.5	4.7

TABLE OF AB MEANS

1	untreated check							18.7	8.3	9.8	4.4
1	FTF 246										
2	nicosulfuron	75	DF	25	G A/HA	POST	A	18.9	8.4	12.0	5.3
2	Agral 90		SO	0.2	% V/V	POST	A				
1	FTF 246										
3	nicosulfuron	75	DF	50	G A/HA	POST	A	19.0	8.5	11.3	5.0
3	Agral 90		SO	0.4	% V/V	POST	A				
1	FTF 246										
4	bromoxynil	280	EC	280	G A/HA	POST	A	17.7	7.9	13.1	5.8
1	FTF 246										
5	bromoxynil	280	EC	560	G A/HA	POST	A	18.6	8.3	11.6	5.2
1	FTF 246										
6	nicosulfuron	75	DF	25	G A/HA	POST	A	18.1	8.1	10.8	4.8
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	17.9	8.0	8.3	3.7
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							21.4	9.5	14.0	6.2
2	BSS 5362										
2	nicosulfuron	75	DF	25	G A/HA	POST	A	20.0	8.9	14.7	6.6
2	Agral 90		SO	0.2	% V/V	POST	A				
2	BSS 5362										
3	nicosulfuron	75	DF	50	G A/HA	POST	A	19.3	8.6	10.7	4.8
3	Agral 90		SO	0.4	% V/V	POST	A				
2	BSS 5362										
4	bromoxynil	280	EC	280	G A/HA	POST	A	20.9	9.3	14.9	6.6
2	BSS 5362										
5	bromoxynil	280	EC	560	G A/HA	POST	A	20.6	9.2	15.6	6.9
2	BSS 5362										
6	nicosulfuron	75	DF	25	G A/HA	POST	A	19.4	8.7	13.7	6.1
6	bromoxynil	280	EC	280	G A/HA	POST	A				
6	Agral 90		SO	0.2	% V/V	POST	A				
2	BSS 5362										
7	nicosulfuron	75	DF	50	G A/HA	POST	A	18.1	8.1	9.9	4.4
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							16.3	7.3	9.5	4.2
3	CNS 710R										
2	nicosulfuron	75	DF	25	G A/HA	POST	A	16.7	7.5	12.9	5.8
2	Agral 90		SO	0.2	% V/V	POST	A				
3	CNS 710R										

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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T5A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	TOTAL	TOTAL	MARKET	MARKET
Rating Data Type	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/AC	T/HA	T/AC
Rating Date	Aug-27-03	Aug-27-03	Aug-27-03	Aug-27-03
Trt-Eval Interval	64 DAT	64 DAT	64 DAT	64 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
3	nicosulfuron	75	DF	50	G A/HA	POST	A	18.0	8.0	11.0	4.9	
3	Agral 90		SO	0.4	% V/V	POST	A					
3	CNS 710R											
4	bromoxynil	280	EC	280	G A/HA	POST	A	16.3	7.3	11.4	5.1	
3	CNS 710R											
5	bromoxynil	280	EC	560	G A/HA	POST	A	15.3	6.8	11.6	5.2	
3	CNS 710R											
6	nicosulfuron	75	DF	25	G A/HA	POST	A	15.1	6.7	9.9	4.4	
6	bromoxynil	280	EC	280	G A/HA	POST	A					
6	Agral 90		SO	0.2	% V/V	POST	A					
3	CNS 710R											
7	nicosulfuron	75	DF	50	G A/HA	POST	A	15.6	6.9	11.1	4.9	
7	bromoxynil	280	EC	560	G A/HA	POST	A					
7	Agral 90		SO	0.4	% V/V	POST	A					
3	CNS 710R											
1	untreated check							13.1	5.8	11.3	5.0	
4	GSS 9299											
2	nicosulfuron	75	DF	25	G A/HA	POST	A	13.2	5.9	11.6	5.2	
2	Agral 90		SO	0.2	% V/V	POST	A					
4	GSS 9299											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	12.9	5.8	11.0	4.9	
3	Agral 90		SO	0.4	% V/V	POST	A					
4	GSS 9299											
4	bromoxynil	280	EC	280	G A/HA	POST	A	12.6	5.6	10.0	4.5	
4	GSS 9299											
5	bromoxynil	280	EC	560	G A/HA	POST	A	12.9	5.7	10.4	4.7	
4	GSS 9299											
6	nicosulfuron	75	DF	25	G A/HA	POST	A	12.8	5.7	10.7	4.8	
6	bromoxynil	280	EC	280	G A/HA	POST	A					
6	Agral 90		SO	0.2	% V/V	POST	A					
4	GSS 9299											
7	nicosulfuron	75	DF	50	G A/HA	POST	A	11.6	5.2	8.7	3.9	
7	bromoxynil	280	EC	560	G A/HA	POST	A					
7	Agral 90		SO	0.4	% V/V	POST	A					
4	GSS 9299											
								LSD=	NS	NS	NS	NS
								CV=	7	7	23	23

Trial Comments

Conclusions: This trial was maintained weed free to test for the tolerance of four sweet corn varieties (FTF246, BSS5362, CNS710R, GSS9299) to a tank mix of nicosulfuron+bromoxynil applied postemergence (4-5 leaf stage) at 25+280 and 50+560 g a.i. ha⁻¹. 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 BSS5362 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%. There was no increase in injury to FTF246, CNS710 or GSS9299 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 (50+560 g a.i. ha⁻¹) caused commercially unacceptable visual injury to BSS5362 at 7 and 14 days after treatment. By 28 days after treatment, visual injury was commercially acceptable (<10%). 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

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T5B

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	INJURY	INJURY	INJURY	HEIGHT	TOTAL	MARKET	TOTAL	TOTAL	
Rating Data Type	%	%	%	CM	AVG.COB WT	AVG.COB WT	YIELD	YIELD	
Rating Unit	7 LEAF	9 LEAF	12 LEAF		G	G	T/HA	T/AC	
Rating Date	Jul-3-03	Jul-8-03	Jul-22-03	Jul-14-03					
Crop Stage	32.8 CM	56.3 CM	89.3 CM						
Crop Stage Scale	1	2							
Footnote Number	7 DAT	14 DAT	28 DAT	21 DAT					
Trt-Eval Interval									

Trt	Treatment	Form	Form	Rate	Rate	Grow	Appl						
No.	Name	Conc	Type		Unit	Stg	Code						

TABLE OF R MEANS

Replicate 1	3	1	0	74.2	179.1	303.8	16.1	7.2
Replicate 2	3	0	0	78.5	177.5	303.9	15.7	7.0
Replicate 3	2	1	0	66.8	178.0	300.3	15.6	7.0
Replicate 4	2	0	0	77.5	186.3	307.9	17.1	7.6

TABLE OF A MEANS

1	untreated check					0a	0	0a	74.2	181.9	307.9	15.9	7.1		
2	nicosulfuron	75	DF	25	G A/HA	POST	A	1ab	0	0a	72.6	173.1	298.9	15.1	6.8
2	Agral 90		SO	0.2	% V/V	POST	A								
3	nicosulfuron	75	DF	50	G A/HA	POST	A	3c	0	0a	76.4	177.5	305.6	15.8	7.0
3	Agral 90		SO	0.4	% V/V	POST	A								
4	bromoxynil	280	EC	280	G A/HA	POST	A	1ab	0	0a	75.8	185.4	304.3	16.2	7.2
5	bromoxynil	280	EC	560	G A/HA	POST	A	2bc	0	0a	72.0	184.5	302.6	16.4	7.3
6	nicosulfuron	75	DF	25	G A/HA	POST	A	3c	1	0a	77.4	183.8	305.2	16.8	7.5
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	7d	1	0a	71.3	175.3	303.5	16.6	7.4
7	bromoxynil	280	EC	560	G A/HA	POST	A								
7	Agral 90		SO	0.4	% V/V	POST	A								
						LSD=	1	NS	0	NS	NS	NS	NS	NS	NS
						CV=	53	257	0	9	10	7	15	15	

TABLE OF B MEANS

1	FTF 246					3	0	0	82.9	167.3	297.6	15.5	6.9
2	BSS 5362					5	1	0	72.0	177.5	308.9	19.0	8.5
3	HMX 8344					1	0	0	69.0	182.8	293.0	14.7	6.6
4	CNS 710R					1	0	0	73.1	193.3	316.6	15.3	6.8

TABLE OF AB MEANS

1	untreated check					0a	0	0a	82.1abc	169.4	302.8	14.7	6.6		
1	FTF 246														
2	nicosulfuron	75	DF	25	G A/HA	POST	A	1ab	1	0a	79.1c	161.8	284.0	14.2	6.3
2	Agral 90		SO	0.2	% V/V	POST	A								
1	FTF 246														
3	nicosulfuron	75	DF	50	G A/HA	POST	A	2bc	0	0a	80.8c	163.4	300.3	15.0	6.7
3	Agral 90		SO	0.4	% V/V	POST	A								
1	FTF 246														
4	bromoxynil	280	EC	280	G A/HA	POST	A	2bc	0	0a	87.6ab	174.2	292.3	15.8	7.0
1	FTF 246														
5	bromoxynil	280	EC	560	G A/HA	POST	A	3c	0	0a	81.6bc	169.9	294.8	15.4	6.9
1	FTF 246														
6	nicosulfuron	75	DF	25	G A/HA	POST	A	2bc	0	0a	87.8a	166.2	305.6	16.1	7.2
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	8d	1	0a	81.5c	166.2	303.4	17.3	7.7
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	0	0a	74.1a	190.6	320.8	18.8	8.4		
2	BSS 5362														
2	nicosulfuron	75	DF	25	G A/HA	POST	A	2b	1	0a	74.1a	169.1	304.6	17.6	7.8
2	Agral 90		SO	0.2	% V/V	POST	A								
2	BSS 5362														
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9c	2	0a	72.1a	168.7	298.2	18.2	8.1
3	Agral 90		SO	0.4	% V/V	POST	A								
2	BSS 5362														
4	bromoxynil	280	EC	280	G A/HA	POST	A	2b	0	0a	75.7a	179.0	313.4	19.4	8.7
2	BSS 5362														
5	bromoxynil	280	EC	560	G A/HA	POST	A	3b	0	0a	70.3ab	191.4	312.5	20.0	8.9
2	BSS 5362														
6	nicosulfuron	75	DF	25	G A/HA	POST	A	8c	3	0a	73.3a	176.4	306.4	20.3	9.0
6	bromoxynil	280	EC	280	G A/HA	POST	A								
6	Agral 90		SO	0.2	% V/V	POST	A								
2	BSS 5362														
7	nicosulfuron	75	DF	50	G A/HA	POST	A	13d	3	0a	64.3b	167.3	306.3	18.9	8.4
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	0	0a	67.7ab	173.8	288.2	14.3	6.4		
3	HMX 8344														

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

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T5B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ZEAMS %	ZEAMS %	ZEAMS %	ZEAMS HEIGHT CM	ZEAMS TOTAL AVG.COB WT G	ZEAMS MARKET AVG.COB WT G	ZEAMS TOTAL YIELD T/HA	ZEAMS TOTAL YIELD T/AC	
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0	0a	67.1ab	174.5	287.5	14.2	6.3	
2	Agral 90		SO	0.2	% V/V	POST	A									
3	HMX 8344															
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0	0a	72.5a	184.0	300.4	14.4	6.4	
3	Agral 90		SO	0.4	% V/V	POST	A									
3	HMX 8344															
4	bromoxynil	280	EC	280	G A/HA	POST	A	1ab	0	0a	65.2b	192.0	290.5	14.6	6.5	
3	HMX 8344															
5	bromoxynil	280	EC	560	G A/HA	POST	A	2b	0	0a	67.3ab	181.4	296.7	14.9	6.7	
3	HMX 8344															
6	nicosulfuron	75	DF	25	G A/HA	POST	A	2b	0	0a	72.1a	194.9	293.6	15.2	6.8	
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	4c	0	0a	71.1ab	179.2	293.8	15.3	6.8	
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	0	0a	73.0bcd	193.7	319.9	15.7	7.0	
4	CNS 710R															
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0	0a	70.3cd	187.2	319.3	14.6	6.5	
2	Agral 90		SO	0.2	% V/V	POST	A									
4	CNS 710R															
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0	0a	80.3a	194.1	323.5	15.5	6.9	
3	Agral 90		SO	0.4	% V/V	POST	A									
4	CNS 710R															
4	bromoxynil	280	EC	280	G A/HA	POST	A	1ab	0	0a	74.7abc	196.4	321.0	15.1	6.7	
4	CNS 710R															
5	bromoxynil	280	EC	560	G A/HA	POST	A	2b	0	0a	68.9cd	195.2	306.3	15.3	6.8	
4	CNS 710R															
6	nicosulfuron	75	DF	25	G A/HA	POST	A	2b	0	0a	76.4ab	197.8	315.2	15.7	7.0	
6	bromoxynil	280	EC	280	G A/HA	POST	A									
6	Agral 90		SO	0.2	% V/V	POST	A									
4	CNS 710R															
7	nicosulfuron	75	DF	50	G A/HA	POST	A	6c	1	0a	68.3d	188.5	310.7	14.9	6.6	
7	bromoxynil	280	EC	560	G A/HA	POST	A									
7	Agral 90		SO	0.4	% V/V	POST	A									
4	CNS 710R															
								LSD=	2	NS	0	6	NS	NS	NS	
								CV=	53	377	0	6	7	4	7	7

Column 1 Footnote: INJURY SYMPTOMS SEEN AS REDUCED GROWTH, LEAF DISTORTION, NECROSIS
 Column 2 Footnote: INJURY SEEN AS CHLOROSIS

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

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T5B

Crop Code		ZEAMS		ZEAMS					
Part Rated		MARKET		MARKET					
Rating Data Type		YIELD		YIELD					
Rating Unit		T/HA		T/AC					
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	Appl Code		
TABLE OF R MEANS									
	Replicate 1							9.8	4.4
	Replicate 2							8.9	4.0
	Replicate 3							9.0	4.0
	Replicate 4							10.8	4.8
TABLE OF A MEANS									
1	untreated check							9.6	4.3
2	nicosulfuron	75	DF	25	G A/HA	POST	A	8.6	3.8
	Agral 90		SO	0.2	% V/V	POST	A		
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9.4	4.2
	Agral 90		SO	0.4	% V/V	POST	A		
4	bromoxynil	280	EC	280	G A/HA	POST	A	9.7	4.3
5	bromoxynil	280	EC	560	G A/HA	POST	A	9.9	4.4
6	nicosulfuron	75	DF	25	G A/HA	POST	A	10.2	4.5
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	10.0	4.5
7	bromoxynil	280	EC	560	G A/HA	POST	A		
7	Agral 90		SO	0.4	% V/V	POST	A		
								LSD= NS	NS
								CV= 16	16
TABLE OF B MEANS									
1	FTF 246							9.5	4.3
2	BSS 5362							10.6	4.7
3	HMX 8344							9.5	4.2
4	CNS 710R							8.9	4.0
TABLE OF AB MEANS									
1	untreated check							9.1	4.1
1	FTF 246								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	8.2	3.7
2	Agral 90		SO	0.2	% V/V	POST	A		
1	FTF 246								
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9.3	4.1
3	Agral 90		SO	0.4	% V/V	POST	A		
1	FTF 246								
4	bromoxynil	280	EC	280	G A/HA	POST	A	10.1	4.5
1	FTF 246								
5	bromoxynil	280	EC	560	G A/HA	POST	A	9.5	4.2
1	FTF 246								
6	nicosulfuron	75	DF	25	G A/HA	POST	A	9.4	4.2
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	11.1	5.0
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							11.4	5.1
2	BSS 5362								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	9.3	4.1
2	Agral 90		SO	0.2	% V/V	POST	A		
2	BSS 5362								
3	nicosulfuron	75	DF	50	G A/HA	POST	A	10.2	4.6
3	Agral 90		SO	0.4	% V/V	POST	A		
2	BSS 5362								
4	bromoxynil	280	EC	280	G A/HA	POST	A	11.0	4.9
2	BSS 5362								
5	bromoxynil	280	EC	560	G A/HA	POST	A	11.2	5.0
2	BSS 5362								
6	nicosulfuron	75	DF	25	G A/HA	POST	A	11.7	5.2
6	bromoxynil	280	EC	280	G A/HA	POST	A		
6	Agral 90		SO	0.2	% V/V	POST	A		
2	BSS 5362								
7	nicosulfuron	75	DF	50	G A/HA	POST	A	9.5	4.2
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							9.0	4.0
3	HMX 8344								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	8.8	3.9
2	Agral 90		SO	0.2	% V/V	POST	A		
3	HMX 8344								
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9.1	4.0
3	Agral 90		SO	0.4	% V/V	POST	A		
3	HMX 8344								

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

TODD COWAN, DARREN ROBINSON

Experiment ID: SC03T5B

Crop Code	Part Rated	Rating Data Type	Rating Unit	ZEAMS		ZEAMS		T/HA	T/AC
				MARKET YIELD	MARKET YIELD				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
4	bromoxynil	280	EC	280	G A/HA	POST	A	9.1	4.1
3	HMX 8344								
5	bromoxynil	280	EC	560	G A/HA	POST	A	9.8	4.4
3	HMX 8344								
6	nicosulfuron	75	DF	25	G A/HA	POST	A	10.3	4.6
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	10.2	4.5
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							9.0	4.0
4	CNS 710R								
2	nicosulfuron	75	DF	25	G A/HA	POST	A	8.1	3.6
2	Agral 90		SO	0.2	% V/V	POST	A		
4	CNS 710R								
3	nicosulfuron	75	DF	50	G A/HA	POST	A	9.2	4.1
3	Agral 90		SO	0.4	% V/V	POST	A		
4	CNS 710R								
4	bromoxynil	280	EC	280	G A/HA	POST	A	8.5	3.8
4	CNS 710R								
5	bromoxynil	280	EC	560	G A/HA	POST	A	9.2	4.1
4	CNS 710R								
6	nicosulfuron	75	DF	25	G A/HA	POST	A	9.2	4.1
6	bromoxynil	280	EC	280	G A/HA	POST	A		
6	Agral 90		SO	0.2	% V/V	POST	A		
4	CNS 710R								
7	nicosulfuron	75	DF	50	G A/HA	POST	A	9.1	4.1
7	bromoxynil	280	EC	560	G A/HA	POST	A		
7	Agral 90		SO	0.4	% V/V	POST	A		
4	CNS 710R								

LSD= NS NS
CV= 16 16

Trial Comments

HARVEST DATES: HMX 8344, CNS 710 R - AUG-27-03. BSS 5362, FTF 246 - SEP-02-03.

PLOT 209 - 35 FINAL PLANT STAND and PLOT 210 - 32 FINAL PLANT STAND and PLOT 227 - 36 FINAL PLANT STAND.

Conclusions: This trial was maintained weed free to test for the tolerance of four sweet corn varieties (FTF246, BSS5362, CNS710R, GSS9299) to a tank mix of nicosulfuron+bromoxynil applied postemergence (4-5 leaf stage) at 25+280 and 50+560 g a.i. ha⁻¹. 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 BSS5362 increased at 7 days after treatment. The amount of visual injury decreased with time, such that by 28 days after treatment, no visual injury was observed. There was no increase in injury to FTF246, CNS710 or GSS9299 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 (3% or less). Leaf tissue contacted by the herbicide appeared bronzed and speckled, but the growing points were unaffected.

The tank mix of nicosulfuron+bromoxynil (50+560 g a.i. ha⁻¹) caused commercially unacceptable visual injury to BSS5362 at 7 and 14 days after treatment. By 28 days after treatment, visual injury was no longer apparent. Plants had flashing symptoms as well as speckling and contact burn.

With the exception of HMX8344, sweet corn height decreased at the high rate of nicosulfuron+bromoxynil, compared to the untreated check and the low rate of this tank mix combination.

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.

TOLERANCE OF FRESH MARKET SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - I

Trial ID: SC03T6A
Location: RCAT - K

Study Dir.: KRISTEN MCNAUGHTON
Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

Study Director: KRISTEN MCNAUGHTON Title: RESEARCH TECHNICIAN
Investigator: DARREN ROBINSON Title: SCIENTIST

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

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

Crop 1: ZEAMS CORN, SWEET Variety: 8 VARIOUS
Planting Date: Jun-5-03 Planting Method: MONOSEM
Rate: 93860 SEEDS/HA Depth: 4 CM
Row Spacing: 75 CM Spacing Within Row: 14 CM Seed Bed: VERY FINE
Soil Moisture: MOIST Emergence Date: Jun-11-03

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 AI/HA. FIELD WORKED 3X WITH S-TINE CULTIVATOR.

SOIL DESCRIPTION

% Sand: 49.4 % OM: 9.2 Texture: LOAM
% Silt: 33.6 pH: 7.2
% Clay: 17.0 CEC: 20

APPLICATION DESCRIPTION

A

Application Date: Jun-26-03
Time of Day: 6:00 AM
Application Method: CO2 SPRAY
Application Timing: 4-5 LF
Applic. Placement: FOLIAR
Air Temp., Unit: 21.3 C
% Relative Humidity: 75
Wind Velocity, Unit: 5 KPH
Dew Presence (Y/N): Y
Soil Temp., Unit: 25 C
Soil Moisture: MOIST
% Cloud Cover: 5

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMS
Stage Scale: 4-5 LF
Height, Unit: 18 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 FRESH MARKET SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T6A

Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated					MARKET	NONMKT
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	AVG. COB WT	AVG. COB WT
Rating Unit	%	%	%	CM	G	G
Rating Date	Jul-3-03	Jul-9-03	Jul-23-03	Jul-15-03		
Crop Stage	5-6 LF	6-7 LF	9-11 LF	7-10 LF		
Crop Stage Scale	25-38 CM	45-65 CM	98-109CM	53-87CM		
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	1	1	73.6	248.52	99.00
Replicate 2								0	1	0	71.5	247.47	115.32
Replicate 3								0	1	1	66.7	259.33	118.85
Replicate 4								0	1	1	74.7	283.74	105.75

TABLE OF A MEANS

1	untreated check							0a	0a	0a	74.7a	255.41	99.35b
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	1b	0a	68.1b	256.14	123.81a
2	Agral 90		SO	0.2	% V/V	POST	A						
3	nicosulfuron	75	DF	50	G A/HA	POST	A	1b	2c	2b	72.1a	267.76	106.03b
3	Agral 90		SO	0.4	% V/V	POST	A						
								LSD= 0	1	1	4	NS	12
								CV= 0	115	136	10	13	18

TABLE OF B MEANS

1	HONEY SELECT							0	0	0	65.7	311.88	115.10
2	TEMPTATION							0	0	0	77.8	265.98	73.40
3	SENSOR							0	0	1	77.5	268.64	122.41
4	EXTRA TENDER 277A							0	0	0	71.3	268.76	97.02
5	MYSTIQUE							2	9	4	68.1	263.07	126.95
6	CANDY CORNER							0	0	0	73.1	277.11	137.73
7	NATIVE GEM							0	0	0	73.9	212.60	75.05
8	JESTER II							0	0	0	65.5	210.09	130.19

TABLE OF AB MEANS

1	untreated check							0a	0a	0a	70.4	309.42	108.60
1	HONEY SELECT												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0a	61.7	306.92	127.55
2	Agral 90		SO	0.2	% V/V	POST	A						
1	HONEY SELECT												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0a	0a	65.1	319.29	109.14
3	Agral 90		SO	0.4	% V/V	POST	A						
1	HONEY SELECT												
1	untreated check							0a	0a	0a	80.8	263.08	60.31
2	TEMPTATION												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0a	73.4	258.05	85.82
2	Agral 90		SO	0.2	% V/V	POST	A						
2	TEMPTATION												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0a	0a	79.3	276.81	74.07
3	Agral 90		SO	0.4	% V/V	POST	A						
2	TEMPTATION												
1	untreated check							0a	0a	0a	81.5	265.86	121.16
3	SENSOR												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0a	72.9	265.21	127.84
2	Agral 90		SO	0.2	% V/V	POST	A						
3	SENSOR												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	1b	1b	2b	78.1	274.86	118.21
3	Agral 90		SO	0.4	% V/V	POST	A						
3	SENSOR												
1	untreated check							0a	0a	0a	75.5	279.27	92.29
4	EXTRA TENDER 277A												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0a	67.5	267.37	109.42
2	Agral 90		SO	0.2	% V/V	POST	A						
4	EXTRA TENDER 277A												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0a	0a	71.1	259.64	89.37
3	Agral 90		SO	0.4	% V/V	POST	A						
4	EXTRA TENDER 277A												
1	untreated check							0a	0a	0a	76.4	267.98	81.96
5	MYSTIQUE												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	2b	9b	4b	64.3	245.06	167.60
2	Agral 90		SO	0.2	% V/V	POST	A						
5	MYSTIQUE												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	5c	17c	10c	63.5	276.18	131.29
3	Agral 90		SO	0.4	% V/V	POST	A						
5	MYSTIQUE												
1	untreated check							0a	0a	0a	73.3	239.02	120.27
6	CANDY CORNER												
2	nicosulfuron	75	DF	25	G A/HA	POST	A	0a	0a	0a	71.6	294.74	152.39
2	Agral 90		SO	0.2	% V/V	POST	A						
6	CANDY CORNER												
3	nicosulfuron	75	DF	50	G A/HA	POST	A	0a	0a	0a	74.5	297.57	140.52
3	Agral 90		SO	0.4	% V/V	POST	A						
6	CANDY CORNER												

TOLERANCE OF FRESH MARKET SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T6A

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
							INJURY	INJURY	INJURY	HEIGHT	MARKET	NONMKT	
							%	%	%	CM	AVG. COB WT	AVG. COB WT	
							Jul-3-03	Jul-9-03	Jul-23-03	Jul-15-03	G	G	
							5-6 LF	6-7 LF	9-11 LF	7-10 LF			
							25-38 CM	45-65 CM	98-109CM	53-87CM			
							7 DAT	14 DAT	28 DAT	21 DAT			
1	untreated check							0a	0a	0a	74.7	212.99	67.58
7	NATIVE GEM												
2	nicosulfuron	75	DF	25	G A/HA	POST A		0a	0a	0a	70.8	203.91	97.14
	Agral 90		SO	0.2	% V/V	POST A							
7	NATIVE GEM												
3	nicosulfuron	75	DF	50	G A/HA	POST A		0a	0a	0a	76.3	220.91	60.41
	Agral 90		SO	0.4	% V/V	POST A							
7	NATIVE GEM												
1	untreated check							0a	0a	0a	64.8	205.63	142.62
8	JESTER II												
2	nicosulfuron	75	DF	25	G A/HA	POST A		0a	0a	0a	62.5	207.84	122.70
	Agral 90		SO	0.2	% V/V	POST A							
8	JESTER II												
3	nicosulfuron	75	DF	50	G A/HA	POST A		0a	0a	1b	69.2	216.79	125.24
	Agral 90		SO	0.4	% V/V	POST A							
8	JESTER II												
LSD=								1	1	1	NS	NS	NS
CV=								0	74	141	6	13	21

Crop Code	Part Rated	Rating Data Type	Rating Unit	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
				TOTAL	TOTAL	TOTAL	MARKET	MARKET	
				AVG. COB WT	YIELD	YIELD	YIELD	YIELD	
				G	T/HA	T/AC	T/HA	T/AC	
1	untreated check			184.95	14.9	6.6	11.4	5.1	
2	nicosulfuron	75	DF	191.12	15.0	6.7	11.1	5.0	
	Agral 90		SO	192.58	15.1	6.7	10.5	4.7	
3	nicosulfuron	75	DF	204.58	17.1	7.6	13.2	5.9	
	Agral 90		SO						
LSD=				NS	NS	NS	1	1	
CV=				9	12	12	17	17	

TABLE OF B MEANS	1	2	3	4	5	6	7	8
HONEY SELECT	214.33	18.3	8.2	13.4	6.0			
TEMPTATION	180.30	14.3	6.4	11.6	5.2			
SENSOR	203.92	17.7	7.9	12.9	5.7			
EXTRA TENDER 277A	196.21	18.5	8.3	14.6	6.5			
MYSTIQUE	192.06	13.7	6.1	8.6	3.8			
CANDY CORNER	215.39	21.5	9.6	15.3	6.8			
NATIVE GEM	157.29	10.7	4.8	8.7	3.9			
JESTER II	186.97	9.4	4.2	7.2	3.2			

TABLE OF AB MEANS	1	2	3	1	2	3	1	2	3
untreated check	216.28	18.5	8.3	14.2	6.3				
HONEY SELECT									
nicosulfuron	214.23	18.1	8.1	12.5	5.6				
Agral 90									
nicosulfuron	212.46	18.4	8.2	13.5	6.0				
Agral 90									
HONEY SELECT									
untreated check	174.90	14.4	6.4	12.1	5.4				
TEMPTATION									
nicosulfuron	179.99	14.1	6.3	11.2	5.0				
Agral 90									
TEMPTATION									
nicosulfuron	186.00	14.3	6.4	11.7	5.2				
Agral 90									
TEMPTATION									
untreated check	204.74	18.0	8.0	13.6	6.1				
SENSOR									

TOLERANCE OF FRESH MARKET SWEET CORN HYBRIDS TO NICOSULFURON APPLIED POSTEMERGENCE - I

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T6A

Crop Code							ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	
Part Rated							TOTAL	TOTAL	TOTAL	MARKET	MARKET	
Rating Data Type							AVG. COB WT	YIELD	YIELD	YIELD	YIELD	
Rating Unit							G	T/HA	T/AC	T/HA	T/AC	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code					
2	nicosulfuron	75	DF	25	G A/HA	POST	A	198.92	17.3	7.7	11.9	5.3
2	Agral 90		SO	0.2	% V/V	POST	A					
3	SENSOR											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	208.11	17.9	8.0	13.1	5.8
3	Agral 90		SO	0.4	% V/V	POST	A					
3	SENSOR											
1	untreated check							203.98	19.7	8.8	16.1	7.2
4	EXTRA TENDER 277A											
2	nicosulfuron	75	DF	25	G A/HA	POST	A	200.07	17.4	7.8	13.4	6.0
2	Agral 90		SO	0.2	% V/V	POST	A					
4	EXTRA TENDER 277A											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	184.57	18.4	8.2	14.4	6.4
3	Agral 90		SO	0.4	% V/V	POST	A					
4	EXTRA TENDER 277A											
1	untreated check							209.56	13.2	5.9	11.6	5.2
5	MYSTIQUE											
2	nicosulfuron	75	DF	25	G A/HA	POST	A	192.12	14.2	6.3	7.5	3.3
2	Agral 90		SO	0.2	% V/V	POST	A					
5	MYSTIQUE											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	174.51	13.8	6.1	6.7	3.0
3	Agral 90		SO	0.4	% V/V	POST	A					
5	MYSTIQUE											
1	untreated check							192.30	21.2	9.4	15.9	7.1
6	CANDY CORNER											
2	nicosulfuron	75	DF	25	G A/HA	POST	A	218.90	21.4	9.6	13.3	6.0
2	Agral 90		SO	0.2	% V/V	POST	A					
6	CANDY CORNER											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	234.96	21.9	9.8	16.8	7.5
3	Agral 90		SO	0.4	% V/V	POST	A					
6	CANDY CORNER											
1	untreated check							156.77	11.3	5.0	9.4	4.2
7	NATIVE GEM											
2	nicosulfuron	75	DF	25	G A/HA	POST	A	163.90	9.8	4.4	7.4	3.3
2	Agral 90		SO	0.2	% V/V	POST	A					
7	NATIVE GEM											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	151.21	11.2	5.0	9.3	4.1
3	Agral 90		SO	0.4	% V/V	POST	A					
7	NATIVE GEM											
1	untreated check							185.84	9.0	4.0	6.7	3.0
8	JESTER II											
2	nicosulfuron	75	DF	25	G A/HA	POST	A	183.50	9.2	4.1	6.9	3.1
2	Agral 90		SO	0.2	% V/V	POST	A					
8	JESTER II											
3	nicosulfuron	75	DF	50	G A/HA	POST	A	191.56	10.0	4.5	8.0	3.6
3	Agral 90		SO	0.4	% V/V	POST	A					
8	JESTER II											
							LSD=	NS	NS	NS	NS	NS
							CV=	12	10	10	14	14

Trial Comments

HARVEST DATES: August 18, 2003 Temptation, Native Gem, and Jester II. August 22, 2003 Mystique and Candy Corner. August 25, 2003 Sensor, and Extra Tender 277A. August 27, 2003 Honey Select.

Conclusions: This trial was maintained weed free to test for the effect of nicosulfuron applied postemergence (4-5 leaf stage) at 25 and 50 g a.i. ha⁻¹, on eight fresh market sweet corn cultivars: Honey Select, Temptation, Sensor, Extra Tender 277a, Mystique, Candy Corner, Native Gem, Jester II.

Visual injury was significant in Mystique sweet corn, ranging from 2% (nicosulfuron applied at 25 g a.i. ha⁻¹ at 7 DAT) to 17% (nicosulfuron applied at 50 g a.i. ha⁻¹ at 14 DAT). Injury included chlorotic bands on the affected leaves, as well as stunting and necrosis of the affected leaf tissues. The remaining sweet corn varieties did not show commercially or statistically significant visual injury (injury <3% at all assessment intervals).

Height, average marketable cob size, average non-marketable cob size, marketable yield and total yield were not significantly less in any of the sweet corn variety by herbicide treatment combinations than the untreated check. There was a trend for reduced plant height, marketable cob size, and marketable yield in Mystique sweet corn.

EFFECT OF PLASTIC MULCH ON WEED CONTROL AND SWEET CORN TOLERANCE TO MESOTRIONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T7

CROP: ZEAMS, CORN, SWEET (DELMONTE 2038). Planted: Jun-10-03, 49400 SEEDS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: HAND PLANTED.

Emerged On: Jun-17-03.

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: 8.2 %Sand: 49.6 %Silt: 29.5 %Clay: 20.9 pH: 6.8 CEC: 13.

APPLICATION DESCRIPTION

Application: A
 Date : Jun-9-03
 Time of Day: 8:10 PM
 Method : CO2 SPRAY
 Timing : PRE
 Placement : SOIL
 Air Temp. : 15.9 C
 % Humidity : 77
 Wind Speed : 2 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 10%
 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	ZEAMS	ZEAMS	ZEAMS	ZEAMS	AMASS ZEAMS	POROL ZEAMS	PANCA ZEAMS	PANDI ZEAMS
Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	AMASS ZEAMS	POROL ZEAMS	PANCA ZEAMS	PANDI ZEAMS
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	HEIGHT	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	CM	%	%	%	%
Rating Date	Jun-24-03	Jul-2-03	Jul-15-03	Jul-8-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03
Crop Stage	3-4 LF	5-6 LF	7-9 LF	6-8 LF	7-9 LF	7-9 LF	7-9 LF	7-9 LF
Crop Stage Scale	13-15 CM	26-40 CM	80-96 CM	60-93 CM	80-96 CM	80-96 CM	80-96 CM	80-96 CM
Weed Stage					8 LF	7 LF	6 LF	6 LF
Weed Density, Unit					2.5 SQ.M.	74.5SQ.M.	4.5 SQ.M.	10.5SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	21 DAE	24 DAE	24 DAE	24 DAE	24 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code																
1	untreated bare ground							0	c	0	c	0	c	66.5	d	0	c	0	e	0	d	0	b
2	untreated clear plastic mulch							0	c	1	c	0	c	81.3	a	0	c	0	e	0	d	0	b
3	mesotrione bare ground	480	SC	175	G A/HA	PRE	A	0	c	0	c	0	c	68.5	cd	100	a	25	d	16	cd	8	b
4	mesotrione clear plastic mulch	480	SC	175	G A/HA	PRE	A	4	a	6	b	6	ab	80.3	a	100	a	54	bc	98	ab	73	a
5	mesotrione bare ground	480	SC	350	G A/HA	PRE	A	0	c	0	c	0	c	69.8	bcd	100	a	35	cd	28	c	14	b
6	mesotrione clear plastic mulch	480	SC	350	G A/HA	PRE	A	6	a	8	ab	4	abc	79.3	ab	100	a	63	b	100	a	83	a
7	mesotrione s-metol/benox/atrazine	480	SC	175	G A/HA	PRE	A	1	bc	2	c	1	bc	66.5	d	100	b	85	a	80	b	71	a
8	mesotrione s-metol/benox/atrazine	720	SC	2880	G A/HA	PRE	A	4	ab	8	ab	8	a	84.8	a	100	a	100	a	100	a	100	a
9	mesotrione clear plastic mulch	480	SC	350	G A/HA	PRE	A	3	abc	4	bc	4	abc	61.5	d	100	a	96	a	100	ab	89	a
10	mesotrione s-metol/benox/atrazine	720	SC	5760	G A/HA	PRE	A	6	a	11	a	7	a	77.8	abc	100	a	100	a	100	a	100	a
	clear plastic mulch	480	SC	350	G A/HA	PRE	A	6	a	11	a	7	a	77.8	abc	100	a	100	a	100	a	100	a

LSD (P=.05)	3.3	4.4	5.1	10.16	0.5	21.5	20.2	30.0
Standard Deviation	2.3	3.1	3.5	7.00	0.3	14.8	13.9	20.7
CV	95.89	78.49	121.32	9.51	0.4	26.57	22.47	38.58

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

EFFECT OF PLASTIC MULCH ON WEED CONTROL AND SWEET CORN TOLERANCE TO MESOTRIONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T7

Weed Code	AMASS	POROL	PANCA	PANDI	AMASS	POROL	PANCA
Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Aug-7-03	Aug-7-03	Aug-7-03	Aug-7-03	Aug-26-03	Aug-26-03	Aug-26-03
Crop Stage	11-16 LF	11-16 LF	11-16 LF	11-16 LF	COB	COB	COB
Crop Stage Scale	1.7-2.4M	1.7-2.4M	1.7-2.4M	1.7-2.4M	2.1-2.6M	2.1-2.6M	2.1-2.6M
Weed Stage	20 LF	20 LF	8 LF	8 LF	20 LF	20 LF	10 LF
Weed Density, Unit	12 SQ.M.	65 SQ.M.	9 SQ.M.	24 SQ.M.	6 SQ.M.	40 SQ.M.	5 SQ.M.
Trt-Eval Interval	49 DAE	49 DAE	49 DAE	49 DAE	70 DAE	70 DAE	70 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
1	untreated c bare ground	0	d	0	d		
2	untreated clear plastic mulch	0	c	0	c	0	0
3	mesotrione bare ground	480	SC	175	G A/HA PRE A	91	b 20 bc 38 b 33 cd 89 b 33 c 38 c
4	mesotrione clear plastic mulch	480	SC	175	G A/HA PRE A	99	a 29 b 100 a 83 a 100 a 29 c 96 a
5	mesotrione bare ground	480	SC	350	G A/HA PRE A	96	ab 18 bc 53 b 40 bc 93 ab 26 c 50 bc
6	mesotrione clear plastic mulch	480	SC	350	G A/HA PRE A	98	ab 42 b 100 a 83 a 93 ab 45 c 100 a
7	mesotrione s-metol/benox/atrazine bare ground	480 720	SC SC	175 2880	G A/HA PRE A G A/HA PRE A	96	ab 80 a 81 a 73 ab 86 b 73 b 76 ab
8	mesotrione s-metol/benox/atrazine clear plastic mulch	480 720	SC SC	175 2880	G A/HA PRE A G A/HA PRE A	100	a 94 a 100 a 100 a 100 a 100 a 100 a
9	mesotrione s-metol/benox/atrazine bare ground	480 720	SC SC	350 5760	G A/HA PRE A G A/HA PRE A	91	b 82 a 94 a 81 a 88 b 79 ab 91 a
10	mesotrione s-metol/benox/atrazine clear plastic mulch	480 720	SC SC	350 5760	G A/HA PRE A G A/HA PRE A	100	a 100 a 100 a 100 a 100 a 100 a
LSD (P=.05)		7.1		28.5		26.1	33.1
Standard Deviation		4.9		19.7		18.0	22.8
CV		6.33		42.37		27.0	38.55

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

Weed Code	PANDI	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Crop Code	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS	ZEAMS
Part Rated	MARKET	NONMKT	TOTAL	TOTAL	TOTAL	MARKET	MARKET
Rating Data Type	CONTROL	AVG. COB WT	AVG. COB WT	AVG. COB WT	YIELD	YIELD	YIELD
Rating Unit	%	G	G	G	T/HA	T/AC	T/HA
Rating Date	Aug-26-03						
Crop Stage	COB						
Crop Stage Scale	2.1-2.6M						
Weed Stage	12 LF						
Weed Density, Unit	12 SQ.M.						
Trt-Eval Interval	70 DAE						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
1	untreated bare ground	0	f	290.91		b	92.01 e 202.53 c 9.7 b 4.3 b 7.9 c
2	untreated clear plastic mulch	0	f	353.60		a	116.59 de 258.38 ab 14.7 a 6.5 a 12.1 ab
3	mesotrione bare ground	480	SC	175	G A/HA PRE A	40	de 358.19 a 195.18 ab 290.59 ab 13.5 a 6.0 a 9.9 bc
4	mesotrione clear plastic mulch	480	SC	175	G A/HA PRE A	57	cde 347.48 a 138.45 cd 253.44 b 14.3 a 6.4 a 10.7 abc
5	mesotrione bare ground	480	SC	350	G A/HA PRE A	34	e 340.91 ab 211.78 a 292.76 ab 14.7 a 6.6 a 10.3 bc
6	mesotrione clear plastic mulch	480	SC	350	G A/HA PRE A	85	ab 380.67 a 139.20 cd 295.66 a 16.5 a 7.4 a 13.8 a
7	mesotrione s-metol/benox/atrazine bare ground	480 720	SC SC	175 2880	G A/HA PRE A G A/HA PRE A	65	bcd 349.48 a 141.13 cd 284.60 ab 15.6 a 7.0 a 13.2 ab
8	mesotrione s-metol/benox/atrazine clear plastic mulch	480 720	SC SC	175 2880	G A/HA PRE A G A/HA PRE A	100	a 351.84 a 136.58 cd 273.32 ab 15.2 a 6.8 a 12.3 ab
9	mesotrione s-metol/benox/atrazine bare ground	480 720	SC SC	350 5760	G A/HA PRE A G A/HA PRE A	74	abc 355.40 a 170.27 bc 278.71 ab 14.3 a 6.4 a 10.6 abc
10	mesotrione s-metol/benox/atrazine clear plastic mulch	480 720	SC SC	350 5760	G A/HA PRE A G A/HA PRE A	100	a 346.96 a 145.09 cd 265.65 ab 15.8 a 7.0 a 12.3 ab
LSD (P=.05)		25.8		52.416		38.372	41.680
Standard Deviation		17.8		36.125		26.446	28.725
CV		32.02		10.39		17.79	10.66

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

EFFECT OF PLASTIC MULCH ON WEED CONTROL AND SWEET CORN TOLERANCE TO MESOTRIONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: SC03T7

Crop Code ZEAMS
 Part Rated MARKET
 Rating Data Type YIELD
 Rating Unit T/AC

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	Yield	Significance
1	untreated bare ground							3.5	c
2	untreated clear plastic mulch							5.4	ab
3	mesotrione bare ground	480	SC	175	G A/HA	PRE	A	4.4	bc
4	mesotrione clear plastic mulch	480	SC	175	G A/HA	PRE	A	4.8	abc
5	mesotrione bare ground	480	SC	350	G A/HA	PRE	A	4.6	bc
6	mesotrione clear plastic mulch	480	SC	350	G A/HA	PRE	A	6.1	a
7	mesotrione bare ground	480	SC	175	G A/HA	PRE	A	5.9	ab
	s-metol/benox/atrazine	720	SC	2880	G A/HA	PRE	A		
8	mesotrione bare ground	480	SC	175	G A/HA	PRE	A	5.5	ab
	s-metol/benox/atrazine	720	SC	2880	G A/HA	PRE	A		
9	mesotrione clear plastic mulch	480	SC	350	G A/HA	PRE	A	4.7	abc
	s-metol/benox/atrazine	720	SC	5760	G A/HA	PRE	A		
10	mesotrione bare ground	480	SC	350	G A/HA	PRE	A	5.5	ab
	s-metol/benox/atrazine	720	SC	5760	G A/HA	PRE	A		
	clear plastic mulch								

LSD (P=.05) 1.54
 Standard Deviation 1.06
 CV 21.11

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

Trial Comments

HARVEST DATES: August 25, 2003 Plastic Mulch Treatments. August 27, 2003 Bare Ground Treatments.

Conclusions: This trial was established to determine the interactive effect of bare ground versus plastic mulch, and herbicide treatment (untreated, mesotrione at 175 and 350 g a.i. ha⁻¹, and mesotrione+s-metolachlor/benoxacor/atrazine at 175+2880 g a.i. ha⁻¹ and 350+5760 g a.i. ha⁻¹), on weed control and tolerance of sweet corn.

Mesotrione (175 g a.i. ha⁻¹) and mesotrione (175 g a.i. ha⁻¹) + s-metolachlor/benoxacor/atrazine (2880 g a.i. ha⁻¹) provided excellent season-long control of AMASS applied to bare ground and under plastic mulch. Mesotrione (175 g a.i. ha⁻¹) + s-metolachlor/benoxacor/atrazine (2880 g a.i. ha⁻¹) gave good control of POROL up to 49 DAE, but only fair control of POROL up to 70 DAE of the weed on bare ground. Beneath the plastic mulch, season long control of POROL was obtained with mesotrione+s-metolachlor/benoxacor/atrazine. Season long control of PANCA and PANDI in the mesotrione+s-metolachlor/benoxacor/atrazine treatment was fair on bare ground, and excellent under plastic mulch.

Plastic mulch increased sweet corn height, and tended to increase marketable cob size and marketable yields in the untreated, the mesotrione (175 and 350 g a.i. ha⁻¹) and the mesotrione+s-metolachlor/benoxacor/atrazine (175+2880 g a.i. ha⁻¹ and 350+5760 g a.i. ha⁻¹) treatments.

Visual injury beneath the plastic mulch was noted in the mesotrione+s-metolachlor/benoxacor/atrazine treatments at both 175+2880 g a.i. ha⁻¹ and 350+5760 g a.i. ha⁻¹. Visual injury consisted of bleaching of leaf tissues and in some cases severe leaf burn. A few plants were weakened enough that they did not emerge well through the plastic mulch. Since the trial was thinned after planting, mortality could not be reliably determined, but a few of the plants in each plot of the high rate of mesotrione+s-metolachlor/benoxacor/atrazine treatment appeared to die after sustaining this injury. This injury was not associated with yield loss, as herbicide treatment did not affect yield.

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03M1

CROP: LYPES, TOMATO (H 9553). Planted: May-30-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
Emerged On: May-30-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT - E1.
Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION

Application:	A	B	C	D	E
Date	May-28-03	Jun-13-03	Jun-27-03	Jul-10-03	Jul-24-03
Time of Day	7:40 PM	6:10 PM	8:00 AM	7:10 PM	9:00 PM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Timing	PPI	14 DAT	28 DAT	42 DAT	56 DAT
Placement	SOIL	FOLIAR	FOLIAR	FOLIAR	FOLIAR
Air Temp.	13.7 C	21.9 C	20.2 C	21.6 C	16.6 C
% Humidity	73	75	71	80	80
Wind Speed	5 KPH	5 KPH	6 KPH	8 KPH	0 KPH
Dew Present	N	N	N	Y	Y
Soil Moist.	MOIST	MOIST	MOIST	MOIST	DRY
Cloud Cover	65%	100%	40%	95%	15%
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	4-5 LF	7-9 LF	10-12 LF	FLR-FRUT
Height	14 CM	22.1 CM	53.8 CM	63.9 CM
Weed 1 ABUTH	COT.	2 LF	4 LF	6 LF
Stg.Scale:	2 CM	2.3 CM	15.8 CM	48.6 CM
Density	21.5 SQ.M.	16.5 SQ.M.	13.5 SQ.M.	15 SQ.M.
Weed 2 AMASS	COT.	2 LF	6 LF	10 LF
Stg.Scale:	1 CM	1.5 CM	12 CM	28.6 CM
Density	6 SQ.M.	9 SQ.M.	8 SQ.M.	5 SQ.M.
Weed 3 AMBEL	COT.	2 LF	6 LF	12 LF
Stg.Scale:	1 CM	1.8 CM	15 CM	37 CM
Density	8 SQ.M.	4 SQ.M.	4 SQ.M.	7 SQ.M.
Weed 4 CHEAL	COT.	4 LF	6 LF	14 LF
Stg.Scale:	0.7 CM	2.7 CM	12.1 CM	31.6 CM
Density	62.5 SQ.M.	59 SQ.M.	60.5 SQ.M.	71 SQ.M.
Weed 5 STEME	COT.	8 LF	8 LF	12 LF
Stg.Scale:	1 CM	4 CM	6.7 CM	12.2 CM
Density	7 SQ.M.	5.5 SQ.M.	6 SQ.M.	5.5 SQ.M.

Weed Code	LYPES					ABUTH	AMASS	CHEAL
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	INJURY					CONTROL	CONTROL	CONTROL
Rating Data Type	%	%	%	%	%	%	%	%
Rating Unit	Jun-6-03	Jun-13-03	Jun-19-03	Jul-4-03	Jul-16-03	Jul-11-03	Jul-11-03	Jul-11-03
Rating Date	2-3 LF	4-5 LF	7-9 LF	8-12 LF	FLR-FRUT	10-12 LF	10-12 LF	10-12 LF
Crop Stage	10-13 CM	13-15 CM	15-18 CM	30-42 CM	45-52 CM	40-52 CM	40-52 CM	40-52 CM
Crop Stage Scale	4 LF	6 LF	6 LF	4 LF	4 LF	6 LF	6 LF	6 LF
Weed Stage	13.5SQ.M.	8 SQ.M.	6.5SQ.M.	8 SQ.M.	6.5SQ.M.	8 SQ.M.	6.5SQ.M.	6.5SQ.M.
Weed Density, Unit	7 DAE	14 DAE	21 DAE	35 DAE	49 DAE	42 DAE	42 DAE	42 DAE
Trt-Eval Interval								

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code										
1	untreated check							0	b 0	a 0	e 0	d 0	d 0	d 0	c 0	d	
2	trifluralin	480	EC	1105	G A/HA	PPI	A	0	b 0	a 2	b-e 2	cd 0	d 51	b 97	a 78	b	
3	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	b 0	a 0	e 0	d 0	d 14	cd 90	b 34	c	
4	metribuzin	75	DF	700	G A/HA	PPI	A	0	b 0	a 0	e 0	d 0	d 90	a 99	a 99	a	
5	trifluralin	480	EC	1105	G A/HA	PPI	A	0	b 0	a 3	bcd 3	cd 0	cd 26	c 97	a 76	b	
	s-metolachlor	915	EC	1600	G A/HA	PPI	A										
6	trifluralin	480	EC	1105	G A/HA	PPI	A	0	b 0	a 1	de 0	d 0	d 82	a 100	a 93	a	
	metribuzin	75	DF	700	G A/HA	PPI	A										
7	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	b 0	a 1	cde 1	cd 0	d 89	a 100	a 97	a	
	metribuzin	75	DF	700	G A/HA	PPI	A										
8	trifluralin	480	EC	1105	G A/HA	PPI	A	0	b 0	a 4	bc 2	cd 0	cd 87	a 100	a 99	a	
	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	0	b 0	a 1	cde 1	cd 0	d 95	a 100	a 98	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										
10	s-metolachlor	915	EC	1600	G A/HA	PPI	A	0	b 0	a 1	de 1	cd 0	d 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										
	metribuzin	75	DF	150	G A/HA	POST 3	D										
	metribuzin	75	DF	150	G A/HA	POST 4	E										

THE EFFECT OF WEED MANAGEMENT PROGRAMS ON TOMATO ESTABLISHMENT AND YIELD

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03M1

Weed Code														ABUTH	AMASS	CHEAL
Crop Code														LYPES	LYPES	LYPES
Part Rated														LYPES	LYPES	LYPES
Rating Data Type														CONTROL	CONTROL	CONTROL
Rating Unit														%	%	%
Rating Date														%	%	%
Crop Stage														10-12 LF	10-12 LF	10-12 LF
Crop Stage Scale														40-52 CM	40-52 CM	40-52 CM
Weed Stage														4 LF	6 LF	6 LF
Weed Density, Unit														13.5SQ.M.	8 SQ.M.	60.5SQ.M.
Trt-Eval Interval														42 DAE	42 DAE	42 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
11	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	0	b 0	a 1	de 4	bcd 1	bcd 95	a 100	a 100	a
	metribuzin	75	DF	250	G A/HA PPI	A	A									
	metribuzin	75	DF	150	G A/HA POST 1	B	B									
	metribuzin	75	DF	150	G A/HA POST 2	C	C									
	thifensulfuron-methyl	75	DF	6	G A/HA POST 2	C	C									
	Agral 90		SO	0.2	% V/V POST 2	C	C									
	metribuzin	75	DF	150	G A/HA POST 3	D	D									
	metribuzin	75	DF	150	G A/HA POST 4	E	E									
12	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	0	b 0	a 4	bc 4	bcd 2	bc 97	a 100	a 100	a
	metribuzin	75	DF	250	G A/HA PPI	A	A									
	metribuzin	75	DF	150	G A/HA POST 1	B	B									
	thifensulfuron-methyl	75	DF	3	G A/HA POST 1	B	B									
	Agral 90		SO	0.2	% V/V POST 1	B	B									
	metribuzin	75	DF	150	G A/HA POST 2	C	C									
	metribuzin	75	DF	150	G A/HA POST 3	D	D									
	thifensulfuron-methyl	75	DF	3	G A/HA POST 3	D	D									
	Agral 90		SO	0.2	% V/V POST 3	D	D									
	metribuzin	75	DF	150	G A/HA POST 4	E	E									
13	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	0	b 0	a 4	b 5	bc 2	b 96	a 100	a 100	a
	trifluralin	480	EC	1105	G A/HA PPI	A	A									
	metribuzin	75	DF	150	G A/HA POST 1	B	B									
	metribuzin	75	DF	150	G A/HA POST 2	C	C									
	metribuzin	75	DF	150	G A/HA POST 3	D	D									
	metribuzin	75	DF	150	G A/HA POST 4	E	E									
14	s-metolachlor	915	EC	800	G A/HA PPI	A	A	0	b 0	a 8	a 12	a 4	a 94	a 100	a 99	a
	trifluralin	480	EC	1105	G A/HA PPI	A	A									
	metribuzin	75	DF	150	G A/HA POST 1	B	B									
	s-metolachlor	915	EC	800	G A/HA POST 1	B	B									
	metribuzin	75	DF	150	G A/HA POST 2	C	C									
	metribuzin	75	DF	150	G A/HA POST 3	D	D									
	metribuzin	75	DF	150	G A/HA POST 4	E	E									
15	s-metolachlor	915	EC	800	G A/HA PPI	A	A	1	a 0	a 5	b 7	b 2	b 93	a 99	a 100	a
	trifluralin	480	EC	550	G A/HA PPI	A	A									
	metribuzin	75	DF	150	G A/HA POST 1	B	B									
	s-metolachlor	915	EC	800	G A/HA POST 1	B	B									
	metribuzin	75	DF	150	G A/HA POST 2	C	C									
	metribuzin	75	DF	150	G A/HA POST 3	D	D									
	metribuzin	75	DF	150	G A/HA POST 4	E	E									

LSD (P=.05)	0.4	0.3	2.8	4.0	1.4	17.2	4.6	8.0
Standard Deviation	0.3	0.2	2.0	2.8	1.0	12.0	3.2	5.6
CV	264.27	554.2	92.68	106.43	143.82	16.3	3.53	6.57

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: T003M1

Weed Code	SOLPT	ABUTH	AMASS	CHEAL	SOLPT		
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	Jul-11-03	Aug-7-03	Aug-7-03	Aug-7-03	Aug-7-03	Sep-23-03	Sep-23-03
Crop Stage	10-12 LF	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT
Crop Stage Scale	40-52 CM	35-55 CM	35-55 CM	35-55 CM	35-55 CM	WEEDY	WEEDY
Weed Stage	3 LF	7 LF	10 LF	18 LF	8 LF		
Weed Density, Unit	5.5 SQ.M.	14.5SQ.M.	7 SQ.M.	46 SQ.M.	7.5 SQ.M.		
Trt-Eval Interval	42 DAE	70 DAE	70 DAE	70 DAE	70 DAE	116 DAE	116 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
1	untreated check						
2	trifluralin	480	EC	1105	G A/HA PPI	A	A
3	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
4	metribuzin	75	DF	700	G A/HA PPI	A	A
5	trifluralin	480	EC	1105	G A/HA PPI	A	A
	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
6	trifluralin	480	EC	1105	G A/HA PPI	A	A
	metribuzin	75	DF	700	G A/HA PPI	A	A
7	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
	metribuzin	75	DF	700	G A/HA PPI	A	A
8	trifluralin	480	EC	1105	G A/HA PPI	A	A
	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
	metribuzin	75	DF	700	G A/HA PPI	A	A
9	s-metolachlor	915	EC	1600	G A/HA PPI	A	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		
10	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
	metribuzin	75	DF	250	G A/HA PPI	A	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	A
	metribuzin	75	DF	250	G A/HA PPI	A	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	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
	metribuzin	75	DF	250	G A/HA PPI	A	A
	metribuzin	75	DF	150	G A/HA POST 1 B		
	thifensulfuron-methyl	75	DF	3	G A/HA POST 1 B		
	Agral 90		SO	0.2	% V/V POST 1 B		
	metribuzin	75	DF	150	G A/HA POST 2 C		
	metribuzin	75	DF	150	G A/HA POST 3 D		
	thifensulfuron-methyl	75	DF	3	G A/HA POST 3 D		
	Agral 90		SO	0.2	% V/V POST 3 D		
	metribuzin	75	DF	150	G A/HA POST 4 E		
13	s-metolachlor	915	EC	1600	G A/HA PPI	A	A
	trifluralin	480	EC	1105	G A/HA PPI	A	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		
14	s-metolachlor	915	EC	800	G A/HA PPI	A	A
	trifluralin	480	EC	1105	G A/HA PPI	A	A
	metribuzin	75	DF	150	G A/HA POST 1 B		
	s-metolachlor	915	EC	800	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		
15	s-metolachlor	915	EC	800	G A/HA PPI	A	A
	trifluralin	480	EC	550	G A/HA PPI	A	A
	metribuzin	75	DF	150	G A/HA POST 1 B		
	s-metolachlor	915	EC	800	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		

LSD (P=.05)	14.1	19.1	4.7	9.0	15.8	16.76	4.44
Standard Deviation	9.9	13.3	3.3	6.3	11.0	11.73	3.11
CV	12.54	18.37	3.56	7.71	14.28	17.4	42.46

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: T003M1

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											
											116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							1.8	ab	29.0	d	11.9	d	1.0	e	0.8	ab	12.9	d	79.1	
2	trifluralin	480	EC	1105	G A/HA PPI	A	A	1.6	ab	63.9	bc	26.2	bc	2.3	cde	0.7	ab	28.5	bc		
3	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	1.6	ab	40.9	d	16.7	d	1.6	de	0.7	ab	18.3	d		
4	metribuzin	75	DF	700	G A/HA PPI	A	A	1.4	ab	85.8	a	34.0	a	4.3	ab	0.6	ab	38.3	a		
5	trifluralin	480	EC	1105	G A/HA PPI	A	A	1.3	ab	62.6	c	25.7	c	2.2	cde	0.6	ab	27.9	c		
	s-metolachlor	915	EC	1600	G A/HA PPI	A	A														
6	trifluralin	480	EC	1105	G A/HA PPI	A	A	1.0	ab	84.1	a	33.8	a	3.7	abc	0.5	ab	37.5	a		
	metribuzin	75	DF	700	G A/HA PPI	A	A														
7	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	2.0	a	79.5	abc	32.7	abc	2.8	b-e	0.9	a	35.5	abc		
	metribuzin	75	DF	700	G A/HA PPI	A	A														
8	trifluralin	480	EC	1105	G A/HA PPI	A	A	1.2	ab	84.5	a	34.2	a	3.4	a-d	0.6	ab	37.7	a		
	s-metolachlor	915	EC	1600	G A/HA PPI	A	A														
	metribuzin	75	DF	700	G A/HA PPI	A	A														
9	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	1.7	ab	80.9	abc	33.1	abc	3.0	a-e	0.8	ab	36.1	abc		
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														
10	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	1.2	ab	85.8	a	34.5	a	3.8	abc	0.5	ab	38.3	a		
	metribuzin	75	DF	250	G A/HA PPI	A	A														
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														
11	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	1.0	ab	82.3	ab	32.8	abc	3.9	abc	0.4	ab	36.7	ab		
	metribuzin	75	DF	250	G A/HA PPI	A	A														
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	thifensulfuron-methyl	75	DF	6	G A/HA POST 2	C	C														
	Agral 90		SO	0.2	% V/V POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														
12	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	0.6	b	83.3	a	32.8	abc	4.3	ab	0.3	b	37.2	a		
	metribuzin	75	DF	250	G A/HA PPI	A	A														
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	thifensulfuron-methyl	75	DF	3	G A/HA POST 1	B	B														
	Agral 90		SO	0.2	% V/V POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	thifensulfuron-methyl	75	DF	3	G A/HA POST 3	D	D														
	Agral 90		SO	0.2	% V/V POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														
13	s-metolachlor	915	EC	1600	G A/HA PPI	A	A	1.4	ab	84.2	a	33.6	ab	4.0	abc	0.6	ab	37.6	a		
	trifluralin	480	EC	1105	G A/HA PPI	A	A														
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														
14	s-metolachlor	915	EC	800	G A/HA PPI	A	A	1.0	ab	87.9	a	34.3	a	4.9	a	0.4	ab	39.2	a		
	trifluralin	480	EC	1105	G A/HA PPI	A	A														
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	s-metolachlor	915	EC	800	G A/HA POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														
15	s-metolachlor	915	EC	800	G A/HA PPI	A	A	1.0	ab	85.8	a	34.5	a	3.8	abc	0.4	ab	38.3	a		
	trifluralin	480	EC	550	G A/HA PPI	A	A														
	metribuzin	75	DF	150	G A/HA POST 1	B	B														
	s-metolachlor	915	EC	800	G A/HA POST 1	B	B														
	metribuzin	75	DF	150	G A/HA POST 2	C	C														
	metribuzin	75	DF	150	G A/HA POST 3	D	D														
	metribuzin	75	DF	150	G A/HA POST 4	E	E														

LSD (P=.05)	1.27	18.53	7.48	1.98	0.57	8.27	.
Standard Deviation	0.89	12.97	5.23	1.39	0.40	5.79	.
CV	67.06	17.36	17.4	42.46	67.06	17.36	.

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: T003M1

Weed Code												
Crop Code				LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated				GREEN	ROT	RED+GR	RED	GREEN	ROT	RED+GR	RED+GR	RED+GR
Rating Data Type				YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit				T/HA	T/HA	T/HA	T/AC	T/AC	T/AC	T/AC	T/AC	T/AC
Rating Date				Sep-23-03	Sep-23-03	Sep-23-03	Sep-23-03	Sep-23-03	Sep-23-03	Sep-23-03	Sep-23-03	Sep-23-03
Crop Stage				WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
Crop Stage Scale												
Weed Stage												
Weed Density, Unit												
Trt-Eval Interval				116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE	116 DAE
1	untreated check							10.5	1.4	89.6	35.3	4.7	0.6	40.0
2	trifluralin	480	EC	1105	G A/HA	PPI	A							
3	s-metolachlor	915	EC	1600	G A/HA	PPI	A							
4	metribuzin	75	DF	700	G A/HA	PPI	A							
5	trifluralin	480	EC	1105	G A/HA	PPI	A							
	s-metolachlor	915	EC	1600	G A/HA	PPI	A							
6	trifluralin	480	EC	1105	G A/HA	PPI	A							
	metribuzin	75	DF	700	G A/HA	PPI	A							
7	s-metolachlor	915	EC	1600	G A/HA	PPI	A							
	metribuzin	75	DF	700	G A/HA	PPI	A							
8	trifluralin	480	EC	1105	G A/HA	PPI	A							
	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							
	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							
	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							
	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	s-metolachlor	915	EC	1600	G A/HA	PPI	A							
	metribuzin	75	DF	250	G A/HA	PPI	A							
	metribuzin	75	DF	150	G A/HA	POST 1	B							
	thifensulfuron-methyl	75	DF	3	G A/HA	POST 1	B							
	Agral 90		SO	0.2	% V/V	POST 1	B							
	metribuzin	75	DF	150	G A/HA	POST 2	C							
	metribuzin	75	DF	150	G A/HA	POST 3	D							
	thifensulfuron-methyl	75	DF	3	G A/HA	POST 3	D							
	Agral 90		SO	0.2	% V/V	POST 3	D							
	metribuzin	75	DF	150	G A/HA	POST 4	E							
13	s-metolachlor	915	EC	1600	G A/HA	PPI	A							
	trifluralin	480	EC	1105	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							
14	s-metolachlor	915	EC	800	G A/HA	PPI	A							
	trifluralin	480	EC	1105	G A/HA	PPI	A							
	metribuzin	75	DF	150	G A/HA	POST 1	B							
	s-metolachlor	915	EC	800	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							
15	s-metolachlor	915	EC	800	G A/HA	PPI	A							
	trifluralin	480	EC	550	G A/HA	PPI	A							
	metribuzin	75	DF	150	G A/HA	POST 1	B							
	s-metolachlor	915	EC	800	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							

LSD (P=.05)
 Standard Deviation
 CV

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.

Pre-plant incorporated (PPI) applications of s-metolachlor+trifluralin ($800+1105 \text{ g a.i. ha}^{-1}$), followed by postemergence (POST) applications of s-metolachlor+metribuzin ($800+150 \text{ g a.i. ha}^{-1}$) caused commercially unacceptable and significant (12%) visual injury at 35 days after transplanting (DAP). Injury consisted of stunted plants, reduced leaf area, and leaf distortion. Despite the visual injury that was observed, this treatment did not delay maturity nor did it reduce tomato yield. Reducing the rate of trifluralin to $550 \text{ g a.i. ha}^{-1}$ in the PPI tank mix of s-metolachlor+trifluralin, reduced the amount of injury when followed by a POST tank mix of s-metolachlor+metribuzin ($800+150 \text{ g a.i. ha}^{-1}$).

Some temporary interveinal chlorosis was evident in all treatments that included PPI applications of metribuzin, likely due to the cool, cloudy weather that followed transplanting. In all cases, the injury was less than 3% and was no longer measurable by 35 DAP.

The POST application of thifensulfuron-methyl (6 g a.i. ha^{-1}) did cause some temporary chlorosis of the new growing tissues at 7 days after treatment (DAT). However, by 14 DAT, the plants had outgrown the injury, and did not show a delay of maturity or a reduction in yield.

The industry standard of s-metolachlor+metribuzin ($1600+700 \text{ g a.i. ha}^{-1}$) provided excellent season-long control of velvetleaf, pigweed species, common lamb's-quarters and good season-long control of eastern black nightshade. The trifluralin+s-metolachlor+metribuzin tank mix provided excellent season long control of pigweed species, good control of common lamb's-quarters and eastern black nightshade, and fair control of velvetleaf.

Excellent season long control of velvetleaf, pigweed species, common lamb's-quarters and eastern black nightshade was observed following pre-plant incorporation (PPI) s-metolachlor ($1600 \text{ g a.i. ha}^{-1}$) plus four sequential postemergence applications of metribuzin ($150 \text{ g a.i. ha}^{-1}$). The addition of thifensulfuron-methyl (6 g a.i. ha^{-1}) did not increase control of any weed species over this herbicide treatment.

Tank mixes of s-metolachlor+trifluralin, followed by POST applications of s-metolachlor+metribuzin gave excellent control of all weeds in the trial, and resulted in statistically similar yields to the 3-way mix of s-metolachlor+trifluralin+metribuzin and the industry standard of s-metolachlor+metribuzin (PPI) or s-metolachlor+metribuzin (PPI) with POST applications of metribuzin. Marketable yields and green fruit production in all herbicide treatments were comparable to the weed-free, untreated check.

WEED MANAGEMENT IN TOMATOES WITH CLOMAZONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T1

CROP: LYPES, TOMATO (H 9553). Planted: May-30-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-30-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-E1.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION

Application: A
 Date : May-30-03
 Time of Day: 7:15 AM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 10.9 C
 % Humidity : 90
 Wind Speed : 0 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 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

Weed Code	ABUTH	AMASS	AMBEL	CHEAL	SOLPT
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated					
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL
Rating Unit	%	%	%	%	%
Rating Date	Jun-6-03	Jun-13-03	Jun-26-03	Jul-11-03	Jul-11-03
Crop Stage	2-3 LF	3-4 LF	9-11 LF	10-12 LF	10-12 LF
Crop Stage Scale	10-15 CM	12-15 CM	23-31 CM	42-55 CM	42-55 CM
Weed Stage				4 LF	6 LF
Weed Density, Unit				2 SQ.M.	8.5 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	42 DAE	42 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check							0	a 0	d 0	e 0	e 0	c 50	c 0
2	clomazone	360	EC	120	G A/HA PRE-T	A	A	0	a 0	d 0	e 55	d 53	b 80	abc 3
3	clomazone	360	EC	240	G A/HA PRE-T	A	A	0	a 0	d 1	e 64	cd 60	ab 74	abc 23
4	clomazone	360	EC	360	G A/HA PRE-T	A	A	0	a 2	c 4	d 69	bc 59	ab 80	abc 35
5	clomazone	360	EC	480	G A/HA PRE-T	A	A	0	a 4	b 6	cd 73	abc 63	a 55	bc 55
6	clomazone	360	EC	600	G A/HA PRE-T	A	A	0	a 6	a 8	bc 78	ab 61	ab 90	ab 61
7	clomazone	360	EC	720	G A/HA PRE-T	A	A	0	a 7	a 8	b 81	a 68	a 75	abc 64
8	clomazone	360	EC	840	G A/HA PRE-T	A	A	0	a 7	a 11	a 76	ab 66	a 96	a 68

LSD (P=.05)	0.3	1.7	2.0	9.9	8.8	37.2	15.1	11.0
Standard Deviation	0.2	1.1	1.4	6.7	6.0	25.3	10.3	7.5
CV	370.33	36.79	30.01	10.86	11.13	33.76	26.76	12.75

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

Weed Code	ABUTH	AMASS	AMBEL	CHEAL	SOLPT
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%
Rating Date	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03
Crop Stage	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT
Crop Stage Scale	55-72 CM	55-72 CM	55-72 CM	55-72 CM	55-72 CM
Weed Stage	8 LF	14 LF	12 LF	18 LF	8 LF
Weed Density, Unit	5.5 SQ.M.	15 SQ.M.	2.5 SQ.M.	106 SQ.M.	8.5 SQ.M.
Trt-Eval Interval	70 DAE	70 DAE	70 DAE	70 DAE	70 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code							
1	untreated check							0	e 0	b 0	c 0	d 0	b 17.0	bc 1.5
2	clomazone	360	EC	120	G A/HA PRE-T	A	A	60	cd 49	a 64	ab 0	d 65	a 11.9	c 0.6
3	clomazone	360	EC	240	G A/HA PRE-T	A	A	58	d 51	a 68	ab 8	cd 68	a 12.7	c 0.7
4	clomazone	360	EC	360	G A/HA PRE-T	A	A	73	abc 47	a 58	ab 9	cd 70	a 15.4	bc 0.8
5	clomazone	360	EC	480	G A/HA PRE-T	A	A	65	bcd 51	a 51	b 39	ab 69	a 36.3	a 2.0
6	clomazone	360	EC	600	G A/HA PRE-T	A	A	79	ab 49	a 93	a 26	bc 69	a 24.2	abc 1.3
7	clomazone	360	EC	720	G A/HA PRE-T	A	A	83	a 46	a 63	ab 43	ab 76	a 27.4	abc 1.5
8	clomazone	360	EC	840	G A/HA PRE-T	A	A	71	a-d 46	a 90	ab 56	a 76	a 32.8	ab 1.8

LSD (P=.05)	14.8	15.3	40.3	24.1	19.4	19.07	1.72	0.61
Standard Deviation	10.1	10.4	27.4	16.4	13.2	12.97	1.17	0.41
CV	16.49	24.55	45.16	73.09	21.43	58.38	90.88	80.84

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

WEED MANAGEMENT IN TOMATOES WITH CLOMAZONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: T003T1

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	RED+GR	RED	GREEN	ROT	RED+GR	RED	GREEN
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/HA	T/HA	T/HA	T/HA	T/AC	T/AC
Rating Date	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03
Crop Stage	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDY	WEEDY
Trt-Eval Interval	111 DAE	111 DAE	111 DAE	111 DAE	111 DAE	111 DAE	111 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							18.4	abc	80.6	ab	8.4	a	1.4	ab	89.0	ab	7.6	bc	0.7	a
2	clomazone	360	EC	120	G A/HA PRE-T A			12.5	c	87.8	a	6.8	a	1.6	ab	94.6	a	5.3	c	0.3	a
3	clomazone	360	EC	240	G A/HA PRE-T A			13.4	c	81.3	ab	9.0	a	1.0	ab	90.3	ab	5.7	c	0.3	a
4	clomazone	360	EC	360	G A/HA PRE-T A			16.2	bc	79.7	ab	8.0	a	1.6	ab	87.7	ab	6.9	bc	0.4	a
5	clomazone	360	EC	480	G A/HA PRE-T A			38.3	a	78.7	ab	8.4	a	1.1	ab	87.1	ab	16.2	a	0.9	a
6	clomazone	360	EC	600	G A/HA PRE-T A			25.6	abc	81.2	ab	6.3	a	2.4	a	87.4	ab	10.8	abc	0.6	a
7	clomazone	360	EC	720	G A/HA PRE-T A			28.9	abc	82.9	ab	7.3	a	1.8	ab	90.2	ab	12.2	abc	0.7	a
8	clomazone	360	EC	840	G A/HA PRE-T A			34.7	ab	74.2	b	8.1	a	0.5	b	82.3	b	14.6	ab	0.8	a

LSD (P=.05)	20.50	11.51	3.46	1.49	11.59	8.51	0.77
Standard Deviation	13.94	7.82	2.35	1.02	7.88	5.79	0.52
CV	59.31	9.68	30.25	71.67	8.9	58.38	90.88

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

Crop Code	LYPES	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/AC	T/AC	T/AC	T/AC	T/AC	T/AC	
Rating Date	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03	Sep-18-03	
Crop Stage	WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	
Trt-Eval Interval	111 DAE	111 DAE	111 DAE	111 DAE	111 DAE	111 DAE	

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							0.2	ab	8.2	abc	36.0	ab	3.8	a	0.6	ab	39.7	ab		
2	clomazone	360	EC	120	G A/HA PRE-T A			0.1	ab	5.6	c	39.2	a	3.1	a	0.7	ab	42.2	a		
3	clomazone	360	EC	240	G A/HA PRE-T A			0.1	b	6.0	c	36.3	ab	4.0	a	0.4	ab	40.3	ab		
4	clomazone	360	EC	360	G A/HA PRE-T A			0.3	ab	7.2	bc	35.6	ab	3.6	a	0.7	ab	39.1	ab		
5	clomazone	360	EC	480	G A/HA PRE-T A			0.3	ab	17.1	a	35.1	ab	3.7	a	0.5	ab	38.9	ab		
6	clomazone	360	EC	600	G A/HA PRE-T A			0.2	ab	11.4	abc	36.2	ab	2.8	a	1.1	a	39.0	ab		
7	clomazone	360	EC	720	G A/HA PRE-T A			0.2	ab	12.9	abc	37.0	ab	3.2	a	0.8	ab	40.2	ab		
8	clomazone	360	EC	840	G A/HA PRE-T A			0.4	a	15.5	ab	33.1	b	3.6	a	0.2	b	36.7	b		

LSD (P=.05)	0.27	9.15	5.13	1.54	0.67	5.17
Standard Deviation	0.19	6.22	3.49	1.05	0.45	3.52
CV	80.84	59.31	9.68	30.25	71.67	8.9

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.

Visual injury to tomato was not observed until 14 days after transplanting (DAP). Injury increased as clomazone rate increased from 360 to 840 g a.i. ha⁻¹. Visual injury was commercially unacceptable at 840 g a.i. ha⁻¹ of clomazone. Injury symptoms included bleaching of new actively growing leaf tissues.

At 70 DAP, clomazone provided good control of velvetleaf, excellent control of common ragweed, fair control of eastern black lamb's-quarters and poor control of pigweed species and common lamb's-quarters.

Green yield did not increase as clomazone rate increased, nor was green yield different in any of the clomazone treatments than in the untreated check. This suggests that clomazone did not delay the maturity of tomato. Total yield (red+green) increased as clomazone rate increased in the weedy portions of the plots, as a result of reduced interference from weeds. The increase in yield corresponded well with the high density of common lamb's-quarters across the entire trial (106 plants m⁻²) and the increase in control as clomazone rate increased from 120 g a.i. ha⁻¹ (10% control) to 840 g a.i. ha⁻¹ (56% control). Total yield in the weed-free portion of each plot did not differ among any of the treatments.

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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T2

CROP: LYPES, TOMATO (H 9553). Planted: May-30-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
Emerged On: May-30-03.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-E2.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION STAGE AT APPLICATION
Application: A Application: A
Date : Jun-21-03 Crop 1 LYPES 9 LF
Time of Day: 6:15 AM Height : 15.7 CM
Method : CO2 SPRAY
Timing : 21 DAT Weed 1 ABUTH 1 LF
Placement : FOLIAR Stg.Scale: 1 CM
Air Temp. : 10.7 C Density : 16 SQ.M.
% Humidity : 89 Weed 2 CHEAL COT.
Wind Speed : 5 KPH Stg.Scale: 0.5 CM
Dew Present: Y Density : 2.5 SQ.M.
Soil Moist.: MOIST
Cloud Cover: 10%
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	LYPES			ABUTH	AMASS	CHEAL	SOLPT
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	Jun-26-03	Jul-4-03	Jul-17-03	Jul-16-03	Jul-16-03	Jul-16-03	Jul-16-03
Crop Stage	8-10 LF	9-13 LF	FLR-FRUT	FLR-FRUT	FLR-FRUT	FLR-FRUT	FLR-FRUT
Crop Stage Scale	21-27 CM	30-35 CM	35-45 CM	35-45 CM	35-45 CM	35-45 CM	35-45 CM
Weed Stage				4 LF	6 LF	6 LF	6 LF
Weed Density, Unit				18 SQ.M.	4 SQ.M.	3 SQ.M.	2 SQ.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	Form Rate	Rate Unit	Grow Stg	Appl Code	LYPES			ABUTH	AMASS	CHEAL	SOLPT								
1	untreated check							0	j	0	d	0	b	0	h	0	b	0	d	0	d	
2	rimsulfuron	25	DF	15	G A/HA	POST	A	1	ij	1	cd	1	b	78	ef	100	a	96	abc	92	a	
	Agral 90		SO	0.2	% V/V	POST	A															
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	4	def	0	d	0	b	77	ef	100	a	100	a	75	bc	
	Agral 90		SO	0.2	% V/V	POST	A															
4	metribuzin	75	DF	375	G A/HA	POST	A	2	ghi	0	d	0	b	88	a-e	100	a	96	ab	70	c	
5	rimsulfuron	25	DF	15	G A/HA	POST	A	1	hij	2	cd	0	b	95	ab	100	a	100	a	78	bc	
	metribuzin	75	DF	375	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	5	cd	2	cd	1	b	93	abc	100	a	100	a	76	bc	
	metribuzin	75	DF	375	G A/HA	POST	A															
	Agral 90		SO	0.2	% V/V	POST	A															
7	rimsulfuron	25	DF	15	G A/HA	POST	A	4	cde	2	cd	0	b	91	a-d	100	a	100	a	83	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	10	a	10	a	5	a	93	abc	100	a	100	a	86	ab	
	metribuzin	75	DF	750	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	8	b	7	b	2	b	100	a	100	a	100	a	81	abc	
	metribuzin	75	DF	750	G A/HA	POST	A															
	Agral 90		SO	0.4	% V/V	POST	A															
10	rimsulfuron	25	DF	30	G A/HA	POST	A	5	c	11	a	2	b	88	a-e	100	a	100	a	79	abc	
	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	ij	0	d	0	b	67	fg	100	a	91	c	71	c	
	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	j	1	cd	2	b	61	g	100	a	94	bc	75	bc	
	chlorothalonil	500	F	1600	G A/HA	POST	A															
	copper	40	WP	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	1	hij	0	d	0	b	82	cde	100	a	100	a	77	bc	
	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	15	G A/HA	POST	A	0	ij	0	d	0	b	89	a-e	100	a	100	a	78	bc	
	metribuzin	75	DF	150	G A/HA	POST	A															
	chlorothalonil	500	F	1600	G A/HA	POST	A															
	copper	40	WP	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	2	fgh	1	d	0	b	80	def	100	a	100	a	82	abc	
	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 TANK MIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T2

Weed Code	ABUTH	AMASS	CHEAL	SOLPT
Crop Code	LYPES	LYPES	LYPES	LYPES
Part Rated				
Rating Data Type	INJURY	INJURY	INJURY	CONTROL
Rating Unit	%	%	%	%
Rating Date	Jun-26-03	Jul-4-03	Jul-17-03	Jul-16-03
Crop Stage	8-10 LF	9-13 LF	FLR-FRUT	FLR-FRUT
Crop Stage Scale	21-27 CM	30-35 CM	35-45 CM	35-45 CM
Weed Stage			4 LF	6 LF
Weed Density, Unit			18 SQ.M.	4 SQ.M.
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														
16	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	2	ghi	1	cd	1	b	69	fg	100	a	96	ab	82	abc
	chlorothalonil	500	F	1600	G A/HA	POST	A														
	copper	40	WP	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	3	efg	3	c	1	b	83	b-e	100	a	100	a	74	bc
	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	1	ij	1	cd	0	b	89	a-e	100	a	100	a	87	ab
	metribuzin	75	DF	150	G A/HA	POST	A														
	chlorothalonil	500	F	1600	G A/HA	POST	A														
	copper	40	WP	2250	G A/HA	POST	A														
	Agral 90		SO	0.2	% V/V	POST	A														

LSD (P=.05)	1.4	2.3	2.2	12.9	0.0	4.9	13.3
Standard Deviation	1.0	1.6	1.6	9.1	0.0	3.4	9.4
CV	36.46	69.94	202.67	11.52	0.0	3.7	12.61

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

Weed Code	ABUTH	AMASS	AMBEL	CHEAL	SOLPT	SETVI	
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated							RED
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	%	%	%	%	%	%	T/HA
Rating Date	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Oct-1-03
Crop Stage	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT	WEEDFREE
Crop Stage Scale	35-64 CM	35-64 CM	35-64 CM	35-64 CM	35-64 CM	35-64 CM	
Weed Stage	7 LF	20 LF	20 LF	20 LF	14 LF	7 LF	
Weed Density, Unit	11 SQ.M.	3 SQ.M.	2 SQ.M.	5 SQ.M.	3 SQ.M.	2.5 SQ.M.	
Trt-Eval Interval	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	102 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							0	h	0	c	0	d	0	e	0	d	0	d	90.6	ab
2	rimsulfuron	25	DF	15	G A/HA	POST	A	61	d-g	100	a	85	ab	83	c	79	a	95	a	81.1	b
	Agral 90		SO	0.2	% V/V	POST	A														
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	66	c-g	100	a	71	b	94	ab	54	bc	69	bc	101.7	a
	Agral 90		SO	0.2	% V/V	POST	A														
4	metribuzin	75	DF	375	G A/HA	POST	A	78	a-e	100	a	91	ab	95	ab	62	abc	88	ab	89.3	ab
5	rimsulfuron	25	DF	15	G A/HA	POST	A	93	ab	100	a	95	ab	100	a	63	abc	93	a	91.5	ab
	metribuzin	75	DF	375	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	88	ab	100	a	85	ab	100	a	63	abc	96	a	92.2	ab
	metribuzin	75	DF	375	G A/HA	POST	A														
	Agral 90		SO	0.2	% V/V	POST	A														
7	rimsulfuron	25	DF	15	G A/HA	POST	A	87	ab	100	a	95	ab	100	a	66	abc	98	a	87.1	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	91	ab	100	a	95	ab	100	a	75	a	95	a	82.0	b
	metribuzin	75	DF	750	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	97	a	100	a	100	a	100	a	66	abc	88	ab	80.5	b
	metribuzin	75	DF	750	G A/HA	POST	A														
	Agral 90		SO	0.4	% V/V	POST	A														
10	rimsulfuron	25	DF	30	G A/HA	POST	A	85	abc	100	a	85	ab	100	a	51	c	100	a	83.1	b
	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	54	fg	100	a	68	b	78	cd	75	a	100	a	81.5	b
	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	51	g	95	b	35	c	70	d	76	a	88	ab	77.5	b
	chlorothalonil	500	F	1600	G A/HA	POST	A														
	copper	40	WP	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	81	a-d	100	a	88	ab	100	a	62	abc	94	a	81.3	b
	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 TANK MIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T2

Weed Code	ABUTH	AMASS	AMBEL	CHEAL	SOLPT	SETVI	LYPES
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated							RED
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	%	%	%	%	%	%	T/HA
Rating Date	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Oct-1-03
Crop Stage	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT	WEEDFREE
Crop Stage Scale	35-64 CM	35-64 CM	35-64 CM	35-64 CM	35-64 CM	35-64 CM	
Weed Stage	7 LF	20 LF	20 LF	20 LF	14 LF	7 LF	
Weed Density, Unit	11 SQ.M.	3 SQ.M.	2 SQ.M.	5 SQ.M.	3 SQ.M.	2.5 SQ.M.	
Trt-Eval Interval	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	102 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code														
14	rimsulfuron	25	DF	15	G A/HA	POST	A	76	b-e	100	a	79	ab	96	ab	69	ab	95	a	83.8	b
	metribuzin	75	DF	150	G A/HA	POST	A														
	chlorothalonil	500	F	1600	G A/HA	POST	A														
	copper	40	WP	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	60	efg	100	a	73	ab	100	a	68	abc	71	bc	80.5	b
	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	49	g	100	a	73	ab	85	bc	68	abc	64	c	77.6	b
	chlorothalonil	500	F	1600	G A/HA	POST	A														
	copper	40	WP	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	74	b-f	100	a	74	ab	100	a	64	abc	55	c	75.7	b
	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	81	abc	100	a	68	b	96	ab	76	a	87	ab	78.1	b
	metribuzin	75	DF	150	G A/HA	POST	A														
	chlorothalonil	500	F	1600	G A/HA	POST	A														
	copper	40	WP	2250	G A/HA	POST	A														
	Agral 90	SO	0.2	% V/V	POST	A															
LSD (P=.05)								20.3	3.3	27.8	11.6	17.5	20.2	17.28							
Standard Deviation								14.4	2.4	19.6	8.2	12.4	14.3	12.22							
CV								20.39	2.5	26.05	9.25	19.6	17.46	14.52							

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

Weed Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Crop Code	GREEN	ROTS	RED+GR	RED	GREEN	ROTS
Part Rated						
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC
Rating Date	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03
Crop Stage	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
Crop Stage Scale						
Weed Stage						
Weed Density, Unit						
Trt-Eval Interval	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code												
1	untreated check							8.8	ab	2.2	b	99.4	abc	40.4	ab	3.9	ab	1.0	b
2	rimsulfuron	25	DF	15	G A/HA	POST	A	9.6	ab	2.6	ab	90.7	bc	36.2	b	4.3	ab	1.1	ab
	Agral 90	SO	0.2	% V/V	POST	A													
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	7.4	ab	2.4	b	109.1	a	45.4	a	3.3	ab	1.1	b
	Agral 90	SO	0.2	% V/V	POST	A													
4	metribuzin	75	DF	375	G A/HA	POST	A	8.4	ab	1.7	b	97.8	abc	39.9	ab	3.8	ab	0.7	b
5	rimsulfuron	25	DF	15	G A/HA	POST	A	8.1	ab	4.6	a	99.6	abc	40.8	ab	3.6	ab	2.1	a
	metribuzin	75	DF	375	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	9.7	ab	2.1	b	101.9	ab	41.1	ab	4.3	ab	0.9	b
	metribuzin	75	DF	375	G A/HA	POST	A												
	Agral 90	SO	0.2	% V/V	POST	A													
7	rimsulfuron	25	DF	15	G A/HA	POST	A	8.4	ab	2.7	ab	95.6	abc	38.9	ab	3.8	ab	1.2	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	7.1	ab	1.3	b	89.1	bc	36.6	b	3.2	ab	0.6	b
	metribuzin	75	DF	750	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	8.1	ab	2.2	b	88.6	bc	35.9	b	3.6	ab	1.0	b
	metribuzin	75	DF	750	G A/HA	POST	A												
	Agral 90	SO	0.4	% V/V	POST	A													
10	rimsulfuron	25	DF	30	G A/HA	POST	A	8.4	ab	2.3	b	91.6	bc	37.1	b	3.8	ab	1.0	b

	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	9.0	ab	1.2	b	90.6	bc	36.4	b	4.0	ab	0.6	b
	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 TANK MIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T2

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	GREEN	ROTS	RED+GR	RED	GREEN	ROTS
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC
Rating Date	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03
Crop Stage	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
Trt-Eval Interval	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code													
12	rimsulfuron	25	DF	15	G A/HA	POST	A	8.2	ab	1.7	b	85.7	c	34.6	b	3.7	ab	0.7	b	
	chlorothalonil	500	F	1600	G A/HA	POST	A													
	copper	40	WP	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	9.2	ab	1.6	b	90.5	bc	36.3	b	4.1	ab	0.7	b	
	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	15	G A/HA	POST	A	6.7	ab	2.2	b	90.6	bc	37.4	b	3.0	ab	1.0	b	
	metribuzin	75	DF	150	G A/HA	POST	A													
	chlorothalonil	500	F	1600	G A/HA	POST	A													
	copper	40	WP	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	10.3	a	2.5	ab	90.8	bc	35.9	b	4.6	a	1.1	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	8.6	ab	2.0	b	86.2	bc	34.6	b	3.8	ab	0.9	b	
	chlorothalonil	500	F	1600	G A/HA	POST	A													
	copper	40	WP	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	9.9	ab	1.6	b	85.5	c	33.8	b	4.4	ab	0.7	b	
	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	6.2	b	1.7	b	84.3	c	34.8	b	2.8	b	0.8	b	
	metribuzin	75	DF	150	G A/HA	POST	A													
	chlorothalonil	500	F	1600	G A/HA	POST	A													
	copper	40	WP	2250	G A/HA	POST	A													
	Agral 90				SO	0.2	% V/V	POST	A											

LSD (P=.05)	3.88	2.20	15.86	7.71	1.73	0.98
Standard Deviation	2.75	1.56	11.21	5.45	1.23	0.70
CV	32.47	72.44	12.11	14.52	32.47	72.44

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

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	RED+GR	RED	GREEN	ROTS	RED+GR	RED	GREEN	ROTS	RED+GR
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/AC	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC	T/AC	T/AC
Rating Date	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03
Crop Stage	WEEDFREE	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY
Trt-Eval Interval	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code													
1	untreated check							44.3	abc	65.9	7.1	2.7	73.0	29.4	3.2	1.2				
2	rimsulfuron	25	DF	15	G A/HA	POST	A	40.5	bc											
	Agral 90				SO	0.2	% V/V	POST	A											
3	thifensulfuron-methyl	75	DF	6	G A/HA	POST	A	48.7	a											
	Agral 90				SO	0.2	% V/V	POST	A											
4	metribuzin	75	DF	375	G A/HA	POST	A	43.6	abc											
5	rimsulfuron	25	DF	15	G A/HA	POST	A	44.4	abc											
	metribuzin	75	DF	375	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	45.5	ab											
	metribuzin	75	DF	375	G A/HA	POST	A													
	Agral 90				SO	0.2	% V/V	POST	A											
7	rimsulfuron	25	DF	15	G A/HA	POST	A	42.6	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	39.8	bc											
	metribuzin	75	DF	750	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	39.5	bc											
	metribuzin	75	DF	750	G A/HA	POST	A													
	Agral 90				SO	0.4	% V/V	POST	A											

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

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T2

		LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
		RED+GR	RED	GREEN	ROTS	RED+GR	RED	GREEN	ROTS	RED+GR
		YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
		T/AC	T/HA	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC	T/AC
		Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03	Oct-1-03
		WEEDFREE	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY
		102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT	102 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code			
10	rimsulfuron	25	DF	30	G A/HA	POST	A	40.8	bc	
	thifensulfuron-methyl	75	DF	12	G A/HA	POST	A			32.6
	Agral 90		SO	0.4	% V/V	POST	A			
11	rimsulfuron	25	DF	15	G A/HA	POST	A	40.4	bc	
	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	38.2	c	
	chlorothalonil	500	F	1600	G A/HA	POST	A			
	copper	40	WP	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	40.4	bc	
	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	15	G A/HA	POST	A	40.4	bc	
	metribuzin	75	DF	150	G A/HA	POST	A			
	chlorothalonil	500	F	1600	G A/HA	POST	A			
	copper	40	WP	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	40.5	bc	
	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	38.4	bc	
	chlorothalonil	500	F	1600	G A/HA	POST	A			
	copper	40	WP	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	38.1	c	
	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	37.6	c	
	metribuzin	75	DF	150	G A/HA	POST	A			
	chlorothalonil	500	F	1600	G A/HA	POST	A			
	copper	40	WP	2250	G A/HA	POST	A			
	Agral 90		SO	0.2	% V/V	POST	A			
LSD (P=.05)								7.07	.	.
Standard Deviation								5.00	.	.
CV								12.11	.	.

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.

Commercially significant visual injury was observed at the high rate of the rimsulfuron+metribuzin (30+750 g a.i. ha⁻¹) and rimsulfuron+thifensulfuron-methyl (30+12 g a.i. ha⁻¹) tank mix treatments. Visual injury included yellowing of the growing points and some leaf cupping. In the remainder of the treatments, visual injury was commercially acceptable (i.e. <10%). In all cases, the tomato plants outgrew the visual injury by 28 days after transplanting (DAP).

At 56 DAT, the rimsulfuron+metribuzin, thifensulfuron-methyl+metribuzin and rimsulfuron+thifensulfuron-methyl tank mix treatments provided excellent control of velvetleaf, common lamb's-quarters and green foxtail. The addition of chlorothalonil or copper to each of these tank mixes did not reduce control of any weed species found in the trial.

Control of velvetleaf was fair when rimsulfuron or thifensulfuron-methyl were applied alone. The addition of chlorothalonil tended to reduce velvetleaf control, though differences were not significantly different. Mixing either rimsulfuron or thifensulfuron-methyl with copper reduced velvetleaf control.

Control of common lamb's-quarters was good in the rimsulfuron treatment. The addition of chlorothalonil tended to reduce control of common lamb's-quarters, though differences were not significant. There was a significant decrease in common lamb's-quarters control when rimsulfuron was tank mixed with copper. The addition of copper to thifensulfuron-methyl reduced control of common lamb's-quarters from 94 to 85%.

Green yields were not different among any of the treatments, suggesting that none of the herbicides, either individually or tank-mixed with chlorothalonil or copper, delayed tomato maturity. None of the treatments reduced total yield when compared with the untreated check.

WEED MANAGEMENT IN TOMATOES WITH NEW TANK MIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T3

CROP: LYPES, TOMATO (H 9553). Planted: May-30-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-30-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-E2.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION

Application:	A	B
Date	: May-28-03	May-30-03
Time of Day:	7:25 PM	6:50 AM
Method	: CO2 SPRAY	CO2 SPRAY
Timing	: PPI	PRE-T
Placement	: SOIL	SOIL
Air Temp.	: 13.7 C	12.0 C
% Humidity	: 73	90
Wind Speed	: 5 KPH	0 KPH
Dew Present:	N	Y
Soil Moist.:	MOIST	MOIST
Cloud Cover:	65%	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	AMASS
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-6-03	Jun-13-03	Jun-19-03	Jul-4-03	Jul-16-03	Aug-1-03	Jun-26-03	Jun-26-03
Crop Stage	2-3 LF	3-4 LF	4-6 LF	9-13 LF	FLR-FRUT	FRUIT	7-10 LF	7-10 LF
Crop Stage Scale	10-15 CM	10-15 CM	10-16 CM	38-42 CM	35-42 CM	45-60 CM	19-24 CM	19-24 CM
Weed Stage							2 LF	2 LF
Weed Density, Unit							45 SQ.M.	11 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	21 DAE	35 DAE	49 DAE	63 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	c 0	c 0	c 0	b 0	b 0	f 25	c	
2	s-metolachlor	915	EC	1200	G A/HA	PPI	A	0	a 0	c 0	c 0	c 0	b 0	b 82	bc 95	a	
	metribuzin	75	DF	700	G A/HA	PPI	A										
3	clomazone	360	EC	420	G A/HA	PRE-T	B	0	a 1	c 5	b 2	c 1	b 2	b 73	cd 64	b	
4	clomazone	360	EC	840	G A/HA	PRE-T	B	0	a 4	ab 13	a 6	bc 2	b 3	b 79	bc 78	ab	
5	flumioxazin	51	WG	52.5	G A/HA	PRE-T	B	0	a 1	c 2	bc 3	bc 3	b 3	ab 54	e 94	a	
6	flumioxazin	51	WG	70	G A/HA	PRE-T	B	0	a 2	bc 5	b 9	b 3	b 4	ab 58	de 94	a	
7	flumioxazin	51	WG	140	G A/HA	PRE-T	B	0	a 1	c 6	b 17	a 15	a 10	a 75	bc 94	a	
8	mesotrione	480	EC	25	G A/HA	PRE-T	B	0	a 3	abc 3	bc 3	bc 4	b 3	ab 59	de 84	ab	
9	mesotrione	480	EC	50	G A/HA	PRE-T	B	0	a 5	a 4	bc 5	bc 5	b 4	ab 73	cd 86	ab	
10	s-metolachlor	915	EC	1200	G A/HA	PPI	A	0	a 0	c 5	b 3	bc 0	b 0	b 100	a 100	a	
	metribuzin	75	DF	700	G A/HA	PPI	A										
	clomazone	360	EC	420	G A/HA	PRE-T	B										
11	s-metolachlor	915	EC	1200	G A/HA	PPI	A	0	a 1	c 2	bc 5	bc 4	b 3	ab 98	a 100	a	
	metribuzin	75	DF	700	G A/HA	PPI	A										
	flumioxazin	51	WG	52.5	G A/HA	PRE-T	B										
12	s-metolachlor	915	EC	1200	G A/HA	PPI	A	0	a 5	a 6	b 5	bc 5	b 4	ab 90	ab 100	a	
	metribuzin	75	DF	700	G A/HA	PPI	A										
	mesotrione	480	EC	25	G A/HA	PRE-T	B										
LSD (P=.05)								0.0	2.9	4.4	7.1	9.6	7.6	15.4	23.6		
Standard Deviation								0.0	2.0	3.0	4.9	6.7	5.2	10.7	16.4		
CV								0.0	107.29	73.13	107.03	191.99	176.91	15.3	19.38		

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

WEED MANAGEMENT IN TOMATOES WITH NEW TANK MIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T3

Weed Code	AMBEL	CHEAL	SETVI	ABUTH	AMASS	AMBEL	CHEAL	SETVI
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated								
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-26-03	Jun-26-03	Jun-26-03	Jul-24-03	Jul-24-03	Jul-24-03	Jul-24-03	Jul-24-03
Crop Stage	7-10 LF	7-10 LF	7-10 LF	FLR-FRUT	FLR-FRUT	FLR-FRUT	FLR-FRUT	FLR-FRUT
Crop Stage Scale	19-24 CM	19-24 CM	19-24 CM	35-46 CM	35-46 CM	35-46 CM	35-46 CM	35-46 CM
Weed Stage	4 LF	4 LF	4 LF	5 LF	14 LF	14 LF	16 LF	6 LF
Weed Density, Unit	5 SQ.M.	55.5SQ.M.	3 SQ.M.	37 SQ.M.	4.5 SQ.M.	3 SQ.M.	44 SQ.M.	12.5SQ.M.
Trt-Eval Interval	28 DAE	28 DAE	28 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code	
1	untreated check							25 c 0 e 0.0 g 0 f 0 e 0 e 0 e 0
2	s-metolachlor	915 EC	1200	G A/HA	PPI	A		92 a 91 abc 91.0 a-d 64 cd 93 abc 81 ab 91 ab 84 ab
	metribuzin	75 DF	700	G A/HA	PPI	A		
3	clomazone	360 EC	420	G A/HA	PRE-T	B		74 ab 78 d 93.8 abc 58 d 45 d 30 cde 59 d 59 bc
4	clomazone	360 EC	840	G A/HA	PRE-T	B		86 ab 81 cd 86.3 a-d 73 bcd 56 d 51 bcd 59 d 61 bc
5	flumioxazin	51 WG	52.5	G A/HA	PRE-T	B		80 ab 81 cd 78.8 b-e 4 f 69 a-d 58 a-d 68 cd 30 d
6	flumioxazin	51 WG	70	G A/HA	PRE-T	B		79 ab 83 bcd 71.3 de 3 f 69 a-d 69 abc 63 d 34 cd
7	flumioxazin	51 WG	140	G A/HA	PRE-T	B		90 ab 93 ab 75.0 cde 23 ef 95 ab 64 a-d 78 bc 38 cd
8	mesotrione	480 EC	25	G A/HA	PRE-T	B		61 b 79 d 48.8 f 13 ef 67 bcd 21 de 67 cd 10 de
9	mesotrione	480 EC	50	G A/HA	PRE-T	B		73 ab 82 cd 65.0 ef 29 e 63 cd 46 bcd 68 cd 13 de
10	s-metolachlor	915 EC	1200	G A/HA	PPI	A		100 a 100 a 100.0 a 99 a 97 ab 96 a 100 a 94 a
	metribuzin	75 DF	700	G A/HA	PPI	A		
	clomazone	360 EC	420	G A/HA	PRE-T	B		
11	s-metolachlor	915 EC	1200	G A/HA	PPI	A		100 a 100 a 96.3 ab 95 ab 100 a 98 a 100 a 85 ab
	metribuzin	75 DF	700	G A/HA	PPI	A		
	flumioxazin	51 WG	52.5	G A/HA	PRE-T	B		
12	s-metolachlor	915 EC	1200	G A/HA	PPI	A		99 a 99 a 85.3 a-d 83 abc 100 a 95 a 93 a 78 ab
	metribuzin	75 DF	700	G A/HA	PPI	A		
	mesotrione	480 EC	25	G A/HA	PRE-T	B		
LSD (P=.05)								
Standard Deviation								
CV								

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

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	RED	GREEN	ROT	RED+GR	RED	GREEN	ROT	RED+GR
Rating Data Type	YIELD	YIELD	YIELD	YIELD	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit	T/HA	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC	T/AC
Rating Date	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03
Crop Stage	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY	WEEDY
Trt-Eval Interval	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code	
1	untreated check							23.8 c 5.3 c-f 0.8 b 29.1 c 10.6 c 2.4 c-f 0.3 b 13.0 c
2	s-metolachlor	915 EC	1200	G A/HA	PPI	A		56.4 ab 8.3 a-d 2.3 ab 64.7 ab 25.2 ab 3.7 a-d 1.0 ab 28.9 ab
	metribuzin	75 DF	700	G A/HA	PPI	A		
3	clomazone	360 EC	420	G A/HA	PRE-T	B		37.4 c 4.5 def 2.0 ab 41.9 c 16.7 c 2.0 def 0.9 ab 18.7 c
4	clomazone	360 EC	840	G A/HA	PRE-T	B		37.2 c 7.0 b-e 1.5 ab 44.2 bc 16.6 c 3.1 b-e 0.6 ab 19.7 bc
5	flumioxazin	51 WG	52.5	G A/HA	PRE-T	B		26.7 c 5.6 c-f 1.9 ab 32.3 c 11.9 c 2.5 c-f 0.9 ab 14.4 c
6	flumioxazin	51 WG	70	G A/HA	PRE-T	B		31.5 c 5.8 c-f 1.9 ab 37.4 c 14.1 c 2.6 c-f 0.9 ab 16.7 c
7	flumioxazin	51 WG	140	G A/HA	PRE-T	B		37.9 bc 7.3 b-e 2.7 a 45.2 bc 16.9 bc 3.3 b-e 1.2 a 20.2 bc
8	mesotrione	480 EC	25	G A/HA	PRE-T	B		21.9 c 2.9 f 0.7 b 24.8 c 9.8 c 1.3 f 0.3 b 11.1 c
9	mesotrione	480 EC	50	G A/HA	PRE-T	B		33.3 c 4.1 ef 1.0 ab 37.4 c 14.9 c 1.8 ef 0.5 ab 16.7 c
10	s-metolachlor	915 EC	1200	G A/HA	PPI	A		67.8 a 9.4 abc 1.8 ab 77.1 a 30.2 a 4.2 abc 0.8 ab 34.4 a
	metribuzin	75 DF	700	G A/HA	PPI	A		
	clomazone	360 EC	420	G A/HA	PRE-T	B		
11	s-metolachlor	915 EC	1200	G A/HA	PPI	A		58.8 a 11.8 a 1.8 ab 70.5 a 26.2 a 5.2 a 0.8 ab 31.5 a
	metribuzin	75 DF	700	G A/HA	PPI	A		
	flumioxazin	51 WG	52.5	G A/HA	PRE-T	B		
12	s-metolachlor	915 EC	1200	G A/HA	PPI	A		63.3 a 10.7 ab 1.8 ab 74.0 a 28.2 a 4.8 ab 0.8 ab 33.0 a
	metribuzin	75 DF	700	G A/HA	PPI	A		
	mesotrione	480 EC	25	G A/HA	PRE-T	B		
LSD (P=.05)								
Standard Deviation								
CV								

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

WEED MANAGEMENT IN TOMATOES WITH NEW TANK MIXES

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T3

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	RED	GREEN	ROT	RED+GR	RED	GREEN	ROT	RED+GR
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/HA	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC	T/AC
Rating Date	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03	Sep-30-03
Crop Stage	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
Trt-Eval Interval	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE	124 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																		
1	untreated check							66.9	a	9.7	a	1.7	a	76.6	a	29.8	a	4.3	a	0.8	a	34.2	a		
2	s-metolachlor	915	EC	1200	G A/HA	PPI	A	68.7	a	11.0	a	1.3	a	79.7	a	30.7	a	4.9	a	0.6	a	35.6	a		
	metribuzin	75	DF	700	G A/HA	PPI	A																		
3	clomazone	360	EC	420	G A/HA	PRE-T	B	62.5	a	9.9	a	1.2	a	72.4	a	27.9	a	4.4	a	0.5	a	32.3	a		
4	clomazone	360	EC	840	G A/HA	PRE-T	B	66.4	a	9.6	a	1.1	a	76.0	a	29.6	a	4.3	a	0.5	a	33.9	a		
5	flumioxazin	51	WG	52.5	G A/HA	PRE-T	B	60.0	a	10.7	a	2.1	a	70.7	a	26.8	a	4.8	a	0.9	a	31.5	a		
6	flumioxazin	51	WG	70	G A/HA	PRE-T	B	64.6	a	10.9	a	1.1	a	75.5	a	28.8	a	4.9	a	0.5	a	33.7	a		
7	flumioxazin	51	WG	140	G A/HA	PRE-T	B	56.3	a	10.1	a	1.9	a	66.4	a	25.1	a	4.5	a	0.9	a	29.6	a		
8	mesotrione	480	EC	25	G A/HA	PRE-T	B	61.2	a	12.1	a	1.6	a	73.3	a	27.3	a	5.4	a	0.7	a	32.7	a		
9	mesotrione	480	EC	50	G A/HA	PRE-T	B	58.3	a	10.9	a	1.9	a	69.3	a	26.0	a	4.9	a	0.9	a	30.9	a		
10	s-metolachlor	915	EC	1200	G A/HA	PPI	A	74.2	a	9.2	a	1.7	a	83.4	a	33.1	a	4.1	a	0.8	a	37.2	a		
	metribuzin	75	DF	700	G A/HA	PPI	A																		
	clomazone	360	EC	420	G A/HA	PRE-T	B																		
11	s-metolachlor	915	EC	1200	G A/HA	PPI	A	70.8	a	10.3	a	1.5	a	81.2	a	31.6	a	4.6	a	0.7	a	36.2	a		
	metribuzin	75	DF	700	G A/HA	PPI	A																		
	flumioxazin	51	WG	52.5	G A/HA	PRE-T	B																		
12	s-metolachlor	915	EC	1200	G A/HA	PPI	A	63.6	a	9.4	a	2.4	a	73.0	a	28.4	a	4.2	a	1.1	a	32.6	a		
	metribuzin	75	DF	700	G A/HA	PPI	A																		
	mesotrione	480	EC	25	G A/HA	PRE-T	B																		
LSD (P=.05)								18.14		3.38		1.74		19.63		8.09		1.51		0.77		8.76			
Standard Deviation								12.56		2.34		1.20		13.59		5.60		1.04		0.54		6.06		6.06	
CV								19.49		22.66		73.24		18.18		19.49		22.66		73.24		18.18		18.18	

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 pre-plant incorporated (PPI) applications of s-metolachlor+metribuzin (1200+700 g a.i. ha⁻¹), and preemergence (PRE) applications of clomazone (420 and 840 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹), mesotrione (25 and 50 g a.i. ha⁻¹). PRE treatments of clomazone (420 g a.i. ha⁻¹), flumioxazin (52.5 g a.i. ha⁻¹) or mesotrione (25 g a.i. ha⁻¹) also followed a PPI treatment of s-metolachlor+metribuzin (1200+700 g a.i. ha⁻¹) to determine their fit with the current industry standard. Weeds were left in the other half of each plot to determine the level of weed control of each herbicide.

The highest rate of flumioxazin (140 g a.i. ha⁻¹) and clomazone (840 g a.i. ha⁻¹) caused significant visual injury to tomato. Clomazone injury included bleaching of new leaf growth. Flumioxazin injury included some burning of the leaf margins and a reduction in leaf area. The industry standard of s-metolachlor+metribuzin, when tank mixed with either clomazone (420 g a.i. ha⁻¹), flumioxazin (52.5 g a.i. ha⁻¹) or mesotrione (25 g a.i. ha⁻¹) did not cause commercially unacceptable visual injury. Tomato outgrew the visual injury caused by each tank mix by the end of the growing season.

Season-long control of velvetleaf was excellent when s-metolachlor+metribuzin (PPI) was followed by PRE clomazone or flumioxazin, and good when followed by mesotrione (PRE). Each of these sequential treatments provided excellent season-long control of pigweed species and common lamb's-quarters. Season-long control of common ragweed was good in the s-metolachlor+metribuzin (PPI) treatment, and excellent when this treatment was followed by clomazone, flumioxazin or mesotrione PRE.

Tomato yield following the application of clomazone, flumioxazin or mesotrione after s-metolachlor+metribuzin (PPI) provided equivalent green and total marketable yields to the industry standard alone. There was no increase in green fruit yield in any of these treatments over the weed-free untreated check or the industry standard, indicating that maturity was not delayed. There was no difference in total weed-free yield when s-metolachlor+metribuzin was followed by no herbicide, clomazone, flumioxazin or mesotrione compared to the untreated check or the industry standard of s-metolachlor+metribuzin.

EFFECT OF POSTEMERGENCE APPLICATIONS OF S-METOLACHLOR ON WEED CONTROL AND TOLERANCE IN PROCESSING TOMATO

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T4

CROP: LYPES, TOMATO (H 9553). Planted: May-30-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: May-30-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-E1.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION		STAGE AT APPLICATION	
Application:	A	B	Application:
Date	May-28-03	Jun-27-03	Crop 1 LYPES
Time of Day	8:20 PM	8:20 AM	Height
Method	CO2 SPRAY	CO2 SPRAY	
Timing	PPI	28 DAT	Weed 1 ABUTH
Placement	SOIL	FOLIAR	Stg.Scale:
Air Temp.	13.7 C	20.2 C	Density
% Humidity	73	71	Weed 2 AMASS
Wind Speed	5 KPH	6 KPH	Stg.Scale:
Dew Present	N	N	Density
Soil Moist.	MOIST	MOIST	Weed 3 CHEAL
Cloud Cover	65%	40%	Stg.Scale:
Equipment	CO2 SPRAY	CO2 SPRAY	Density
Pressure	207 kPa	207 kPa	Weed 4 POLCO
Nozzle Type	FLAT FAN	FLAT FAN	Stg.Scale:
Nozzle Size	8002 XR	8002 XR	Density
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	AMASS
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-6-03	Jun-13-03	Jun-26-03	Jul-4-03	Jul-11-03	Jul-24-03	Jun-26-03	Jun-26-03
Crop Stage	2-3 LF	3-4 LF	9-11 LF	9-13 LF	10-13 LF	FLR-FRUT	9-11 LF	9-11 LF
Crop Stage Scale	10-15 CM	12-16 CM	23-30 CM	32-40 CM	35-46 CM	40-51 CM	23-30 CM	23-30 CM
Weed Stage							3 LF	4 LF
Weed Density, Unit							14 SQ.M.	16.5SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	7 DAT	14 DAT	28 DAT	28 DAE	28 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
1	untreated							0	a 0	a 0	a 0	a 0	a 0	a 0	b 0	b 0	b
2	s-metolachlor	915	EC	800	G A/HA	PPI	A	0	a 0	a 0	a 0	a 0	a 0	a 0	b 80	a 94	a
	metribuzin	75	DF	375	G A/HA	PPI	A										
	s-metolachlor	915	EC	400	G A/HA	POST	B										
3	s-metolachlor	915	EC	800	G A/HA	PPI	A	0	a 0	a 0	a 0	a 0	a 0	a 0	b 74	a 99	a
	metribuzin	75	DF	375	G A/HA	PPI	A										
	s-metolachlor	915	EC	600	G A/HA	POST	B										
4	s-metolachlor	915	EC	800	G A/HA	PPI	A	0	a 0	a 0	a 0	a 0	a 0	a 0	ab 78	a 100	a
	metribuzin	75	DF	375	G A/HA	PPI	A										
	s-metolachlor	915	EC	800	G A/HA	POST	B										
5	s-metolachlor	915	EC	800	G A/HA	PPI	A	0	a 0	a 0	a 0	a 0	a 0	a 0	ab 79	a 98	a
	metribuzin	75	DF	375	G A/HA	PPI	A										
	s-metolachlor	915	EC	400	G A/HA	POST	B										
	metribuzin	75	DF	150	G A/HA	POST	B										
6	s-metolachlor	915	EC	800	G A/HA	PPI	A	0	a 0	a 0	a 0	a 0	a 1	a 75	a 96	a	
	metribuzin	75	DF	375	G A/HA	PPI	A										
	s-metolachlor	915	EC	600	G A/HA	POST	B										
	metribuzin	75	DF	150	G A/HA	POST	B										
7	s-metolachlor	915	EC	800	G A/HA	PPI	A	0	a 0	a 0	a 1	a 0	a 1	ab 78	a 93	a	
	metribuzin	75	DF	375	G A/HA	PPI	A										
	s-metolachlor	915	EC	800	G A/HA	POST	B										
	metribuzin	75	DF	150	G A/HA	POST	B										

LSD (P=.05)	0.0	0.0	0.0	1.1	0.0	1.1	8.0	8.3
Standard Deviation	0.0	0.0	0.0	0.8	0.0	0.7	5.4	5.6
CV	0.0	0.0	0.0	529.15	0.0	202.65	8.13	6.76

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

EFFECT OF POSTEMERGENCE APPLICATIONS OF S-METOLACHLOR ON WEED CONTROL AND TOLERANCE IN PROCESSING TOMATO

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T4

Weed Code	CHEAL	ABUTH	AMASS	CHEAL	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES									
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES									
Part Rated					RED	GREEN	ROT	RED+GR															
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	YIELD	YIELD	YIELD	YIELD															
Rating Unit	%	%	%	%	T/HA	T/HA	T/HA	T/HA															
Rating Date	Jun-26-03	Jul-24-03	Jul-24-03	Jul-24-03	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03															
Crop Stage	9-11 LF	FLR-FRUT	FLR-FRUT	FLR-FRUT	FLR-FRUT	WEEDY	WEEDY	WEEDY															
Crop Stage Scale	23-30 CM	40-51 CM	40-51 CM	40-51 CM																			
Weed Stage	4 LF	6 LF	10 LF	12 LF																			
Weed Density, Unit	152 SQ.M.	8.5 SQ.M.	10.5SQ.M.	131 SQ.M.																			
Trt-Eval Interval	28 DAE	56 DAE	56 DAE	56 DAE	112 DAE	112 DAE	112 DAE	112 DAE															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
1	untreated							0	c	0	c	0	c	0	c	30.9	d	0.6	d	0.1	b	31.5	c
2	s-metolachlor	915	EC	800	G A/HA	PPI	A	94	a	48	b	81	b	66	b	62.7	abc	6.0	bc	0.6	ab	68.7	ab
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	400	G A/HA	POST	B																
3	s-metolachlor	915	EC	800	G A/HA	PPI	A	88	ab	38	b	91	ab	68	b	57.6	bc	4.3	bcd	0.6	ab	61.9	b
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	600	G A/HA	POST	B																
4	s-metolachlor	915	EC	800	G A/HA	PPI	A	83	b	55	b	81	b	65	b	54.6	c	4.2	cd	0.4	ab	58.8	b
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	800	G A/HA	POST	B																
5	s-metolachlor	915	EC	800	G A/HA	PPI	A	83	b	91	a	96	a	100	a	79.8	a	8.1	ab	1.1	a	87.9	a
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	400	G A/HA	POST	B																
	metribuzin	75	DF	150	G A/HA	POST	B																
6	s-metolachlor	915	EC	800	G A/HA	PPI	A	87	ab	94	a	100	a	93	a	76.5	ab	10.6	a	0.9	ab	87.1	a
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	600	G A/HA	POST	B																
	metribuzin	75	DF	150	G A/HA	POST	B																
7	s-metolachlor	915	EC	800	G A/HA	PPI	A	83	b	93	a	98	a	96	a	72.5	abc	6.7	bc	0.8	ab	79.2	ab
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	800	G A/HA	POST	B																
	metribuzin	75	DF	150	G A/HA	POST	B																
LSD (P=.05)								11.1	30.9	14.1	11.7	20.47	3.80	0.90	21.51								
Standard Deviation								7.5	20.8	9.5	7.9	13.78	2.56	0.61	14.48								
CV								10.12	34.86	12.15	11.36	22.2	44.07	92.28	21.33								

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

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES									
Part Rated	RED	GREEN	ROT	RED+GR	RED	GREEN	ROT	RED+GR															
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD															
Rating Unit	T/HA	T/HA	T/HA	T/HA	T/AC	T/AC	T/AC	T/AC															
Rating Date	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03															
Crop Stage	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDY	WEEDY	WEEDY	WEEDY															
Trt-Eval Interval	112 DAE	112 DAE	112 DAE	112 DAE	112 DAE	112 DAE	112 DAE	112 DAE															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
1	untreated							79.9		7.2		1.8		87.0	13.8	d	0.3	d	0.0	b	14.0	c	
2	s-metolachlor	915	EC	800	G A/HA	PPI	A								28.0	abc	2.7	bc	0.3	ab	30.7	ab	
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	400	G A/HA	POST	B																
3	s-metolachlor	915	EC	800	G A/HA	PPI	A								25.7	bc	1.9	bcd	0.3	ab	27.6	b	
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	600	G A/HA	POST	B																
4	s-metolachlor	915	EC	800	G A/HA	PPI	A								24.4	c	1.9	cd	0.2	ab	26.2	b	
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	800	G A/HA	POST	B																
5	s-metolachlor	915	EC	800	G A/HA	PPI	A								35.6	a	3.6	ab	0.5	a	39.2	a	
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	400	G A/HA	POST	B																
	metribuzin	75	DF	150	G A/HA	POST	B																
6	s-metolachlor	915	EC	800	G A/HA	PPI	A								34.1	ab	4.7	a	0.4	ab	38.8	a	
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	600	G A/HA	POST	B																
	metribuzin	75	DF	150	G A/HA	POST	B																
7	s-metolachlor	915	EC	800	G A/HA	PPI	A								32.3	abc	3.0	bc	0.4	ab	35.3	ab	
	metribuzin	75	DF	375	G A/HA	PPI	A																
	s-metolachlor	915	EC	800	G A/HA	POST	B																
	metribuzin	75	DF	150	G A/HA	POST	B																
LSD (P=.05)								9.13	1.69	0.40	9.59								
Standard Deviation								6.15	1.14	0.27	6.46								
CV								22.2	44.07	92.28	21.33								

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

EFFECT OF POSTEMERGENCE APPLICATIONS OF S-METOLACHLOR ON WEED CONTROL AND TOLERANCE IN PROCESSING TOMATO

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T4

Weed Code				
Crop Code	LYPES	LYPES	LYPES	LYPES
Part Rated	RED	GREEN	ROT	RED+GR
Rating Data Type	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/AC	T/AC	T/AC	T/AC
Rating Date	Sep-17-03	Sep-17-03	Sep-17-03	Sep-17-03
Crop Stage	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
Crop Stage Scale				
Weed Stage				
Weed Density, Unit				
Trt-Eval Interval	112 DAE	112 DAE	112 DAE	112 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	untreated							35.6	3.2	0.8	38.8
2	s-metolachlor	915	EC	800	G A/HA	PPI	A				
	metribuzin	75	DF	375	G A/HA	PPI	A				
	s-metolachlor	915	EC	400	G A/HA	POST	B				
3	s-metolachlor	915	EC	800	G A/HA	PPI	A				
	metribuzin	75	DF	375	G A/HA	PPI	A				
	s-metolachlor	915	EC	600	G A/HA	POST	B				
4	s-metolachlor	915	EC	800	G A/HA	PPI	A				
	metribuzin	75	DF	375	G A/HA	PPI	A				
	s-metolachlor	915	EC	800	G A/HA	POST	B				
5	s-metolachlor	915	EC	800	G A/HA	PPI	A				
	metribuzin	75	DF	375	G A/HA	PPI	A				
	s-metolachlor	915	EC	400	G A/HA	POST	B				
	metribuzin	75	DF	150	G A/HA	POST	B				
6	s-metolachlor	915	EC	800	G A/HA	PPI	A				
	metribuzin	75	DF	375	G A/HA	PPI	A				
	s-metolachlor	915	EC	600	G A/HA	POST	B				
	metribuzin	75	DF	150	G A/HA	POST	B				
7	s-metolachlor	915	EC	800	G A/HA	PPI	A				
	metribuzin	75	DF	375	G A/HA	PPI	A				
	s-metolachlor	915	EC	800	G A/HA	POST	B				
	metribuzin	75	DF	150	G A/HA	POST	B				

LSD (P=.05)	.	.	.	.
Standard Deviation	.	.	.	.
CV	.	.	.	.

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 pre-plant incorporated (PPI) applications of s-metolachlor+metribuzin (800+375 g a.i. ha⁻¹), followed by postemergence (POST) applications of s-metolachlor (400, 600 or 800 g a.i. ha⁻¹) or s-metolachlor+metribuzin (400+150, 600+150 or 800+150 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.

None of the treatments caused visual injury to tomato.

Season-long control of pigweed species was excellent, common lamb's-quarters control was fair, and velvetleaf control was poor when s-metolachlor+metribuzin (PPI) was followed by POST applications of s-metolachlor alone. S-metolachlor+metribuzin (PPI), followed by POST applications of s-metolachlor+metribuzin (at all rates tested) provided excellent season-long control of velvetleaf, pigweed species and common lamb's-quarters.

The s-metolachlor+metribuzin (PPI) followed by POST applications of s-metolachlor at either 400, 600 or 800 g a.i. ha⁻¹ alone had significantly lower yields than the weed-free untreated check. S-metolachlor+metribuzin (PPI), when followed by POST applications of s-metolachlor+metribuzin had equivalent yields to the untreated, weed-free check. Yields in these latter three treatments were superior to those treatments where only a POST application of s-metolachlor was applied, regardless of rate. Green yields were not different in any treatments compared to the weed-free check, indicating that POST applications of s-metolachlor+metribuzin did not delay maturity.

TANK MIXES OF PINNACLE WITH BRAVO AND CABRIO

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: TO03T5

CROP: LYPES, TOMATO (H 9553). Planted: Jun-6-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-6-03.
 Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RCAT-E2.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION			STAGE AT APPLICATION				
Application:	A	B	C	Application:	A	B	C
Date	Jun-26-03	Jul-3-03	Jul-10-03	Crop 1 LYPES	6-7 LF	11 LF	12 LF
Time of Day	6:30 AM	8:40 PM	6:45 PM	Height	19.3 CM	29.1 CM	49.6 CM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 1 ABUTH	2 LF	3 LF	6 LF
Timing	21 DAT	35 DAT	42 DAT	Stg.Scale	2.7 CM	6.4 CM	33 CM
Placement	FOLIAR	FOLIAR	FOLIAR	Density	3 SQ.M.	2.5 SQ.M.	2.5 SQ.M.
Air Temp.	22.0 C	22.2 C	21.6 C	Weed 2 AMASS	2 LF	6 LF	6 LF
% Humidity	75	76	80	Stg.Scale	3 CM	6.5 CM	7.2 CM
Wind Speed	6 KPH	5 KPH	8 KPH	Density	3.5 SQ.M.	3.5 SQ.M.	2 SQ.M.
Dew Present	N	N	Y	Weed 3 CHEAL	4 LF	8 LF	10 LF
Soil Moist.	MOIST	DRY	MOIST	Stg.Scale	2.4 CM	7.7 CM	9.6 CM
Cloud Cover	5%	50%	95%	Density	20.5 SQ.M.	42 SQ.M.	16.5 SQ.M.
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 4 SOLPT	2 LF	4 LF	4 LF
Pressure	207 kPa	207 kPa	207 kPa	Stg.Scale	0.8 CM	3.1 CM	4.7 CM
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	Density	3 SQ.M.	3.5 SQ.M.	2 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				ABUTH	AMASS	CHEAL	ABUTH
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-3-03	Jul-9-03	Jul-24-03	Jul-24-03	Jul-24-03	Jul-24-03	Aug-19-03
Crop Stage	10-13 LF	11-13 LF	FLR-FRUT	FLR-FRUT	FLR-FRUT	FLR-FRUT	FRUIT
Crop Stage Scale	20-27 CM	32-38 CM	42-52 CM	42-52 CM	42-52 CM	42-52 CM	42-52 CM
Weed Stage				8 LF	20 LF	14 LF	9 LF
Weed Density, Unit				4 SQ.M.	4.5 SQ.M.	17.5SQ.M.	1.5 SQ.M.
Trt-Eval Interval	7 DAT	14 DAT	28 DAT	28 DAT	28 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code														
1	untreated check							0	c	0	b	0	a	0	c	0	d	0	c		
2	metribuzin	75	DF	150	G A/HA	POST1	A	0	c	0	b	0	a	100	a	100	a	68	bc	100	a
	metribuzin	75	DF	150	G A/HA	POST2	B														
	metribuzin	75	DF	150	G A/HA	POST3	C														
3	metribuzin	75	DF	150	G A/HA	POST1	A	0	c	0	b	1	a	100	a	100	a	90	a	100	a
	pyraclostrobin	20	WG	110	G A/HA	POST1	A														
	metribuzin	75	DF	150	G A/HA	POST2	B														
	pyraclostrobin	20	WG	110	G A/HA	POST2	B														
	metribuzin	75	DF	150	G A/HA	POST3	C														
	pyraclostrobin	20	WG	110	G A/HA	POST3	C														
4	thifensulfuron-methyl	75	DF	6	G A/HA	POST1	A	1	bc	1	ab	1	a	90	ab	100	a	98	a	86	ab
	Agral 90		SO	0.2	% V/V	POST1	A														
5	thifensulfuron-methyl	75	DF	6	G A/HA	POST1	A	2	ab	2	ab	0	a	93	ab	100	a	86	ab	88	ab
	chlorothalonil	500	F	1600	G A/HA	POST1	A														
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST1	A	2	a	3	a	1	a	100	a	100	a	96	a	100	a
	Agral 90		SO	0.2	% V/V	POST1	A														
	chlorothalonil	500	F	1600	G A/HA	POST1	A														
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST1	A	2	ab	1	ab	1	a	84	b	100	a	55	c	80	b
	pyraclostrobin	20	WG	110	G A/HA	POST1	A														
8	thifensulfuron-methyl	75	DF	6	G A/HA	POST1	A	3	a	2	ab	1	a	100	a	100	a	100	a	100	a
	Agral 90		SO	0.2	% V/V	POST1	A														
	pyraclostrobin	20	WG	110	G A/HA	POST1	A														

LSD (P=.05)	1.5	2.3	1.4	11.6	0.0	21.0	15.7
Standard Deviation	1.0	1.6	0.9	7.9	0.0	14.3	10.7
CV	92.85	145.8	199.72	9.48	0.0	19.29	13.1

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

TANK MIXES OF PINNACLE WITH BRAVO AND CABRIO

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T5

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	AMASS	CHEAL	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
1	untreated check							0	b 0	e	52.5 d	2.3 c	2.5 c	54.8 c	23.4 d	1.0 c	
2	metribuzin	75	DF	150	G A/HA	POST1 A		100	a 38	d	66.2 bcd	5.9 ab	3.4 bc	72.1 abc	29.5 bcd	2.6 ab	
3	metribuzin	75	DF	150	G A/HA	POST3 C		100	a 71	abc	80.1 abc	4.4 abc	6.7 a	84.5 ab	35.7 abc	2.0 abc	
	pyraclostrobin	20	WG	110	G A/HA	POST1 A											
	metribuzin	75	DF	150	G A/HA	POST2 B											
	pyraclostrobin	20	WG	110	G A/HA	POST2 B											
	metribuzin	75	DF	150	G A/HA	POST3 C											
	pyraclostrobin	20	WG	110	G A/HA	POST3 C											
4	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		100	a 92	a	83.0 abc	6.2 a	5.6 ab	89.2 ab	37.0 abc	2.8 a	
	Agral 90		SO	0.2	% V/V	POST1 A											
5	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		100	a 68	bc	84.5 ab	3.0 bc	3.1 bc	87.5 ab	37.7 ab	1.3 bc	
	chlorothalonil	500	F	1600	G A/HA	POST1 A											
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		100	a 87	ab	65.2 cd	4.8 abc	3.3 bc	70.0 bc	29.1 cd	2.1 abc	
	Agral 90		SO	0.2	% V/V	POST1 A											
	chlorothalonil	500	F	1600	G A/HA	POST1 A											
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		100	a 50	cd	55.9 d	3.2 abc	1.9 c	59.1 c	24.9 d	1.4 abc	
	pyraclostrobin	20	WG	110	G A/HA	POST1 A											
8	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		100	a 90	a	85.8 a	4.8 abc	3.1 bc	90.6 a	38.3 a	2.1 abc	
	Agral 90		SO	0.2	% V/V	POST1 A											
	pyraclostrobin	20	WG	110	G A/HA	POST1 A											
	LSD (P=.05)							0.0	21.5	18.60	3.15	2.85	19.83	8.30	1.41		
	Standard Deviation							0.0	14.6	12.65	2.14	1.94	13.48	5.64	0.96		
	CV							0.0	23.63	17.65	49.66	52.5	17.75	17.65	49.66		

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

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
1	untreated check							1.1 c	54.8 c	81.7	4.1	4.1	85.8	36.5		
2	metribuzin	75	DF	150	G A/HA	POST1 A		1.5 bc	72.1 abc							
	metribuzin	75	DF	150	G A/HA	POST2 B										
	metribuzin	75	DF	150	G A/HA	POST3 C										
3	metribuzin	75	DF	150	G A/HA	POST1 A		3.0 a	84.5 ab							
	pyraclostrobin	20	WG	110	G A/HA	POST1 A										
	metribuzin	75	DF	150	G A/HA	POST2 B										
	pyraclostrobin	20	WG	110	G A/HA	POST2 B										
	metribuzin	75	DF	150	G A/HA	POST3 C										
	pyraclostrobin	20	WG	110	G A/HA	POST3 C										
4	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		2.5 ab	89.2 ab							
	Agral 90		SO	0.2	% V/V	POST1 A										
5	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		1.4 bc	87.5 ab							
	chlorothalonil	500	F	1600	G A/HA	POST1 A										
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		1.5 bc	70.0 bc							
	Agral 90		SO	0.2	% V/V	POST1 A										
	chlorothalonil	500	F	1600	G A/HA	POST1 A										
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		0.9 c	59.1 c							
	pyraclostrobin	20	WG	110	G A/HA	POST1 A										
8	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A		1.4 bc	90.6 a							
	Agral 90		SO	0.2	% V/V	POST1 A										
	pyraclostrobin	20	WG	110	G A/HA	POST1 A										
	LSD (P=.05)							1.27	19.83	.	.	.	.	.	.	.
	Standard Deviation							0.87	13.48	.	.	.	.	.	.	.
	CV							52.5	17.75	.	.	.	.	.	.	.

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

TANK MIXES OF PINNACLE WITH BRAVO AND CABRIO

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T5

Crop Code	LYPES	LYPES	LYPES
Part Rated	GREEN	ROTS	RED+GR
Rating Data Type	YIELD	YIELD	YIELD
Rating Unit	T/AC	T/AC	T/AC
Rating Date	Oct-2-03	Oct-2-03	Oct-2-03
Crop Stage	WEEDFREE	WEEDFREE	WEEDFREE
Trt-Eval Interval	98 DAT	98 DAT	98 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code			
1	untreated check						1.8	1.8	38.3
2	metribuzin	75	DF	150	G A/HA	POST1 A			
	metribuzin	75	DF	150	G A/HA	POST2 B			
	metribuzin	75	DF	150	G A/HA	POST3 C			
3	metribuzin	75	DF	150	G A/HA	POST1 A			
	pyraclostrobin	20	WG	110	G A/HA	POST1 A			
	metribuzin	75	DF	150	G A/HA	POST2 B			
	pyraclostrobin	20	WG	110	G A/HA	POST2 B			
	metribuzin	75	DF	150	G A/HA	POST3 C			
	pyraclostrobin	20	WG	110	G A/HA	POST3 C			
4	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A			
	Agral 90		SO	0.2	% V/V	POST1 A			
5	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A			
	chlorothalonil	500	F	1600	G A/HA	POST1 A			
6	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A			
	Agral 90		SO	0.2	% V/V	POST1 A			
	chlorothalonil	500	F	1600	G A/HA	POST1 A			
7	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A			
	pyraclostrobin	20	WG	110	G A/HA	POST1 A			
8	thifensulfuron-methyl	75	DF	6	G A/HA	POST1 A			
	Agral 90		SO	0.2	% V/V	POST1 A			
	pyraclostrobin	20	WG	110	G A/HA	POST1 A			

LSD (P=.05)	.	.	.
Standard Deviation	.	.	.
CV	.	.	.

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 postemergence (POST) sequential metribuzin applications (150 g a.i. ha⁻¹) tank mixed with pyraclostrobin (110 g a.i. ha⁻¹), and thifensulfuron-methyl (6 g a.i. ha⁻¹) with or without a non-ionic surfactant (NIS - 0.2%) tank mixed with either chlorothalonil (1600 g a.i. ha⁻¹) or pyraclostrobin (110 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. The entire trial was treated with s-metolachlor+metribuzin (1600+375 g a.i. ha⁻¹), applied pre-plant incorporated.

None of the treatments resulted in significant visual injury.

Season-long control of common lamb's-quarters was greater in the metribuzin+chlorothalonil tank mix compared with metribuzin applied alone as three sequential POST (150 g a.i. ha⁻¹) treatments. Control of velvetleaf and pigweed species was not different between the metribuzin and metribuzin+chlorothalonil treatments.

Season-long weed control of pigweed species was not different among any of the treatments. Season-long control of common lamb's-quarters decreased when thifensulfuron-methyl was tank-mixed with pyraclostrobin or chlorothalonil and the NIS (Agral 90) was not added. Velvetleaf control at 56 days after treatment (DAT) was less in the thifensulfuron-methyl +pyraclostrobin tank mix when the NIS was not added. However, the addition of the NIS to the thifensulfuron-methyl+chlorothalonil tank mix did not influence velvetleaf control.

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

CROP: LYPES, TOMATO (14 VARIOUS). Planted: Jun-5-03, 14850 PLANTS/HA, 5 CM Deep, 1.5 M Row Width. Planting Method: TRANSPLANT.
 Emerged On: Jun-5-03.
 Expt. Design: FACTORIAL. Reps: 1. Plot Size: 1.5 M x 40 M. Expt. Location: E1&E2.

Site Description: Soil Texture: VERY FINE SANDY LOAM. %OM: 4.7 %Sand: 53.9 %Silt: 29.3 %Clay: 16.7 pH: 7.5 CEC: 18.

APPLICATION DESCRIPTION

Application:	A	B	C
Date	Jun-24-03	Jul-2-03	Jul-10-03
Time of Day	8:15 PM	11:15 AM	7:10 AM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Timing	21 DAT	35 DAT	42 DAT
Placement	FOLIAR	FOLIAR	FOLIAR
Air Temp.	21.0 C	29.3 C	20.4 C
% Humidity	65	55	58
Wind Speed	4 KPH	4 KPH	0 KPH
Dew Present	N	N	Y
Soil Moist.	MOIST	DRY	MOIST
Cloud Cover	10%	5%	100%
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Pressure	207 kPa	207 kPa	207 kPa
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN
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

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated	2X SRY	ALL	.5&1X	2X SRY	.5&1X	ALL	ALL	ALL	ALL
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	YIELD	YIELD	YIELD	YIELD
Rating Unit	%	%	%	%	%	T/HA	T/HA	T/HA	T/HA
Rating Date	Jul-2-03	Jul-8-03	Jul-15-03	Jul-21-03	Aug-1-03				
Crop Stage	8-10 LF	10-13 LF	FLR-FRUT	FLR-FRUT	FRUIT				
Crop Stage Scale	14-18 CM	22-31 CM	26-35 CM	30-42 CM	33-45 CM				
Weed Stage						RED	GREEN	ROTS	
Trt-Eval Interval	7 DAT	7&14 DAT	14 DAT	28 DAT	28 DAT				

Trt	Treatment	Form	Form	Rate	Grow	Appl						
No.	Name	Conc	Type	Unit	Stg	Code						
1	untreated						0	0	0	0	0	35.6 9.7 0.4
2	untreated						0	0	0	0	0	96.2 5.4 0.5
3	untreated						0	0	0	0	0	77.2 6.1 1.4
4	untreated						0	0	0	0	0	36.6 15.8 0.2
5	untreated						0	0	0	0	0	32.3 2.8 0.2
6	untreated						0	0	0	0	0	70.9 19.6 0.0
7	untreated						0	0	0	0	0	86.7 4.3 0.8
8	untreated						0	0	0	0	0	68.5 8.5 1.0
9	untreated						0	0	0	0	0	73.0 7.8 2.4
10	untreated						0	0	0	0	0	70.3 7.8 5.9
11	untreated						0	0	0	0	0	46.5 10.6 0.1
12	untreated						0	0	0	0	0	44.4 10.1 0.6
13	untreated						0	0	0	0	0	77.6 5.7 1.9
14	untreated						0	0	0	0	0	78.7 5.6 6.1
15	Thifensulfuron-methyl 75	DF	3	G A/HA	Post	B	.	6	10	.	4	17.2 19.1 0.2
	Agral 90	SO	0.100	% V/V	Post	B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post	C						
	Agral 90	SO	0.100	% V/V	Post	C						
	N 1069											
16	Thifensulfuron-methyl 75	DF	3	G A/HA	Post	B	.	16	14	.	15	28.6 20.5 0.9
	Agral 90	SO	0.100	% V/V	Post	B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post	C						
	Agral 90	SO	0.100	% V/V	Post	C						
	N 2199											

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

Crop Code											LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	
Part Rated											2X SRY	ALL	.5&1X	2X SRY	.5&1X	ALL	ALL	ALL
Rating Data Type											INJURY	INJURY	INJURY	INJURY	INJURY	YIELD	YIELD	YIELD
Rating Unit											%	%	%	%	%	T/HA	T/HA	T/HA
Rating Date											Jul-2-03	Jul-8-03	Jul-15-03	Jul-21-03	Aug-1-03			
Crop Stage											8-10 LF	10-13 LF	FLR-FRUT	FLR-FRUT	FRUIT			
Crop Stage Scale											14-18 CM	22-31 CM	26-35 CM	30-42 CM	33-45 CM			
Weed Stage																RED	GREEN	ROTS
Trt-Eval Interval											7 DAT	7&14 DAT	14 DAT	28 DAT	28 DAT			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code											
17	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	0	0	.	0	72.5	1.5	1.9			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	N 1980																	
18	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	0	0	.	0	35.2	18.9	0.0			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	N 1477																	
19	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	0	0	.	2	36.2	1.5	0.1			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	N 1529																	
20	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	0	0	.	2	58.6	16.8	0.2			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	N 1480E																	
21	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	3	1	.	4	28.4	3.1	0.3			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	CC 337																	
22	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	3	1	.	0	61.0	7.1	0.1			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 9553																	
23	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	2	2	.	0	58.3	17.0	0.0			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 3002																	
24	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	4	4	.	12	38.2	23.9	0.8			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 2401																	
25	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	15	20	.	15	4.3	39.2	0.0			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 9464																	
26	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	8	6	.	10	12.4	37.5	0.0			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 9997																	
27	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	8	8	.	16	37.6	15.1	3.7			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 3402																	
28	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	B	.	4	5	.	16	39.2	19.1	1.8			
	Agral 90		SO	0.100	% V/V	Post	B											
	Thifensulfuron-methyl	75	DF	3	G A/HA	Post	C											
	Agral 90		SO	0.100	% V/V	Post	C											
	H 9780																	
29	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	B	.	8	3	.	0	15.8	35.1	0.0			
	Agral 90		SO	0.100	% V/V	Post	B											
	N 1069																	
30	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	B	.	10	6	.	8	58.0	16.7	0.2			
	Agral 90		SO	0.100	% V/V	Post	B											
	N 2199																	
31	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	B	.	6	2	.	0	68.6	5.1	0.2			
	Agral 90		SO	0.100	% V/V	Post	B											
	N 1980																	
32	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	B	.	0	0	.	0	18.2	32.7	0.1			
	Agral 90		SO	0.100	% V/V	Post	B											
	N 1477																	

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

Crop Code											LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES		
Part Rated											2X SRY	ALL	.5&1X	2X SRY	.5&1X	ALL	ALL	ALL		
Rating Data Type											INJURY	INJURY	INJURY	INJURY	INJURY	YIELD	YIELD	YIELD		
Rating Unit											%	%	%	%	%	T/HA	T/HA	T/HA		
Rating Date											Jul-2-03	Jul-8-03	Jul-15-03	Jul-21-03	Aug-1-03					
Crop Stage											8-10 LF	10-13 LF	FLR-FRUT	FLR-FRUT	FRUIT					
Crop Stage Scale											14-18 CM	22-31 CM	26-35 CM	30-42 CM	33-45 CM	RED	GREEN	ROTS		
Weed Stage																		RED	GREEN	ROTS
Trt-Eval Interval											7 DAT	7&14 DAT	14 DAT	28 DAT	28 DAT					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code													
33	Thifensulfuron-methyl 75 Agral 90 N 1529	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	2	4	.	2	40.2	5.4	0.2					
34	Thifensulfuron-methyl 75 Agral 90 N 1480E	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	6	2	.	0	66.1	14.6	0.3					
35	Thifensulfuron-methyl 75 Agral 90 CC 337	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	12	8	.	2	18.5	43.8	0.3					
36	Thifensulfuron-methyl 75 Agral 90 H 9553	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	1	0	.	0	70.6	8.1	1.1					
37	Thifensulfuron-methyl 75 Agral 90 H 3002	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	2	0	.	0	60.7	24.0	0.0					
38	Thifensulfuron-methyl 75 Agral 90 H 2401	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	20	6	.	10	47.4	20.5	0.4					
39	Thifensulfuron-methyl 75 Agral 90 H 9464	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	18	15	.	5	2.8	40.5	0.0					
40	Thifensulfuron-methyl 75 Agral 90 H 9997	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	5	2	.	2	1.6	35.5	0.1					
41	Thifensulfuron-methyl 75 Agral 90 H 3402	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	12	6	.	8	49.7	17.5	0.5					
42	Thifensulfuron-methyl 75 Agral 90 H 9780	DF SO	6 0.100	G % V/V	A/HA	Post	B	.	4	2	.	10	50.6	21.1	1.9					
43	Thifensulfuron-methyl 75 Agral 90 N 1069	DF SO	12 0.200	G % V/V	A/HA	Post	A	5	12	.	8	.	33.5	10.9	0.7					
44	Thifensulfuron-methyl 75 Agral 90 N 2199	DF SO	12 0.200	G % V/V	A/HA	Post	A	20	30	.	15	.	70.6	11.9	0.0					
45	Thifensulfuron-methyl 75 Agral 90 N 1980	DF SO	12 0.200	G % V/V	A/HA	Post	A	4	3	.	0	.	61.9	5.7	0.7					
46	Thifensulfuron-methyl 75 Agral 90 N 1477	DF SO	12 0.200	G % V/V	A/HA	Post	A	2	0	.	0	.	34.5	22.2	0.0					
47	Thifensulfuron-methyl 75 Agral 90 N 1529	DF SO	12 0.200	G % V/V	A/HA	Post	A	4	10	.	8	.	40.1	7.7	0.0					
48	Thifensulfuron-methyl 75 Agral 90 N 1480E	DF SO	12 0.200	G % V/V	A/HA	Post	A	5	4	.	0	.	36.3	11.3	0.1					
49	Thifensulfuron-methyl 75 Agral 90 CC 337	DF SO	12 0.200	G % V/V	A/HA	Post	A	3	6	.	2	.	30.1	7.1	0.3					
50	Thifensulfuron-methyl 75 Agral 90 H 9553	DF SO	12 0.200	G % V/V	A/HA	Post	A	5	2	.	0	.	76.2	7.2	0.1					
51	Thifensulfuron-methyl 75 Agral 90 H 3002	DF SO	12 0.200	G % V/V	A/HA	Post	A	4	4	.	1	.	51.7	13.9	0.3					
52	Thifensulfuron-methyl 75 Agral 90 H 2401	DF SO	12 0.200	G % V/V	A/HA	Post	A	30	35	.	15	.	60.5	25.0	0.5					
53	Thifensulfuron-methyl 75 Agral 90 H 9464	DF SO	12 0.200	G % V/V	A/HA	Post	A	30	50	.	15	.	2.3	42.8	0.0					
54	Thifensulfuron-methyl 75 Agral 90 H 9997	DF SO	12 0.200	G % V/V	A/HA	Post	A	20	35	.	18	.	7.1	35.0	0.0					

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Trt-Eval Interval	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
									LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
									2X SRY	ALL	.5&1X	2X SRY	.5&1X	ALL	ALL	ALL
									INJURY	INJURY	INJURY	INJURY	INJURY	YIELD	YIELD	YIELD
									%	%	%	%	%	T/HA	T/HA	T/HA
									Jul-2-03	Jul-8-03	Jul-15-03	Jul-21-03	Aug-1-03			
									8-10 LF	10-13 LF	FLR-FRUT	FLR-FRUT	FRUIT			
									14-18 CM	22-31 CM	26-35 CM	30-42 CM	33-45 CM	RED	GREEN	ROTS
									7 DAT	7&14 DAT	14 DAT	28 DAT	28 DAT			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
55	Thifensulfuron-methyl 75	DF	12	G	A/HA	Post	A	23	35	.	25	.	47.0	20.9	1.3	
	Agral 90	SO	0.200	%	V/V	Post	A									
	H 3402															
56	Thifensulfuron-methyl 75	DF	12	G	A/HA	Post	A	20	40	.	25	.	49.0	24.1	2.4	
	Agral 90	SO	0.200	%	V/V	Post	A									
	H 9780															

LSD (P=.05)

Standard Deviation
CV

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

Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Trt-Eval Interval	LYPES	LYPES	LYPES	LYPES
									LYPES	LYPES	LYPES	LYPES
									ALL	ALL	ALL	ALL
									YIELD	YIELD	YIELD	HARVEST
									T/HA	T/HA	T/HA	KG
									BREAKERS	RED+BREA	GRN+BREA	RED+GREN
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	untreated N 1069							.	.	.	45.3	
2	untreated N 2199							.	.	.	101.6	
3	untreated N 1980							.	.	.	83.2	
4	untreated N 1477							.	.	.	52.4	
5	untreated N 1529							.	.	.	35.0	
6	untreated N 1480E							.	.	.	90.5	
7	untreated CC 337							.	.	.	91.0	
8	untreated H 9553							.	.	.	77.0	
9	untreated H 3002							.	.	.	80.8	
10	untreated H 2401							.	.	.	78.1	
11	untreated H 9464							.	.	.	57.1	
12	untreated H 9997							.	.	.	54.5	
13	untreated H 3402							.	.	.	83.2	
14	untreated H 9780							.	.	.	84.2	
15	Thifensulfuron-methyl 75	DF	3	G	A/HA	Post	B	.	.	.	36.4	
	Agral 90	SO	0.100	%	V/V	Post	B					
	Thifensulfuron-methyl 75	DF	3	G	A/HA	Post	C					
	Agral 90	SO	0.100	%	V/V	Post	C					
	N 1069											
16	Thifensulfuron-methyl 75	DF	3	G	A/HA	Post	B	34.9	63.5	55.4	49.2	
	Agral 90	SO	0.100	%	V/V	Post	B					
	Thifensulfuron-methyl 75	DF	3	G	A/HA	Post	C					
	Agral 90	SO	0.100	%	V/V	Post	C					
	N 2199											
17	Thifensulfuron-methyl 75	DF	3	G	A/HA	Post	B	.	.	.	74.0	
	Agral 90	SO	0.100	%	V/V	Post	B					
	Thifensulfuron-methyl 75	DF	3	G	A/HA	Post	C					
	Agral 90	SO	0.100	%	V/V	Post	C					
	N 1980											

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

Crop Code LYPES LYPES LYPES LYPES
 Part Rated ALL ALL ALL ALL
 Rating Data Type YIELD YIELD YIELD HARVEST
 Rating Unit T/HA T/HA T/HA KG
 Rating Date
 Crop Stage
 Crop Stage Scale
 Weed Stage BREAKERS RED+BREA GRN+BREA RED+GREN
 Trt-Eval Interval

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
18	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B						54.0
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	N 1477										
19	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B						37.6
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	N 1529										
20	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B						75.4
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	N 1480E										
21	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B	43.7	72.1	46.8			31.5
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	CC 337										
22	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B						68.2
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 9553										
23	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B	20.6	78.9	37.6			75.2
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 3002										
24	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B	26.5	64.7	50.4			62.2
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 2401										
25	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B						43.6
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 9464										
26	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B						49.9
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 9997										
27	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B	35.1	72.7	50.1			52.6
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 3402										
28	Thifensulfuron-methyl 75	DF	3	G A/HA	Post B	24.7	63.9	43.8			58.3
	Agral 90	SO	0.100	% V/V	Post B						
	Thifensulfuron-methyl 75	DF	3	G A/HA	Post C						
	Agral 90	SO	0.100	% V/V	Post C						
	H 9780										
29	Thifensulfuron-methyl 75	DF	6	G A/HA	Post B						50.9
	Agral 90	SO	0.100	% V/V	Post B						
	N 1069										
30	Thifensulfuron-methyl 75	DF	6	G A/HA	Post B	30.5	88.5	47.2			74.7
	Agral 90	SO	0.100	% V/V	Post B						
	N 2199										
31	Thifensulfuron-methyl 75	DF	6	G A/HA	Post B						73.7
	Agral 90	SO	0.100	% V/V	Post B						
	N 1980										
32	Thifensulfuron-methyl 75	DF	6	G A/HA	Post B						50.9
	Agral 90	SO	0.100	% V/V	Post B						
	N 1477										
33	Thifensulfuron-methyl 75	DF	6	G A/HA	Post B						45.6
	Agral 90	SO	0.100	% V/V	Post B						
	N 1529										

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

Crop Code LYPES LYPES LYPES LYPES
 Part Rated ALL ALL ALL ALL
 Rating Data Type YIELD YIELD YIELD HARVEST
 Rating Unit T/HA T/HA T/HA KG
 Rating Date
 Crop Stage
 Crop Stage Scale
 Weed Stage BREAKERS RED+BREA GRN+BREA RED+GREN
 Trt-Eval Interval

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
34	Thifensulfuron-methyl 75 Agral 90 N 1480E	DF SO	6	G A/HA % V/V	Post Post	B B		.	.	.	80.8
35	Thifensulfuron-methyl 75 Agral 90 CC 337	DF SO	6	G A/HA % V/V	Post Post	B B	18.7	37.1	62.5	62.3	
36	Thifensulfuron-methyl 75 Agral 90 H 9553	DF SO	6	G A/HA % V/V	Post Post	B B	.	.	.	78.7	
37	Thifensulfuron-methyl 75 Agral 90 H 3002	DF SO	6	G A/HA % V/V	Post Post	B B	14.9	75.7	38.9	84.7	
38	Thifensulfuron-methyl 75 Agral 90 H 2401	DF SO	6	G A/HA % V/V	Post Post	B B	27.2	74.6	47.7	67.9	
39	Thifensulfuron-methyl 75 Agral 90 H 9464	DF SO	6	G A/HA % V/V	Post Post	B B	.	.	.	43.3	
40	Thifensulfuron-methyl 75 Agral 90 H 9997	DF SO	6	G A/HA % V/V	Post Post	B B	13.9	15.4	49.4	37.1	
41	Thifensulfuron-methyl 75 Agral 90 H 3402	DF SO	6	G A/HA % V/V	Post Post	B B	28.3	77.9	45.8	67.2	
42	Thifensulfuron-methyl 75 Agral 90 H 9780	DF SO	6	G A/HA % V/V	Post Post	B B	31.1	81.7	52.2	71.7	
43	Thifensulfuron-methyl 75 Agral 90 N 1069	DF SO	12	G A/HA % V/V	Post Post	A A	.	.	.	44.4	
44	Thifensulfuron-methyl 75 Agral 90 N 2199	DF SO	12	G A/HA % V/V	Post Post	A A	10.2	80.8	22.1	82.5	
45	Thifensulfuron-methyl 75 Agral 90 N 1980	DF SO	12	G A/HA % V/V	Post Post	A A	.	.	.	67.6	
46	Thifensulfuron-methyl 75 Agral 90 N 1477	DF SO	12	G A/HA % V/V	Post Post	A A	.	.	.	56.7	
47	Thifensulfuron-methyl 75 Agral 90 N 1529	DF SO	12	G A/HA % V/V	Post Post	A A	.	.	.	47.7	
48	Thifensulfuron-methyl 75 Agral 90 N 1480E	DF SO	12	G A/HA % V/V	Post Post	A A	20.5	56.9	31.8	47.6	
49	Thifensulfuron-methyl 75 Agral 90 CC 337	DF SO	12	G A/HA % V/V	Post Post	A A	38.7	68.7	45.7	37.1	
50	Thifensulfuron-methyl 75 Agral 90 H 9553	DF SO	12	G A/HA % V/V	Post Post	A A	.	.	.	83.4	
51	Thifensulfuron-methyl 75 Agral 90 H 3002	DF SO	12	G A/HA % V/V	Post Post	A A	19.8	71.5	33.7	65.6	
52	Thifensulfuron-methyl 75 Agral 90 H 2401	DF SO	12	G A/HA % V/V	Post Post	A A	13.2	73.7	38.2	85.5	
53	Thifensulfuron-methyl 75 Agral 90 H 9464	DF SO	12	G A/HA % V/V	Post Post	A A	.	.	.	45.0	
54	Thifensulfuron-methyl 75 Agral 90 H 9997	DF SO	12	G A/HA % V/V	Post Post	A A	17.7	24.8	52.7	42.1	

TOLERANCE OF PROCESSING TOMATO VARIETIES TO THIFENSULFURON-METHYL

KRISTEN McNAUGHTON, DARREN ROBINSON

Experiment ID: T003T6B

Crop Code	LYPES	LYPES	LYPES	LYPES
Part Rated	ALL	ALL	ALL	ALL
Rating Data Type	YIELD	YIELD	YIELD	HARVEST
Rating Unit	T/HA	T/HA	T/HA	KG
Rating Date				
Crop Stage				
Crop Stage Scale				
Weed Stage	BREAKERS	RED+BREA	GRN+BREA	RED+GREN
Trt-Eval Interval				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
55	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	13.9	60.9	34.8	67.9
	Agral 90		SO	0.200	% V/V	Post	A				
	H 3402										
56	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	14.1	63.1	38.3	73.1
	Agral 90		SO	0.200	% V/V	Post	A				
	H 9780										

LSD (P=.05)	.	.	.	.
Standard Deviation	.	.	.	.
CV	.	.	.	.

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

Trial Comments

PLANTING DATES: Nabisco varieties were planted on June 3, 2003 and the Hienz varieties were planted on June 6, 2003.

HARVEST DATES: August 19, 2003 H9464. August 27, 2003 N1069, N1477, N1529, and H9997. September 2, 2003 N1980. September 5, 2003 N1480E, CC 337, and H3002. September 15, N2199, H9553, and H3402. September 18, 2003 H2401 and H9780.

Conclusions: This trial was maintained weed-free to test the tolerance of a number of new processing tomato varieties (N1069, N2199, N1980, N1477, N1529, N1480E, CC337, H9553, H3002, H2401, H9464, H9997, H3402 and H9780) to postemergence (POST) applications of thifensulfuron-methyl at 3, 6 and 12 g a.i. ha⁻¹.

The following tomato varieties showed significant visual injury at 3 g a.i. ha⁻¹ of thifensulfuron-methyl: N1069, N2199, H9464 and H9997. The following tomato varieties showed commercially acceptable visual injury at 3 g a.i. ha⁻¹, but were injured at 6 g a.i. ha⁻¹ thifensulfuron-methyl: H2401 and H 3402. The following tomato variety showed commercially acceptable visual injury at 3 and 6 g a.i. ha⁻¹ of thifensulfuron-methyl, but was injured at 12 g a.i. ha⁻¹: H9780.

The following varieties were not injured by thifensulfuron-methyl at any rates tested: N1980, N1477, N1529, N1480E, CC337, H3002 and H9553. As well, green yields in the herbicide treatments were equivalent to the untreated check for all of these varieties, with the exception of H3002.

Red yields of N1980, N1477, N1529 and H9553 were similar in the thifensulfuron-methyl (12 g a.i. ha⁻¹) treatment as in the untreated check. The remaining varieties tested showed commercially and statistically significant yield losses when treated with thifensulfuron-methyl.

WEED MANAGEMENT PROGRAMS IN CUCUMBERS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC03T1

CROP: CUMSA, CUCUMBER (VLASPIK M). Planted: Jun-04-03, 62500 SE/HA, 2 CM Deep, 2 M Row Width.
 Planting Method: MONOSEM VACUUM PLANTER. Emerged On: Jun-14-03.
 FIELD Site. Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 2 M x 40 M.
 Expt. Location: RCAT K-WEST.

Site Description: Soil Texture: LOAM. %OM: 5.5 %Sand: 51.3 %Silt: 32.4 %Clay: 16.4 pH: 7.2 CEC: 19.

APPLICATION DESCRIPTION

Application: A
 Date : Jun-06-03
 Time of Day: 1100
 Method : SPRAY
 Timing : PRE
 Placement : SOIL
 Air Temp. : 24 C
 % Humidity : 58
 Wind Speed : 9 KPH
 Dew Present:
 Soil Moist.: ADEQUATE
 Cloud Cover: 10%
 Equipment : CO2 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Noz.Spacing: 50 CM
 Boom Length: 2 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	CUMSA	CUMSA	CUMSA	ABUTH	AMARE	CHEAL
Crop Code	INJURY	INJURY	INJURY	CUMSA	CUMSA	CUMSA
Rating Data Type	%	%	%	CONTROL	CONTROL	CONTROL
Rating Unit				%	%	%
Rating Date	Jun-24-03	Jul-02-03	Jul-15-03	Jul-15-03	Jul-15-03	Jul-15-03
Crop Stage	1 LF	2 LF	4-10 LF	4-10 LF	4-10 LF	4-10 LF
Crop Stage Scale	7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE
Weed Stage				3-7 LF	4-14 LF	4-10 LF
Weed Density, Unit				2 SQ M	16 SQ M	17 SQ M

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	d	0	d		
2	s-metolachlor	915	EC	1200	G A/HA	A	A	5	cde	0	d	6	cd	74	c	60	c	54	c
3	s-metolachlor	915	EC	2400	G A/HA	A	A	7	cde	5	cd	4	d	90	b	90	ab	86	b
4	clomazone	360	EC	420	G A/HA	A	A	0	e	0	d	0	d	94	ab	66	c	93	ab
5	clomazone	360	EC	840	G A/HA	A	A	0	e	0	d	0	d	96	ab	82	b	96	ab
6	halosulfuron-methyl	75	WG	25	G A/HA	A	A	0	e	0	d	0	d	96	ab	96	a	96	ab
7	halosulfuron-methyl	75	WG	50	G A/HA	A	A	1	de	2	d	0	d	97	ab	97	a	96	ab
8	sulfentrazone	75	DF	210	G A/HA	A	A	3	de	1	d	1	d	97	ab	97	a	98	a
9	sulfentrazone	75	DF	420	G A/HA	A	A	15	bc	16	c	8	cd	97	ab	99	a	99	a
10	flumioxazin	51	WG	52.5	G A/HA	A	A	3	de	2	d	6	cd	97	ab	97	a	96	ab
11	flumioxazin	51	WG	70	G A/HA	A	A	13	bcd	16	c	10	cd	96	ab	97	a	97	a
12	flumioxazin	51	WG	140	G A/HA	A	A	59	a	69	a	56	a	99	a	99	a	98	a
13	oxyfluorfen	240	EC	560	G A/HA	A	A	6	cde	10	cd	28	bc	96	ab	97	a	98	a
14	oxyfluorfen	240	EC	1120	G A/HA	A	A	20	b	31	b	38	ab	99	a	99	a	98	a
LSD (P=.05)								11.5	12.8	23.4	8.5	11.8	10.2						
Standard Deviation								8.0	9.0	16.4	5.9	8.3	7.2						
CV								86.34	82.19	146.07	6.77	9.85	8.32						

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

WEED MANAGEMENT PROGRAMS IN CUCUMBERS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC03T1

Weed Code								POROL	ECHCG	SETVI			
Crop Code								CUMSA	CUMSA	CUMSA			
Rating Data Type								CONTROL	CONTROL	CONTROL	TOTAL	TOTAL	
Rating Unit								%	%	%	T/HA	T/AC	
Rating Date								Jul-15-03	Jul-15-03	Jul-15-03	Jul-29-03	Jul-29-03	
Crop Stage								4-10 LF	4-10 LF	4-10 LF			
Crop Stage Scale								28 DAE	28 DAE	28 DAE			
Weed Stage								1-6 LF		4-6 LF			
Weed Density, Unit								28 SQ M	0 SQ M	6 SQ M			

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code											
1	untreated check							0	e	0	c	0	e	5.0	a	2.2	a	
2	s-metolachlor	915	EC	1200	G A/HA		A	73	d	98	a	98	a	4.0	ab	1.8	ab	
3	s-metolachlor	915	EC	2400	G A/HA		A	92	abc	98	a	97	ab	2.3	bc	1.0	bc	
4	clomazone	360	EC	420	G A/HA		A	91	abc	97	ab	96	abc	5.2	a	2.3	a	
5	clomazone	360	EC	840	G A/HA		A	95	ab	98	a	98	a	4.0	ab	1.8	ab	
6	halosulfuron-methyl	75	WG	25	G A/HA		A	85	c	93	b	88	d	4.3	a	1.9	a	
7	halosulfuron-methyl	75	WG	50	G A/HA		A	91	abc	97	ab	94	bc	5.2	a	2.3	a	
8	sulfentrazone	75	DF	210	G A/HA		A	91	abc	95	ab	93	c	3.9	ab	1.7	ab	
9	sulfentrazone	75	DF	420	G A/HA		A	98	ab	98	a	98	a	2.4	bc	1.1	bc	
10	flumioxazin	51	WG	52.5	G A/HA		A	96	ab	96	ab	95	abc	3.9	ab	1.8	ab	
11	flumioxazin	51	WG	70	G A/HA		A	90	bc	92	b	95	abc	1.7	c	0.8	c	
12	flumioxazin	51	WG	140	G A/HA		A	96	ab	96	ab	98	a	1.0	c	0.4	c	
13	oxyfluorfen	240	EC	560	G A/HA		A	98	ab	98	a	98	a	1.8	c	0.8	c	
14	oxyfluorfen	240	EC	1120	G A/HA		A	99	a	98	a	97	ab	1.1	c	0.5	c	
LSD (P=.05)								8.3		5.3		3.7		1.74			0.78	
Standard Deviation								5.8		3.7		2.6		1.22				0.54
CV								6.83		4.15		2.9		37.06				37.06

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 s-metolachlor (1200 and 2400 g a.i. ha⁻¹), clomazone (420 and 840 g a.i. ha⁻¹), halosulfuron-methyl (25 and 50 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹) and oxyfluorfen (560 and 1120 g a.i. ha⁻¹) applied preemergence for visual injury and yield of cucumbers. The remaining half of each plot was left weedy to collect weed control data.

Visual injury was observed in the s-metolachlor (1200 and 2400 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹) and oxyfluorfen (560 and 1120 g a.i. ha⁻¹) treatments. The injury was not commercially significant (<10%) in the s-metolachlor treatments.

Control of velvetleaf and common lamb's-quarters was excellent in the clomazone (420 g a.i. ha⁻¹), halosulfuron-methyl (25 g a.i. ha⁻¹), sulfentrazone (210 g a.i. ha⁻¹), flumioxazin (52.5 g a.i. ha⁻¹) and oxyfluorfen (560 g a.i. ha⁻¹) treatments.

Control of purslane was good in the halosulfuron-methyl (25 g a.i. ha⁻¹) treatment, and excellent in the clomazone (420 g a.i. ha⁻¹), sulfentrazone (210 g a.i. ha⁻¹), flumioxazin (52.5 g a.i. ha⁻¹) and oxyfluorfen (560 g a.i. ha⁻¹) treatments.

Control of redroot pigweed was poor in the clomazone (420 g a.i. ha⁻¹) and excellent in the halosulfuron-methyl (25 g a.i. ha⁻¹), sulfentrazone (210 g a.i. ha⁻¹), flumioxazin (52.5 g a.i. ha⁻¹) and oxyfluorfen (560 g a.i. ha⁻¹) treatments.

Control of green foxtail was excellent in the s-metolachlor (1200 g a.i. ha⁻¹) and clomazone (420 g a.i. ha⁻¹) treatments.

Total yield in the s-metolachlor (1200 g a.i. ha⁻¹), clomazone (420 and 840 g a.i. ha⁻¹), halosulfuron-methyl (25 and 50 g a.i. ha⁻¹), sulfentrazone (210 g a.i. ha⁻¹) and flumioxazin (52.5 g a.i. ha⁻¹) treatments was not less than in the untreated check. The high rates of s-metolachlor (2400 g a.i. ha⁻¹), sulfentrazone (420 g a.i. ha⁻¹), and flumioxazin (70 and 140 g a.i. ha⁻¹) reduced total yield when compared to the untreated check. Both oxyfluorfen treatments (560 and 1120 g a.i. ha⁻¹) caused a significant reduction in cucumber yield compared to the untreated check.

WEED MANAGEMENT PROGRAMS IN PUMPKINS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC03T2

CROP: CUUPE, PUMPKIN (HOWDEN). Planted: May-27-03, 5000 PLANTS/HA, 2.5 CM Deep, 3 M Row Width. Planting Method: MONOSEM VACUUM PLANTER.

Emerged On: Jun-09-03.

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

Site Description: Soil Texture: LOAM. %OM: 4.5 %Sand: 44.9 %Silt: 28.8 %Clay: 26.3 pH: 7.3 CEC: 11.

APPLICATION DESCRIPTION

Application: A
 Date : May-28-03
 Time of Day: 0900
 Method : SPRAY
 Timing : PRE
 Placement : SOIL
 Air Temp. : 18 C
 % Humidity : 69
 Wind Speed : 3 KPH
 Dew Present:
 Soil Moist.:
 Cloud Cover: 100%
 Equipment : CO2 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Noz.Spacing: 50 CM
 Boom Length: 2 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	CUUPE	CUUPE	CUUPE	ABUTH	AMARE	AMBEL	CHEAL	ECHCG
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-19-03	Jun-26-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03
Crop Stage	2 LF	3-4 LF	11-18 LF	11-18 LF	11-18 LF	11-18 LF	11-18 LF	11-18 LF
Crop Stage Scale	7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE
Weed Stage				3-7 LF	COT-20 +	6-14 LF	COT-20+	4-6 LF
Weed Density Unit				13 SQ M	10 SQ M	15 SQ M	61 SQ M	0 SQ M

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
1	untreated check							0	d	0	c	0	c	0	d	0	e	0	e	0	f	0	e
2	s-metolachlor	915	EC	1200	G A/HA	A		0	d	0	c	0	c	44	c	50	d	41	d	40	e	100	a
3	s-metolachlor	915	EC	2400	G A/HA	A		0	d	0	c	0	c	58	c	74	c	58	c	53	de	98	abc
4	clomazone	360	EC	420	G A/HA	A		0	d	0	c	0	c	81	b	81	bc	80	b	68	cd	96	a-d
5	clomazone	360	EC	840	G A/HA	A		1	d	0	c	0	c	94	ab	90	ab	93	ab	93	ab	96	a-d
6	halosulfuron-methyl	75	WG	25	G A/HA	A		0	d	0	c	0	c	90	ab	96	a	95	ab	80	bc	91	d
7	halosulfuron-methyl	75	WG	50	G A/HA	A		3	cd	0	c	0	c	96	a	95	ab	96	a	90	ab	96	a-d
8	sulfentrazone	75	DF	210	G A/HA	A		8	cd	3	c	0	c	90	ab	94	ab	88	ab	95	ab	96	a-d
9	sulfentrazone	75	DF	420	G A/HA	A		15	bc	9	c	8	c	97	a	96	a	93	ab	97	a	97	abc
10	flumioxazin	51	WG	52.5	G A/HA	A		10	bcd	0	c	0	c	90	ab	95	ab	93	ab	91	ab	93	cd
11	flumioxazin	51	WG	70	G A/HA	A		21	b	4	c	3	c	90	ab	94	ab	90	ab	92	ab	94	bcd
12	flumioxazin	51	WG	140	G A/HA	A		83	a	79	b	78	b	96	a	98	a	95	ab	98	a	97	abc
13	oxyfluorfen	240	EC	560	G A/HA	A		85	a	93	ab	93	ab	89	ab	98	a	92	ab	94	ab	95	a-d
14	oxyfluorfen	240	EC	1120	G A/HA	A		93	a	99	a	96	a	98	a	99	a	99	a	99	a	98	ab
LSD (P=.05)								13.3	15.2	15.2	13.9	14.6	14.8	16.0	5.0								
Standard Deviation								9.3	10.7	10.6	9.8	10.2	10.4	11.2	3.5								
CV								41.06	52.41	53.87	12.28	12.3	13.05	14.41	3.95								

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

WEED MANAGEMENT PROGRAMS IN PUMPKINS

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC03T2

Weed Code	ABUTH	AMARE	AMBEL	CHEAL	ECHCG																		
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE								
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	NO/PLOT	YIELD	YIELD														
Rating Unit	%	%	%	%	%	%	#	T/HA	T/AC														
Rating Date	Aug-08-03	Aug-08-03	Aug-08-03	Aug-08-03	Aug-08-03	Aug-08-03	Oct-08-03	Oct-08-03	Oct-08-03														
Crop Stage	20+ LF	20+ LF	20+ LF	20+ LF	20+ LF	20+ LF																	
Crop Stage Scale	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE																	
Weed Stage	3-9 LF	14-20+ L	16-20 +L	8-20+ LF	8 LF																		
Weed Density, Unit	9 SQ M	5 SQ M	1 SQ M	68 SQ M	1 SQ M																		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
1	untreated check							0	d	0	d	0	e	0	d	0	d	7	ab	24.0	ab	10.7	ab
2	s-metolachlor	915	EC	1200	G A/HA	A	A	0	d	0	d	0	e	0	d	96	abc	6	ab	28.9	ab	12.9	ab
3	s-metolachlor	915	EC	2400	G A/HA	A	A	25	c	81	c	43	d	18	c	98	a	5	ab	25.4	ab	11.3	ab
4	clomazone	360	EC	420	G A/HA	A	A	84	ab	84	c	74	c	74	b	96	abc	7	ab	39.0	ab	17.4	ab
5	clomazone	360	EC	840	G A/HA	A	A	97	a	96	b	95	ab	95	a	97	ab	7	ab	43.0	a	19.2	a
6	halosulfuron-methyl	75	WG	25	G A/HA	A	A	90	ab	97	ab	94	ab	89	a	93	c	5	ab	25.6	ab	11.4	ab
7	halosulfuron-methyl	75	WG	50	G A/HA	A	A	96	ab	97	ab	96	ab	94	a	97	ab	5	ab	24.1	ab	10.7	ab
8	sulfentrazone	75	DF	210	G A/HA	A	A	88	ab	96	b	81	bc	96	a	96	abc	7	ab	29.1	ab	13.0	ab
9	sulfentrazone	75	DF	420	G A/HA	A	A	96	ab	99	a	86	abc	99	a	99	a	7	ab	35.1	ab	15.6	ab
10	flumioxazin	51	WG	52.5	G A/HA	A	A	87	ab	96	b	95	ab	91	a	96	abc	7	ab	34.8	ab	15.5	ab
11	flumioxazin	51	WG	70	G A/HA	A	A	92	ab	98	ab	95	ab	95	a	96	abc	8	a	39.3	ab	17.5	ab
12	flumioxazin	51	WG	140	G A/HA	A	A	94	ab	97	ab	92	ab	97	a	96	abc	3	b	16.3	b	7.3	b
13	oxyfluorfen	240	EC	560	G A/HA	A	A	83	b	96	b	90	ab	96	a	94	bc	6	ab	30.3	ab	13.5	ab
14	oxyfluorfen	240	EC	1120	G A/HA	A	A	97	a	98	ab	99	a	97	a	97	ab	3	b	20.7	ab	9.2	ab
LSD (P=.05)								14.0	2.6	15.0	14.7	3.5	4.6	23.93	10.67								
Standard Deviation								9.8	1.8	10.5	10.3	2.5	2.7	14.25	6.36								
CV								13.36	2.26	14.16	13.85	2.76	46.39	48.04	48.04								

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 s-metolachlor (1200 and 2400 g a.i. ha⁻¹), clomazone (420 and 840 g a.i. ha⁻¹), halosulfuron-methyl (25 and 50 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹) and oxyfluorfen (560 and 1120 g a.i. ha⁻¹) applied preemergence for visual injury and yield of pumpkins. The remaining half of each plot was left weedy to collect weed control data.

Visual injury was observed in the halosulfuron-methyl (50 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹) and oxyfluorfen (560 and 1120 g a.i. ha⁻¹) treatments. Injury in the halosulfuron-methyl (50 g a.i. ha⁻¹) and sulfentrazone (210 g a.i. ha⁻¹) treatments was not commercially significant (<10%), and the plants outgrew this injury by 28 days after emergence (DAE). Sulfentrazone injury included stunting and some delay of development, while injury from flumioxazin and oxyfluorfen included poor emergence, delayed growth, stunted plants and mortality.

S-metolachlor provided excellent control of barnyardgrass, and did not control velvetleaf, redroot pigweed, common ragweed or common lamb's-quarters.

Clomazone (420 g a.i. ha⁻¹) gave excellent season-long control of barnyardgrass, good control of velvetleaf, and fair control of common ragweed and common lamb's-quarters.

Excellent control of velvetleaf, redroot pigweed, common ragweed and barnyardgrass, and good control of common lamb's-quarters was observed in the halosulfuron-methyl (25 g a.i. ha⁻¹) at 56 DAE.

Sulfentrazone (210 g a.i. ha⁻¹) gave excellent control of redroot pigweed, common lamb's-quarters and barnyardgrass, and good control of velvetleaf and common ragweed.

Flumioxazin (52.5 g a.i. ha⁻¹) provided excellent control of redroot pigweed, common ragweed, common lamb's-quarters and barnyardgrass, and good control of velvetleaf at 56 DAE.

Season-long control of all weed species in the study was excellent in the oxyfluorfen (560 g a.i. ha⁻¹) treatment.

S-metolachlor, clomazone and halosulfuron-methyl did not reduce pumpkin number or yield. The plants outgrew any injury caused by sulfentrazone at either rate, without a reduction in pumpkin number or yield. Flumioxazin (140 g a.i. ha⁻¹) and oxyfluorfen (1120 g a.i. ha⁻¹) reduced pumpkin number and yield compared to the untreated check.

WEED MANAGEMENT PROGRAMS IN SQUASH

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC03T3

CROP: CUUMA, SQUASH (TAYE BELLE). Planted: May-26-03, 5000 PLANTS/HA, 2.5 CM Deep, 3 M Row Width. Planting Method: MONOSEM VACUUM PLANTER.

Emerged On: Jun-09-03.

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

Site Description: Soil Texture: LOAM. %OM: 4.5 %Sand: 44.9 %Silt: 28.8 %Clay: 26.3 pH: 7.3 CEC: 11.

APPLICATION DESCRIPTION

Application: A
 Date : May-28-03
 Time of Day: 0900
 Method : SPRAY
 Timing : PRE
 Placement : SOIL
 Air Temp. : 18 C
 % Humidity : 69
 Wind Speed : 3 KPH
 Dew Present:
 Soil Moist.:
 Cloud Cover: 100%
 Equipment : CO2 SPRAY
 Pressure : 207 kPa
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002 XR
 Noz.Spacing: 50 CM
 Boom Length: 2 M
 Boom Height: 50 CM
 Carrier : WATER
 Appl.Volume: 200 L/HA
 Propellant : CO2

Weed Code	CUUPE	CUUPE	CUUPE	ABUTH	AMARE	AMBEL	CHEAL	SOLPT
Crop Code	INJURY	INJURY	INJURY	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-19-03	Jun-26-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03
Crop Stage Scale	7 DAE	14 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE	28 DAE
Weed Stage	3-8 LF	4-16 LF	6-20+ LF	2-20+ LF	4-6 LF	7 SQ M	5 SQ M	3 SQ M
Weed Density, Unit	7 SQ M	5 SQ M	3 SQ M	76 SQ M	3 SQ M			

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CUUPE	CUUPE	CUUPE	ABUTH	AMARE	AMBEL	CHEAL	SOLPT								
1	untreated check							0	d	0	d	0	c	0	c	0	d	0	e	0	d		
2	s-metolachlor	915	EC	1200	G A/HA	A		0	d	0	d	0	c	71	b	79	b	73	c	58	d	89	bc
3	s-metolachlor	915	EC	2400	G A/HA	A		0	d	0	d	0	c	91	a	94	a	86	b	74	c	96	abc
4	clomazone	360	EC	420	G A/HA	A		0	d	0	d	0	c	91	a	85	b	94	ab	91	ab	95	abc
5	clomazone	360	EC	840	G A/HA	A		0	d	0	d	0	c	97	a	94	a	95	a	95	ab	97	ab
6	halosulfuron-methyl	75	WG	25	G A/HA	A		3	d	3	d	1	c	91	a	94	a	95	a	84	bc	89	bc
7	halosulfuron-methyl	75	WG	50	G A/HA	A		0	d	0	d	0	c	93	a	95	a	95	a	89	ab	88	c
8	sulfentrazone	75	DF	210	G A/HA	A		13	cd	5	d	4	c	94	a	98	a	97	a	98	a	96	abc
9	sulfentrazone	75	DF	420	G A/HA	A		23	c	13	d	9	c	97	a	97	a	95	a	99	a	99	a
10	flumioxazin	51	WG	52.5	G A/HA	A		21	c	3	d	3	c	93	a	96	a	95	a	90	ab	95	abc
11	flumioxazin	51	WG	70	G A/HA	A		54	b	43	c	39	b	95	a	96	a	97	a	97	a	98	a
12	flumioxazin	51	WG	140	G A/HA	A		85	a	91	ab	90	a	98	a	97	a	98	a	98	a	98	a
13	oxyfluorfen	240	EC	560	G A/HA	A		88	a	80	b	79	a	93	a	95	a	97	a	97	a	98	a
14	oxyfluorfen	240	EC	1120	G A/HA	A		95	a	99	a	98	a	100	a	100	a	100	a	100	a	100	a
LSD (P=.05)								16.4	17.7	18.8	9.0	8.1	7.7	12.4	8.6								
Standard Deviation								11.5	12.4	13.1	6.3	5.7	5.4	8.7	6.0								
CV								42.31	51.68	57.27	7.37	6.54	6.2	10.39	6.83								

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

WEED MANAGEMENT PROGRAMS IN SQUASH

DAVE BILYEA, DARREN ROBINSON

Experiment ID: VC03T3

Weed Code	ECHCG	SETVI	ABUTH	AMARE	AMBEL	CHEAL	SOLPT													
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE													
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL													
Rating Unit	%	%	%	%	%	%	%													
Rating Date	Jul-11-03	Jul-11-03	Aug-04-03	Aug-04-03	Aug-04-03	Aug-04-03	Aug-04-03													
Crop Stage Scale	28 DAE	28 DAE	56 DAE	56 DAE	56 DAE	56 DAE	56 DAE													
Weed Stage	4-6 LF	4-6 LF	3-9 LF	14-20+	16-20+	8-20+	8 LF													
Weed Density, Unit	0 SQ M	10 SQ M	9 SQ M	5 SQ M	1 SQ M	68 SQ M	1 SQ M													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code													
1	untreated check							0	d	0	d	0	d	0	d	0	d	0		
2	s-metolachlor	915	EC	1200	G A/HA	A	100	a	100	a	0	d	25	c	25	c	0	d	15	c
3	s-metolachlor	915	EC	2400	G A/HA	A	99	a	99	a	23	c	55	b	48	bc	38	c	44	b
4	clomazone	360	EC	420	G A/HA	A	95	ab	96	ab	66	b	60	b	59	b	62	b	88	a
5	clomazone	360	EC	840	G A/HA	A	97	a	97	ab	96	a	88	a	95	a	96	a	93	a
6	halosulfuron-methyl	75	WG	25	G A/HA	A	90	bc	87	c	94	a	94	a	95	a	85	a	91	a
7	halosulfuron-methyl	75	WG	50	G A/HA	A	97	a	91	bc	89	a	96	a	93	a	90	a	84	a
8	sulfentrazone	75	DF	210	G A/HA	A	96	a	96	ab	89	a	97	a	95	a	96	a	95	a
9	sulfentrazone	75	DF	420	G A/HA	A	96	a	97	ab	94	a	97	a	93	a	98	a	97	a
10	flumioxazin	51	WG	52.5	G A/HA	A	89	c	91	bc	86	ab	94	a	91	a	85	a	93	a
11	flumioxazin	51	WG	70	G A/HA	A	96	a	96	ab	93	a	94	a	94	a	95	a	95	a
12	flumioxazin	51	WG	140	G A/HA	A	97	a	96	ab	91	a	95	a	93	a	93	a	95	a
13	oxyfluorfen	240	EC	560	G A/HA	A	98	a	97	ab	90	a	96	a	96	a	95	a	95	a
14	oxyfluorfen	240	EC	1120	G A/HA	A	97	a	100	a	95	a	96	a	96	a	94	a	96	a
LSD (P=.05)								5.3	6.4	20.3	20.5	24.9	20.8	24.1						
Standard Deviation								3.7	4.5	14.2	14.3	17.4	14.6	16.8						
CV								4.17	5.08	19.81	18.51	22.8	19.89	21.87						

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

Weed Code	ECHCG	SETVI															
Crop Code	CUUPE	CUUPE	CUUPE	CUUPE	CUUPE												
Rating Data Type	CONTROL	CONTROL	NO/PLOT	YIELD	YIELD												
Rating Unit	%	%	#	T/HA	T/AC												
Rating Date	Aug-04-03	Aug-04-03	Oct-08-03	Oct-08-03	Oct-08-03												
Crop Stage Scale	56 DAE	56 DAE															
Weed Stage	8 LF	5-20+															
Weed Density, Unit	1 1 SQ M	7 SQ M															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
1	untreated check							0	d	0	c	30	a	21.2	ab	9.5	ab
2	s-metolachlor	915	EC	1200	G A/HA	A	95	abc	95	ab	29	abc	19.9	abc	8.9	abc	
3	s-metolachlor	915	EC	2400	G A/HA	A	99	a	99	a	28	a-d	18.9	abc	8.4	abc	
4	clomazone	360	EC	420	G A/HA	A	92	abc	94	ab	30	ab	21.6	ab	9.6	ab	
5	clomazone	360	EC	840	G A/HA	A	97	ab	97	a	32	a	21.1	ab	9.4	ab	
6	halosulfuron-methyl	75	WG	25	G A/HA	A	87	bc	85	b	30	a	23.0	a	10.2	a	
7	halosulfuron-methyl	75	WG	50	G A/HA	A	85	c	89	ab	21	bcd	18.0	abc	8.0	abc	
8	sulfentrazone	75	DF	210	G A/HA	A	93	abc	94	ab	30	ab	22.1	ab	9.9	ab	
9	sulfentrazone	75	DF	420	G A/HA	A	94	abc	95	ab	19	d	13.1	cd	5.8	cd	
10	flumioxazin	51	WG	52.5	G A/HA	A	85	c	89	ab	26	a-d	19.5	abc	8.7	abc	
11	flumioxazin	51	WG	70	G A/HA	A	90	abc	93	ab	20	cd	15.0	bc	6.7	bc	
12	flumioxazin	51	WG	140	G A/HA	A	90	abc	92	ab	9	e	6.9	de	3.1	de	
13	oxyfluorfen	240	EC	560	G A/HA	A	93	abc	95	ab	23	a-d	15.7	bc	7.0	bc	
14	oxyfluorfen	240	EC	1120	G A/HA	A	95	abc	96	a	7	e	4.3	e	1.9	e	
LSD (P=.05)								10.5	10.4	9.1	7.26	3.24					
Standard Deviation								7.4	7.3	6.4	5.08	2.27					
CV								8.64	8.39	26.97	29.6	29.6					

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 s-metolachlor (1200 and 2400 g a.i. ha⁻¹), clomazone (420 and 840 g a.i. ha⁻¹), halosulfuron-methyl (25 and 50 g a.i. ha⁻¹), sulfentrazone (210 and 420 g a.i. ha⁻¹), flumioxazin (52.5, 70 and 140 g a.i. ha⁻¹) and oxyfluorfen (560 and 1120 g a.i. ha⁻¹) applied preemergence for visual injury and yield of squash. The remaining half of each plot was left weedy to collect weed control data.

At all rates of s-metolachlor, clomazone, and halosulfuron-methyl tested, there was not commercially significant visual injury (<4%) to squash. Of the three herbicides, only halosulfuron-methyl (50 g a.i. ha⁻¹) reduced fruit number and squash yield compared to the untreated check. Sulfentrazone, flumioxazin and oxyfluorfen caused significant visual injury to squash, which included reduced emergence, stunting, and reduced leaf area.

S-metolachlor gave excellent season long control of barnyardgrass and green foxtail, and poor control of velvetleaf, redroot pigweed, common ragweed and common lamb's-quarters. S-metolachlor gave good control of eastern black nightshade at 28 DAE, but by 56 DAE did no longer provide acceptable control of this weed species.

Clomazone gave fair season long control of velvetleaf, redroot pigweed, common ragweed and common lamb's-quarters, good season long control of eastern black nightshade, and excellent control of barnyardgrass and green foxtail.

Halosulfuron-methyl gave excellent season long control of velvetleaf, redroot pigweed and common ragweed, and good control of common lamb's-quarters, barnyardgrass and green foxtail.

Plants in the sulfentrazone (210 g a.i. ha⁻¹) and flumioxazin (52.5 g a.i. ha⁻¹) treatments outgrew the visual injury without a reduction in fruit number or yield. At the higher rates of each of these herbicides, however, fruit number and yield were significantly less than in the untreated check. Oxyfluorfen caused significant reductions in fruit number and yield at either rate tested.