

ACKNOWLEDGEMENTS

Purpose of this Booklet

This booklet is provided as a guide to the 2003 tomato weed control research plots. The experiments outlined in this booklet were located at Ridgetown College.

We appreciate the cooperation and assistance provided by the chemical companies and their representatives, their ideas, the chemical samples they have provided for the research work carried out at Ridgetown College, University of Guelph, as well as the monetary assistance so kindly provided by a number of chemical companies. Funding for the 2003 research program on weed control was provided by the following:

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Eric Vyn

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

BAYER CODE ABBREVIATIONS

Code	Common Name	Scientific Name
ABUTH	Velvetleaf	<i>Abutilon theophrasti</i>
AMAPO	Green pigweed	<i>Amaranthus powellii</i>
AMARE	Redroot pigweed	<i>Amaranthus retroflexus</i>
AMASS	Pigweed species	<i>Amaranthus sp.</i>
AMBEL	Common ragweed	<i>Ambrosia artemisiifolia</i>
CHEAL	Common lamb's-quarter	<i>Chenopodium album</i>
LAMAM	Henbit	<i>Lamium amplexicaule</i>
POLPE	Lady's-thumb	<i>Polygonum persicaria</i>
POROL	Common purslane	<i>Portulaca oleracea</i>
SOLPT	Eastern black nightshade	<i>Solanum ptycanthum</i>
STEME	Common chickweed	<i>Stellaria media</i>
DIGSA	Hairy crabgrass	<i>Digitaria sanguinalis</i>
ECHCG	Barnyard grass	<i>Echinochloa crus-galli</i>
PANCA	Witchgrass	<i>Panicum capillare</i>
PANDI	Fall panicum	<i>Panicum dichotomiflorum</i>
SETLU	Yellow foxtail	<i>Setaria glauca</i>
SETVI	Green foxtail	<i>Setaria viridis</i>

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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								
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-6-03	Jun-13-03	Jun-19-03	Jul-4-03	Jul-16-03	Jul-11-03	Jul-11-03	Jul-11-03
Crop Stage	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 Scale	10-13 CM	13-15 CM	15-18 CM	30-42 CM	45-52 CM	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	7 DAE	14 DAE	21 DAE	35 DAE	49 DAE	42 DAE	42 DAE	42 DAE

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

							ABUTH	AMASS	CHEAL										
							LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES					
Weed Code							LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES					
Crop Code							LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES					
Part Rated							LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES					
Rating Data Type							INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL					
Rating Unit							%	%	%	%	%	%	%	%					
Rating Date							Jun-6-03	Jun-13-03	Jun-19-03	Jul-4-03	Jul-16-03	Jul-11-03	Jul-11-03	Jul-11-03					
Crop Stage							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 Scale							10-13 CM	13-15 CM	15-18 CM	30-42 CM	45-52 CM	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							7 DAE	14 DAE	21 DAE	35 DAE	49 DAE	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	WEEDY	WEEDY
Crop Stage Scale	40-52 CM	35-55 CM	35-55 CM	35-55 CM	35-55 CM		
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)

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	LYPES			ABUTH	AMASS	AMBEL	CHEAL	SOLPT
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	Jun-6-03	Jun-13-03	Jun-26-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03	Jul-11-03
Crop Stage	2-3 LF	3-4 LF	9-11 LF	10-12 LF	10-12 LF	10-12 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	42-55 CM	42-55 CM	42-55 CM
Weed Stage				4 LF	6 LF	8 LF	6 LF	3 LF
Weed Density, Unit				2 SQ.M.	8.5 SQ.M.	2 SQ.M.	159 SQ.M.	2.5 SQ.M.
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	42 DAE	42 DAE	42 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	c 0	c
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	c 61	b
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	b 68	ab
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	b 69	ab
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	a 60	b
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	a 73	a
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	a 74	a
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	a 68	ab

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	LYPES	LYPES	LYPES
Part Rated								
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD	YIELD	YIELD
Rating Unit	%	%	%	%	%	T/HA	T/HA	T/HA
Rating Date	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Aug-8-03	Sep-18-03	Sep-18-03	Sep-18-03
Crop Stage	FRUIT	FRUIT	FRUIT	FRUIT	FRUIT	WEEDY	WEEDY	WEEDY
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	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	e 0	b 0	c 0	d 0	b 17.0	bc 1.5	a 0.5	ab
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	a 0.3	ab
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	a 0.1	b
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	a 0.6	ab
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	a 0.7	ab
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	a 0.5	ab
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	a 0.6	ab
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	a 0.8	a

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 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	YIELD
Rating Unit	T/AC	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	Sep-18-03
Crop Stage	WEEDY	WEEDY	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE	WEEDFREE
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 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	ABUTH	AMASS	CHEAL	SOLPT
Crop Code	LYPES	LYPES	LYPES	LYPES
Part Rated	LYPES	LYPES	LYPES	LYPES
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	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

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval	ABUTH LYPES	AMASS LYPES	CHEAL LYPES	SOLPT LYPES
			INJURY	%	Jun-26-03	8-10 LF	21-27 CM	4 LF		7 DAT				
			INJURY	%	Jul-4-03	9-13 LF	30-35 CM	6 LF		14 DAT				
			INJURY	%	Jul-17-03	FLR-FRUT	35-45 CM	6 LF		28 DAT				
			CONTROL	%	Jul-16-03	FLR-FRUT	35-45 CM	18 SQ.M.		28 DAT				
			CONTROL	%	Jul-16-03	FLR-FRUT	35-45 CM	4 SQ.M.		28 DAT				
			CONTROL	%	Jul-16-03	FLR-FRUT	35-45 CM	6 LF		28 DAT				
			CONTROL	%	Jul-16-03	FLR-FRUT	35-45 CM	2 SQ.M.		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	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Crop Stage	Crop Stage Scale	Weed Stage	Weed Density, Unit	Trt-Eval Interval	ABUTH LYPES	AMASS LYPES	AMBEL LYPES	CHEAL LYPES	SOLPT LYPES	SETVI LYPES	LYPES
			CONTROL	%	Aug-13-03	FRUIT	35-64 CM	7 LF	11 SQ.M.	56 DAT							
			CONTROL	%	Aug-13-03	FRUIT	35-64 CM	20 LF	3 SQ.M.	56 DAT							
			CONTROL	%	Aug-13-03	FRUIT	35-64 CM	20 LF	2 SQ.M.	56 DAT							
			CONTROL	%	Aug-13-03	FRUIT	35-64 CM	20 LF	5 SQ.M.	56 DAT							
			CONTROL	%	Aug-13-03	FRUIT	35-64 CM	14 LF	3 SQ.M.	56 DAT							
			CONTROL	%	Aug-13-03	FRUIT	35-64 CM	7 LF	2.5 SQ.M.	56 DAT							
			YIELD	T/HA	Oct-1-03	WEEDFREE				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

Crop Code	LYPES									
Part Rated	RED+GR	RED	GREEN	ROTS	RED+GR	RED	GREEN	ROTS	RED+GR	LYPES
Rating Data Type	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD	YIELD
Rating Unit	T/AC	T/HA	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	Oct-1-03
Crop Stage	WEEDFREE	WEEDY	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	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	Stg	Appl Code																	
1	untreated check							25	c	0	e	0.0	g	0	f	0	e	0	e	0	e			
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)								29.1		10.5		20.17		24.1		31.3		43.7		14.2		28.4		
Standard Deviation								20.2		7.3		13.97		16.7		21.7		30.3		9.8		19.6		
CV								25.28		9.05		18.81		37.02		30.49		51.23		14.0		40.34		

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	Stg	Appl 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)								18.65		4.07		1.81		20.68		8.32		1.81		0.81		9.22		
Standard Deviation								12.91		2.82		1.26		14.32		5.76		1.26		0.56		6.39		
CV								31.24		40.86		74.66		29.69		31.24		40.86		74.66		29.69		

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
CV								19.49	22.66	73.24	18.18	19.49	22.66	73.24	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 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: T003T4

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	b	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 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 Agral 90 N 1529	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	2	4	.	2	40.2	5.4	0.2					
34	Thifensulfuron-methyl Agral 90 N 1480E	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	6	2	.	0	66.1	14.6	0.3					
35	Thifensulfuron-methyl Agral 90 CC 337	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	12	8	.	2	18.5	43.8	0.3					
36	Thifensulfuron-methyl Agral 90 H 9553	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	1	0	.	0	70.6	8.1	1.1					
37	Thifensulfuron-methyl Agral 90 H 3002	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	2	0	.	0	60.7	24.0	0.0					
38	Thifensulfuron-methyl Agral 90 H 2401	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	20	6	.	10	47.4	20.5	0.4					
39	Thifensulfuron-methyl Agral 90 H 9464	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	18	15	.	5	2.8	40.5	0.0					
40	Thifensulfuron-methyl Agral 90 H 9997	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	5	2	.	2	1.6	35.5	0.1					
41	Thifensulfuron-methyl Agral 90 H 3402	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	12	6	.	8	49.7	17.5	0.5					
42	Thifensulfuron-methyl Agral 90 H 9780	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	4	2	.	10	50.6	21.1	1.9					
43	Thifensulfuron-methyl Agral 90 N 1069	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	5	12	.	8	.	33.5	10.9	0.7					
44	Thifensulfuron-methyl Agral 90 N 2199	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	20	30	.	15	.	70.6	11.9	0.0					
45	Thifensulfuron-methyl Agral 90 N 1980	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	4	3	.	0	.	61.9	5.7	0.7					
46	Thifensulfuron-methyl Agral 90 N 1477	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	2	0	.	0	.	34.5	22.2	0.0					
47	Thifensulfuron-methyl Agral 90 N 1529	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	4	10	.	8	.	40.1	7.7	0.0					
48	Thifensulfuron-methyl Agral 90 N 1480E	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	5	4	.	0	.	36.3	11.3	0.1					
49	Thifensulfuron-methyl Agral 90 CC 337	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	3	6	.	2	.	30.1	7.1	0.3					
50	Thifensulfuron-methyl Agral 90 H 9553	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	5	2	.	0	.	76.2	7.2	0.1					
51	Thifensulfuron-methyl Agral 90 H 3002	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	4	4	.	1	.	51.7	13.9	0.3					
52	Thifensulfuron-methyl Agral 90 H 2401	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	30	35	.	15	.	60.5	25.0	0.5					
53	Thifensulfuron-methyl Agral 90 H 9464	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	30	50	.	15	.	2.3	42.8	0.0					
54	Thifensulfuron-methyl Agral 90 H 9997	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A 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	75	DF	3	G A/HA	Post	B	.	.	.	54.0
	Agral 90		SO	0.100	% V/V	Post	B				
	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	N 1477										
19	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	B	.	.	.	37.6
	Agral 90		SO	0.100	% V/V	Post	B				
	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	N 1529										
20	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	B	.	.	.	75.4
	Agral 90		SO	0.100	% V/V	Post	B				
	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	N 1480E										
21	Thifensulfuron-methyl 75	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	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	CC 337										
22	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	B	.	.	.	68.2
	Agral 90		SO	0.100	% V/V	Post	B				
	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 9553										
23	Thifensulfuron-methyl 75	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	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 3002										
24	Thifensulfuron-methyl 75	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	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 2401										
25	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	B	.	.	.	43.6
	Agral 90		SO	0.100	% V/V	Post	B				
	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 9464										
26	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	B	.	.	.	49.9
	Agral 90		SO	0.100	% V/V	Post	B				
	Thifensulfuron-methyl 75	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 9997										
27	Thifensulfuron-methyl 75	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	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 3402										
28	Thifensulfuron-methyl 75	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	75	DF	3	G A/HA	Post	C				
	Agral 90		SO	0.100	% V/V	Post	C				
	H 9780										
29	Thifensulfuron-methyl 75	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	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	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	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	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 Agral 90 N 1480E	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	.	.	80.8
35	Thifensulfuron-methyl Agral 90 CC 337	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	18.7	37.1	62.5	62.3
36	Thifensulfuron-methyl Agral 90 H 9553	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	.	.	78.7
37	Thifensulfuron-methyl Agral 90 H 3002	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	14.9	75.7	38.9	84.7
38	Thifensulfuron-methyl Agral 90 H 2401	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	27.2	74.6	47.7	67.9
39	Thifensulfuron-methyl Agral 90 H 9464	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	.	.	.	43.3
40	Thifensulfuron-methyl Agral 90 H 9997	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	13.9	15.4	49.4	37.1
41	Thifensulfuron-methyl Agral 90 H 3402	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	28.3	77.9	45.8	67.2
42	Thifensulfuron-methyl Agral 90 H 9780	75	DF SO	6 0.100	G A/HA % V/V	Post Post	B B	31.1	81.7	52.2	71.7
43	Thifensulfuron-methyl Agral 90 N 1069	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	.	.	.	44.4
44	Thifensulfuron-methyl Agral 90 N 2199	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	10.2	80.8	22.1	82.5
45	Thifensulfuron-methyl Agral 90 N 1980	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	.	.	.	67.6
46	Thifensulfuron-methyl Agral 90 N 1477	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	.	.	.	56.7
47	Thifensulfuron-methyl Agral 90 N 1529	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	.	.	.	47.7
48	Thifensulfuron-methyl Agral 90 N 1480E	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	20.5	56.9	31.8	47.6
49	Thifensulfuron-methyl Agral 90 CC 337	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	38.7	68.7	45.7	37.1
50	Thifensulfuron-methyl Agral 90 H 9553	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	.	.	.	83.4
51	Thifensulfuron-methyl Agral 90 H 3002	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	19.8	71.5	33.7	65.6
52	Thifensulfuron-methyl Agral 90 H 2401	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	13.2	73.7	38.2	85.5
53	Thifensulfuron-methyl Agral 90 H 9464	75	DF SO	12 0.200	G A/HA % V/V	Post Post	A A	.	.	.	45.0
54	Thifensulfuron-methyl Agral 90 H 9997	75	DF SO	12 0.200	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.