

Weed Control Results for Tomatoes

Research Report

2001

D.E. Robinson, and K. McNaughton

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It is hoped 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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**2001
RIDGETOWN
WEATHER DATA**

RAINFALL IN MM.								
DATE	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.
1	1.2	0	6.2	1.8	0	0	0	0
2	0.4	0	10.8	0	0	0	0	14.4
3	4.6	0	2.2	1.6	0	0	0	12.8
4	0	0.2	0	3.0	0	0	1.4	0
5	0.6	0.6	0	0	0	0	31.6	0
6	9.0	0	0.2	0	0	0	3.6	0
7	9.6	0.4	0	0	11.4	0	0.2	0
8	0	12	0	0	0	4.0	0	4.4
9	1.6	0	0	0	0	2.8	0	0
10	0	0	22.2	3.0	10.4	4.8	0	0
11	1.0	20	2.8	0	0	0	19.4	0
12	3.4	0	0	0	3.0	0	17.4	0
13	0	0	0	0	0	1.8	1.6	0
14	0	0.2	0	0	0	0	20.6	0.2
15	17.8	1.2	1.6	0	0	0	0	17.8
16	6.0	0	1.4	0	2.8	0	11.8	1.2
17	0.2	1.0	0	0	0	0	0.2	0
18	0	0.4	0	0	0.4	0	0	0.2
19	0	0	7.6	0	5.8	23.8	0	5.6
20	7.2	0	1.6	0	1.0	0	0	0
21	6.6	16.6	1.4	6.8	0	16.2	10.8	0
22	0	2.4	5.2	0.2	0.6	0.2	1.4	0
23	0	0.2	0	0	0.2	8.8	10.6	0
24	0	2.0	5.2	0	0	7.0	3.2	1.6
25	0	4.8	0	1.0	0	11.4	11.4	8.8
26	0.2	6.2	0	0	11.0	6.2	3.4	0
27	2.0	6.8	0	0	0.2	6.0	11.6	0.4
28	0	14.2	0	0	2.2	0.2	0	3.6
29	0	0.2	0	0	0	0	0	15.4
30	0	0	2.0	0	0	0	1.2	5.6
31		0		0	4.2		4.4	
TOTAL	71.4	89.4	70.4	17.4	53.2	93.2	165.8	92.0
30 YEAR AVG.	80.2	75.4	80.0	83.6	100.0	90.7	62.2	80.0

TEMPERATURE (C)

MEAN MAX	14.3	19.8	25.0	27.0	28.2	21.8	15.6	12.2
MEAN MIN	2.7	9.4	14.0	14.9	14.9	9.4	6.2	3.4
MEAN	8.5	14.6	19.5	21.0	21.6	15.6	10.9	7.8

TEMPERATURE, 30 YEAR AVERAGE (C)

MEAN MAX	12.4	19.5	24.5	27.1	25.8	22.0	15.2	7.9
MEAN MIN	2.4	8.4	13.8	16.2	15.3	11.7	5.7	0.8
MEAN	7.4	13.9	19.2	21.6	20.6	16.8	10.4	4.3

BAYER CODE ABBREVIATIONS

Code	Common Name	Scientific Name
ABUTH	Velvetleaf	<i>Abutilon theophrasti</i>
ACARH	Three-seeded mercury	<i>Acalypha rhombiodes</i>
AMAPO	Green pigweed	<i>Amaranthus powellii</i>
AMARE	Redroot pigweed	<i>Amaranthus retroflexus</i>
AMBEL	Common ragweed	<i>Ambrosia artemisiifolia</i>
ARTBI	Biennial wormwood	<i>Artemisia biennis</i>
CAPBP	Shepherd's-purse	<i>Capsella bursa-pastoris</i>
CCHPA	Longspine sandbur	<i>Cenchrus pauciflorus</i>
CHEAL	Common lamb's-quarter	<i>Chenopodium album</i>
CIRAR	Canada thistle	<i>Cirsium arvense</i>
CNISA	Hemp	<i>Cannabis sativa</i>
CONAR	Field bindweed	<i>Convolvulus arvensis</i>
EQUAR	Field horsetail	<i>Equisetum arvense</i>
ERIAN	Annual fleabane	<i>Erigeron annuus</i>
ERICA	Canada fleabane	<i>Erigeron canadensis</i>
ERYCH	Wormseed mustard	<i>Erysimum cheiranthoides</i>
EUPHE	Sun spurge	<i>Euphorbia heiocopia</i>
GAETE	Hempnettle	<i>Galeopsis tetrahit</i>
HIBTR	Flower-of-an-hour	<i>Hibiscus trionum</i>
LACSE	Prickly lettuce	<i>Lactuca serriola</i>
LAPCO	Nippleweed	<i>Lapsana communis</i>
OXAST	Common yellow woodsorrel	<i>Oxalis stricta</i>
PLAMA	Broad-leaved plantain	<i>Plantago major</i>
POLCO	Wild buckwheat	<i>Polygonum convolvulus</i>
POLLA	Green smartweed	<i>Polygonum lapathifolium</i>
POLPE	Lady's-thumb	<i>Polygonum persicaria</i>
SINAR	Wild mustard	<i>Sinapis arvensis</i>
SIYAN	Bur-cucumber	<i>Sicyos angulatus</i>
SOLCA	Horsenettle	<i>Solanum carolinense</i>
SOLPT	Eastern black nightshade	<i>Solanum ptycanthum</i>
SONAR	Perennial sowthistle	<i>Sonchus arvensis</i>
SONAS	Spiny annual sowthistle	<i>Sonchus asper</i>
SONOL	Annual sowthistle	<i>Sonchus oleraceus</i>
SOOCA	Canada goldenrod	<i>Solidago canadensis</i>
STAPA	Marsh hedge-nettle	<i>Stachys palustris</i>
STEME	Common chickweed	<i>Stellaria media</i>
TAROF	Dandelion	<i>Taraxacum officinale</i>
THLAR	Field pennycress	<i>Thlaspi arvense</i>
TRFSS	Clover species	<i>Trifolium spp.</i>
XANST	Common cocklebur	<i>Xanthium strumarium</i>
AGRGI	Redtop	<i>Agrostis gigantea</i>
AGRRE	Quackgrass	<i>Agropyron repens</i>
DIGSA	Large crabgrass	<i>Digitaria sanguinalis</i>
ECHCG	Barnyard grass	<i>Echinochloa crus-galli</i>
PANCA	Witch grass	<i>Panicum capillare</i>
PANDI	Fall panicum	<i>Panicum dichotomiflorum</i>
PANMI	Proso millet	<i>Panicum miliaceum</i>
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: TO01A1

CROP: LYPES (H9478). Planted: May-31-01, 29500 PL/HA, 5 CM Deep, 150 CM Row Width. Planting Method: TRANSPLANTED. Emerged On: May-31-01.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RC- Range E7.

Site Description: Soil Texture: SANDY LOAM. %OM: 3.76 %Sand: 64.6 %Silt: 17.2 %Clay: 18.2 pH: 6.3

APPLICATION DESCRIPTION

Application:	A	B	C	D	E
Date	May-18-01	Jun-14-01	Jun-28-01	Jul-11-01	Jul-26-01
Time of Day	6:30 AM	5:45 AM	6:00 AM	8:20 PM	7:10 AM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Timing	PRE	POST 1	POST 2	POST 3	POST 4
Placement	SOIL	FOLIAR	FOLIAR	FOLIAR	FOLIAR
Air Temp.	16.4 C	18.2 C	19.4 C	20 C	18 C
% Humidity	82	95	90	62	85
Wind Speed	1 KPH	0 KPH	0 KPH	0 KPH	2 KPH
Dew Present	Y	Y	Y	N	Y
Soil Moist.	MOIST	DRY	DRY	DRY	MOIST
Cloud Cover	100%	0%	30%	50%	30%
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	207 kPa
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR	8002 XR
Noz.Spacing	50 CM	50 CM	50 CM	50 CM	50 CM
Boom Length	1.5 M	1.5 M	1.5 M	1.5 M	1.5 M
Boom Height	50 CM	50 CM	50 CM	50 CM	50 CM
Carrier	WATER	WATER	WATER	WATER	WATER
Appl.Volume	200 L/HA	200 L/HA	200 L/HA	200 L/HA	200 L/HA
Propellant	CO2	CO2	CO2	CO2	CO2

STAGE AT APPLICATION

Crop 1 LYPES				
Height	16 CM	22.5 CM	36.6 CM	42 CM
Weed 1 ABUTH	1 LF	3 LF	4 LF	6 LF
Stg.Scale	2 CM	4.8 CM	20 CM	40 CM
Density	4.5 SQ.M	3.5 SQ.M	1 SQ.M	1 SQ.M
Weed 2 AMARE	2 LF	10 LF	12 LF	16 LF
Stg.Scale	1 CM	9.8 CM	25 CM	45 CM
Density	11.5 SQ.M	5 SQ.M	0.5 SQ.M	0.5 SQ.M
Weed 3 AMBEL	5 LF	17 LF		
Stg.Scale	13.4 CM	25.5 CM		
Density	6.5 SQ.M	4 SQ.M		
Weed 4 CHEAL	3 LF	8 LF	6 LF	23 LF
Stg.Scale	2.3 CM	11.1 CM	15 CM	14 CM
Density	70 SQ.M	44 SQ.M	1 SQ.M	2 SQ.M
Weed 5 POLPE	3 LF	10 LF	8 LF	
Stg.Scale	2.4 CM	10.5 CM	7 CM	
Density	4.5 SQ.M	4.5 SQ.M	0.5 SQ.M	
Weed 6 SOLPT	5 LF	7 LF	9 LF	
Stg.Scale	3.6 CM	12.4 CM	14 CM	
Density	8.5 SQ.M	13 SQ.M	13.5 SQ.M	

Weed Code	LYPES						ABUTH	AMARE
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	
Part Rated								
Rating Data Type	INJURY	INJURY	INJURY	INJURY	INJURY	INJURY	CONTROL	
Rating Unit	%	%	%	%	%	%	%	
Rating Date	Jun-12-01	Jun-19-01	Jun-25-01	Jul-10-01	Jul-23-01	Aug-10-01	Jul-17-01	
Crop Stage	5-6 LF	8-9 LF	9-10 LF	10-12 LF	12-14 LF	16-20 LF	11-13 LF	
Crop Stage Scale	15-18 CM	16-19 CM	24-30 CM	25-36 CM	30-40 CM	35-50 CM	45 CM	
Weed Stage							4 LF	14 LF
Weed Density, Unit							2 SQ.M	3.5 SQ.M
Trt-Eval Interval	7 DAE	14 DAE	21 DAE	35 DAE	49 DAE	63 DAE	42 DAE	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
1	Untreated Check							0	c	0	c	0	a	0	b	0	a	0	b	0	d	0	c
2	trifluralin	480	EC	1105	G A/HA	ppi	A	1	b	0	c	0	a	0	b	0	a	0	b	31	c	98	ab
3	s-metolachlor	915	EC	1600	G A/HA	ppi	A	0	c	0	bc	0	a	0	b	0	a	0	b	79	b	93	b
4	metribuzin	75	DF	700	G A/HA	ppi	A	0	c	0	c	0	a	0	b	0	a	0	b	95	ab	97	ab
5	trifluralin	480	EC	1105	G A/HA	ppi	A	1	bc	0	bc	0	a	0	b	0	a	0	b	91	ab	100	a
	metribuzin	75	DF	700	G A/HA	ppi	A																
6	s-metolachlor	915	EC	1600	G A/HA	ppi	A	0	c	0	c	0	a	0	b	0	a	0	b	98	a	100	a
	metribuzin	75	DF	700	G A/HA	ppi	A																
7	trifluralin	480	EC	1008	G A/HA	ppi	A	2	a	1	a	0	a	0	a	0	a	0	b	92	ab	100	a
	s-metolachlor	915	EC	1260	G A/HA	ppi	A																
	metribuzin	75	DF	500	G A/HA	ppi	A																
8	s-metolachlor	915	EC	1140	G A/HA	ppi	A	0	c	0	c	0	a	0	b	0	a	0	b	97	a	100	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: T001A1

Weed Code															ABUTH	AMARE							
Crop Code															LYPES	LYPES							
Part Rated																							
Rating Data Type															CONTROL	CONTROL							
Rating Unit															%	%							
Rating Date															Jun-17-01	Jul-17-01							
Crop Stage															11-13 LF	11-13 LF							
Crop Stage Scale															45 CM	45 CM							
Weed Stage															4 LF	14 LF							
Weed Density, Unit															2 SQ.M	3.5 SQ.M							
Trt-Eval Interval															42 DAE	42 DAE							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code																
9	s-metolachlor	915	EC	1140	G A/HA	ppi	A	0	c	1	ab	0	a	0	b	0	a	99	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																
10	metribuzin	75	DF	150	G A/HA	post 1	B	0	c	0	c	0	a	0	b	0	a	0	b	100	a	94	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	metribuzin	75	DF	150	G A/HA	post 1	B	0	c	0	c	0	a	0	b	0	a	0	b	96	ab	100	a
	metribuzin	75	DF	150	G A/HA	post 2	C																
	rimsulfuron	25	DF	15	G A/HA	post 2	C																
	Agral 90		SO	0.200	% V/V	post 2	C																
	metribuzin	75	DF	150	G A/HA	post 3	D																
	metribuzin	75	DF	150	G A/HA	post 4	E																
12	metribuzin	75	DF	150	G A/HA	post 1	B	0	c	1	abc	0	a	0	b	0	a	0	b	100	a	100	a
	metribuzin	75	DF	150	G A/HA	post 2	C																
	thifensulfuron-methyl	75	DF	6	G A/HA	post 2	C																
	Agral 90		SO	0.200	% 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																
13	metribuzin	75	DF	150	G A/HA	post 1	B	0	c	0	c	0	a	0	b	0	a	0	b	100	a	97	ab
	metribuzin	75	DF	150	G A/HA	post 2	C																
	fluazifop-p-butyl	125	EC	250	G A/HA	post 2	C																
	metribuzin	75	DF	150	G A/HA	post 3	D																
	metribuzin	75	DF	150	G A/HA	post 4	E																
LSD (P=.05)								0.7	0.6	0.0	0.2	0.3	0.2	17.6	5.7								
Standard Deviation								0.5	0.4	0.0	0.1	0.2	0.1	12.3	4.0								
CV								173.7	209.03	0.0	721.11	488.19	721.11	14.86	4.37								

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: T001A1

Weed Code	AMBEL	CAPBP	CHEAL	SOLPT	SETVI	ABUTH	AMARE
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	Jul-17-01	Jul-17-01	Jul-17-01	Jul-17-01	Jul-17-01	Aug-13-01	Aug-13-01
Crop Stage	11-13 LF	11-13 LF	11-13 LF	11-13 LF	11-13 LF	16-20 LF	16-20 LF
Crop Stage Scale	45 CM	45 CM	45 CM	45 CM	45 CM	50 CM	50 CM
Weed Stage	20 LF	13 LF	15 LF	6 LF	7 LF	5 LF	17 LF
Weed Density, Unit	4.5 SQ.M	3.5 SQ.M	63 SQ.M	2.5 SQ.M	6 SQ.M	5 SQ.M	6.5 SQ.M
Trt-Eval Interval	42 DAE	42 DAE	42 DAE	42 DAE	42 DAE	70 DAE	70 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code														
1	Untreated Check							0	d	0	d	0	f	0	f	0	e	0	e	0	d
2	trifluralin	480	EC	1105	G A/HA	ppi	A	73	bc	0	d	83	d	73	bc	91	abc	49	d	94	abc
3	s-metolachlor	915	EC	1600	G A/HA	ppi	A	73	bc	86	b	58	e	91	ab	98	ab	75	c	89	c
4	metribuzin	75	DF	700	G A/HA	ppi	A	100	a	99	ab	100	a	68	cd	99	a	95	ab	95	abc
5	trifluralin	480	EC	1105	G A/HA	ppi	A	100	a	99	a	97	abc	65	cde	100	a	78	c	99	ab
	metribuzin	75	DF	700	G A/HA	ppi	A														
6	s-metolachlor	915	EC	1600	G A/HA	ppi	A	99	a	100	a	100	a	97	a	100	a	96	ab	100	a
	metribuzin	75	DF	700	G A/HA	ppi	A														
7	trifluralin	480	EC	1008	G A/HA	ppi	A	91	abc	100	a	100	a	100	a	99	a	86	bc	100	a
	s-metolachlor	915	EC	1260	G A/HA	ppi	A														
	metribuzin	75	DF	500	G A/HA	ppi	A														
8	s-metolachlor	915	EC	1140	G A/HA	ppi	A	71	c	98	ab	97	ab	91	ab	100	a	96	ab	100	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														
9	s-metolachlor	915	EC	1140	G A/HA	ppi	A	98	a	100	a	100	a	93	ab	100	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														
10	metribuzin	75	DF	150	G A/HA	post 1	B	83	abc	86	b	97	ab	50	de	89	bc	100	ab	93	bc
	metribuzin	75	DF	150	G A/HA	post 2	C														
	metribuzin	75	DF	150	G A/HA	post 3	D														
	metribuzin	75	DF	150	G A/HA	post 4	E														
11	metribuzin	75	DF	150	G A/HA	post 1	B	75	bc	88	ab	89	cd	47	e	83	c	98	ab	99	ab
	metribuzin	75	DF	150	G A/HA	post 2	C														
	rimsulfuron	25	DF	15	G A/HA	post 2	C														
	Agral 90		SO	0.200	% V/V	post 2	C														
	metribuzin	75	DF	150	G A/HA	post 3	D														
	metribuzin	75	DF	150	G A/HA	post 4	E														
12	metribuzin	75	DF	150	G A/HA	post 1	B	91	ab	88	ab	100	a	46	e	70	d	100	a	100	a
	metribuzin	75	DF	150	G A/HA	post 2	C														
	thifensulfuron-methyl	75	DF	6	G A/HA	post 2	C														
	Agral 90		SO	0.200	% 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														
13	metribuzin	75	DF	150	G A/HA	post 1	B	88	abc	65	c	91	bc	65	cde	100	a	98	ab	96	ab
	metribuzin	75	DF	150	G A/HA	post 2	C														
	fluazifop-p-butyl	125	EC	250	G A/HA	post 2	C														
	metribuzin	75	DF	150	G A/HA	post 3	D														
	metribuzin	75	DF	150	G A/HA	post 4	E														
LSD (P=.05)								19.3	12.5	8.2	20.5	9.0	13.5	6.5							
Standard Deviation								13.5	8.7	5.7	14.4	6.3	9.5	4.6							
CV								16.9	11.27	6.69	21.14	7.29	11.51	5.08							

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: T001A1

Weed Code	AMBEL	CAPBP	CHEAL	SOLPT	SETVI		
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated						RED	GREEN
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD	YIELD
Rating Unit	%	%	%	%	%	T/HA	T/HA
Rating Date	Aug-13-01	Aug-13-01	Aug-13-01	Aug-13-01	Aug-13-01	Aug-29-01	Aug-29-01
Crop Stage	16-20 LF	16-20 LF	16-20 LF	16-20 LF	16-20 LF	WEEDY	WEEDY
Crop Stage Scale	50 CM	50 CM	50 CM	50 CM	50 CM		
Weed Stage	20 LF	13 LF	18 LF	9 LF	15 LF		
Weed Density, Unit	6.5 SQ.M	4 SQ.M	74.5SQ.M	2.5 SQ.M	3.5 SQ.M		
Trt-Eval Interval	70 DAE	70 DAE	70 DAE	70 DAE	70 DAE		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	Untreated Check							0	f	0	c	0	e	0	e	0
2	trifluralin	480	EC	1105	G A/HA	ppi	A	60	de	8	c	70	c	71	b	96
3	s-metolachlor	915	EC	1600	G A/HA	ppi	A	65	cde	89	b	16	d	89	a	100
4	metribuzin	75	DF	700	G A/HA	ppi	A	97	ab	100	a	98	a	50	c	93
5	trifluralin	480	EC	1105	G A/HA	ppi	A	96	ab	100	a	94	ab	55	c	100
	metribuzin	75	DF	700	G A/HA	ppi	A									
6	s-metolachlor	915	EC	1600	G A/HA	ppi	A	99	ab	100	a	99	a	94	a	100
	metribuzin	75	DF	700	G A/HA	ppi	A									
7	trifluralin	480	EC	1008	G A/HA	ppi	A	88	abc	100	a	96	a	94	a	95
	s-metolachlor	915	EC	1260	G A/HA	ppi	A									
	metribuzin	75	DF	500	G A/HA	ppi	A									
8	s-metolachlor	915	EC	1140	G A/HA	ppi	A	54	e	100	a	99	a	91	a	99
	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									
9	s-metolachlor	915	EC	1140	G A/HA	ppi	A	99	a	100	a	100	a	93	a	100
	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									
10	metribuzin	75	DF	150	G A/HA	post 1	B	75	b-e	95	ab	95	a	35	d	81
	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	metribuzin	75	DF	150	G A/HA	post 1	B	78	a-d	98	a	89	ab	34	d	81
	metribuzin	75	DF	150	G A/HA	post 2	C									
	rimsulfuron	25	DF	15	G A/HA	post 2	C									
	Agral 90		SO	0.200	% V/V	post 2	C									
	metribuzin	75	DF	150	G A/HA	post 3	D									
	metribuzin	75	DF	150	G A/HA	post 4	E									
12	metribuzin	75	DF	150	G A/HA	post 1	B	85	abc	100	a	98	a	34	d	73
	metribuzin	75	DF	150	G A/HA	post 2	C									
	thifensulfuron-methyl	75	DF	6	G A/HA	post 2	C									
	Agral 90		SO	0.200	% 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									
13	metribuzin	75	DF	150	G A/HA	post 1	B	84	a-d	88	b	80	bc	44	cd	96
	metribuzin	75	DF	150	G A/HA	post 2	C									
	fluazifop-p-butyl	125	EC	250	G A/HA	post 2	C									
	metribuzin	75	DF	150	G A/HA	post 3	D									
	metribuzin	75	DF	150	G A/HA	post 4	E									
LSD (P=.05)								23.9	8.5	13.9	12.5	10.8	9.00	4.08		
Standard Deviation								16.7	6.0	9.8	8.8	7.6	6.30	2.85		
CV								22.22	7.23	12.26	14.56	8.85	31.09	36.67		

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: T001A1

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																

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code												
1	Untreated Check							1.6	c	5.3	e	23.1	c	8.5	c	3.0	a	31.6	c
2	trifluralin	480	EC	1105	G A/HA	ppi	A	3.0	bc	17.4	d	29.6	abc	10.9	abc	3.6	a	40.5	abc
3	s-metolachlor	915	EC	1600	G A/HA	ppi	A	2.4	c	18.7	cd	25.1	bc	12.2	ab	3.2	a	37.2	abc
4	metribuzin	75	DF	700	G A/HA	ppi	A	3.7	bc	35.3	ab	26.7	abc	12.8	a	5.2	a	39.5	abc
5	trifluralin	480	EC	1105	G A/HA	ppi	A	5.6	ab	24.9	bcd	22.9	c	10.9	abc	4.8	a	33.7	c
	metribuzin	75	DF	700	G A/HA	ppi	A												
6	s-metolachlor	915	EC	1600	G A/HA	ppi	A	5.6	ab	29.0	abc	23.6	c	12.3	ab	4.4	a	36.0	bc
	metribuzin	75	DF	700	G A/HA	ppi	A												
7	trifluralin	480	EC	1008	G A/HA	ppi	A	3.8	bc	34.3	ab	27.1	abc	10.9	abc	4.7	a	38.0	abc
	s-metolachlor	915	EC	1260	G A/HA	ppi	A												
	metribuzin	75	DF	500	G A/HA	ppi	A												
8	s-metolachlor	915	EC	1140	G A/HA	ppi	A	2.7	c	35.3	ab	28.3	abc	12.6	ab	3.0	a	40.9	abc
	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												
9	s-metolachlor	915	EC	1140	G A/HA	ppi	A	6.6	a	32.0	ab	26.4	abc	10.0	bc	4.2	a	36.4	bc
	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												
10	metribuzin	75	DF	150	G A/HA	post 1	B	3.5	bc	32.7	ab	26.0	abc	10.8	abc	3.8	a	36.8	abc
	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	metribuzin	75	DF	150	G A/HA	post 1	B	3.1	bc	32.8	ab	35.2	ab	10.3	abc	2.8	a	45.5	ab
	metribuzin	75	DF	150	G A/HA	post 2	C												
	rimsulfuron	25	DF	15	G A/HA	post 2	C												
	Agral 90		SO	0.200	% V/V	post 2	C												
	metribuzin	75	DF	150	G A/HA	post 3	D												
	metribuzin	75	DF	150	G A/HA	post 4	E												
12	metribuzin	75	DF	150	G A/HA	post 1	B	4.1	abc	29.0	abc	25.6	bc	10.2	abc	4.4	a	35.8	bc
	metribuzin	75	DF	150	G A/HA	post 2	C												
	thifensulfuron-methyl	75	DF	6	G A/HA	post 2	C												
	Agral 90		SO	0.200	% 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												
13	metribuzin	75	DF	150	G A/HA	post 1	B	3.7	bc	37.8	a	36.4	a	10.4	abc	3.7	a	46.8	a
	metribuzin	75	DF	150	G A/HA	post 2	C												
	fluazifop-p-butyl	125	EC	250	G A/HA	post 2	C												
	metribuzin	75	DF	150	G A/HA	post 3	D												
	metribuzin	75	DF	150	G A/HA	post 4	E												
LSD (P=.05)								2.66		11.35		10.50		2.69		2.87		10.30	
Standard Deviation								1.86		7.95		7.35		1.88		2.01		7.21	
CV								48.87		28.33		26.82		17.14		51.49		18.78	

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

Trial Comments

Conclusions: One half of this trial was maintained weed-free to examine the effect of various weed management programs on visual injury and yield in processing tomatoes. The remaining half of the trial was not hand-weeded to test for weed control efficacy of each herbicide program.

There was no commercially significant visual injury in any of the treatments, including POST tank mix applications of metribuzin + rimsulfuron and metribuzin + thifensulfuron. Yields were greatly reduced in all treatments, including the check plots, likely as a result of the extended period without rainfall in June, July and August. Yields were greatest in the s-metolachlor + metribuzin (PPI) treatments, with a trend to increased yield when followed by sequential POST microrate applications of metribuzin.

Excellent season long control of AMBEL, CAPBP, CHEAL, SETVI, SOLPT and ABUTH was recorded in tank mixes of s-metolachlor and metribuzin (PPI), with and without sequential POST microrate applications of metribuzin.

WEED MANAGEMENT IN TOMATOES WITH CLOMAZONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: T001A2

CROP: LYPES (H9478). Planted: May-31-01, 29500 PL/HA, 5 CM Deep, 150 CM Row Width. Planting Method: TRANSPLANTED. Emerged On: May-31-01.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RC- Range E7.

Site Description: Soil Texture: SANDY LOAM. %OM: 3.76 %Sand: 64.6 %Silt: 17.2 %Clay: 18.2 pH: 6.3

APPLICATION DESCRIPTION

Application: A
 Date : May-30-01
 Time of Day: 8:30 PM
 Method : CO2 SPRAY
 Timing : PRE-T
 Placement : SOIL
 Air Temp. : 6.7 C
 % Humidity : 90
 Wind Speed : 0 KPH
 Dew Present: Y
 Soil Moist.: MOIST
 Cloud Cover: 50%
 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					AMARE	CAPBP	CHEAL	SOLPT	AMARE							
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES							
Part Rated																
Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL							
Rating Unit	%	%	%	%	%	%	%	%	%							
Rating Date	Jun-12-01	Jun-19-01	Jul-2-01	Jul-20-01	Jul-20-01	Jul-20-01	Jul-20-01	Jul-20-01	Aug-13-01							
Crop Stage	5-6 LF	7-9 LF	11-13 LF	12-14 LF	12-14 LF	12-14 LF	12-14 LF	12-14 LF	20-30 LF							
Crop Stage Scale	15-20 CM	16-22 CM	36-45 CM	50 CM	50 CM	50 CM	50 CM	50 CM	60 CM							
Weed Stage				15 LF	9 LF	14 LF	9 LF	18 LF								
Weed Density, Unit				13.5SQ.M	7.5 SQ.M	50 SQ.M	2.5 SQ.M	16.5SQ.M								
Trt-Eval Interval	7 DAE	14 DAE	28 DAE	42 DAE	42 DAE	42 DAE	42 DAE	70 DAE								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code									
1	Untreated Check							0	e 0	d 0	c 0	d 0	e 0	d 0	c	
2	clomazone	360	EC	120	G A/HA	pre-t	A	2	d 0	d 0	c 21	cd 47	d 21	d 56	c 44	ab
3	clomazone	360	EC	240	G A/HA	pre-t	A	2	d 0	d 0	c 24	c 69	c 45	c 64	bc 29	b
4	clomazone	360	EC	360	G A/HA	pre-t	A	4	c 1	cd 0	c 37	bc 73	bc 59	b 67	abc 49	ab
5	clomazone	360	EC	480	G A/HA	pre-t	A	5	c 1	c 0	c 55	ab 85	abc 72	ab 75	ab 43	ab
6	clomazone	360	EC	600	G A/HA	pre-t	A	6	b 4	b 1	ab 61	a 88	ab 78	a 78	ab 59	a
7	clomazone	360	EC	720	G A/HA	pre-t	A	8	a 6	a 1	bc 70	a 91	a 74	a 80	ab 63	a
8	clomazone	360	EC	840	G A/HA	pre-t	A	8	a 6	a 2	a 64	a 93	a 80	a 83	a 58	a
LSD (P=.05)								1.2	1.0	0.7	21.7	16.9	13.7	16.8	26.8	
Standard Deviation								0.8	0.7	0.4	14.8	11.5	9.3	11.5	18.2	
CV								19.41	29.34	109.51	35.65	16.9	17.31	18.2	42.48	

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

WEED MANAGEMENT IN TOMATOES WITH CLOMAZONE

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: T001A2

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code	CAPBP LYPES	CHEAL LYPES	SOLPT LYPES	LYPES RED	LYPES GREEN	LYPES ROT	LYPES RED+GR	
1	Untreated Check							0	d 0	d 0	c 28.9	a 12.4	ab 3.2	a 41.3	a
2	clomazone	360	EC	120	G A/HA	pre-t	A	66	bc 20	cd 63	b 28.0	a 9.7	b 3.0	a 37.7	a
3	clomazone	360	EC	240	G A/HA	pre-t	A	61	c 36	bc 71	ab 27.5	a 13.1	ab 4.3	a 40.5	a
4	clomazone	360	EC	360	G A/HA	pre-t	A	78	b 55	ab 66	ab 30.1	a 10.0	b 3.6	a 40.1	a
5	clomazone	360	EC	480	G A/HA	pre-t	A	73	bc 57	ab 74	a 31.3	a 12.1	ab 3.3	a 43.4	a
6	clomazone	360	EC	600	G A/HA	pre-t	A	96	a 69	a 71	ab 33.5	a 11.8	ab 2.6	a 45.3	a
7	clomazone	360	EC	720	G A/HA	pre-t	A	95	a 69	a 74	a 33.9	a 11.7	ab 2.8	a 45.6	a
8	clomazone	360	EC	840	G A/HA	pre-t	A	96	a 70	a 75	a 29.9	a 14.1	a 4.0	a 44.0	a
LSD (P=.05)								16.1	22.2	9.0	8.41	3.82	2.38	8.52	
Standard Deviation								10.9	15.1	6.1	5.72	2.60	1.62	5.79	
CV								15.5	32.08	9.87	18.81	21.9	48.13	13.71	

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

Trial Comments

Conclusions: One half of the trial was maintained weed free to examine the effect of clomazone rates of 0, 120, 240, 360, 480, 600, 720 and 840 g a.i. ha-1 on visual injury and yield in processing tomatoes. The other half of the trial was not hand-weeded to test for efficacy of clomazone.

There was no commercially significant injury at any of the rates tested, though early season injury was noted, which increased with clomazone rate. The plants outgrew most or all of the visual injury by the end of the growing season.

Clomazone provided good to excellent early season control of CHEAL, SOLPT and CAPBU, and fair control of AMARE, when applied preemergence at 840 g a.i. ha-1. Preemergence clomazone gave only fair season-long control of CHEAL and SOLPT, due to late-emerging individuals.

THIFENSULFURON-METHYL TOLERANCE EVALUATION IN PROCESSING TOMATOES

Trial ID: TO01C1 Study Dir.: KRISTEN MCNAUGHTON
 Location: RC - Range E7 Investigator: DARREN ROBINSON

GENERAL TRIAL INFORMATION

CROP AND WEED DESCRIPTION

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

Crop 1: LYPES Variety: VARIOUS
 Planting Date: May-31-01 Planting Method: TRANSPLANTED
 Rate: 29500 PL/HA Depth: 5 CM
 Row Spacing: 150 CM Emergence Date: May-31-01

SITE AND DESIGN

Plot Width, Unit: 2 M Plot Length, Unit: 40 M Reps: 4
 Tillage Type: CONVENTIONAL Study Design: SPLIT-PLOT

MAINTENANCE

Field Prep./Maintenance: COVER SPRAY OF METOLACHLOR (1200 G/HA) AND METRIBUZIN (375 G/HA)

SOIL DESCRIPTION

% Sand: 62.6 % OM: 3.53 Texture: SANDY LOAM
 % Silt: 19.7 pH: 6.3
 % Clay: 17.7

APPLICATION DESCRIPTION

A
 Application Date: Jun-21-01
 Time of Day: 6:00 AM
 Application Method: CO2 SPRAY
 Application Timing: POST
 Applic. Placement: FOLIAR
 Air Temp., Unit: 14.6 C
 % Relative Humidity: 91
 Wind Velocity, Unit: 2 KPH
 Dew Presence (Y/N): Y
 Soil Temp., Unit: 16 C
 Soil Moisture: MOIST
 % Cloud Cover: 40

APPLICATION EQUIPMENT

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

WEED STAGE AT EACH APPLICATION

A
 Weed 1 Code, Stage: ABUTH COT.
 Stage Scale: 0.5 CM
 Density, Unit: 1 SQ.M
 Weed 2 Code, Stage: AMARE 4 LF
 Stage Scale: 4.3 CM
 Density, Unit: 1.5 SQ.M
 Weed 3 Code, Stage: CHEAL 4 LF
 Stage Scale: 4.5 CM
 Density, Unit: 1 SQ.M
 Weed 4 Code, Stage: SETVI 2 LF
 Stage Scale: 8 CM
 Density, Unit: 1 SQ.M

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: LYPES
 Stage Scale: 8 LF
 Height, Unit: 17.3 CM

THIFENSULFURON-METHYL TOLERANCE EVALUATION IN PROCESSING TOMATOES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TOO1C1

Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated				5 PLNT	5 PLNT	RED	GREEN
Rating Data Type	INJURY	INJURY	INJURY	FRESH WT	DRY WT	YIELD	YIELD
Rating Unit	%	%	%	KG	KG	T/HA	T/HA
Rating Date	Jun-27-01	Jul-5-01	Jul-20-01	Aug-2-01			
Crop Stage	8-10 LF	12-14 LF	16-18 LF			WEEDFREE	WEEDFREE
Crop Stage Scale	18-24 CM	30-38 CM	45-55 CM				
Tri-Eval Interval	7 DAT	14 DAT	28 DAT	42 DAT			

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

Replicate 1	0	0	0	3.8	0.5	30.8	8.6
Replicate 2	0	0	0	3.9	0.5	29.7	8.7
Replicate 3	0	0	0	4.1	0.4	29.6	11.9
Replicate 4	0	0	0	3.7	0.4	22.5	11.1

TABLE OF A MEANS

1	Check					0a	0a	0a	3.9	0.5	25.6	10.1		
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	4.0	0.5	31.3	10.0
2	Agral 90		SO	0.100	% V/V	Post	A							
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	1b	1b	0a	3.7	0.4	27.6	10.1
3	Agral 90		SO	0.200	% V/V	Post	A							

LSD=	0	0	0	NS	NS	NS	NS
CV=	132	99	0	66	61	88	36

TABLE OF B MEANS

1	CC 337					0	0	0	3.5	0.5	23.0	11.7
2	H 9144					0	0	0	4.2	0.5	30.0	10.6
3	H 9314					0	0	0	3.8	0.5	24.8	9.6
4	H 9478					0	0	0	3.8	0.4	21.9	8.6
5	H 9492					0	0	0	3.2	0.5	22.8	10.5
6	H 9553					0	0	0	3.2	0.5	25.9	10.9
7	H 9909					2	2	1	4.5	0.5	32.1	9.2
8	N 1069					3	3	2	4.0	0.4	31.9	7.5
9	N 1082					0	0	0	3.7	0.3	29.6	8.5
10	N 1480E					0	0	0	4.1	0.5	28.8	9.3
11	N 1480L					0	0	0	3.9	0.5	26.2	10.8
12	N 1522					0	0	0	3.2	0.4	26.3	9.3
13	PETO 696					0	0	0	5.3	0.6	42.7	14.5

TABLE OF AB MEANS

1	Check					0a	0a	0a	3.8	0.5	19.9	12.0		
1	CC 337													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	4.2	0.5	27.4	11.2
2	Agral 90		SO	0.100	% V/V	Post	A							
1	CC 337													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	2.5	0.4	21.8	11.8
3	Agral 90		SO	0.200	% V/V	Post	A							
1	CC 337													
1	Check					0a	0a	0a	4.4	0.5	26.8	10.7		
2	H 9144													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	4.3	0.5	35.9	11.4
2	Agral 90		SO	0.100	% V/V	Post	A							
2	H 9144													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.8	0.4	27.5	9.8
3	Agral 90		SO	0.200	% V/V	Post	A							
2	H 9144													
1	Check					0a	0a	0a	4.1	0.5	22.7	10.7		
3	H 9314													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	4.1	0.5	27.6	8.1
2	Agral 90		SO	0.100	% V/V	Post	A							
3	H 9314													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.4	0.5	24.2	9.9
3	Agral 90		SO	0.200	% V/V	Post	A							
3	H 9314													
1	Check					0a	0a	0a	4.1	0.3	21.7	8.9		
4	H 9478													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	3.9	0.5	22.4	8.6
2	Agral 90		SO	0.100	% V/V	Post	A							
4	H 9478													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.5	0.4	21.4	8.2
3	Agral 90		SO	0.200	% V/V	Post	A							
4	H 9478													
1	Check					0a	0a	0a	3.3	0.5	21.3	10.5		
5	H 9492													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	3.2	0.4	20.9	11.0
2	Agral 90		SO	0.100	% V/V	Post	A							
5	H 9492													

THIFENSULFURON-METHYL TOLERANCE EVALUATION IN PROCESSING TOMATOES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TOO1C1

Crop Code		LYPES		LYPES		LYPES		LYPES		LYPES		LYPES		
Part Rated		INJURY		INJURY		INJURY		5 PLNT		5 PLNT		RED		
Rating Data Type		%		%		%		FRESH WT		DRY WT		YIELD		
Rating Unit		%		%		%		KG		KG		T/HA		
Rating Date		Jun-27-01		Jul-5-01		Jul-20-01		Aug-2-01						
Crop Stage		8-10 LF		12-14 LF		16-18 LF				WEEDFREE		WEEDFREE		
Crop Stage Scale		18-24 CM		30-38 CM		45-55 CM								
Trt-Eval Interval		7 DAT		14 DAT		28 DAT		42 DAT						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.1	0.4	26.2	10.1
3	Agral 90		SO	0.200	% V/V	Post	A							
5	H 9492													
1	Check							0a	0a	0a	3.0	0.4	24.0	10.8
6	H 9553													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	3.1	0.5	26.1	11.9
2	Agral 90		SO	0.100	% V/V	Post	A							
6	H 9553													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.5	0.4	27.7	10.1
3	Agral 90		SO	0.200	% V/V	Post	A							
6	H 9553													
1	Check							0a	0a	0a	4.9	0.5	25.2	8.0
7	H 9909													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2b	2b	1b	3.8	0.5	36.1	9.6
2	Agral 90		SO	0.100	% V/V	Post	A							
7	H 9909													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	4c	3c	1b	4.9	0.5	34.9	9.9
3	Agral 90		SO	0.200	% V/V	Post	A							
7	H 9909													
1	Check							0a	0a	0a	4.1	0.4	25.3	7.3
8	N 1069													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	3b	3b	1b	4.0	0.4	33.5	7.3
2	Agral 90		SO	0.100	% V/V	Post	A							
8	N 1069													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	6c	6c	4c	3.9	0.4	36.9	7.8
3	Agral 90		SO	0.200	% V/V	Post	A							
8	N 1069													
1	Check							0a	0a	0a	3.8	0.3	23.9	6.9
9	N 1082													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	3.5	0.3	33.6	8.1
2	Agral 90		SO	0.100	% V/V	Post	A							
9	N 1082													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.7	0.3	31.3	10.5
3	Agral 90		SO	0.200	% V/V	Post	A							
9	N 1082													
1	Check							0a	0a	0a	4.3	0.5	25.8	10.1
10	N 1480E													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	4.0	0.5	30.5	9.6
2	Agral 90		SO	0.100	% V/V	Post	A							
10	N 1480E													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	1b	1b	0a	4.1	0.4	30.0	8.1
3	Agral 90		SO	0.200	% V/V	Post	A							
10	N 1480E													
1	Check							0a	0a	0a	4.0	0.5	24.5	11.5
11	N 1480L													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	3.9	0.5	33.1	10.6
2	Agral 90		SO	0.100	% V/V	Post	A							
11	N 1480L													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	3.7	0.4	20.9	10.2
3	Agral 90		SO	0.200	% V/V	Post	A							
11	N 1480L													
1	Check							0a	0a	0a	2.8	0.4	26.9	9.6
12	N 1522													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	3.9	0.4	33.9	9.1
2	Agral 90		SO	0.100	% V/V	Post	A							
12	N 1522													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	2.9	0.4	18.1	9.2
3	Agral 90		SO	0.200	% V/V	Post	A							
12	N 1522													
1	Check							0a	0a	0a	4.0	0.5	44.5	14.4
13	PETO 696													
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	0a	0a	0a	6.3	0.6	45.4	13.0
2	Agral 90		SO	0.100	% V/V	Post	A							
13	PETO 696													
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	0a	0a	0a	5.5	0.6	38.1	16.0
3	Agral 90		SO	0.200	% V/V	Post	A							
13	PETO 696													
LSD=								0	0	0	NS	NS	NS	NS
CV=								80	86	71	26	21	41	27

THIFENSULFURON-METHYL TOLERANCE EVALUATION IN PROCESSING TOMATOES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TOO1C1

Crop Code		LYPES	LYPES
Part Rated		ROT	RED+GR
Rating Data Type		YIELD	YIELD
Rating Unit		T/HA	T/HA
Rating Date			
Crop Stage		WEEDFREE	WEEDFREE

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	12	13
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TABLE OF R MEANS

Replicate 1								4.0	39.5
Replicate 2								2.6	38.3
Replicate 3								3.5	41.5
Replicate 4								3.7	33.6

TABLE OF A MEANS

1	Check							3.9	35.7
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	3.1	41.2
2	Agral 90		SO	0.100	% V/V	Post	A		
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	3.3	37.7
3	Agral 90		SO	0.200	% V/V	Post	A		
								LSD=	NS
								CV=	54
									68

TABLE OF B MEANS

1	CC 337							3.5	34.7
2	H 9144							2.5	40.7
3	H 9314							2.7	34.4
4	H 9478							3.5	30.4
5	H 9492							3.0	33.4
6	H 9553							3.2	36.8
7	H 9909							3.1	41.3
8	N 1069							2.1	39.4
9	N 1082							2.5	38.1
10	N 1480E							5.2	38.0
11	N 1480L							4.2	36.9
12	N 1522							5.4	35.6
13	PETO 696							3.9	57.1

TABLE OF AB MEANS

1	Check							3.9	31.9
1	CC 337								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	3.2	38.7
2	Agral 90		SO	0.100	% V/V	Post	A		
1	CC 337								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	3.3	33.6
3	Agral 90		SO	0.200	% V/V	Post	A		
1	CC 337								
1	Check							3.6	37.5
2	H 9144								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.1	47.2
2	Agral 90		SO	0.100	% V/V	Post	A		
2	H 9144								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	2.0	37.3
3	Agral 90		SO	0.200	% V/V	Post	A		
2	H 9144								
1	Check							3.0	33.4
3	H 9314								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.3	35.7
2	Agral 90		SO	0.100	% V/V	Post	A		
3	H 9314								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	2.8	34.0
3	Agral 90		SO	0.200	% V/V	Post	A		
3	H 9314								
1	Check							4.0	30.6
4	H 9478								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.9	31.0
2	Agral 90		SO	0.100	% V/V	Post	A		
4	H 9478								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	3.5	29.7
3	Agral 90		SO	0.200	% V/V	Post	A		
4	H 9478								
1	Check							2.0	31.8
5	H 9492								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.8	31.9
2	Agral 90		SO	0.100	% V/V	Post	A		
5	H 9492								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	4.1	36.3
3	Agral 90		SO	0.200	% V/V	Post	A		
5	H 9492								

THIFENSULFURON-METHYL TOLERANCE EVALUATION IN PROCESSING TOMATOES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: TOO1C1

Crop Code LYPES LYPES
 Part Rated ROT RED+GR
 Rating Data Type YIELD YIELD
 Rating Unit T/HA T/HA
 Rating Date
 Crop Stage WEEDFREE WEEDFREE
 Crop Stage Scale

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	Check							3.5	34.8
6	H 9553								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	3.3	37.9
2	Agral 90		SO	0.100	% V/V	Post	A		
6	H 9553								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	2.6	37.8
3	Agral 90		SO	0.200	% V/V	Post	A		
6	H 9553								
1	Check							3.4	33.2
7	H 9909								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	4.1	45.8
2	Agral 90		SO	0.100	% V/V	Post	A		
7	H 9909								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	2.0	44.8
3	Agral 90		SO	0.200	% V/V	Post	A		
7	H 9909								
1	Check							3.0	32.6
8	N 1069								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.2	40.7
2	Agral 90		SO	0.100	% V/V	Post	A		
8	N 1069								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	1.1	44.7
3	Agral 90		SO	0.200	% V/V	Post	A		
8	N 1069								
1	Check							2.9	30.8
9	N 1082								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.4	41.8
2	Agral 90		SO	0.100	% V/V	Post	A		
9	N 1082								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	2.3	41.8
3	Agral 90		SO	0.200	% V/V	Post	A		
9	N 1082								
1	Check							7.1	35.9
10	N 1480E								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	4.5	40.1
2	Agral 90		SO	0.100	% V/V	Post	A		
10	N 1480E								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	3.9	38.1
3	Agral 90		SO	0.200	% V/V	Post	A		
10	N 1480E								
1	Check							4.9	36.0
11	N 1480L								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	3.2	43.7
2	Agral 90		SO	0.100	% V/V	Post	A		
11	N 1480L								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	4.5	31.1
3	Agral 90		SO	0.200	% V/V	Post	A		
11	N 1480L								
1	Check							5.4	36.6
12	N 1522								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	4.3	43.0
2	Agral 90		SO	0.100	% V/V	Post	A		
12	N 1522								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	6.5	27.3
3	Agral 90		SO	0.200	% V/V	Post	A		
12	N 1522								
1	Check							4.4	58.9
13	PETO 696								
2	Thifensulfuron-methyl	75	DF	6	G A/HA	Post	A	2.9	58.5
2	Agral 90		SO	0.100	% V/V	Post	A		
13	PETO 696								
3	Thifensulfuron-methyl	75	DF	12	G A/HA	Post	A	4.4	54.1
3	Agral 90		SO	0.200	% V/V	Post	A		
13	PETO 696								

LSD= NS NS
 CV= 53 30

Trial Comments:

Conclusions: This trial was maintained weed free to examine the effect of thifensulfuron-methyl on visual injury and yield of 13 processing tomato varieties: CC337, H9144, H9314, H9478, H9492, H9553, H9909, N1069, N1082, N1480E, N1480L, N1522, and PETO696.

There was no commercially significant visual injury, and no reduction in yield in any of the 13 varieties tested. H9909 and N1069 did show some visual injury, primarily leaf curling, but the plants outgrew this injury by the end of the growing season. Mid-season dry weights of five plants per treatment were not less at either rate of application compared to the untreated check. Application of thifensulfuron-methyl did not result in yield reductions for any of the varieties tested.

POSTEMERGENCE WEED CONTROL IN TOMATOES WITH RIMSULFURON AND THIFENSULFURON-METHYL TANKMIXES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: T001C2

CROP: LYPES (H9478). Planted: May-31-01, 29500 PL/HA, 5 CM Deep, 150 CM Row Width. Planting Method: TRANSPLANT. Emerged On: May-31-01.

Expt. Design: RANDOMIZED COMPLETE BLOCK. Reps: 4. Plot Size: 1.5 M x 40 M. Expt. Location: RC- Range E7.

Site Description: Soil Texture: SANDY LOAM. %OM: 3.76 %Sand: 64.6 %Silt: 17.2 %Clay: 18.2 pH: 6.3

APPLICATION DESCRIPTION				STAGE AT APPLICATION					
Application:	A	B	C	D	Application:	A	B	C	D
Date	Jun-14-01	Jun-28-01	Jul-11-01	Jul-26-01	Crop 1 LYPES				
Time of Day	9:50 PM	6:25 AM	8:45 PM	7:25 AM	Height	16 CM	26 CM	34 CM	41 CM
Method	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 1 ABUTH COT.		1 LF	4 LF	7 LF
Timing	POST A	POST B	POST C	POST D	Stg.Scale:	0.3 CM	1.8 CM	21 CM	31.3 CM
Placement	FOLIAR	FOLIAR	FOLIAR	FOLIAR	Density	8 SQ.M	3.5 SQ.M	2 SQ.M	2.5 SQ.M
Air Temp.	20.8 C	19.4 C	20 C	18 C	Weed 2 AMARE		6 LF	8 LF	12 LF
% Humidity	85	90	62	85	Stg.Scale:		6.3 CM	16 CM	30 CM
Wind Speed	2 KPH	0 KPH	0 KPH	4 KPH	Density		3 SQ.M	1.5 SQ.M	0.5 SQ.M
Dew Present	Y	Y	N	Y	Weed 3 CHEAL		5 LF	12 LF	19 LF
Soil Moist.	DRY	DRY	DRY	MOIST	Stg.Scale:		6.8 CM	25 CM	52.5 CM
Cloud Cover	0%	30%	50%	30%	Density		7.5 SQ.M	5 SQ.M	4 SQ.M
Equipment	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	Weed 4 SOLPT		6 LF	8 LF	10 LF
Pressure	207 kPa	207 kPa	207 kPa	207 kPa	Stg.Scale:		10 CM	17 CM	25 CM
Nozzle Type	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	Density		0.5 SQ.M	1.5 SQ.M	1.5 SQ.M
Nozzle Size	8002 XR	8002 XR	8002 XR	8002 XR					
Noz.Spacing	50 CM	50 CM	50 CM	50 CM					
Boom Length	1.5 M	1.5 M	1.5 M	1.5 M					
Boom Height	50 CM	50 CM	50 CM	50 CM					
Carrier	WATER	WATER	WATER	WATER					
Appl.Volume	200 L/HA	200 L/HA	200 L/HA	200 L/HA					
Propellant	CO2	CO2	CO2	CO2					

Weed Code									
Crop Code	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES	LYPES
Part Rated				RED	GREEN	ROT	RED+GR	RED	
Rating Data Type	INJURY	INJURY	INJURY	YIELD	YIELD	YIELD	YIELD	YIELD	
Rating Unit	%	%	%	T/HA	T/HA	T/HA	T/HA	T/HA	
Rating Date	Jul-5-01	Jul-11-01	Jul-27-01	Aug-30-01	Aug-30-01	Aug-30-01	Aug-30-01	Aug-30-01	
Crop Stage	10-13 LF	11-14 LF	16-18 LF	WEEDY	WEEDY	WEEDY	WEEDY	WEEDFREE	
Crop Stage Scale	25-33 CM	30-36 CM	32-45 CM						
Weed Stage									
Weed Density, Unit									
Trt-Eval Interval	7 DAT	14 DAT	28 DAT						

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	Untreated Check							0	a 0	a 0	b 24.7	a 8.0	a 5.2	a 32.7	a 22.7
2	rimsulfuron	25	DF	15	G A/HA	post B		0	a 0	a 0	b				b
	Agral 90		SO	0.200	% V/V	post B									28.0
3	thifensulfuron-methyl	75	DF	6	G A/HA	post B		0	a 0	a 0	b				28.0
	Agral 90		SO	0.200	% V/V	post B									ab
4	metribuzin	75	WG	150	G A/HA	post B		0	a 0	a 1	a				27.5
5	rimsulfuron	25	DF	15	G A/HA	post B		0	a 0	a 0	b				31.5
	thifensulfuron-methyl	75	DF	6	G A/HA	post B									a
	Agral 90		SO	0.200	% V/V	post B									
6	rimsulfuron	25	DF	15	G A/HA	post B		0	a 0	a 0	b 28.3	a 9.1	a 3.2	a 37.4	a 25.7
	metribuzin	75	WG	150	G A/HA	post B									ab
	Agral 90		SO	0.200	% V/V	post B									
7	thifensulfuron-methyl	75	DF	6	G A/HA	post B		0	a 0	a 0	b 28.1	a 8.4	a 3.3	a 36.4	a 25.0
	metribuzin	75	WG	150	G A/HA	post B									ab
	Agral 90		SO	0.200	% V/V	post B									
8	metribuzin	75	WG	150	G A/HA	post A		0	a 0	a 0	b				20.6
	metribuzin	75	WG	150	G A/HA	post B									b
	metribuzin	75	WG	150	G A/HA	post C									
	metribuzin	75	WG	150	G A/HA	post D									
	LSD (P=.05)							0.3	0.5	0.3	10.35	3.45	2.60	11.63	8.07
	Standard Deviation							0.2	0.3	0.2	5.98	1.99	1.50	6.72	5.49
	CV							565.69	261.86	326.6	22.14	23.43	38.78	18.92	21.01

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

POSTEMERGENCE WEED CONTROL IN TOMATOES WITH RIMSULFURON AND THIFENSULFURON-METHYL TANKMIXES

KRISTEN MCNAUGHTON, DARREN ROBINSON

Experiment ID: T001C2

Weed Code
 Crop Code LYPES LYPES LYPES
 Part Rated GREEN ROT RED+GR
 Rating Data Type YIELD YIELD YIELD
 Rating Unit T/HA T/HA T/HA
 Rating Date Aug-30-01 Aug-30-01 Aug-30-01
 Crop Stage WEEDFREE WEEDFREE WEEDFREE
 Crop Stage Scale
 Weed Stage
 Weed Density, Unit
 Trt-Eval Interval

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Untreated Check							10.2	ab	5.4	a	32.8	ab
2	rimsulfuron	25	DF	15	G A/HA	post	B	10.3	ab	3.8	ab	38.3	ab
	Agral 90		SO	0.200	% V/V	post	B						
3	thifensulfuron-methyl	75	DF	6	G A/HA	post	B	8.7	b	3.2	b	36.7	ab
	Agral 90		SO	0.200	% V/V	post	B						
4	metribuzin	75	WG	150	G A/HA	post	B	11.6	a	2.9	b	39.1	a
5	rimsulfuron	25	DF	15	G A/HA	post	B	8.7	b	3.2	b	40.2	a
	thifensulfuron-methyl	75	DF	6	G A/HA	post	B						
	Agral 90		SO	0.200	% V/V	post	B						
6	rimsulfuron	25	DF	15	G A/HA	post	B	11.6	a	3.2	b	37.2	ab
	metribuzin	75	WG	150	G A/HA	post	B						
	Agral 90		SO	0.200	% V/V	post	B						
7	thifensulfuron-methyl	75	DF	6	G A/HA	post	B	10.0	ab	2.8	b	35.0	ab
	metribuzin	75	WG	150	G A/HA	post	B						
	Agral 90		SO	0.200	% V/V	post	B						
8	metribuzin	75	WG	150	G A/HA	post	A	10.2	ab	4.5	ab	30.8	b
	metribuzin	75	WG	150	G A/HA	post	B						
	metribuzin	75	WG	150	G A/HA	post	C						
	metribuzin	75	WG	150	G A/HA	post	D						
LSD (P=.05)								2.01		1.82		8.01	
Standard Deviation								1.37		1.24		5.45	
CV								13.45		34.26		15.02	

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

Trial Comments

Conclusions: This trial was maintained weed free to test the effect of postemergence tankmixes of rimsulfuron and thifensulfuron following a pre-plant incorporated treatment of s-metolachlor and metribuzin on visual injury and yield of processing tomatoes.

Rimsulfuron, thifensulfuron-methyl, metribuzin, rimsulfuron + thifensulfuron-methyl, rimsulfuron + metribuzin, thifensulfuron-methyl + metribuzin, and metribuzin (4 sequential POST treatments) did not cause any visual injury to or yield reductions of processing tomatoes.