HORTICULTURAL REPORT

2006 WEED CONTROL RESEARCH ON FRUIT & VEGETABLE CROPS

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WEED CONTROL IN HORTICULTURAL CROPS - 2006
FORWARD

This report summarizes the results of weed control experiments on horticultural crops in Michigan in 2006. It is intended to inform industry and university research and extension colleagues of our current results.

We greatly appreciate the support for our weed control research and extension program from commodity groups, chemical companies, MSU Extension, and the Michigan Agricultural Experiment Station. The following companies and organizations provided financial support, chemicals, equipment, seeds, plants, or other support for our program:

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METHODS

Chemical Application

Herbicides were applied with a small plot sprayer using carbon dioxide as a source of pressure. Spray volumes are specified in each experiment. All herbicide rates are expressed as pounds of active ingredient per acre.

Visual Evaluations

In most instances, weed control ratings were made on individual weed species. General ratings for broad-leaved weeds and grasses were sometimes used in orchard studies or for late-season assessments.

Weed control and crop injury are rated on a 1 to 10 scale; 1 = no visible injury or reduction in growth; 10 = complete kill of plants. The ratings can be roughly translated into percentages as follows:

10 = 100% kill, all the plants are dead or none are visible.
9 = 90-100% kill or reduction in growth and stand.
8 = 80-90% kill or reduction in growth and stand.
7 = 70-80% kill or reduction in growth and stand.
This is a still commercially acceptable control.
6 = 60-70% kill or reduction in growth and stand.
5 = 50% kill or reduction in growth and stand.
4 = 30-40% kill or reduction in growth and stand.
3 = 20-30% reduction in growth and stand.
2 = 10-20% reduction in growth and stand.
1 = 0-10% reduction in growth, no obvious effect of herbicide.

Experimental Design and Statistical Analysis

Experiments were set up and analyzed in the program Agriculture Research Manager (ARM) version 7.1.1, from Gylling Data Management, Inc. (RR 4 405 Martin Boulevard, Brookings, SD 57006). Unless otherwise specified, the experiments were laid out as randomized complete blocks. The data were subjected to analysis of variance and the means were compared with the LSD test at the 5% level. Since data transformations were not used, the coefficient of variation for skewed ratings or weed densities may be misleading. In some instances, yields for weeded check plots may be low because of severe early weed competition. In these cases, it may be more desirable to compare new herbicides with standard treatments.

WEED LIST

Abbreviations for the common names of weeds correspond to those presented in the NCWSS proceedings volume 28 (1973), 143.

Abbr.	Common Name	Botanical Name
ANBG	annual bluegrass	*Poa annua* L.
BABR	bald brome (upright brome)	*Bromus racemosus* L.
BFTF	birdsfoot trefoil	*Lotus corniculatus* L.
BHPL	buckhorn plantain	*Plantago lanceolata* L.
BLDO	broadleaf dock	*Rumex obtusifolius* L.
BLME	black medic	*Medicago lupulina* L.
BRFB	British fleabane	*Inula britannica* L.
BRPL	broadleaf plantain	*Plantago major* L.
BSPL	blackseed plantain	*Plantago rugelii* Dcne.
BYGR	barnyardgrass	*Echinochloa crus-galli* (L.) Beauv.
CATH	Canada thistle	*Cirsium arvense* (L.) Scop.
CAWE	carpetweed	*Mollugo verticillata* L.
CLGC	clammy groundcherry	*Physalis heterophylla* Nees.
COBU	cocklebur	*Xanthium strumarium* L.
COCW	common chickweed	*Stellaria media* (L.) Cyrillo
COGR	common groundsel	*Senecio vulgaris* L.
COLQ	common lambsquarters	*Chenopodium album* L.
COMW	common milkweed	*Asclepias syriaca* L.
COPU	common purslane	*Portulaca oleracea* L.
CORW	common ragweed	*Ambrosia artemisiifolia* L.
CUDO	curly dock	*Rumex crispus* L.
CWBS	catchweed bedstraw	*Galium aparine* L.
DAND	dandelion	*Taraxacum officinale* Weber
DOBG	downy bromegrass	*Bromus tectorum* L.
EBNS	eastern black nightshade	*Solanum ptycanthum* Dun.
FAPA	fall panicum	*Panicum dichotomiflorum* Michx.
FIBW	field bindweed	*Convolvulus arvensis* L.
FIPA	field pansy	*Viola rafinesquii* Greene
FIPC	field pennycress	*Thlaspi arvense* L.
FISB	field sandbur	*Cenchrus incertus* M.A.Curtis
GIRW	giant ragweed	*Ambrosia trifida* L.
GOGR	goosegrass	*Eleusine indica* (L.) Gaertn.
GORO	goldenrod	*Solidago nemoralis* Ait.
GIFT	giant foxtail	*Setaria faberi* Hermm.
GRFT	green foxtail	*Setaria viridis* (L.) Beauv.
GFPW	greenflower pepperweed	*Lepidium densiflorum* Schmd.
HANS	hairy nightshade	*Solanum sarrachoides* Sendtner
HOAL	hoary alyssum	*Berteroa incana* (L.) DC.
HONE	horsenettle	*Solanum carolinense* L.
HOWE	horseweed (marestail)	*Conyza canadensis* (L.) Scop.
IRFB	Irish fleabane	*Inula salicina*
JIWE	jimsonweed	*Datura stramonium* L.
LACG	large crabgrass	*Digitaria sanguinalis* (L.) Scop
LATH	ladysthumb	*Polygonum persicaria* L.
MATA	marestail (horseweed)	*Conyza canadensis* (L.) Scop.
MAYC	marsh yellowcress	*Rorippa islandica* (Oeder) Barbs

WEED LIST

Abbr.	Common Name	Botanical Name
MECW	mouseear chickweed	*Cerastium vulgatum* L.
MECR	mouseear cress	*Arabidopsis thaliana*(L.) Heynh
MONO	monolepis	*Monolepis nuttaliane* Greene
MWCH	mayweed chamomile	*Anthemis cotula* L.
NLLQ	narrowleaf lambsquarters	*Chenopodium desiccatum* A. Nels
OEDA	oxeye daisy	*Chrysanthemum leucanthemum* L.
ORGR	orchardgrass	*Dactylis glomerata* L.
PAWE	pineappleweed	*Matricaria matricariodes* (Less)C.L.Porter
PESW	Pennsylvania smartweed	*Polygonum pennsylvanicum* L.
POIV	poison ivy	*Rhus radicans* L.
PRKW	prostrate knotweed	*Polygonum aviculare* L.
PRLE	prickly lettuce	*Lactuca serriola* L.
PRSP	prostrate spurge	*Euphorbia maculata* L.
PRPW	prostrate pigweed	*Amaranthus blitoides* S. Wats.
PUDN	purple deadnettle	*Lamium purpureum* L.
PUSW	purslane speedwell	*Veronica serpyllifolia* L.
PUVI	puncturevine	*Tribulus terrestris* L.
QUGR	quackgrass	*Agropyron repens* (L.) Beauv.
RECL	red clover	*Trifolium pratense* L.
REFE	red fescue	*Festuca rubra* L.
RESO	red sorrel	*Rumex acetosella* L.
ROFB	rough fleabane	*Erigeron strigosus* Muhl. ex Willd.
RRPW	redroot pigweed	*Amaranthus retroflexus* L.
RSFI	redstem filaree	*Erodium cicutarium* (L.) L'Hér. ex Ait.
RUTH	Russian thistle	*Salsola iberica* L.
SHPU	shepherdspurse	*Capsella bursa-pastoris* (L.) Medic.
SPKW	spotted knapweed	*Centaurea biebersteinii* DC.
STGR	stinkgrass	*Eragrostis cilianensis* (All.) E. Mosher
SWSW	swamp smartweed	*Polygonum coccineum* Muhl. ex Willd.
TAFE	tall fescue	*Festuca arundinacea* Schreb.
TLSW	thymeleaf sandwort	*Arenaria serpyllifolia* L.
TUPW	tumble pigweed	*Amaranthus albus* L.
VELE	velvetleaf	*Abutilon theophrasti* Medic.
VICR	Virginia creeper	*Parthenocissus quinquefolia* (L.) Planch.
VIPW	Virginia pepperweed	*Lepidium virginicum* L.
VOAS	volunteer asparagus	*Asparagus officinalis* L.
WESA	western salsify	*Tragopogon dubius* Scop.
WHCA	white campion	*Silene alba* (Mill.) E.H.L. Krause
WHCL	white clover	*Trifolium repens* L.
WIBW	wild buckwheat	*Polygonum convolvulus* L.
WICA	wild carrot	*Daucus carota* L.
WICH	wild chamomile	*Matricaria chamomilla* L.
WIGR	witchgrass	*Panicum capillare* L.
WIMU	wild mustard	*Sinapis arvensis* L.
WIRA	wild radish	*Raphanus raphanistrum* L.
WLDGRP	wild grape	*Vitis* sp.
WLDRASP	wild raspberry	*Rubus* sp.
YEFC	yellow fieldcress (kiek)	*Rorippa sylvestris* L.
YEFT	yellow foxtail	*Setaria glauca* (L.) Beauv.
YEHW	yellow hawkweed	*Hieracium caespitosum Dumort.*
YENS	yellow nutsedge	*Cyperus esculentus* L.
YERO	yellow rocket	*Barbarea vulgaris* R. Br.

CHEMICAL LIST

COMMON NAME	TRADE NAME	FORMULATION	MANUFACTURER
2,4-D	PCC 1133	2.5 L	UAP
2,4-D amine	Weedar 64	3.8 L	Nufarm Inc.
atrazine	Aatrex	4 L	Syngenta
atrazine	Aatrex	90 DF	Syngenta
bensulide	Prefar	4 EC	Gowan
bentazon	Basagran	4 L	Micro Flo
bromoxynil	Buctril	4 EC	Bayer CropScience
butafenacil	Inspire	0.8 L	Syngenta
carfentrazone	Aim	2.0 EC	FMC
chlorimuron-ethyl	Classic	25 WDG	DuPont
clethodim	Envoy	0.94 L	Valent
clethodim	Select	2 EC	Valent
clethodim	Select Max	0.97 EC	Valent
clethodim	V 10137	1 EC	Valent
clethodim	V 10139	1.6 EC	Valent
clethodim	V 10180	1.6 EC	Valent
clethodim	V 10181	1 EC	Valent
clomazone	Command	3 ME	FMC
clopyralid	Clopyr Ag	3 L	United Phosphorus
clopyralid	Stinger	3 EC	Dow Agrosciences
clopyralid 0.42 lb ai + MCPA 2.35 lb ai	Curtail M	2.7L	Dow Agrosciences
cloransulam-methyl	Firstrate	84 WDG	Dow Agrosciences
cycloate	Ro-Neet	6 EC	Helm Agro
DCPA	Dacthal	75 WP	Amvac Chemical
dicamba	Clarity	4 L	BASF
diclobenil	Casoron CS	1.38 CS	Chemtura
diclobenil	Casoron G	4 G	Chemtura
diflufenzopyr 21.4% + dicamba 55%	Distinct	76.4 WG	BASF
dimethenamid-p	Outlook	6 EC	BASF
diquat	Reglone	2 EC	Syngenta
diuron	Karmex	80 DF	DuPont
endothall	Desicate II	2 L	Cerexagri.
EPTC	Eptam	7 EC	Gowan
ethalfluralin	Curbit	3 EC	UAP
ethalfluralin 1.6 lb ai + clomazone 0.5 lb ai	Strategy	2.1 EC	UAP
ethofumesate	Nortron SC	4 SC	Bayer CropScience
fluazifop-P	Fusilade DX	2 EC	Syngenta
flucarbazone	Everest	70 WDG	Arysta
flufenacet	Define	60 DF	Bayer CropScience
flufenacet 24% + metribuzin 36%	Domain	60 DF	Bayer CropScience
flufenacet 54.4% + metribuzin 13.6%	Axiom	68 DF	Bayer CropScience
flumetsulam	Python	80 WDG	Dow Agrosciences
flumioxazin	Chateau	51 WDG	Valent

COMMON NAME	TRADE NAME	FORMULATION	MANUFACTURER
flumioxazin	SureGuard	51 WG	Valent
flumioxazin	Valor	51 WG	Valent
fluroxypyr	Starane	1.5 L	Dow Agrosciences
fomesafen	Reflex	2 EC	Syngenta
foramsulfuron	Option	35 WG	Bayer CropScience
glufosinate	Rely	1 L	Bayer CropScience
glufosinate	Liberty	1.67 EC	Bayer CropScience
glyphosate	Roundup WeatherMax	5.5 L	Monsanto
glyphosate	Touchdown	4 L	Syngenta
glyphosate	Roundup Original	4 L	Monsanto
glyphosate	Roundup Ultra	4 L	Monsanto
glyphosate	Roundup Ultramax	5 L	Monsanto
halosulfuron	Permit	75 WG	Gowan
halosulfuron	Sandea	75 WG	Gowan
hexazinone	Velpar ULV	75 SG	DuPont
imazamox	Raptor	1 AS	BASF
imazapic	Plateau	70 WG	BASF
imazethapyr	Pursuit	2 EC	BASF
imazosulfuron	V 10142	75 WDG	Valent
isoxaben	Gallery	75 DF	Dow Agrosciences
KIH-485	KIH-485	60 WG	Kumiai Chemical Co.
linuron	Lorox	50 DF	DuPont
mesotrione	Callisto	4 SC	Syngenta
metribuzin	Sencor	75 DF	Bayer CropScience
napropamide	Devrinol	50 DF	United Phosphorus
naptalam	Alanap	2 EC	Uniroyal
norflurazon	Solicam	80 DF	Syngenta
oryzalin	Surflan	4 AS	United Phosphorus
oxyfluorfen	Goal XL	2 L	Dow Agrosciences
oxyfluorfen	Goaltender	4 SC	Dow Agrosciences
paraquat	Firestorm	3 L	Chemtura
paraquat	Gramoxone Max	3 L	Syngenta
paraquat	Gramoxone Inteon	2 L	Syngenta
pendimethalin	Prowl	3.3 EC	BASF
pendimethalin	Prowl H2O	3.8 ACS	BASF
penoxsulam	Grasp SC	2 SC	Dow Agrosciences
phenmedipham	Spin-Aid	1.3 L	Bayer CropScience
phenmedipham 0.6 lb ai+ desmedipham 0.6 lb ai + ethofumesate 0.6 lb ai	Progress	1.8 L	Bayer CropScience
prometryn	Caparol	4 L	Syngenta
pronamide	Kerb	50 WP	Dow Agrosciences
pyraflufen-ethyl	PCC 1195	0.2 EC	UAP
pyrazon	Pyramin	68 DF	Micro Flo
pyridate	Tough	3.75 EC	
quizalofop p-ethyl	Assure II	0.88 EC	DuPont
quizalofop p-ethyl	Targa	0.88 EC	Gowan
rimsulfuron	Matrix	25 DF	DuPont
sethoxydim	Poast	1.53 EC	Micro Flo
sethoxydim	Poast Plus	1 EC	Micro Flo

COMMON NAME	TRADE NAME	FORMULATION	MANUFACTURER
simazine	Princep	90 DF	Syngenta
s-metolachlor	Dual Magnum	7.62 EC	Syngenta
s-metolachlor 2.68 lb ai + mesotrione 0.268 lb ai + atrazine 1.0 lb ai	Lumax	3.948 L	Syngenta
s-metolachlor 3.34 lb ai + mesotrione 0.33 lb ai	Camix	3.67 L	Syngenta
s-metolachlor II	Dual II Magnum	7.64 EC	Syngenta
sulfentrazone	Spartan	4 F	FMC
sulfentrazone	Spartan	75 DF	FMC
sulfosulfuron	Maverick	75 WG	Monsanto
terbacil	Sinbar	80 WP	DuPont
triclopyr	Garlon	3 SC	Dow Agrosciences
trifloxysulfuron	Envoke	75 WG	Syngenta
trifluralin	Treflan	4 EC	Dow Agrosciences
triallate	Far-Go	4 EC	Gowan
triflusulfuron	Upbeet	50 WDG	DuPont

ADJUVANTS

TRADE NAME	ABBREVIATION	DESCRIPTION	MANUFACTURER
Activator 90	NIS	nonionic surfactant	Loveland
ammonium nitrate		100% salt	
ammonium sulfate	AMS	spray grade fertilizer	
copper sulfate		100% salt	
Freeway		organosilicone surfactant	Loveland
Herbimax	COC	80% paraffin base petroleum oil 20% surfactant	Loveland
MSO		Methylated Seed Oil	Loveland
28% Nitrogen	UAN	28% urea ammonia nitrate solution	
Silwet L-77		organosilicone surfactant	Loveland
Sylgard 309		Organosilicone surfactant	DowCorning

ABBREVIATIONS USED IN THE REPORT

A = Acre
ai = Active Ingredient
Amt = Amount
ACS = Aqueous Capsule Suspension
AS = Aqueous Solution
ASPA = Asparagus
CEC = Cation Exchange Capacity
CS = Capsule Suspension
CV = Coefficient of Variability
DF = Dry Flowable
DS = Designator
EC = Emulsifiable Concentrate
F = Flowable
FORM = Formulation
FM = Formulation
FT = Distance in Feet
g / gr = Gram
GAL = Gallon
GPA = Gallons per acre
GROW STG = Growth Stage at time of application
HTRC = Horticulture Teaching and Research Station
IN = Inch
KG = Kilogram
L = Liquid
LPRE = Late PRE
LO = Low Odor
LSD = Least Significant Difference
LB = Pounds
ME = Microencapsulated
MKTBL = Marketable
MPH = Mile(s) per hour
MSU = Michigan State University
N = No
N/A = Not Applicable / Not Available
No. = Number
OM = Organic Matter
oz = Ounce
P = Probability
POH = Post harvest
PO1 = Postemergence 1
PO2 = Postemergence 2
POT = Post Transplant
PPI = Preplant Incorporated
PRE = Preemergence
PREC. = Precipitation (inches)
PRT = Pretransplant
PSI = Pounds per square inch
PT PR = Pint Product
QT = Quart
QT PR = Quart Product
RCBD = Randomized Complete Block Design
RH = Relative Humidity
REPS = Replication
SNBE = Snapbean
SP = Soluble Powder
STBE = Strawberry
SURF = Surface
T = Temperature
TRT = Treatment
UNMKTBL = Unmarketable
VOAS = Volunteer Asparagus
WDG = Water Dispersible Granule
WG = Water Soluble Granule
WP = Wettable Powder
WT = Weight
" = Inches
Y = Yes

TEMPERATURE AND PRECIPITATION DATA

MSU Horticulture Teaching and Research Center

Recorded at
MSU Horticulture Teaching and Research Center (HTRC)
East Lansing, Michigan
2006

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	48.0	41.7		**1**	68.1	51.3	0.04	**1**	78.3	60.5	
2	53.8	40.3	0.01	**2**	58.3	49.5	0.24	**2**	77.8	55.6	
3	54.1	35.4	0.19	**3**	75.4	48.5	0.01	**3**	74.0	50.6	0.07
4	44.2	28.2		**4**	66.8	45.8		**4**	76.5	47.6	
5	56.3	34.2		**5**	64.5	40.8		**5**	81.6	44.9	
6	61.1	33.7		**6**	57.9	36.5		**6**	82.0	48.9	
7	49.6	34.2	0.80	**7**	68.8	36.0		**7**	72.4	60.5	0.30
8	43.1	26.3		**8**	72.8	38.3		**8**	80.6	60.0	
9	54.2	24.9		**9**	73.6	48.1		**9**	72.1	54.7	
10	64.4	30.1		**10**	75.1	54.4	0.94	**10**	68.2	49.6	
11	74.0	40.7		**11**	60.3	40.0	0.93	**11**	69.0	41.3	
12	65.6	47.4	0.28	**12**	44.3	38.3	0.19	**12**	71.0	43.6	
13	73.0	45.7		**13**	N/A	41.4	0.19	**13**	75.3	48.1	
14	79.9	51.4	0.21	**14**	N/A	N/A	N/A	**14**	77.8	50.8	
15	69.0	47.5		**15**	N/A	N/A	N/A	**15**	80.9	47.1	
16	58.0	40.9		**16**	65.8	51.4	0.15	**16**	87.4	60.6	
17	59.5	36.0		**17**	69.8	46.5		**17**	90.3	62.5	
18	66.5	35.3		**18**	54.2	40.9	0.10	**18**	78.7	67.0	1.50
19	71.7	40.2		**19**	61.9	41.5	0.24	**19**	83.1	64.9	0.01
20	73.4	39.9		**20**	67.3	38.9		**20**	77.3	55.7	
21	76.0	45.8		**21**	55.1	38.1	0.11	**21**	78.9	58.5	0.84
22	67.8	39.9		**22**	60.3	36.2		**22**	79.9	62.0	
23	54.7	41.3	0.13	**23**	70.1	33.1		**23**	74.2	57.2	
24	67.9	45.8		**24**	75.5	39.3		**24**	78.2	49.1	
25	57.3	31.0		**25**	80.1	56.1	0.32	**25**	78.5	52.8	
26	62.6	25.5		**26**	76.4	60.0	0.26	**26**	82.7	55.1	
27	61.2	36.5		**27**	83.7	54.4		**27**	80.6	60.0	
28	62.5	31.6		**28**	89.9	64.6		**28**	78.7	54.5	0.07
29	65.9	37.6		**29**	92.4	67.5		**29**	7.7	53.6	
30	66.0	50.3		**30**	86.1	65.7	0.64	**30**	79.7	50.7	
				31	81.3	63.6					

TEMPERATURE AND PRECIPITATION DATA

MSU Horticulture Teaching and Research Center

Recorded at
MSU Horticulture Teaching and Research Center (HTRC)
East Lansing, Michigan
2006

JULY				AUGUST				SEPTEMBER			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. In.
1	87.5	53.7		**1**	94.7	77.6		**1**	72.1	54.8	
2	80.6	68.2		**2**	92.7	71.7	0.12	**2**	71.0	53.1	
3	79.3	64.1		**3**	76.5	61.4	1.23	**3**	74.7	49.5	
4	82.1	62.0	0.11	**4**	85.3	58.0		**4**	78.0	49.0	
5	73.9	48.3		**5**	81.3	56.8		**5**	76.4	52.4	0.59
6	77.0	49.0		**6**	82.6	59.6		**6**	78.7	54.4	
7	81.2	49.3		**7**	84.5	67.2		**7**	79.9	60.9	
8	81.0	53.2		**8**	79.0	58.0		**8**	81.2	58.0	
9	83.2	67.0		**9**	80.9	56.7		**9**	65.7	54.2	0.06
10	80.2	62.0	0.17	**10**	80.8	60.8		**10**	59.5	52.4	
11	79.4	62.3	0.90	**11**	72.9	55.1		**11**	64.0	49.6	0.37
12	80.4	65.5	0.04	**12**	78.4	45.2		**12**	66.6	56.2	0.38
13	86.3	59.5		**13**	80.3	47.8		**13**	68.4	61.4	0.26
14	83.6	60.1		**14**	80.1	58.0		**14**	69.9	55.1	0.23
15	91.2	66.8		**15**	80.3	55.0		**15**	73.2	49.0	
16	91.0	62.8		**16**	81.5	48.5		**16**	74.0	48.3	
17	90.4	65.4	0.57	**17**	82.5	57.3		**17**	80.2	56.7	
18	81.6	62.3	0.22	**18**	81.8	65.0	0.01	**18**	72.1	57.1	0.06
19	83.8	57.3		**19**	79.4	66.2	0.23	**19**	59.6	48.1	0.01
20	82.0	68.2		**20**	77.1	56.5		**20**	60.2	40.0	0.01
21	77.8	62.1		**21**	79.5	50.5		**21**	66.3	36.8	
22	78.2	61.0		**22**	83.3	53.5		**22**	62.5	49.2	0.37
23	78.9	53.0		**23**	82.1	49.5		**23**	72.0	59.2	0.24
24	84.9	53.3		**24**	74.4	60.4	0.80	**24**	61.6	42.9	0.18
25	83.1	68.8	0.01	**25**	80.4	63.8		**25**	67.9	39.8	
26	80.6	70.2	0.07	**26**	82.1	68.0	0.29	**26**	68.4	38.4	
27	86.9	65.5	0.87	**27**	75.2	62.3		**27**	70.2	48.6	0.01
28	84.9	65.9	0.01	**28**	71.0	61.0	0.75	**28**	56.7	42.2	0.02
29	89.7	66.9		**29**	75.2	61.3	0.21	**29**	55.9	32.2	
30	85.2	67.5	0.19	**30**	72.0	55.4		**30**	57.6	45.5	0.15
31	94.6	68.7		**31**	72.9	51.8					

TEMPERATURE AND PRECIPITATION DATA

MSU Muck Research Station

Recorded at
MSU Muck Research Station (Muck Farm)
Laingsburg, Michigan
2006

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	47.2	42.1		**1**	69.1	52.5	0.02	**1**	79.0	60.6	
2	53.7	40.2	0.01	**2**	60.6	53.4	0.35	**2**	79.2	53.3	0.14
3	56.3	35.4	0.20	**3**	77.4	55.1		**3**	72.9	46.7	0.28
4	42.5	26.8		**4**	67.9	42.3		**4**	75.9	44.4	
5	55.4	34.1		**5**	65.1	37.3		**5**	82.2	40.3	
6	60.1	29.1		**6**	58.2	34.1		**6**	83.6	45.3	
7	49.6	34.4	0.75	**7**	70.7	34.0		**7**	72.8	60.7	0.32
8	43.6	26.3		**8**	74.4	33.1		**8**	82.0	54.4	
9	54.4	23.6		**9**	74.8	50.1		**9**	73.0	53.5	
10	64.0	27.9		**10**	75.6	55.8	0.80	**10**	69.2	46.1	
11	73.2	43.0		**11**	61.4	41.3	0.95	**11**	70.1	36.0	
12	66.4	43.6	0.30	**12**	45.4	38.9	0.23	**12**	70.6	39.6	
13	72.0	40.6		**13**	53.6	42.3	0.12	**13**	75.5	45.0	
14	80.7	52.1	0.23	**14**	59.2	47.1	0.52	**14**	77.5	46.4	
15	69.5	39.7		**15**	59.4	49.0	0.26	**15**	81.3	42.1	
16	58.9	37.2		**16**	66.1	49.5	0.17	**16**	88.0	60.6	
17	58.9	34.8		**17**	68.6	46.6	0.07	**17**	92.0	63.9	
18	67.5	29.3		**18**	52.6	41.4	0.11	**18**	80.4	67.6	0.79
19	72.7	31.4		**19**	60.6	38.6	0.25	**19**	82.7	61.9	
20	74.1	33.1		**20**	67.7	34.4	0.02	**20**	76.6	53.5	
21	76.7	39.7		**21**	53.7	36.4	0.10	**21**	77.0	56.8	1.38
22	67.5	33.8		**22**	60.6	32.8		**22**	80.2	60.1	
23	52.7	38.1	0.17	**23**	71.1	29.3		**23**	73.4	53.5	
24	68.2	46.1		**24**	77.0	35.7	0.37	**24**	76.4	44.4	
25	58.5	26.8	0.01	**25**	79.3	56.8	0.31	**25**	77.8	49.9	
26	63.8	20.2		**26**	77.5	59.4	0.13	**26**	83.3	49.7	
27	61.4	30.4		**27**	83.6	52.4		**27**	81.0	58.5	
28	63.4	26.4		**28**	90.4	66.2		**28**	79.8	51.9	0.02
29	67.4	32.8		**29**	92.4	63.9		**29**	78.9	50.1	
30	68.3	51.4		**30**	84.8	64.0	0.72	**30**	81.5	48.2	
				31	81.2	62.7					

TEMPERATURE AND PRECIPITATION DATA

MSU Muck Research Station

Recorded at
MSU Muck Research Station (Muck Farm)
Laingsburg, Michigan
2006

	JULY				AUGUST				SEPTEMBER		
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	89.3	49.6		**1**	95.2	78.5		**1**	72.6	52.8	
2	83.3	65.8		**2**	93.3	72.1	0.94	**2**	73.0	48.7	
3	81.2	57.2		**3**	76.9	61.3	0.99	**3**	75.1	45.5	
4	82.1	55.5	0.18	**4**	85.4	56.8		**4**	79.4	46.1	
5	74.5	43.8		**5**	81.5	55.2		**5**	76.7	47.1	
6	76.9	42.7		**6**	82.6	59.5		**6**	79.5	54.3	
7	83.4	45.3		**7**	83.2	64.7		**7**	79.9	48.1	
8	82.7	48.9		**8**	80.0	53.3		**8**	82.3	54.6	0.03
9	85.3	65.3	0.01	**9**	80.7	53.5		**9**	64.5	54.3	0.15
10	80.0	59.0	0.06	**10**	81.1	60.0	0.02	**10**	60.0	51.7	
11	80.6	57.6	1.21	**11**	73.0	50.7		**11**	63.2	49.6	0.50
12	80.5	63.4	0.17	**12**	79.3	41.6		**12**	68.1	56.3	0.28
13	87.0	56.3		**13**	81.7	45.0		**13**	67.5	61.0	0.37
14	82.5	57.1	0.02	**14**	81.2	55.1		**14**	69.3	54.0	0.16
15	91.9	61.6		**15**	80.4	52.0		**15**	72.4	45.8	0.01
16	92.0	59.5		**16**	81.7	44.6		**16**	74.4	44.8	
17	91.6	65.9	0.78	**17**	82.3	52.9		**17**	80.4	57.1	
18	80.5	57.7	0.15	**18**	78.8	65.6	0.02	**18**	72.8	57.2	0.06
19	83.3	51.3		**19**	79.8	64.2	0.08	**19**	60.2	48.3	0.04
20	82.0	67.3		**20**	79.1	53.7		**20**	59.2	38.1	
21	76.9	55.8		**21**	80.0	47.2		**21**	66.5	33.4	
22	78.9	56.0		**22**	83.6	52.1		**22**	62.8	50.3	0.27
23	78.6	48.7		**23**	82.0	45.8		**23**	71.8	58.8	0.28
24	85.8	50.6		**24**	74.0	56.8	0.62	**24**	61.6	39.6	0.03
25	84.1	70.5	0.01	**25**	81.4	63.3		**25**	66.8	35.1	
26	79.8	66.5	0.82	**26**	82.8	64.7	0.15	**26**	66.9	33.4	
27	85.7	63.9	3.36	**27**	76.1	61.0		**27**	68.8	47.5	0.06
28	85.1	64.7		**28**	72.6	59.6	0.28	**28**	57.2	35.7	
29	89.5	63.5		**29**	75.8	62.8	0.05	**29**	55.7	28.6	
30	84.8	65.1	0.32	**30**	72.2	54.1		**30**	58.0	40.3	0.07
31	94.6	67.5		**31**	73.5	48.3					

TEMPERATURE AND PRECIPITATION DATA

MSU Clarksville Horticulture Research Station

Recorded at
MSU Clarksville Horticulture Research Station (Clarksville)
Clarksville, Michigan
2006

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	46.9	40.2	0.01	**1**	65.3	51.5	0.11	**1**	80.5	60.8	
2	51.1	39.9	0.13	**2**	56.8	48.7	0.55	**2**	76.5	55.0	0.05
3	55.1	33.3	0.32	**3**	75.8	46.1	0.01	**3**	73.3	50.5	0.29
4	42.3	26.6		**4**	63.8	46.2		**4**	77.4	49.1	0.01
5	56.0	31.6		**5**	62.9	43.3		**5**	81.0	48.6	
6	62.5	36.5		**6**	59.2	33.1		**6**	78.6	50.2	0.01
7	53.7	31.3	0.82	**7**	69.4	35.7		**7**	73.8	59.7	0.61
8	45.9	23.8		**8**	73.3	41.9		**8**	80.4	57.4	0.01
9	54.0	24.4		**9**	74.8	49.1		**9**	72.8	53.3	
10	64.5	32.5		**10**	74.6	56.6	0.14	**10**	68.9	49.1	
11	73.5	41.1		**11**	56.6	36.7	1.19	**11**	69.1	42.0	
12	65.0	51.2	0.20	**12**	42.9	34.4	0.22	**12**	72.2	46.0	
13	70.2	47.3		**13**	49.7	39.6	0.04	**13**	74.7	50.3	
14	79.2	51.5	0.14	**14**	58.3	43.8	0.33	**14**	77.4	51.7	
15	71.3	42.8		**15**	59.8	48.6		**15**	80.1	65.9	
16	59.7	41.5		**16**	68.3	47.6	0.08	**16**	85.3	63.8	
17	57.9	36.5		**17**	68.9	44.6		**17**	89.1	68.3	
18	67.0	34.5		**18**	50.6	40.6	0.20	**18**	78.7	65.0	0.58
19	72.9	39.3		**19**	61.8	40.8	0.05	**19**	80.1	63.2	
20	73.5	44.9		**20**	67.6	37.2	0.05	**20**	76.4	54.3	
21	71.1	45.2		**21**	52.6	37.7	0.05	**21**	81.6	59.1	0.01
22	67.7	40.7		**22**	60.9	33.7		**22**	77.5	61.5	
23	51.1	39.1	0.02	**23**	69.6	35.0		**23**	76.4	56.9	
24	66.6	40.7		**24**	74.6	44.6		**24**	78.7	51.4	
25	56.0	31.6		**25**	78.8	56.7		**25**	72.7	55.6	
26	60.7	27.1		**26**	79.6	60.1		**26**	80.2	57.8	
27	64.9	37.7		**27**	84.7	52.9		**27**	78.6	57.8	
28	62.7	31.9		**28**	91.7	65.5		**28**	76.1	55.1	
29	66.1	38.2		**29**	92.4	66.8		**29**	77.7	52.5	
30	61.8	51.4		**30**	88.8	63.7	1.25	**30**	80.0	53.7	
				31	78.6	64.3	0.11				

TEMPERATURE AND PRECIPITATION DATA

MSU Clarksville Horticulture Research Station

Recorded at
MSU Clarksville Horticulture Research Station (Clarksville)
Clarksville, Michigan
2006

JULY				AUGUST				SEPTEMBER			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. In.
1	89.3	54.9		**1**	92.1	75.8		**1**	71.2	54.4	
2	80.5	66.3	0.40	**2**	91.7	75.4		**2**	75.8	54.3	
3	80.5	63.7		**3**	76.2	64.4	0.54	**3**	75.6	47.1	
4	80.6	59.2		**4**	84.0	58.5		**4**	79.5	49.1	
5	74.9	47.9		**5**	82.2	57.9		**5**	75.9	54.6	0.01
6	77.8	51.0		**6**	81.7	61.7		**6**	79.3	55.9	0.02
7	81.9	52.2		**7**	82.5	63.7		**7**	80.6	49.9	0.01
8	82.4	56.8		**8**	81.0	54.4		**8**	82.2	59.0	0.02
9	84.1	67.5	0.02	**9**	82.5	56.5		**9**	63.5	53.2	0.03
10	79.6	59.0		**10**	81.9	63.1		**10**	60.4	51.0	
11	79.3	61.2	1.11	**11**	74.1	54.5		**11**	57.7	48.3	0.71
12	83.0	66.3	0.14	**12**	79.4	48.3		**12**	N/A	N/A	N/A
13	86.9	60.2		**13**	80.6	51.7		**13**	64.1	59.6	0.03
14	82.3	62.6		**14**	82.1	59.7		**14**	69.5	57.4	0.02
15	91.3	66.7		**15**	80.1	55.9		**15**	76.5	51.1	0.01
16	90.4	66.3		**16**	81.0	47.6		**16**	74.9	48.9	
17	91.6	64.0	0.87	**17**	82.9	56.5	0.03	**17**	79.3	56.6	
18	81.6	62.0	0.06	**18**	84.0	65.6		**18**	71.5	56.4	0.13
19	84.0	59.0		**19**	81.5	61.5	0.02	**19**	57.6	47.6	0.10
20	80.9	69.4	0.08	**20**	79.6	53.4		**20**	58.0	40.7	
21	75.8	59.0		**21**	80.8	51.1		**21**	66.1	40.2	
22	78.7	59.5		**22**	84.2	57.1		**22**	61.7	51.4	0.68
23	78.0	54.2		**23**	81.1	49.9		**23**	70.8	55.8	0.98
24	85.5	55.4		**24**	75.7	60.2	0.12	**24**	59.2	41.7	0.14
25	85.8	68.3	0.03	**25**	82.2	63.6		**25**	66.2	40.5	
26	76.7	69.3	0.25	**26**	83.2	65.5	0.01	**26**	66.7	41.3	
27	85.8	66.5	0.87	**27**	81.0	64.1		**27**	64.4	46.6	0.09
28	84.7	66.6	0.02	**28**	72.4	62.4	0.28	**28**	57.9	39.1	
29	89.3	67.9		**29**	77.6	60.3	0.23	**29**	53.7	33.4	0.03
30	82.3	66.9	0.23	**30**	74.7	54.4	0.01	**30**	60.2	46.1	0.18
31	93.3	71.8		**31**	74.8	50.3					

TEMPERATURE AND PRECIPITATION DATA

Fremont & Grant

Recorded at
City of Fremont
Fremont, Michigan
2006

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	43.6	39.4		**1**	64.9	52.3	0.19	**1**	81.3	55.6	
2	50.9	39.3	0.33	**2**	61.9	52.9	0.08	**2**	80.3	55.1	0.01
3	48.6	31.2	1.33	**3**	74.4	45.9		**3**	76.3	51.9	0.18
4	46.8	25.3		**4**	63.4	47.6		**4**	80.4	48.5	0.01
5	55.7	30.1		**5**	62.8	43.9		**5**	81.6	46.7	
6	61.4	37.1		**6**	61.0	30.5		**6**	78.0	44.2	0.27
7	54.1	28.6	1.08	**7**	65.9	32.8		**7**	74.2	59.8	0.96
8	47.5	24.9		**8**	73.8	40.0		**8**	82.7	57.4	
9	51.8	23.3		**9**	72.6	49.5		**9**	71.6	52.6	
10	62.5	30.1		**10**	74.3	58.0		**10**	70.2	43.4	
11	71.2	46.8		**11**	60.2	41.1	1.37	**11**	70.4	39.1	
12	64.8	51.3	0.41	**12**	45.1	36.4	0.51	**12**	72.1	44.7	
13	70.3	41.3		**13**	52.0	39.6	0.41	**13**	76.9	46.9	
14	77.3	51.8	0.37	**14**	54.9	45.0	0.25	**14**	78.1	49.2	
15	69.3	42.1		**15**	66.9	50.4		**15**	80.7	50.4	
16	62.3	44.0		**16**	69.7	48.6	0.03	**16**	85.1	62.6	
17	62.8	38.6		**17**	69.2	45.8	0.11	**17**	89.6	73.0	
18	66.8	36.7		**18**	48.1	41.6	0.06	**18**	80.6	62.8	0.35
19	73.1	41.2		**19**	60.4	40.7		**19**	78.9	60.4	
20	73.9	48.9		**20**	67.0	37.4	0.08	**20**	77.5	49.5	
21	67.0	39.8		**21**	51.6	37.2		**21**	79.1	60.2	0.45
22	62.3	40.7		**22**	60.0	30.2		**22**	78.1	63.2	
23	50.9	40.5	0.05	**23**	67.3	31.8		**23**	77.4	49.7	
24	66.8	37.5		**24**	73.9	40.9	0.08	**24**	79.2	49.3	
25	53.2	32.4	0.06	**25**	71.3	57.4		**25**	70.8	58.4	0.11
26	61.4	24.8		**26**	80.2	58.4		**26**	81.0	58.5	0.07
27	67.3	33.4		**27**	84.5	54.1		**27**	76.7	56.4	
28	63.4	31.6		**28**	86.9	67.5		**28**	74.0	53.5	
29	65.0	41.7		**29**	88.8	64.8		**29**	79.1	52.7	
30	60.2	52.2	0.04	**30**	85.8	64.0		**30**	79.1	51.6	
				31	73.1	59.6	0.19				

TEMPERATURE AND PRECIPITATION DATA

Fremont & Grant

Recorded at
City of Fremont
Fremont, Michigan
2006

JULY				AUGUST				SEPTEMBER			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. In.
1	83.7	51.9	0.07	**1**	90.7	78.4		**1**	73.7	N/A	
2	82.1	66.7	0.05	**2**	88.8	73.7		**2**	77.8	N/A	
3	82.0	62.6		**3**	83.2	62.2	0.56	**3**	78.7	48.0	
4	78.4	57.9	0.13	**4**	86.2	57.5		**4**	80.7	50.8	
5	76.0	47.9		**5**	82.7	56.3		**5**	78.4	55.5	0.02
6	81.1	48.9		**6**	81.5	64.0	0.01	**6**	81.4	52.0	0.13
7	80.8	48.3		**7**	81.5	63.4		**7**	78.9	56.2	0.01
8	80.3	52.4	0.01	**8**	82.1	53.0		**8**	80.9	57.8	0.02
9	83.6	66.1		**9**	79.7	77.6		**9**	63.2	51.8	0.16
10	74.6	54.7		**10**	79.5	77.2		**10**	63.2	N/A	0.02
11	79.2	55.0	1.79	**11**	76.0	56.1		**11**	54.4	N/A	1.12
12	88.4	65.7		**12**	78.3	74.9		**12**	63.6	N/A	0.51
13	89.0	63.6		**13**	78.5	74.9		**13**	66.9	N/A	0.12
14	81.6	65.7		**14**	77.5	76.2		**14**	72.7	N/A	
15	93.1	N/A		**15**	78.7	75.3		**15**	74.9	N/A	
16	89.9	63.3		**16**	84.8	47.5		**16**	74.0	N/A	
17	89.8	66.3	1.10	**17**	80.7	56.8		**17**	79.3	60.9	0.02
18	85.6	60.3	0.01	**18**	82.2	66.4		**18**	69.6	N/A	0.21
19	82.9	58.2		**19**	81.5	62.7	0.02	**19**	56.1	48.2	0.03
20	82.3	69.5	0.58	**20**	82.3	56.8		**20**	59.5	40.1	0.01
21	75.2	61.3		**21**	80.2	49.5		**21**	65.8	37.2	0.02
22	80.5	55.8		**22**	84.9	55.2		**22**	61.1	51.9	0.05
23	79.3	54.1		**23**	79.6	48.3		**23**	69.2	N/A	1.26
24	83.6	56.7	0.04	**24**	69.1	61.0	0.08	**24**	58.6	N/A	0.07
25	84.0	65.9	0.02	**25**	81.0	62.8	0.01	**25**	67.3	N/A	
26	79.2	70.2	0.39	**26**	82.5	N/A		**26**	66.3	N/A	
27	82.7	67.0	0.11	**27**	83.4	N/A	0.01	**27**	63.2	N/A	0.22
28	84.1	69.2		**28**	71.9	61.4	0.02	**28**	59.9	N/A	0.01
29	90.3	67.7		**29**	83.6	57.8	0.01	**29**	52.3	46.5	0.11
30	82.8	67.4	0.55	**30**	79.3	55.3		**30**	60.1	43.5	0.56
31	91.9	68.8		**31**	77.9	51.0					

TEMPERATURE AND PRECIPITATION DATA

Hart

Recorded at
Asparagus Research Farm
Hart, Michigan
2006

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	43.7	37.7		**1**	65.6	52.1	0.35	**1**	77.3	51.5	
2	50.4	38.6	0.41	**2**	61.5	48.2	0.01	**2**	78.1	51.0	
3	47.0	26.6	1.19	**3**	73.1	43.6	0.01	**3**	72.1	51.9	
4	45.8	25.8		**4**	63.5	45.4		**4**	74.8	45.1	
5	50.1	30.9		**5**	54.8	37.8		**5**	77.8	42.9	
6	61.5	33.1		**6**	55.2	27.0		**6**	77.1	48.6	0.32
7	53.0	27.2	0.71	**7**	66.3	37.1		**7**	70.6	54.3	0.08
8	41.4	23.1		**8**	71.4	43.8		**8**	76.4	49.2	
9	51.9	22.6		**9**	71.6	52.1	0.03	**9**	66.6	50.3	
10	61.7	33.0		**10**	72.1	53.2	0.12	**10**	65.9	39.1	
11	71.6	42.0		**11**	57.8	42.4	1.59	**11**	66.5	36.1	
12	66.6	48.3	0.15	**12**	45.4	35.9	0.24	**12**	66.8	41.6	
13	66.4	46.5		**13**	51.9	39.1	0.30	**13**	71.5	44.0	
14	75.7	51.8	0.18	**14**	57.8	46.1	0.26	**14**	74.3	47.1	
15	61.4	37.4		**15**	63.5	48.9		**15**	80.5	51.2	
16	63.5	45.2		**16**	66.6	43.3	0.02	**16**	83.6	67.1	
17	64.8	36.4		**17**	65.4	41.4	0.14	**17**	88.4	71.5	
18	67.9	36.4		**18**	48.4	42.3	0.02	**18**	81.0	62.8	1.97
19	75.3	43.0		**19**	58.6	36.5		**19**	77.0	62.3	
20	71.4	45.8	0.01	**20**	66.7	34.4	0.15	**20**	73.8	47.0	
21	66.3	40.3		**21**	51.9	36.4		**21**	79.1	61.5	0.32
22	57.7	43.9	0.10	**22**	57.2	27.6		**22**	79.4	59.8	
23	52.2	39.7	0.04	**23**	67.9	32.2		**23**	73.4	47.7	
24	66.4	34.9		**24**	73.6	45.7		**24**	77.3	47.6	
25	48.3	29.2	0.13	**25**	73.0	57.8		**25**	70.4	58.5	0.26
26	62.0	27.2		**26**	67.0	47.5		**26**	77.5	55.6	0.14
27	63.0	34.8		**27**	86.2	52.0		**27**	76.5	54.3	
28	65.4	31.6		**28**	85.7	65.3	0.08	**28**	70.6	52.0	0.21
29	66.6	43.4		**29**	87.9	69.4		**29**	75.3	51.2	
30	61.1	52.9	0.10	**30**	83.6	62.7	1.79	**30**	79.0	55.5	
				31	73.3	57.2	0.01				

TEMPERATURE AND PRECIPITATION DATA

Hart

Recorded at
Asparagus Research Farm
Hart, Michigan
2006

	JULY				AUGUST				SEPTEMBER		
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. In.
1	81.6	55.1	0.23	**1**	92.0	72.7	0.08	**1**	75.8	49.3	
2	82.4	65.5		**2**	86.9	67.9	0.39	**2**	77.2	51.3	
3	82.9	62.8		**3**	82.4	61.8	0.03	**3**	74.1	49.6	
4	75.5	59.1	0.13	**4**	86.0	60.2		**4**	77.6	50.8	
5	72.7	45.7		**5**	84.8	60.3		**5**	79.1	51.2	
6	77.7	49.3		**6**	82.6	65.2	0.01	**6**	79.5	49.9	
7	82.0	51.1		**7**	79.4	60.8		**7**	79.5	52.8	0.01
8	81.7	54.6		**8**	79.5	52.1		**8**	80.6	59.9	
9	84.7	62.4	0.18	**9**	82.6	55.5	0.12	**9**	61.6	51.3	0.22
10	68.9	53.3		**10**	84.5	63.8		**10**	63.9	45.1	
11	79.4	52.1	0.38	**11**	78.0	55.6		**11**	54.3	48.9	0.76
12	81.3	65.3		**12**	76.3	48.7		**12**	62.8	52.9	0.56
13	84.9	60.6		**13**	80.0	52.3		**13**	64.2	54.6	0.01
14	81.2	65.8		**14**	76.1	57.5	0.01	**14**	70.5	50.7	0.01
15	91.9	66.0		**15**	77.1	51.7		**15**	74.5	48.8	
16	91.8	66.6		**16**	81.5	50.0		**16**	74.9	55.5	
17	90.4	68.1	0.66	**17**	78.9	58.7		**17**	78.9	61.0	0.05
18	84.3	58.1		**18**	80.0	65.9		**18**	68.2	54.2	0.29
19	83.9	59.0		**19**	79.4	63.0		**19**	57.9	47.6	0.06
20	83.1	68.5	0.76	**20**	75.9	48.8		**20**	57.3	42.4	0.12
21	73.2	57.6		**21**	79.3	64.8		**21**	65.0	37.4	
22	78.3	55.3		**22**	82.1	55.0		**22**	61.5	55.5	
23	76.1	56.7		**23**	75.6	51.1	0.07	**23**	68.2	55.1	0.37
24	85.4	59.7	0.03	**24**	68.9	60.0	0.03	**24**	58.5	39.2	0.03
25	84.3	66.1	0.13	**25**	79.4	62.3	0.04	**25**	65.9	38.2	
26	78.2	68.3	1.77	**26**	80.8	65.8	0.02	**26**	65.8	36.6	
27	85.6	65.8		**27**	79.9	62.3		**27**	62.7	48.1	0.27
28	85.0	67.5		**28**	72.9	56.8	0.02	**28**	57.2	37.6	0.03
29	88.5	70.8		**29**	82.1	53.2		**29**	53.5	35.9	0.28
30	82.4	67.8	0.71	**30**	77.8	53.8		**30**	59.6	43.0	0.58
31	91.8	70.1		**31**	77.8	47.4					

TEMPERATURE AND PRECIPITATION DATA

Hudsonville

Recorded at
Michigan Celery Cooperative
Hudsonville, Michigan
2005

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	48.6	40.5		**1**	66.4	53.1	0.13	**1**	83.2	59.1	
2	52.8	40.5	0.07	**2**	61.1	49.1	0.57	**2**	81.1	56.7	0.14
3	53.5	31.7	0.60	**3**	75.6	40.6	0.01	**3**	75.5	49.8	0.20
4	44.9	27.7		**4**	63.8	48.8		**4**	78.3	48.1	0.01
5	52.5	29.2		**5**	62.4	46.3		**5**	78.9	45.4	
6	65.5	38.7		**6**	58.0	35.4		**6**	80.9	47.8	0.01
7	56.5	32.9	1.07	**7**	67.2	34.7		**7**	75.9	60.7	0.50
8	47.5	26.5		**8**	74.9	41.0		**8**	81.4	56.3	
9	51.6	25.6		**9**	75.1	52.7		**9**	73.6	54.2	
10	66.6	32.7		**10**	75.3	58.2	0.16	**10**	70.0	50.2	
11	76.2	46.3		**11**	58.4	36.1	2.02	**11**	69.9	44.7	
12	64.1	50.4	0.23	**12**	43.5	36.4	0.57	**12**	71.7	44.6	
13	68.8	45.7		**13**	51.0	41.5	0.13	**13**	73.3	45.1	
14	81.0	53.0	0.24	**14**	59.1	44.7	0.28	**14**	80.1	46.7	
15	67.2	41.6		**15**	63.2	50.6	0.08	**15**	83.0	70.0	
16	60.2	45.6		**16**	64.7	47.0		**16**	87.3	68.3	
17	61.8	41.9		**17**	66.0	43.3	0.01	**17**	91.5	68.9	
18	68.8	37.2		**18**	52.6	43.3	0.11	**18**	80.5	65.5	0.07
19	75.8	43.2		**19**	59.9	39.4		**19**	80.9	62.0	
20	74.1	47.7		**20**	68.8	35.8	0.07	**20**	79.8	56.9	
21	68.3	40.8		**21**	53.3	40.4	0.05	**21**	82.6	63.6	0.21
22	65.5	38.1		**22**	58.2	34.8		**22**	77.8	61.0	0.05
23	51.2	37.6	0.05	**23**	67.6	34.2		**23**	79.8	55.8	
24	63.4	40.5		**24**	75.2	40.8		**24**	81.9	54.0	
25	56.3	33.8		**25**	76.4	60.5		**25**	75.5	58.6	
26	59.7	25.4		**26**	73.9	55.5	0.01	**26**	81.1	61.6	
27	68.9	38.8		**27**	86.2	50.4		**27**	78.5	56.8	
28	65.5	35.9		**28**	90.7	68.5		**28**	76.1	56.0	
29	66.7	42.2		**29**	91.1	69.2		**29**	77.3	50.8	
30	60.8	52.2	0.07	**30**	88.5	64.6	0.31	**30**	81.1	52.7	
				31	74.8	65.0	0.21				

TEMPERATURE AND PRECIPITATION DATA

Hudsonville

Recorded at
Michigan Celery Cooperative
Hudsonville, Michigan
2006

JULY				AUGUST				SEPTEMBER			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. In.
1	90.0	54.0		**1**	91.4	77.9		**1**	71.7	58.0	----
2	80.1	66.5		**2**	90.4	76.4		**2**	77.2	57.9	----
3	80.9	64.8		**3**	81.5	63.5	N/A	**3**	75.9	48.2	----
4	83.0	57.7		**4**	87.9	58.5		**4**	80.3	47.7	----
5	76.6	47.0		**5**	83.8	57.3		**5**	78.2	55.5	----
6	81.7	48.7		**6**	81.4	65.4		**6**	80.7	50.8	----
7	82.1	48.2		**7**	83.8	64.7		**7**	80.3	48.3	----
8	82.8	56.5		**8**	81.2	56.8		**8**	81.6	60.2	----
9	85.0	69.6		**9**	82.8	57.5		**9**	65.2	56.5	0.24
10	80.9	60.2		**10**	82.2	66.4		**10**	60.9	53.9	----
11	79.5	60.3	1.69	**11**	N/A	N/A		**11**	58.3	50.6	0.96
12	85.6	68.2	0.03	**12**	80.6	N/A		**12**	65.5	56.4	0.07
13	88.5	62.6		**13**	81.1	N/A		**13**	67.3	60.9	0.60
14	82.8	68.8		**14**	79.3	56.7		**14**	73.1	55.8	0.03
15	91.4	65.8		**15**	77.0	53.9		**15**	74.2	50.5	----
16	91.0	66.3		**16**	83.1	48.0		**16**	75.5	53.1	----
17	91.3	66.2	1.81	**17**	82.5	57.6	0.01	**17**	80.7	60.8	----
18	83.5	63.1	0.08	**18**	83.6	67.5	0.01	**18**	72.0	56.2	0.25
19	85.1	59.9		**19**	81.0	59.9		**19**	57.1	48.8	0.26
20	80.3	68.8	0.19	**20**	79.3	52.1		**20**	59.5	42.3	0.14
21	78.0	61.8		**21**	78.5	48.5		**21**	67.2	41.8	----
22	80.9	59.3		**22**	84.8	56.0		**22**	64.5	54.1	0.19
23	78.9	56.0		**23**	81.6	49.7		**23**	70.4	55.8	1.08
24	84.4	57.6		**24**	80.9	63.9	0.29	**24**	61.1	41.3	0.14
25	87.0	71.5	0.01	**25**	82.2	65.5		**25**	67.8	41.2	----
26	79.5	70.6	0.11	**26**	81.4	67.5		**26**	69.0	40.5	----
27	86.7	68.8	1.85	**27**	83.9	65.3		**27**	64.6	47.3	0.08
28	84.3	69.3		**28**	72.8	63.2	0.44	**28**	59.0	38.3	0.16
29	89.9	68.9		**29**	79.2	60.9	0.08	**29**	54.0	34.6	0.36
30	85.1	69.0	0.44	**30**	77.1	59.4		**30**	62.3	48.0	0.15
31	94.1	73.8		**31**	76.5	54.8					

TEMPERATURE AND PRECIPITATION DATA

MSU Trevor Nichols Research Complex

Recorded at
MSU Trevor Nichols Research Complex (Fennville)
Fennville, Michigan
2006

APRIL				MAY				JUNE			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	43.6	34.6		**1**	67.2	52.4	0.11	**1**	77.5	58.6	
2	53.7	35.1	0.06	**2**	60.2	43.6	0.59	**2**	77.3	55.1	
3	53.3	33.6	0.47	**3**	73.7	39.0		**3**	72.8	52.1	
4	43.8	27.8		**4**	64.0	48.1		**4**	75.5	47.6	
5	47.6	32.5		**5**	55.4	44.6		**5**	78.9	45.2	
6	65.8	37.0		**6**	55.1	35.0		**6**	80.0	48.5	0.16
7	55.0	33.4	1.02	**7**	65.7	33.9		**7**	71.2	55.4	0.79
8	42.9	25.9		**8**	74.1	41.2		**8**	73.9	54.0	
9	48.6	24.1		**9**	76.1	50.3		**9**	67.3	52.9	
10	64.6	31.5		**10**	72.2	58.0	0.10	**10**	66.6	47.7	0.01
11	74.3	43.9		**11**	58.2	36.1	2.03	**11**	67.5	44.4	
12	63.5	48.7	0.16	**12**	43.0	36.0	0.94	**12**	67.6	46.8	
13	69.4	46.0		**13**	50.4	41.4	0.47	**13**	69.5	44.7	
14	80.5	51.8	0.03	**14**	54.8	42.9	0.11	**14**	77.9	47.0	
15	64.7	41.8		**15**	59.7	46.9	0.14	**15**	82.6	49.1	
16	65.3	41.5	0.02	**16**	57.5	44.3		**16**	86.7	64.7	
17	63.2	39.8		**17**	61.9	45.0	0.13	**17**	91.3	67.2	
18	68.8	36.4		**18**	54.3	43.3	0.06	**18**	79.5	64.2	0.10
19	76.3	45.9		**19**	55.7	43.5		**19**	79.3	60.7	
20	69.8	46.3		**20**	67.2	38.1	0.01	**20**	77.1	56.5	
21	66.4	42.6		**21**	51.7	38.9	0.07	**21**	82.5	63.9	
22	64.3	38.7	0.01	**22**	56.5	33.3		**22**	74.8	61.1	0.05
23	53.5	39.6	0.01	**23**	65.8	32.4		**23**	77.4	55.5	
24	62.1	39.5		**24**	77.3	44.0		**24**	77.8	48.6	
25	56.1	33.8	0.02	**25**	73.4	60.5	0.01	**25**	76.2	54.5	
26	56.9	25.8		**26**	63.2	49.9	0.05	**26**	76.6	59.8	
27	62.3	45.3		**27**	86.1	47.6		**27**	74.5	57.4	0.03
28	68.3	38.6		**28**	87.2	64.2		**28**	72.8	56.5	
29	66.0	44.7	0.02	**29**	88.5	65.7		**29**	72.7	52.3	
30	59.1	51.0	0.23	**30**	88.2	64.4	0.43	**30**	79.4	49.5	
				31	69.4	59.8	0.03				

TEMPERATURE AND PRECIPITATION DATA

MSU Trevor Nichols Research Complex

Recorded at
MSU Trevor Nichols Research Complex (Fennville)
Fennville, Michigan
2006

JULY				AUGUST				SEPTEMBER			
Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.	Date	High Temp F	Low Temp F	Total Prec. in.
1	87.0	58.6		**1**	91.8	79.7		**1**	69.3	56.3	
2	77.4	63.6	0.01	**2**	91.2	73.8	0.19	**2**	78.0	56.0	
3	80.5	60.2	0.06	**3**	78.4	63.0	0.20	**3**	73.1	49.2	
4	79.1	60.0	0.02	**4**	84.8	60.3		**4**	74.2	49.5	0.06
5	73.8	48.8		**5**	86.0	56.9		**5**	72.1	54.5	0.01
6	78.1	48.8		**6**	82.7	63.4		**6**	79.5	51.2	
7	78.7	49.5		**7**	84.5	63.6		**7**	78.8	51.1	
8	81.0	55.9		**8**	82.0	55.3		**8**	79.1	57.7	
9	83.8	68.5		**9**	84.3	56.3		**9**	65.0	55.4	
10	74.8	61.2		**10**	82.8	65.7		**10**	58.2	53.2	
11	79.0	60.7	1.01	**11**	78.0	59.5		**11**	61.1	50.3	0.66
12	83.5	66.4	0.01	**12**	81.4	50.0		**12**	68.9	56.8	0.03
13	87.6	61.7		**13**	81.5	51.4		**13**	69.1	59.6	0.45
14	79.4	68.2	0.02	**14**	78.7	59.4		**14**	73.9	54.6	0.01
15	85.9	63.8		**15**	78.1	53.8		**15**	73.5	51.1	
16	90.0	64.1		**16**	84.7	46.9		**16**	77.4	52.8	
17	90.2	66.9	0.84	**17**	84.9	56.8	0.01	**17**	81.6	58.3	
18	84.3	63.5	0.98	**18**	85.5	67.2	0.50	**18**	71.4	56.8	0.23
19	87.3	60.5		**19**	77.9	62.6	0.02	**19**	58.4	49.8	0.13
20	78.1	68.7	0.24	**20**	76.7	55.2		**20**	58.5	40.1	0.16
21	76.5	61.1		**21**	75.5	49.9		**21**	68.4	39.6	
22	76.4	60.1		**22**	81.5	54.8		**22**	65.3	53.3	0.39
23	78.4	54.8		**23**	82.7	51.6	0.15	**23**	69.8	56.9	0.98
24	84.3	57.4		**24**	81.3	63.1	0.57	**24**	60.7	42.7	0.08
25	88.3	72.1	0.01	**25**	82.7	63.6		**25**	66.3	41.8	
26	81.2	69.8	0.24	**26**	81.2	66.9		**26**	68.4	40.0	
27	85.4	67.6		**27**	79.8	66.0		**27**	65.9	47.7	0.18
28	83.3	69.7		**28**	70.9	59.7	0.71	**28**	58.4	39.6	0.02
29	87.2	68.3		**29**	74.3	59.6	0.29	**29**	56.6	36.4	0.47
30	85.5	69.0	0.12	**30**	77.3	58.5		**30**	60.6	47.2	0.13
31	93.3	73.2		**31**	75.9	52.2					

Weed Control in Asparagus - Hart

Project Code: WC 120-06-01 **Location: Hart, MI Res. Station**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Asparagus **Variety: Millennium (Guelph)**
Planting Method: Transplant **Planting Date: 4/30/04**
Spacing: 12 IN **Row Spacing: 4.5 FT**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 4 ft wide x 50 ft long

Soil Type: Spinks Loamy Fine Sand **OM: 1.4%** **pH: 6.7**
Sand: 84% **Silt: 12%** **Clay: 4%** **CEC: 6.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/18/06	1:00 pm	56/55	°F	Dry	5 W	27	Clear	N
PO1	6/6/06	9:00 a,	72/67	°F	Dry	4 S	41	40% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/6	Asparagus			
6/6	VIPW = Virginia pepperweed			
6/6	FISB = field sandbur			
6/6	HAVE = hairy vetch			
6/6	HOWE - horseweed			
6/6	RUTH = Russian thistle			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trial ID: WC 120-06-01 Study Director: Dr. Bernard Zandstra
Location: Hart Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 6/6/06 RATING	FISB 6/6/06 RATING	HAVE 6/6/06 RATING	HOWE 6/6/06 RATING	RUTH 6/6/06 RATING	VIPW 6/6/06 RATING
1	mesotrione	4	SC	.121	lb ai/a	PRE	1.7	9.3	10.0	6.3	5.7	7.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	1.0	6.3	10.0	9.3	8.0	8.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	1.3	9.3	10.0	10.0	10.0	10.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	2.3	5.0	7.0	1.3	4.0	1.0
	NIS	100	SL	0.25	% v/v	PO1						
5	mesotrione	4	SC	0.24	lb ai/a	PRE	1.0	8.7	10.0	9.3	10.0	9.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	mesotrione	4	SC	0.094	lb ai/a	PRE	1.3	8.7	10.0	3.3	9.0	5.0
	mesotrione	4	SC	0.24	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
7	flumioxazin	51	WDG	0.128	lb ai/a	PRE	1.3	9.3	9.0	1.7	10.0	4.0
	glyphosate	5	L	0.95	lb ai/a	PRE						
8	flumioxazin	51	WDG	0.256	lb ai/a	PRE	1.0	9.0	7.0	2.7	10.0	2.3
	glyphosate	5	L	0.95	lb ai/a	PRE						
9	flumioxazin	51	WDG	0.383	lb ai/a	PRE	1.3	10.0	7.0	2.7	10.0	7.0
	glyphosate	5	L	0.95	lb ai/a	PRE						
10	diuron	80	DF	1.2	lb ai/a	PRE, PO1	2.0	9.3	9.7	10.0	9.7	10.0
	metribuzin	75	DF	0.5	lb ai/a	PRE, PO1						
	glyphosate	5	L	0.95	lb ai/a	PRE						
11	glyphosate	5	L	0.95	lb ai/a	PRE	1.0	2.0	2.3	1.3	4.0	2.0
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
	linuron	50	DF	1	lb ai/a	PO1						
LSD (P=.05)							1.01	2.64	3.21	2.73	4.07	3.00
Standard Deviation							0.59	1.55	1.89	1.60	2.39	1.76
CV							42.53	19.61	22.55	30.42	29.1	29.4

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 6/13/06 RATING	FISB 6/13/06 RATING	HOWE 6/13/06 RATING	RUTH 6/13/06 RATING	VIPW 6/13/06 RATING	ASPA 6/23/06 RATING
1	mesotrione	4	SC	.121	lb ai/a	PRE	1.0	7.0	8.0	7.0	9.0	1.3
2	mesotrione	4	SC	0.24	lb ai/a	PRE	1.0	6.7	9.0	7.7	9.7	2.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	1.0	8.7	10.0	10.0	10.0	1.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	1.0	9.3	6.0	9.3	4.7	1.7
	NIS	100	SL	0.25	% v/v	PO1						
5	mesotrione	4	SC	0.24	lb ai/a	PRE	1.0	9.3	9.0	10.0	10.0	1.7
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	9.3	7.3	10.0	6.7	2.3
	mesotrione	4	SC	0.24	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
7	flumioxazin	51	WDG	0.128	lb ai/a	PRE	1.0	9.3	1.7	10.0	5.3	1.3
	glyphosate	5	L	0.95	lb ai/a	PRE						
8	flumioxazin	51	WDG	0.256	lb ai/a	PRE	1.0	10.0	1.7	10.0	3.0	2.3
	glyphosate	5	L	0.95	lb ai/a	PRE						
9	flumioxazin	51	WDG	0.383	lb ai/a	PRE	1.0	10.0	2.7	10.0	7.3	1.0
	glyphosate	5	L	0.95	lb ai/a	PRE						
10	diuron	80	DF	1.2	lb ai/a	PRE, PO1	1.0	10.0	10.0	10.0	10.0	1.7
	metribuzin	75	DF	0.5	lb ai/a	PRE, PO1						
	glyphosate	5	L	0.95	lb ai/a	PRE						
11	glyphosate	5	L	0.95	lb ai/a	PRE	1.0	9.3	4.3	10.0	5.3	1.7
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
	linuron	50	DF	1	lb ai/a	PO1						
LSD (P=.05)							0.00	2.93	2.27	3.48	2.93	1.49
Standard Deviation							0.00	1.72	1.33	2.05	1.72	0.87
CV							0.0	19.12	21.08	21.64	23.38	52.33

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							HOWE	ASPA	ASPA	ASPA	ASPA
Rating Date							6/23/06	5/1/06	5/4/06	5/9/06	5/11/06
Rating Data Type							RATING	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit								G/PLOT	G/PLOT	G/PLOT	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	9.0	227.0	283.7	280.0	239.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	9.7	430.3	433.3	421.3	315.7
3	mesotrione	4	SC	0.48	lb ai/a	PRE	10.0	209.3	231.3	238.3	206.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	8.0	149.7	260.0	241.3	214.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	10.0	318.0	326.3	239.3	201.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	8.3	204.7	273.0	212.3	202.3
	mesotrione	4	SC	0.24	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
7	flumioxazin	51	WDG	0.128	lb ai/a	PRE	7.7	298.3	290.0	251.0	169.7
	glyphosate	5	L	0.95	lb ai/a	PRE					
8	flumioxazin	51	WDG	0.256	lb ai/a	PRE	7.7	229.7	177.0	254.7	226.7
	glyphosate	5	L	0.95	lb ai/a	PRE					
9	flumioxazin	51	WDG	0.383	lb ai/a	PRE	7.3	315.3	226.0	356.0	266.7
	glyphosate	5	L	0.95	lb ai/a	PRE					
10	diuron	80	DF	1.2	lb ai/a	PRE, PO1	10.0	158.7	358.7	208.7	201.7
	metribuzin	75	DF	0.5	lb ai/a	PRE, PO1					
	glyphosate	5	L	0.95	lb ai/a	PRE					
11	glyphosate	5	L	0.95	lb ai/a	PRE	5.3	332.0	515.0	367.7	323.7
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
	linuron	50	DF	1	lb ai/a	PO1					
LSD (P=.05)							1.06	268.76	198.62	187.03	200.17
Standard Deviation							0.63	157.79	116.62	109.81	117.52
CV							7.4	60.42	38.02	39.34	50.33

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/17/06	5/20/06	5/25/06	5/26/06	5/28/06
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							G/PLOT	G/PLOT	G/PLOT	G/PLOT	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	121.0	97.0	169.3	82.0	264.3
2	mesotrione	4	SC	0.24	lb ai/a	PRE	149.3	169.0	338.7	152.7	345.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	164.0	78.7	165.0	98.0	173.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	216.7	135.7	71.7	91.0	232.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	181.3	105.0	184.3	86.7	250.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	137.3	108.0	162.7	116.3	204.7
	mesotrione	4	SC	0.24	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
7	flumioxazin	51	WDG	0.128	lb ai/a	PRE	172.0	87.0	126.0	101.7	192.3
	glyphosate	5	L	0.95	lb ai/a	PRE					
8	flumioxazin	51	WDG	0.256	lb ai/a	PRE	71.0	65.3	125.3	106.7	203.0
	glyphosate	5	L	0.95	lb ai/a	PRE					
9	flumioxazin	51	WDG	0.383	lb ai/a	PRE	183.3	78.7	148.3	185.7	297.0
	glyphosate	5	L	0.95	lb ai/a	PRE					
10	diuron	80	DF	1.2	lb ai/a	PRE, PO1	162.7	84.3	138.3	127.0	202.7
	metribuzin	75	DF	0.5	lb ai/a	PRE, PO1					
	glyphosate	5	L	0.95	lb ai/a	PRE					
11	glyphosate	5	L	0.95	lb ai/a	PRE	234.7	132.3	246.3	181.0	295.0
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
	linuron	50	DF	1	lb ai/a	PO1					
LSD (P=.05)							158.52	126.61	160.96	119.55	216.36
Standard Deviation							93.07	74.34	94.51	70.19	127.03
CV							57.09	71.66	55.41	58.11	52.52

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/29/06	5/30/06	5/31/06	6/2/06	6/3/06
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							G/PLOT	G/PLOT	G/PLOT	G/PLOT	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	54.3	108.7	75.3	108.7	130.3
2	mesotrione	4	SC	0.24	lb ai/a	PRE	113.3	198.0	128.7	219.3	139.7
3	mesotrione	4	SC	0.48	lb ai/a	PRE	79.3	111.7	98.3	119.3	105.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	76.3	111.3	109.0	169.0	72.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	33.7	124.0	91.3	110.0	110.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	66.7	62.7	68.7	152.3	85.3
	mesotrione	4	SC	0.24	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
7	flumioxazin	51	WDG	0.128	lb ai/a	PRE	75.7	86.0	128.0	105.3	63.7
	glyphosate	5	L	0.95	lb ai/a	PRE					
8	flumioxazin	51	WDG	0.256	lb ai/a	PRE	46.7	84.3	80.7	86.7	79.0
	glyphosate	5	L	0.95	lb ai/a	PRE					
9	flumioxazin	51	WDG	0.383	lb ai/a	PRE	95.0	127.3	138.3	156.0	88.0
	glyphosate	5	L	0.95	lb ai/a	PRE					
10	diuron	80	DF	1.2	lb ai/a	PRE, PO1	59.3	129.3	107.7	115.7	102.0
	metribuzin	75	DF	0.5	lb ai/a	PRE, PO1					
	glyphosate	5	L	0.95	lb ai/a	PRE					
11	glyphosate	5	L	0.95	lb ai/a	PRE	95.7	110.0	219.0	219.3	115.7
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
	linuron	50	DF	1	lb ai/a	PO1					
LSD (P=.05)							62.14	84.50	151.49	179.35	97.57
Standard Deviation							36.48	49.61	88.95	105.30	57.29
CV							50.42	43.54	78.59	74.17	57.74

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 6/5/06 HARVEST G/PLOT	ASPA 6/7/06 HARVEST G/PLOT	ASPA 6/9/06 HARVEST G/PLOT	ASPA 6/11/06 HARVEST G/PLOT	ASPA TOTAL KG/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	90.0	71.7	73.7	115.0	2.352
2	mesotrione	4	SC	0.24	lb ai/a	PRE	179.0	203.0	109.7	134.3	3.865
3	mesotrione	4	SC	0.48	lb ai/a	PRE	116.3	82.0	51.7	84.0	2.207
4	mesotrione	4	SC	0.24	lb ai/a	PO1	38.0	125.0	66.7	67.0	2.232
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	123.7	112.7	82.3	98.3	2.578
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	84.0	112.7	73.0	87.7	2.212
	mesotrione	4	SC	0.24	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
7	flumioxazin	51	WDG	0.128	lb ai/a	PRE	66.7	101.0	57.3	113.3	2.315
	glyphosate	5	L	0.95	lb ai/a	PRE					
8	flumioxazin	51	WDG	0.256	lb ai/a	PRE	65.7	192.7	90.7	107.7	2.067
	glyphosate	5	L	0.95	lb ai/a	PRE					
9	flumioxazin	51	WDG	0.383	lb ai/a	PRE	165.7	226.0	108.0	134.7	3.029
	glyphosate	5	L	0.95	lb ai/a	PRE					
10	diuron	80	DF	1.2	lb ai/a	PRE, PO1	117.0	111.7	91.3	51.3	2.326
	metribuzin	75	DF	0.5	lb ai/a	PRE, PO1					
	glyphosate	5	L	0.95	lb ai/a	PRE					
11	glyphosate	5	L	0.95	lb ai/a	PRE	127.7	231.0	114.7	161.3	3.698
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
	linuron	50	DF	1	lb ai/a	PO1					
LSD (P=.05)							99.95	146.69	90.14	106.59	1.9621
Standard Deviation							58.68	86.12	52.92	62.58	1.1520
CV							55.0	60.37	63.35	59.62	43.87

Weed Control in Asparagus - Sandhill

Project Code: WC 120-06-03 **Location: HTRC, Sandhill**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Asparagus **Variety: Jersey Giant**
Planting Method: Transplant **Planting Date: 4/20/99**
Spacing: 12 IN **Row Spacing: 6 FT**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 50 ft long

Soil Type: Riddles Sandy Loam **OM: 1.0%** **pH: 8.1**
Sand: 83% **Silt: 6%** **Clay: 8%** **CEC: 13.7**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/13/06	10:00 am	57/50	°F	Dry	5 W	64	25% Cloudy	N
PO1	6/5/06	1:30 am	80/75	°F	Dry	4 N	25	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/5	QUGR = quackgrass	10-12″		moderate
6/5	COMW = common milkweed	10-24″		few
6/5	WICA = wild carrot	2-6″		few

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trial ID: WC 120-06-03 Study Director: Dr. Bernard Zandstra
Location: HTRC Sandhill Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 6/5/06 RATING	QUGR 6/5/06 RATING	CLGC 6/5/06 RATING	COMW 6/5/06 RATING	WICA 6/5/06 RATING	ASPA 6/14/06 RATING
1	diuron	80	DF	1.2	lb ai/a	PRE	1.7	7.3	7.7	7.0	9.0	1.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	1.0	6.3	9.3	9.0	5.0	1.0
3	diuron	80	DF	1.2	lb ai/a	PRE	1.7	6.3	10.0	10.0	7.0	1.7
	metribuzin	75	DF	0.5	lb ai/a	PRE						
4	terbacil	80	WP	1.2	lb ai/a	PRE	1.3	10.0	10.0	10.0	10.0	1.0
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	1.0	9.0	10.0	10.0	9.7	1.3
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	1.0	9.3	7.7	10.0	7.0	1.0
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	1.0	8.7	10.0	8.3	10.0	1.0
8	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	6.7	10.0	6.7	10.0	1.7
9	diuron	80	DF	1.2	lb ai/a	PRE	1.3	5.7	9.0	8.3	4.3	1.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE						
10	clomazone	3	ME	1	lb ai/a	PRE	1.7	9.7	9.3	7.7	7.0	1.0
11	diuron	80	DF	1.2	lb ai/a	PRE	1.7	7.3	10.0	9.3	5.0	1.3
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	COC		L	1	% v/v	PO1						
	AMS	100	DF	2	% ai/v	PO1						
12	diuron	80	DF	1.2	lb ai/a	PRE	1.0	8.0	9.7	10.0	5.3	1.3
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	COC		L	1	% v/v	PO1						
	AMS	100	DF	2	% ai/v	PO1						
LSD (P=.05)							0.72	2.51	2.78	3.39	5.38	0.57
Standard Deviation							0.42	1.48	1.64	2.00	3.18	0.34
CV							33.14	18.88	17.46	22.61	42.65	26.97

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	QUGR 6/14/06 RATING	COMW 6/14/06 RATING	WICA 6/14/06 RATING	ASPA 5/3/06 GOOD SPR NUMBER	ASPA 5/3/06 BAD SPR NUMBER	ASPA 5/3/06 GOOD SPR G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	3.3	8.0	7.0	2.7	0.3	46.7
2	metribuzin	75	DF	0.5	lb ai/a	PRE	6.0	9.0	4.7	15.0	0.0	278.7
3	diuron	80	DF	1.2	lb ai/a	PRE	5.3	10.0	7.3	10.0	0.0	193.3
	metribuzin	75	DF	0.5	lb ai/a	PRE						
4	terbacil	80	WP	1.2	lb ai/a	PRE	10.0	9.7	10.0	9.7	0.3	223.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	6.3	8.3	7.0	7.0	0.7	156.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	8.7	7.7	6.3	14.0	0.3	268.0
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	8.0	10.0	10.0	4.7	0.0	103.3
8	mesotrione	4	SC	0.094	lb ai/a	PRE	3.3	10.0	7.0	8.0	0.0	172.7
9	diuron	80	DF	1.2	lb ai/a	PRE	4.0	9.7	6.0	5.3	0.3	116.3
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE						
10	clomazone	3	ME	1	lb ai/a	PRE	9.3	9.0	6.0	8.3	0.3	172.0
11	diuron	80	DF	1.2	lb ai/a	PRE	7.0	10.0	9.3	6.3	0.0	113.7
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	COC		L	1	% v/v	PO1						
	AMS	100	DF	2	% ai/v	PO1						
12	diuron	80	DF	1.2	lb ai/a	PRE	8.3	10.0	7.7	10.0	0.3	181.3
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	COC		L	1	% v/v	PO1						
	AMS	100	DF	2	% ai/v	PO1						
LSD (P=.05)							2.76	3.17	4.93	9.11	0.70	178.31
Standard Deviation							1.63	1.87	2.91	5.38	0.41	105.30
CV							24.59	20.2	39.55	63.92	186.47	62.38

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 5/3/06 BAD SPR G/PLOT	ASPA 5/5/06 GOOD SPR NUMBER	ASPA 5/5/06 BAD SPR NUMBER	ASPA 5/5/06 GOOD SPR G/PLOT	ASPA 5/5/06 BAD SPR G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	5.7	12.3	0.3	210.7	12.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	0.0	28.7	4.3	494.3	84.0
3	diuron	80	DF	1.2	lb ai/a	PRE	0.0	19.3	1.7	375.3	44.0
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	12.3	24.0	1.7	464.7	30.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	13.0	14.7	2.3	279.0	49.3
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	2.7	27.0	0.7	494.3	8.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	0.0	11.3	0.7	220.0	15.3
8	mesotrione	4	SC	0.094	lb ai/a	PRE	0.0	15.7	1.7	284.0	31.3
9	diuron	80	DF	1.2	lb ai/a	PRE	4.7	19.0	1.3	303.3	15.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	6.0	16.3	1.3	259.7	32.7
11	diuron	80	DF	1.2	lb ai/a	PRE	0.0	14.7	0.0	282.3	0.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	6.3	19.3	0.7	312.3	10.3
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							14.80	18.49	2.67	342.30	50.30
Standard Deviation							8.74	10.92	1.58	202.14	29.70
CV							206.98	58.93	113.44	60.95	106.61

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/8/06	5/8/06	5/8/06	5/8/06	5/10/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
1	diuron	80	DF	1.2	lb ai/a	PRE	17.0	1.7	304.7	43.0	17.7
2	metribuzin	75	DF	0.5	lb ai/a	PRE	25.3	7.3	396.0	112.3	22.3
3	diuron	80	DF	1.2	lb ai/a	PRE	20.3	4.7	376.7	71.7	25.3
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	17.7	6.7	304.3	104.0	20.3
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	23.0	4.0	425.3	89.0	21.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	21.0	8.0	367.3	169.0	23.3
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	19.0	3.7	380.7	91.7	20.3
8	mesotrione	4	SC	0.094	lb ai/a	PRE	25.3	2.3	440.7	48.0	21.3
9	diuron	80	DF	1.2	lb ai/a	PRE	15.3	4.3	271.3	78.3	22.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	29.3	5.3	479.0	78.3	19.3
11	diuron	80	DF	1.2	lb ai/a	PRE	20.3	4.0	377.3	55.0	26.3
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	23.0	3.7	425.0	71.3	30.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							13.28	5.81	216.39	103.68	13.41
Standard Deviation							7.84	3.43	127.78	61.22	7.92
CV							36.68	73.91	33.71	72.62	35.21

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/10/06	5/10/06	5/10/06	5/12/06	5/12/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
1	diuron	80	DF	1.2	lb ai/a	PRE	0.3	326.0	6.3	10.0	1.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	0.7	405.7	10.7	20.7	3.0
3	diuron	80	DF	1.2	lb ai/a	PRE	0.3	474.7	4.7	13.0	2.0
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	0.7	450.0	11.0	16.0	3.3
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	0.3	390.3	7.7	13.0	3.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	2.0	459.3	48.0	19.0	2.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	0.0	394.3	0.0	12.3	1.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	416.0	17.3	20.7	3.3
9	diuron	80	DF	1.2	lb ai/a	PRE	0.3	421.0	5.0	7.0	1.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	0.3	366.7	5.0	11.7	3.7
11	diuron	80	DF	1.2	lb ai/a	PRE	1.0	512.0	16.3	13.7	3.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	0.3	530.3	7.3	12.0	2.7
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							1.50	267.88	28.33	8.68	2.88
Standard Deviation							0.89	158.19	16.73	5.13	1.70
CV							145.01	36.89	144.08	36.4	63.71

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/12/06	5/12/06	5/15/06	5/15/06	5/15/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							G/PLOT	G/PLOT	NUMBER	NUMBER	G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	210.0	26.3	5.3	1.3	98.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	334.7	56.3	11.7	3.0	251.0
3	diuron	80	DF	1.2	lb ai/a	PRE	210.3	34.0	10.0	2.3	235.7
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	315.0	59.3	8.7	2.3	187.3
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	206.3	73.3	5.7	3.3	140.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	344.0	54.3	8.3	4.0	174.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	217.7	30.0	9.3	2.3	178.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	379.7	62.0	9.3	1.7	220.7
9	diuron	80	DF	1.2	lb ai/a	PRE	112.3	44.0	5.3	2.3	109.0
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	190.3	68.0	9.7	2.0	164.3
11	diuron	80	DF	1.2	lb ai/a	PRE	261.3	72.3	7.3	3.7	177.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	199.3	50.0	6.0	2.3	133.7
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							155.05	61.30	8.20	3.34	177.24
Standard Deviation							91.56	36.20	4.84	1.97	104.67
CV							36.86	68.95	60.08	77.27	60.65

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/15/06	5/17/06	5/17/06	5/17/06	5/17/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							G/PLOT	NUMBER	NUMBER	G/PLOT	G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	28.3	10.3	2.7	211.7	64.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	66.3	8.7	2.3	168.7	45.0
3	diuron	80	DF	1.2	lb ai/a	PRE	50.0	9.0	4.0	220.0	90.3
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	40.7	14.0	4.0	255.3	66.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	54.3	6.7	2.7	161.7	50.3
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	81.0	9.0	0.0	190.3	0.0
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	45.0	6.0	3.7	119.0	69.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	40.7	10.0	1.3	197.7	27.0
9	diuron	80	DF	1.2	lb ai/a	PRE	44.7	9.7	2.7	199.7	70.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	47.7	10.7	2.7	181.3	39.7
11	diuron	80	DF	1.2	lb ai/a	PRE	80.0	12.0	2.0	230.7	40.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	39.3	8.7	1.0	155.7	25.7
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							73.24	7.06	2.78	130.75	57.82
Standard Deviation							43.25	4.17	1.64	77.21	34.14
CV							83.98	43.62	67.86	40.43	69.56

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/19/06	5/19/06	5/19/06	5/19/06	5/22/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
1	diuron	80	DF	1.2	lb ai/a	PRE	12.7	4.3	229.0	77.0	14.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	10.7	1.7	172.0	23.3	9.3
3	diuron	80	DF	1.2	lb ai/a	PRE	9.7	3.0	205.7	51.3	15.0
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	8.3	2.7	142.3	64.0	14.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	6.7	4.3	125.7	95.7	12.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	10.3	2.7	222.0	58.7	13.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	9.0	4.0	167.7	66.3	7.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	11.0	3.3	199.3	46.7	12.7
9	diuron	80	DF	1.2	lb ai/a	PRE	8.3	2.3	160.7	39.0	15.0
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	6.7	1.7	115.0	23.7	15.0
11	diuron	80	DF	1.2	lb ai/a	PRE	7.7	4.3	181.3	79.0	13.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	9.0	2.3	187.3	71.3	15.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							6.39	3.37	139.43	73.54	8.67
Standard Deviation							3.77	1.99	82.33	43.43	5.12
CV							41.17	65.12	46.87	74.87	38.98

Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/22/06	5/22/06	5/22/06	5/24/06	5/24/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
1	diuron	80	DF	1.2	lb ai/a	PRE	4.0	294.0	70.3	12.7	0.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	6.0	217.7	137.3	21.3	3.3
3	diuron	80	DF	1.2	lb ai/a	PRE	5.3	310.0	87.3	15.0	0.3
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	3.3	299.7	64.3	14.0	0.3
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	3.0	236.7	47.0	13.3	1.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	3.7	269.0	96.0	18.7	1.3
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	2.0	161.3	34.3	15.3	1.0
8	mesotrione	4	SC	0.094	lb ai/a	PRE	5.7	306.0	113.7	18.0	0.3
9	diuron	80	DF	1.2	lb ai/a	PRE	5.3	280.3	100.0	16.3	0.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	3.3	292.0	83.7	17.3	0.0
11	diuron	80	DF	1.2	lb ai/a	PRE	3.3	266.3	44.7	13.0	0.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	6.0	327.0	108.0	16.3	1.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							4.43	196.35	100.69	10.01	1.79
Standard Deviation							2.62	115.95	59.46	5.91	1.06
CV							61.58	42.68	72.32	37.07	122.83

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/24/06	5/24/06	5/26/06	5/26/06	5/26/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							G/PLOT	G/PLOT	NUMBER	NUMBER	G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	236.3	13.3	17.0	4.3	294.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	357.3	50.3	28.0	8.3	466.3
3	diuron	80	DF	1.2	lb ai/a	PRE	277.7	5.3	25.7	4.7	401.0
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	310.3	6.7	23.3	8.7	416.3
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	254.7	23.0	18.7	5.0	322.7
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	402.0	32.7	19.0	9.0	291.3
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	312.3	13.7	15.7	2.3	286.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	344.0	6.7	16.3	6.0	307.7
9	diuron	80	DF	1.2	lb ai/a	PRE	293.0	9.7	19.7	5.7	349.0
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	306.0	0.0	17.7	5.3	289.3
11	diuron	80	DF	1.2	lb ai/a	PRE	268.3	16.7	21.0	11.3	367.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	296.0	15.7	25.0	8.7	492.3
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							219.84	36.29	13.94	5.35	217.30
Standard Deviation							129.82	21.43	8.23	3.16	128.32
CV							42.59	132.77	39.99	47.75	35.94

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/26/06	5/30/06	5/30/06	5/30/06	5/30/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							G/PLOT	NUMBER	NUMBER	G/PLOT	G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	85.0	18.7	0.7	360.7	10.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	131.7	25.3	0.3	385.3	11.3
3	diuron	80	DF	1.2	lb ai/a	PRE	75.0	12.0	1.3	228.7	22.0
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	134.7	17.3	2.0	334.0	31.3
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	82.0	14.0	1.0	242.3	24.7
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	157.0	16.7	1.7	327.0	26.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	34.0	12.0	1.0	183.7	12.3
8	mesotrione	4	SC	0.094	lb ai/a	PRE	121.3	12.7	0.7	251.3	12.7
9	diuron	80	DF	1.2	lb ai/a	PRE	103.0	13.3	2.7	246.7	51.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	76.3	18.3	3.0	263.3	52.0
11	diuron	80	DF	1.2	lb ai/a	PRE	197.7	16.7	1.3	302.0	26.3
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	146.0	20.0	1.7	356.0	28.7
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							94.85	9.70	2.34	169.59	44.49
Standard Deviation							56.01	5.73	1.38	100.14	26.27
CV							50.02	34.88	95.59	34.52	101.82

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/31/06	5/31/06	5/31/06	5/31/06	6/2/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
1	diuron	80	DF	1.2	lb ai/a	PRE	10.0	0.3	180.0	6.7	20.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	10.3	0.7	169.7	9.7	15.3
3	diuron	80	DF	1.2	lb ai/a	PRE	9.3	2.0	154.7	39.7	17.7
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	13.7	1.7	228.3	38.0	14.0
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	5.3	2.3	98.0	34.7	17.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	10.3	2.7	207.0	46.7	15.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	4.0	1.0	66.7	19.0	13.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	9.7	1.7	160.7	31.3	16.3
9	diuron	80	DF	1.2	lb ai/a	PRE	8.0	0.3	135.7	7.0	18.3
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	7.7	1.0	139.0	14.0	16.3
11	diuron	80	DF	1.2	lb ai/a	PRE	8.7	1.3	160.0	24.0	15.3
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	12.3	0.7	211.7	16.7	18.3
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							5.08	1.96	104.27	41.41	8.19
Standard Deviation							3.00	1.16	61.57	24.46	4.84
CV							32.89	88.86	38.66	102.14	29.32

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/2/06	6/2/06	6/2/06	6/5/06	6/5/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
1	diuron	80	DF	1.2	lb ai/a	PRE	1.3	377.7	33.3	18.7	6.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	1.0	289.0	15.0	31.3	7.3
3	diuron	80	DF	1.2	lb ai/a	PRE	2.7	350.0	54.3	26.0	6.7
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	2.0	277.7	48.7	20.3	4.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	1.7	336.3	30.3	25.7	4.3
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	1.3	302.3	19.0	29.0	5.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	1.7	276.3	37.0	12.0	2.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	0.7	320.7	18.0	29.0	4.7
9	diuron	80	DF	1.2	lb ai/a	PRE	1.3	324.3	26.7	21.7	3.0
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	0.0	278.7	0.0	20.7	2.7
11	diuron	80	DF	1.2	lb ai/a	PRE	2.7	327.0	68.7	35.0	5.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	1.0	373.7	17.7	22.7	3.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							1.80	156.01	44.17	17.47	4.23
Standard Deviation							1.06	92.13	26.08	10.32	2.50
CV							73.72	28.84	84.9	42.4	53.54

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/5/06	6/5/06	6/7/06	6/7/06	6/7/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							G/PLOT	G/PLOT	NUMBER	NUMBER	G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	306.7	113.0	17.3	2.3	271.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	526.0	136.0	26.3	4.7	438.3
3	diuron	80	DF	1.2	lb ai/a	PRE	442.0	132.7	22.7	3.3	364.3
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	281.0	72.7	23.3	2.3	347.0
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	452.3	75.0	25.3	2.7	394.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	420.3	92.7	22.0	5.3	372.7
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	213.0	48.0	18.7	1.3	325.7
8	mesotrione	4	SC	0.094	lb ai/a	PRE	491.7	72.0	25.0	2.7	448.3
9	diuron	80	DF	1.2	lb ai/a	PRE	324.0	42.0	21.0	3.0	325.0
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	318.0	41.3	20.3	4.3	322.0
11	diuron	80	DF	1.2	lb ai/a	PRE	625.3	87.3	15.7	3.0	254.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	373.7	51.0	0.0	8.7	0.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							252.73	77.02	12.37	4.21	193.63
Standard Deviation							149.24	45.48	7.31	2.48	114.34
CV							37.51	56.64	36.89	68.27	35.52

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/7/06	6/9/06	6/9/06	6/9/06	6/9/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							G/PLOT	NUMBER	NUMBER	G/PLOT	G/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	38.3	17.0	3.3	300.7	61.7
2	metribuzin	75	DF	0.5	lb ai/a	PRE	70.3	19.3	3.3	337.7	77.7
3	diuron	80	DF	1.2	lb ai/a	PRE	52.7	21.7	3.3	340.3	68.3
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	39.3	18.7	1.3	341.3	23.0
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	39.0	23.3	3.3	500.0	63.7
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	117.0	20.7	2.3	368.3	49.0
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	32.0	16.0	3.0	310.3	57.0
8	mesotrione	4	SC	0.094	lb ai/a	PRE	40.3	20.3	3.3	394.7	64.7
9	diuron	80	DF	1.2	lb ai/a	PRE	46.3	16.0	2.7	261.3	44.3
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	83.0	19.7	2.3	349.3	48.7
11	diuron	80	DF	1.2	lb ai/a	PRE	41.0	3.3	14.0	64.3	265.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	158.3	5.0	10.7	85.7	254.3
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							70.53	10.06	4.42	168.61	105.84
Standard Deviation							41.65	5.94	2.61	99.57	62.50
CV							65.96	35.45	59.15	32.7	69.58

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/12/06	6/12/06	6/12/06	6/12/06	6/14/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
1	diuron	80	DF	1.2	lb ai/a	PRE	25.3	0.3	382.0	4.3	22.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	26.7	0.7	388.3	11.0	26.7
3	diuron	80	DF	1.2	lb ai/a	PRE	25.7	0.3	416.3	3.0	23.0
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	29.0	0.0	486.0	0.0	18.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	29.7	1.0	491.7	16.7	16.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	27.0	0.0	441.0	0.0	21.0
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	32.3	0.3	572.3	5.3	17.0
8	mesotrione	4	SC	0.094	lb ai/a	PRE	27.7	0.0	503.3	0.0	19.3
9	diuron	80	DF	1.2	lb ai/a	PRE	29.3	0.7	518.0	9.7	16.3
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	33.0	0.0	460.7	0.0	20.3
11	diuron	80	DF	1.2	lb ai/a	PRE	28.7	0.0	462.7	0.0	16.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	33.7	0.0	524.0	0.0	27.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							10.38	0.95	217.86	15.98	8.40
Standard Deviation							6.13	0.56	128.65	9.44	4.96
CV							21.13	202.26	27.34	226.53	24.48

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/14/06	6/14/06	6/14/06	6/16/06	6/16/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
1	diuron	80	DF	1.2	lb ai/a	PRE	2.3	370.0	51.7	21.7	2.3
2	metribuzin	75	DF	0.5	lb ai/a	PRE	1.0	441.7	18.3	33.3	2.0
3	diuron	80	DF	1.2	lb ai/a	PRE	2.0	396.0	35.0	20.3	2.3
	metribuzin	75	DF	0.5	lb ai/a	PRE					
4	terbacil	80	WP	1.2	lb ai/a	PRE	1.0	346.0	25.7	24.0	2.7
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	1.7	265.0	33.0	23.7	4.0
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	3.0	357.3	51.0	26.3	3.3
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	0.0	298.7	0.0	19.0	1.0
8	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	317.3	22.3	22.7	4.3
9	diuron	80	DF	1.2	lb ai/a	PRE	1.7	267.0	33.0	23.0	3.3
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE					
10	clomazone	3	ME	1	lb ai/a	PRE	1.0	308.0	17.3	22.3	2.0
11	diuron	80	DF	1.2	lb ai/a	PRE	2.0	278.0	37.0	27.3	5.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
12	diuron	80	DF	1.2	lb ai/a	PRE	1.3	457.3	23.7	28.7	4.0
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	COC		L	1	% v/v	PO1					
	AMS	100	DF	2	% ai/v	PO1					
LSD (P=.05)							2.55	151.11	50.97	13.03	4.97
Standard Deviation							1.51	89.23	30.10	7.70	2.93
CV							100.5	26.1	103.79	31.59	95.19

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA GOOD SPR G/PLOT	ASPA BAD SPR G/PLOT	ASPA GOOD TOT #/PLOT	ASPA BAD TOT #/PLOT	A SPA GOOD TOT KG/PLOT	ASPA BAD TOT KG/PLOT
Pest Code							ASPA	ASPA	ASPA	ASPA	A SPA	ASPA
Rating Date							6/16/06	6/16/06				
Rating Data Type							GOOD SPR	BAD SPR	GOOD TOT	BAD TOT	GOOD TOT	BAD TOT
Rating Unit							G/PLOT	G/PLOT	#/PLOT	#/PLOT	KG/PLOT	KG/PLOT
1	diuron	80	DF	1.2	lb ai/a	PRE	305.0	36.7	302.3	40.3	5.544	0.787
2	metribuzin	75	DF	0.5	lb ai/a	PRE	454.7	21.3	416.3	61.0	7.145	1.088
3	diuron	80	DF	1.2	lb ai/a	PRE	317.3	38.7	350.7	52.3	6.496	0.960
	metribuzin	75	DF	0.5	lb ai/a	PRE						
4	terbacil	80	WP	1.2	lb ai/a	PRE	344.0	40.3	349.7	51.7	6.497	0.913
5	flumioxazin	51	WDG	0.192	lb ai/a	PRE	341.7	57.7	321.7	51.7	5.945	0.959
6	sulfentrazone	75	DF	.375	lb ai/a	PRE	424.0	54.7	372.0	59.7	6.924	1.165
7	halosulfuron	75	WG	0.047	lb ai/a	PRE	306.0	12.3	275.3	33.3	5.262	0.623
8	mesotrione	4	SC	0.094	lb ai/a	PRE	328.7	63.3	351.0	45.7	6.684	0.839
9	diuron	80	DF	1.2	lb ai/a	PRE	364.7	78.3	310.7	45.7	5.543	0.854
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE						
10	clomazone	3	ME	1	lb ai/a	PRE	286.7	27.0	340.7	42.3	5.656	0.744
11	diuron	80	DF	1.2	lb ai/a	PRE	434.7	91.0	322.7	69.0	6.128	1.243
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	COC		L	1	% v/v	PO1						
	AMS	100	DF	2	% ai/v	PO1						
12	diuron	80	DF	1.2	lb ai/a	PRE	420.3	56.0	342.0	60.0	6.230	1.158
	carfentrazone	1.9	EW	0.03	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	COC		L	1	% v/v	PO1						
	AMS	100	DF	2	% ai/v	PO1						
LSD (P=.05)							207.61	89.37	112.52	21.10	2.1288	0.4301
Standard Deviation							122.60	52.78	66.45	12.46	1.2571	0.2540
CV							33.99	109.7	19.66	24.4	20.37	26.89

Weed Control in Asparagus with Callisto - Sandhill

Project Code: WC 120-06-02 **Location: HTRC, Sandhill**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Asparagus **Variety: Jersey Giant**
Planting Method: Transplant **Planting Date: 4/20/99**
Spacing: 12 IN **Row Spacing: 6 FT**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 50 ft long

Soil Type: Riddles Sandy Loam **OM: 1.0%** **pH: 8.1**
Sand: 83% **Silt: 6%** **Clay: 8%** **CEC: 13.7**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/13/06	10:00 am	57/50	°F	Dry	5 W	64	25% Cloudy	N
PO1	6/5/06	1:30 pm	80/75	°F	Dry	4 N	25	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/5	QUGR = quackgrass	10-12″		moderate
6/5	COMW = common milkweed	10-24″		few
6/5	WICA = wild carrot	2-6″		few

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trial ID: WC 120-06-02 Study Director: Dr. Bernard Zandstra
Location: HTRC Sandhill Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 6/5/06 RATING	QUGR 6/5/06 RATING	CLGC 6/5/06 RATING	COMW 6/5/06 RATING	WICA 6/5/06 RATING	ASPA 6/14/06 RATING	QUGR 6/14/06 RATING
1	mesotrione	4	SC	.121	lb ai/a	PRE	1.0	10.0	5.3	7.7	5.7	1.0	10.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	1.3	10.0	8.3	6.0	7.7	1.0	9.7
3	mesotrione	4	SC	0.48	lb ai/a	PRE	1.0	10.0	6.3	6.3	9.7	1.0	9.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	1.3	10.0	4.7	7.0	6.3	1.0	10.0
	NIS	100	SL	0.25	% v/v	PO1							
5	mesotrione	4	SC	0.24	lb ai/a	PRE	1.3	9.0	7.7	7.7	8.3	1.0	9.3
	mesotrione	4	SC	0.094	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
6	mesotrione	4	SC	0.094	lb ai/a	PRE	1.3	9.3	5.7	7.0	8.0	1.3	8.3
	mesotrione	4	SC	0.24	lb ai/a	PO2							
	NIS	100	SL	0.25	% v/v	PO2							
7	diuron	80	DF	1.5	lb ai/a	PRE	1.3	10.0	1.7	5.3	8.3	1.0	10.0
8	Untreated					PRE	1.3	10.0	1.7	6.3	6.0	1.3	10.0
LSD (P=.05)							0.91	0.89	4.19	1.67	2.53	0.52	1.35
Standard Deviation							0.52	0.51	2.39	0.95	1.45	0.30	0.77
CV							41.4	5.17	46.34	14.31	19.27	27.58	8.05

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CLGC 6/14/06 RATING	COMW 6/14/06 RATING	WICA 6/14/06 RATING	ASPA 6/26/06 RATING	GRFT 6/26/06 RATING	COMW 6/26/06 RATING	HANS 6/26/06 RATING
1	mesotrione	4	SC	.121	lb ai/a	PRE	5.3	7.7	6.3	1.0	2.3	7.3	4.3
2	mesotrione	4	SC	0.24	lb ai/a	PRE	8.0	5.7	7.3	1.0	5.3	4.7	5.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	7.0	7.7	7.7	1.3	5.0	8.7	5.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	6.3	8.0	8.7	1.7	8.0	9.0	4.3
	NIS	100	SL	0.25	% v/v	PO1							
5	mesotrione	4	SC	0.24	lb ai/a	PRE	7.7	8.7	7.7	2.0	1.3	8.7	4.7
	mesotrione	4	SC	0.094	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
6	mesotrione	4	SC	0.094	lb ai/a	PRE	6.0	7.7	5.7	2.3	6.3	8.3	6.7
	mesotrione	4	SC	0.24	lb ai/a	PO2							
	NIS	100	SL	0.25	% v/v	PO2							
7	diuron	80	DF	1.5	lb ai/a	PRE	3.3	7.0	9.0	2.7	2.0	7.0	1.7
8	Untreated					PRE	6.3	8.3	7.0	1.7	6.0	7.7	3.0
LSD (P=.05)							5.11	1.53	4.46	1.15	4.02	3.05	5.79
Standard Deviation							2.92	0.87	2.55	0.65	2.29	1.74	3.30
CV							46.66	11.51	34.36	38.32	50.48	22.7	75.5

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	WICA 6/26/06 RATING	ASPA 5/3/06 GOOD SPR NUMBER	ASPA 5/3/06 BAD SPR NUMBER	ASPA 5/3/06 GOOD SPR G/PLOT	ASPA 5/3/06 BAD SPR G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	5.0	8.0	0.0	166.0	0.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	2.7	9.3	0.0	181.0	0.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	5.3	7.3	0.0	158.0	0.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	6.7	7.0	0.0	145.7	0.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	8.3	6.3	0.0	127.3	0.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	5.7	5.3	0.3	114.0	6.7
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	6.7	8.7	0.0	175.7	0.0
8	Untreated					PRE	6.0	6.7	0.0	154.7	0.0
LSD (P=.05)							4.49	8.05	0.36	149.53	7.15
Standard Deviation							2.56	4.60	0.20	85.38	4.08
CV							44.24	62.69	489.9	55.88	489.9

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 5/5/06 GOOD SPR NUMBER	ASPA 5/5/06 BAD SPR NUMBER	ASPA 5/5/06 GOOD SPR G/PLOT	ASPA 5/5/06 BAD SPR G/PLOT	ASPA 5/8/06 GOOD SPR NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	24.3	3.0	418.3	52.7	23.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	20.7	4.3	407.3	81.7	24.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	18.3	4.7	345.3	89.7	19.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	21.3	2.3	390.3	41.3	25.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	13.3	2.3	234.3	42.7	17.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	21.7	3.3	374.3	51.3	17.7
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	21.0	4.3	369.0	87.3	20.3
8	Untreated					PRE	17.3	2.0	321.0	46.7	18.3
LSD (P=.05)							13.21	3.36	260.66	64.68	12.57
Standard Deviation							7.54	1.92	148.83	36.93	7.18
CV							38.19	58.36	41.63	59.89	34.58

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/8/06	5/8/06	5/8/06	5/10/06	5/10/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	9.3	397.0	193.3	29.7	0.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	10.0	450.3	180.3	27.7	0.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	6.7	343.0	105.3	23.7	0.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	4.0	434.7	72.3	23.0	0.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	4.7	354.7	97.7	24.7	1.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	4.0	311.0	68.0	19.7	1.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	5.7	366.0	103.7	19.3	0.3
8	Untreated					PRE	3.3	307.0	60.0	20.3	0.7
LSD (P=.05)							6.61	243.79	131.57	13.85	1.69
Standard Deviation							3.77	139.20	75.12	7.91	0.96
CV							63.32	37.57	68.24	33.64	177.9

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/10/06	5/10/06	5/12/06	5/12/06	5/12/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							G/PLOT	G/PLOT	NUMBER	NUMBER	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	547.7	9.3	14.0	2.3	299.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	537.3	0.0	7.7	1.7	141.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	439.7	10.3	5.3	2.3	86.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	409.0	6.7	10.3	2.0	188.7
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	480.0	15.3	9.7	2.0	166.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	377.3	26.3	10.7	2.0	193.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	356.3	5.3	10.0	2.0	188.3
8	Untreated					PRE	365.7	6.7	11.0	3.7	201.7
LSD (P=.05)							231.18	35.89	10.33	4.13	219.15
Standard Deviation							132.00	20.49	5.90	2.36	125.13
CV							30.06	204.9	59.99	104.85	68.35

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/12/06	5/15/06	5/15/06	5/15/06	5/15/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							G/PLOT	NUMBER	NUMBER	G/PLOT	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	43.0	12.0	3.0	263.7	57.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	29.7	6.3	1.3	127.0	30.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	48.0	11.3	4.0	262.3	71.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	43.0	5.3	1.3	126.3	23.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	42.0	10.7	3.0	258.7	67.3
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	22.3	8.3	1.0	166.3	26.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	39.3	7.0	3.3	148.0	54.7
8	Untreated					PRE	69.3	7.0	3.7	155.0	67.0
LSD (P=.05)							77.96	5.08	2.94	152.56	68.04
Standard Deviation							44.52	2.90	1.68	87.11	38.85
CV							105.78	34.09	65.09	46.23	78.35

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/17/06	5/17/06	5/17/06	5/17/06	5/19/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	11.7	6.0	251.7	119.0	12.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	8.0	3.3	169.3	84.0	13.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	12.0	3.3	257.3	75.0	10.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	6.7	1.3	147.0	35.7	12.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	12.7	3.3	291.7	68.3	12.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	9.0	3.0	181.7	73.3	10.7
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	4.7	2.7	100.0	50.3	9.7
8	Untreated					PRE	8.0	2.7	182.7	47.0	10.3
LSD (P=.05)							7.59	2.75	183.66	60.11	6.87
Standard Deviation							4.33	1.57	104.86	34.32	3.92
CV							47.72	48.87	53.05	49.68	34.37

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/19/06	5/19/06	5/19/06	5/22/06	5/22/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPEAR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	2.3	270.0	37.7	20.7	6.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	3.7	267.7	81.0	13.0	3.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	3.0	219.7	59.7	13.0	3.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	4.7	241.3	85.3	11.0	4.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	3.3	243.3	56.0	18.7	3.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	2.7	227.7	65.7	14.0	6.7
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	2.3	214.7	47.3	10.0	6.3
8	Untreated					PRE	4.0	211.7	94.3	14.7	6.0
LSD (P=.05)							2.62	155.05	72.42	9.80	5.64
Standard Deviation							1.49	88.53	41.35	5.59	3.22
CV							45.97	37.35	62.77	38.92	63.92

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/22/06	5/22/06	5/24/06	5/24/06	5/24/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							G/PLOT	G/PLOT	NUMBER	NUMBER	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	463.3	136.7	20.0	2.3	405.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	340.7	63.3	18.7	2.3	417.7
3	mesotrione	4	SC	0.48	lb ai/a	PRE	310.0	81.0	12.3	1.7	239.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	210.7	81.0	10.7	0.7	231.7
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	419.7	79.7	17.0	0.7	389.3
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	299.7	146.0	14.3	0.7	330.7
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	201.3	125.0	9.0	0.7	229.0
8	Untreated					PRE	339.7	141.3	21.3	1.0	446.0
LSD (P=.05)							206.90	136.35	9.53	2.38	223.99
Standard Deviation							118.14	77.85	5.44	1.36	127.90
CV							36.56	72.93	35.31	108.85	38.05

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/24/06	5/26/06	5/26/06	5/26/06	5/26/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							G/PLOT	NUMBER	NUMBER	G/PLOT	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	44.7	21.0	7.3	349.7	122.3
2	mesotrione	4	SC	0.24	lb ai/a	PRE	48.3	15.0	8.0	233.0	129.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	28.3	22.0	8.0	366.3	134.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	14.3	22.3	4.3	386.7	63.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	17.0	15.3	5.3	241.0	88.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	11.7	13.7	6.0	241.7	110.3
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	11.3	15.3	6.7	233.0	104.3
8	Untreated					PRE	19.0	15.0	6.7	258.3	93.3
LSD (P=.05)							49.96	13.64	7.17	248.13	126.94
Standard Deviation							28.53	7.79	4.09	141.68	72.48
CV							117.24	44.59	62.6	49.07	68.57

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							5/30/06	5/30/06	5/30/06	5/30/06	5/31/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	15.7	2.0	278.0	44.3	13.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	17.3	0.7	329.7	20.0	8.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	13.0	0.7	246.7	11.0	11.7
4	mesotrione	4	SC	0.24	lb ai/a	PO1	13.0	2.0	242.3	38.0	11.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	13.0	0.7	249.7	10.7	10.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	12.0	2.0	209.0	41.7	11.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	15.3	2.3	232.3	36.7	8.3
8	Untreated					PRE	11.7	1.3	186.3	27.3	11.7
LSD (P=.05)							8.20	3.33	166.00	66.17	7.03
Standard Deviation							4.68	1.90	94.78	37.78	4.02
CV							33.75	130.56	38.41	131.6	37.5

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 5/31/06 BAD SPR NUMBER	ASPA 5/31/06 GOOD SPR G/PLOT	ASPA 5/31/06 BAD SPR G/PLOT	ASPA 6/2/06 GOOD SPR NUMBER	ASPA 6/2/06 BAD SPR NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	2.3	281.3	50.3	24.3	3.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	2.0	157.7	48.7	15.0	3.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	3.0	234.3	62.3	14.0	3.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	2.0	212.0	37.3	14.7	4.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	2.3	203.7	47.3	21.0	1.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	180.0	21.0	16.0	2.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	2.3	152.3	44.7	16.7	2.3
8	Untreated					PRE	2.0	219.3	44.3	20.7	2.7
LSD (P=.05)							2.18	154.05	48.64	15.46	3.33
Standard Deviation							1.25	87.96	27.77	8.83	1.90
CV							58.66	42.89	62.41	49.62	67.2

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA 6/2/06 GOOD SPR G/PLOT	ASPA 6/2/06 BAD SPR G/PLOT	ASPA 6/5/06 GOOD SPR NUMBER	ASPA 6/5/06 BAD SPR NUMBER	ASPA 6/5/06 GOOD SPR G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	484.0	72.7	29.7	4.7	548.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	291.3	66.0	24.3	4.7	431.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	262.0	63.0	17.3	3.0	303.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	250.3	78.0	16.0	2.7	280.7
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	438.7	28.0	18.3	2.7	309.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	296.7	42.3	21.0	6.3	358.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	301.3	45.3	12.3	1.0	226.0
8	Untreated					PRE	367.0	59.7	15.3	4.0	261.7
LSD (P=.05)							274.64	75.30	9.59	5.47	182.56
Standard Deviation							156.81	43.00	5.48	3.12	104.24
CV							46.61	75.6	28.38	86.16	30.68

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/5/06	6/7/06	6/7/06	6/7/06	6/7/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							G/PLOT	NUMBER	NUMBER	G/PLOT	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	75.3	35.7	2.0	555.7	39.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	87.7	26.7	3.7	462.3	73.0
3	mesotrione	4	SC	0.48	lb ai/a	PRE	55.3	26.3	4.7	440.0	88.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	55.3	28.3	3.3	460.0	54.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	48.0	25.7	1.7	451.7	23.3
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	104.3	24.3	2.7	425.3	38.3
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	15.0	23.7	2.7	438.3	51.7
8	Untreated					PRE	73.3	22.7	1.0	387.3	19.3
LSD (P=.05)							98.35	10.07	2.28	187.48	61.41
Standard Deviation							56.16	5.75	1.30	107.05	35.06
CV							87.35	21.56	48.01	23.65	72.48

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/9/06	6/9/06	6/9/06	6/9/06	6/12/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							NUMBER	NUMBER	G/PLOT	G/PLOT	NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	28.3	3.7	502.3	73.3	33.0
2	mesotrione	4	SC	0.24	lb ai/a	PRE	21.0	3.0	452.3	62.3	26.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	18.3	2.3	404.0	47.7	28.3
4	mesotrione	4	SC	0.24	lb ai/a	PO1	13.0	7.0	236.3	123.3	20.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	25.3	2.3	435.3	46.3	24.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	22.3	3.0	389.0	71.7	33.7
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	18.0	3.0	318.3	58.3	23.3
8	Untreated					PRE	18.0	2.3	328.3	41.7	22.0
LSD (P=.05)							12.67	3.11	221.45	78.21	21.14
Standard Deviation							7.24	1.77	126.44	44.66	12.07
CV							35.23	53.23	32.99	68.09	45.76

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/12/06	6/12/06	6/12/06	6/14/06	6/14/06
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
Rating Unit							NUMBER	G/PLOT	G/PLOT	NUMBER	NUMBER
1	mesotrione	4	SC	.121	lb ai/a	PRE	0.7	542.7	17.0	28.0	3.7
2	mesotrione	4	SC	0.24	lb ai/a	PRE	0.0	456.0	0.0	23.0	2.7
3	mesotrione	4	SC	0.48	lb ai/a	PRE	0.0	491.7	0.0	22.7	3.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	2.0	340.0	28.7	19.0	2.3
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	1.0	419.3	16.7	19.7	1.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	0.7	566.0	13.3	22.7	1.3
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	0.0	406.3	0.0	18.7	0.3
8	Untreated					PRE	1.3	340.0	23.3	23.0	4.0
LSD (P=.05)							2.73	379.52	42.62	11.84	2.80
Standard Deviation							1.56	216.70	24.34	6.76	1.60
CV							219.74	48.67	196.66	30.61	67.28

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/14/06	6/14/06	6/16/06	6/16/06	6/16/06
Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR	GOOD SPR
Rating Unit							G/PLOT	G/PLOT	NUMBER	NUMBER	G/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	447.7	60.7	26.7	3.0	463.3
2	mesotrione	4	SC	0.24	lb ai/a	PRE	394.0	49.7	22.3	5.0	346.3
3	mesotrione	4	SC	0.48	lb ai/a	PRE	405.7	60.7	18.7	7.7	315.0
4	mesotrione	4	SC	0.24	lb ai/a	PO1	345.3	43.3	19.7	7.3	327.0
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	331.7	21.3	26.7	2.3	479.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	397.7	26.0	22.7	3.7	314.0
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	322.0	4.7	19.7	2.0	288.3
8	Untreated					PRE	357.7	68.0	27.3	1.7	437.7
LSD (P=.05)							224.04	62.41	12.15	5.27	181.05
Standard Deviation							127.92	35.63	6.93	3.01	103.37
CV							34.09	85.26	30.21	73.76	27.83

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ASPA	ASPA	ASPA	ASPA	ASPA
Pest Code							ASPA	ASPA	ASPA	ASPA	ASPA
Rating Date							6/16/06				
Rating Data Type							BAD SPR	GOOD SPR	BAD SPR	GOOD TOT	BAD TOT
Rating Unit							G/PLOT	TOTAL #	TOTAL #	KG/PLOT	KG/PLOT
1	mesotrione	4	SC	.121	lb ai/a	PRE	56.7	431.3	68.7	7.934	1.305
2	mesotrione	4	SC	0.24	lb ai/a	PRE	100.0	348.3	62.3	6.594	1.235
3	mesotrione	4	SC	0.48	lb ai/a	PRE	156.3	325.7	65.3	6.130	1.248
4	mesotrione	4	SC	0.24	lb ai/a	PO1	117.7	310.0	58.0	5.606	1.042
	NIS	100	SL	0.25	% v/v	PO1					
5	mesotrione	4	SC	0.24	lb ai/a	PRE	34.0	342.3	45.7	6.525	0.850
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	mesotrione	4	SC	0.094	lb ai/a	PRE	54.7	330.7	53.3	5.953	1.021
	mesotrione	4	SC	0.24	lb ai/a	PO2					
	NIS	100	SL	0.25	% v/v	PO2					
7	diuron	80	DF	1.5	lb ai/a	PRE	41.0	291.0	50.3	5.267	0.926
8	Untreated					PRE	24.0	322.3	54.0	5.829	1.026
LSD (P=.05)							113.01	122.77	24.60	2.5829	0.5380
Standard Deviation							64.53	70.10	14.05	1.4747	0.3072
CV							88.34	20.76	24.55	23.67	28.4

Weed Control in Snap Bean - HTRC

Project Code: WC 125-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Snap Bean **Variety: Hercules**
Planting Method: Seeded **Planting Date: 5/24/06**
Spacing: 3 IN **Row Spacing: 14 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 8 ft wide x 35 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 2.0%** **pH: 6.8**
Sand: 46% **Silt: 33%** **Clay: 20%** **CEC: 10.0**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	5/24/06	2:00 pm	79/72	°F	Dry	7 S	26	100% Cloudy	N
PRE	5/24/06	3:00 pm	74/67	°F	Dry	2 S	28	100% Cloudy	N
PO1	6/20/06	9:00 am	64/67	°F	Moist	3 N	63	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/20	SNBE = snap bean		2-3 tri	
6/20	COLQ = common lambsquarters	4-6″		moderate
6/20	RRPW = redroot pigweed	4-6″		moderate

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Planted 3 rows of snap bean per plot 14 inches apart.
4. Harvested all plants in plot.

Weed Control in Snap Bean - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 125-06-01
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SNBE 6/20/06 RATING	COLQ 6/20/06 RATING	RRPW 6/20/06 RATING	SNBE 7/6/06 RATING	GRFT 7/6/06 RATING	COLQ 7/6/06 RATING
1	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	1.0	8.0	10.0	1.3	10.0	9.0
2	dimethenamid-P	6	EC	0.75	lb ai/a	PRE	1.0	9.7	10.0	1.3	10.0	9.3
3	pendimethalin	3.8	CS	1	lb ai/a	PRE	1.0	9.3	6.7	2.0	10.0	10.0
4	sulfentrazone	4	F	0.14	lb ai/a	PRE	4.0	10.0	10.0	3.0	8.7	10.0
5	clomazone	3	ME	0.25	lb ai/a	PRE	1.0	10.0	6.0	1.3	10.0	10.0
6	halosulfuron	75	WG	.023	lb ai/a	PRE	1.0	10.0	10.0	2.0	6.7	10.0
7	EPTC	7	EC	3	lb ai/a	PPI	1.0	8.0	7.7	1.7	9.0	9.0
8	trifluralin	4	EC	0.75	lb ai/a	PPI	1.0	8.3	7.7	1.7	8.0	9.0
9	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	1.0	9.7	10.0	1.7	10.0	10.0
	clomazone	3	ME	0.25	lb ai/a	PRE						
10	pendimethalin	3.8	CS	1	lb ai/a	PRE	1.3	10.0	10.0	2.0	9.3	10.0
	halosulfuron	75	WG	.023	lb ai/a	PRE						
11	EPTC	7	EC	3	lb ai/a	PPI	1.0	10.0	7.3	2.3	9.3	9.0
	halosulfuron	75	WG	.023	lb ai/a	PPI						
12	EPTC	7	EC	3	lb ai/a	PPI	1.0	9.3	7.3	1.7	8.7	10.0
	trifluralin	4	EC	0.75	lb ai/a	PPI						
13	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	1.0	9.3	9.7	1.3	10.0	9.3
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
14	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	1.0	9.0	10.0	1.7	10.0	10.0
	bentazon	4	L	1	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
15	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	1.0	9.0	9.3	1.7	9.3	9.3
	imazamox	1	AS	0.031	lb ai/a	PO1						
16	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	1.0	8.0	9.7	1.7	10.0	9.0
	fomesafen	2	EC	0.25	lb ai/a	PO1						
17	Untreated						1.0	2.7	2.0	3.0	8.0	7.0
	fomesafen	2	EC	0.25	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
18	Untreated						1.0	1.0	1.0	2.7	1.0	1.7
LSD (P=.05)							0.44	1.97	1.58	1.36	2.03	1.57
Standard Deviation							0.27	1.18	0.95	0.81	1.22	0.94
CV							22.45	14.06	11.84	43.12	13.89	10.47

Weed Control in Snap Bean - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	COPU 7/6/06 RATING	EBNS 7/6/06 RATING	FIPC 7/6/06 RATING	LATH 7/6/06 RATING	RRPW 7/6/06 RATING	SNBE 7/24/06 PLANT KG/PLOT	SNBE 7/24/06 BEAN KG/PLOT
1	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	9.3	10.0	8.0	9.3	10.0	39.59	21.27
2	dimethenamid-P	6	EC	0.75	lb ai/a	PRE	10.0	10.0	9.3	10.0	10.0	38.28	21.59
3	pendimethalin	3.8	CS	1	lb ai/a	PRE	10.0	10.0	7.3	9.3	7.7	32.77	17.45
4	sulfentrazone	4	F	0.14	lb ai/a	PRE	9.7	10.0	9.3	10.0	9.7	28.98	14.25
5	clomazone	3	ME	0.25	lb ai/a	PRE	10.0	9.7	10.0	10.0	6.7	33.64	20.04
6	halosulfuron	75	WG	.023	lb ai/a	PRE	6.0	6.3	10.0	10.0	8.7	31.34	16.77
7	EPTC	7	EC	3	lb ai/a	PPI	7.7	9.7	8.0	8.7	6.3	31.77	16.95
8	trifluralin	4	EC	0.75	lb ai/a	PPI	6.3	10.0	6.7	8.7	7.3	29.76	16.30
9	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	10.0	10.0	10.0	10.0	10.0	39.72	22.06
	clomazone	3	ME	0.25	lb ai/a	PRE							
10	pendimethalin	3.8	CS	1	lb ai/a	PRE	10.0	9.7	10.0	10.0	8.0	33.35	17.89
	halosulfuron	75	WG	.023	lb ai/a	PRE							
11	EPTC	7	EC	3	lb ai/a	PPI	6.7	7.3	9.7	8.3	9.0	30.53	17.28
	halosulfuron	75	WG	.023	lb ai/a	PPI							
12	EPTC	7	EC	3	lb ai/a	PPI	7.0	7.3	8.7	10.0	7.7	31.98	17.67
	trifluralin	4	EC	0.75	lb ai/a	PPI							
13	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	10.0	10.0	10.0	10.0	9.7	37.89	18.57
	halosulfuron	75	WG	.023	lb ai/a	PO1							
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
14	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	10.0	10.0	10.0	10.0	10.0	36.54	20.95
	bentazon	4	L	1	lb ai/a	PO1							
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
15	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	10.0	10.0	10.0	10.0	10.0	35.16	19.18
	imazamox	1	AS	0.031	lb ai/a	PO1							
16	s-metolachlor	7.62	EC	1.3	lb ai/a	PRE	10.0	10.0	9.7	10.0	10.0	29.07	19.57
	fomesafen	2	EC	0.25	lb ai/a	PO1							
17	Untreated						1.0	10.0	9.0	8.3	7.3	21.66	11.68
	fomesafen	2	EC	0.25	lb ai/a	PO1							
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1							
18	Untreated						1.0	4.3	1.7	1.0	1.0	15.19	7.75
LSD (P=.05)							2.83	2.80	1.37	1.16	1.80	6.851	2.877
Standard Deviation							1.70	1.68	0.82	0.69	1.08	4.109	1.726
CV							21.12	18.42	9.42	7.64	13.05	12.81	9.79

Weed Control in Beets, Swiss Chard, and Spinach - HTRC

Project Code: WC 109-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Spinach, Red beet, Sugar beet, Swiss chard **Variety: UniPack 151, Red Cloud, Crystal 963,Giant Fordhook**
Planting Method: Seeded **Planting Date: 4/28/06**
Spacing: **Row Spacing:**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 7 ft wide x 35 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 1.6%** **pH: 6.8**
Sand: 57% **Silt: 26%** **Clay: 17%** **CEC: 6.5**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	4/28/06	2:00 pm	60/56	°F	Dry	3 E	18	Clear	N
PRE	5/2/06	9:00 am	59/56	°F	Dry	4 SSE	64	100% CLoudy	N
PO1	6/5/06	11:30 am	81/72	°F	Dry	4 NNE	45	15% Cloudy	n

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/5	REBE = Red beet			
6/5	SPIN = Spinach			
6/5	SUBE = Sugar beet			
6/5	SWCH = Swiss chard			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. 1 row red beets, 1 row sugar beets, 1 row spinach, 2 rows Swiss chard
4. Spinach did not grow well, no harvest data was recorded.

Weed Control in Beets, Swiss Chard, and Spinach - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 109-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	REBE	SPIN	SUBE	SWCH	COLQ	LATH
Pest Code							REBE	SPIN	SUBE	SWCH	COLQ	LATH
Rating Date							6/2/06	6/2/06	6/2/06	6/2/06	6/2/06	6/2/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	pyrazon	68	DF	3	lb ai/a	PRE	2.0	7.7	2.3	2.0	10.0	10.0
2	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	2.7	6.3	3.7	2.7	10.0	9.0
3	dimethenamid-P	6	EC	0.6	lb ai/a	PRE	5.0	7.3	6.0	5.3	9.7	10.0
4	ethofumesate	4	SC	2	lb ai/a	PRE	1.3	1.7	1.7	1.0	7.0	4.3
5	cycloate	6	EC	3	lb ai/a	PPI	3.0	5.7	4.7	2.3	7.7	8.0
6	triallate	4	EC	3	lb ai/a	PPI	2.0	4.3	2.3	1.7	5.7	3.0
7	triallate	4	EC	6	lb ai/a	PPI	3.3	6.3	5.3	2.7	8.7	2.0
8	untreated					PRE	1.7	2.7	2.3	1.0	3.3	1.0
	triflusulfuron	50	WDG	0.016	lb ai/a	PO1						
	phenmedipham	1.3	L	1	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
9	untreated					PRE	1.0	1.7	1.0	1.0	1.0	1.0
	clopyralid	3	L	0.125	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
10	untreated					PRE	1.3	1.3	1.0	1.0	1.0	1.0
	ethofumesate	4	SC	0.5	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
LSD (P=.05)							1.56	2.06	2.12	1.28	3.98	1.99
Standard Deviation							0.91	1.20	1.23	0.75	2.32	1.16
CV							38.95	26.64	40.67	36.19	36.22	23.5

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SHPU	REBE	SPIN	SUBE	SWCH	GRFT
Pest Code							SHPU	REBE	SPIN	SUBE	SWCH	GRFT
Rating Date							6/2/06	6/12/06	6/12/06	6/12/06	6/12/06	6/12/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	pyrazon	68	DF	3	lb ai/a	PRE	10.0	1.7	7.0	1.3	1.7	8.3
2	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	9.0	1.3	5.3	2.3	1.7	9.0
3	dimethenamid-P	6	EC	0.6	lb ai/a	PRE	10.0	5.0	7.0	4.0	5.3	7.3
4	ethofumesate	4	SC	2	lb ai/a	PRE	4.3	1.0	2.0	1.0	1.0	8.3
5	cycloate	6	EC	3	lb ai/a	PPI	8.0	1.3	4.3	2.3	1.0	5.0
6	triallate	4	EC	3	lb ai/a	PPI	3.0	1.3	2.3	1.0	1.0	6.3
7	triallate	4	EC	6	lb ai/a	PPI	2.0	2.3	5.3	4.0	1.3	7.3
8	untreated					PRE	1.0	1.3	6.0	1.3	1.0	3.7
	triflusulfuron	50	WDG	0.016	lb ai/a	PO1						
	phenmedipham	1.3	L	1	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
9	untreated					PRE	1.0	1.0	2.0	1.0	1.0	5.0
	clopyralid	3	L	0.125	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
10	untreated					PRE	1.0	1.7	2.7	1.0	1.3	8.0
	ethofumesate	4	SC	0.5	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
LSD (P=.05)							1.99	1.36	2.50	2.43	0.85	4.64
Standard Deviation							1.16	0.79	1.46	1.42	0.50	2.71
CV							23.5	43.95	33.08	73.35	30.5	39.62

Weed Control in Beets, Swiss Chard, and Spinach - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	COLQ	EBNS	LATH	SHPU	RRPW	REBE
Pest Code							COLQ	EBNS	LATH	SHPU	RRPW	REBE
Rating Date							6/12/06	6/12/06	6/12/06	6/12/06	6/12/06	7/31/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	NUMBER
Rating Unit												#/PLOT
1	pyrazon	68	DF	3	lb ai/a	PRE	10.0	10.0	10.0	10.0	10.0	100.67
2	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	9.0	10.0	8.0	6.3	9.3	89.00
3	dimethenamid-P	6	EC	0.6	lb ai/a	PRE	9.7	10.0	9.7	9.7	9.7	51.00
4	ethofumesate	4	SC	2	lb ai/a	PRE	6.3	9.0	9.7	4.0	9.7	78.67
5	cycloate	6	EC	3	lb ai/a	PPI	7.3	4.3	5.7	4.0	6.0	73.00
6	triallate	4	EC	3	lb ai/a	PPI	5.0	7.0	4.0	2.0	7.3	68.00
7	triallate	4	EC	6	lb ai/a	PPI	8.7	10.0	7.0	1.3	7.3	34.00
8	untreated					PRE	8.0	8.0	7.0	8.3	7.7	70.00
	triflusulfuron	50	WDG	0.016	lb ai/a	PO1						
	phenmedipham	1.3	L	1	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
9	untreated					PRE	3.0	8.3	3.7	2.3	3.0	71.67
	clopyralid	3	L	0.125	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
10	untreated					PRE	6.3	5.3	2.7	4.7	8.0	64.33
	ethofumesate	4	SC	0.5	lb ai/a	PO1						
	clethodim	0.97	EC	0.07	lb ai/a	PO1						
LSD (P=.05)							3.67	4.98	2.76	2.38	4.19	29.508
Standard Deviation							2.14	2.90	1.61	1.39	2.44	17.201
CV							29.19	35.37	23.86	26.3	31.29	24.56

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	REBE	REBE	SWCH	SUBE	SUBE
Pest Code							REBE	REBE	SWCH	SUBE	SUBE
Rating Date							7/31/06	7/31/06	7/27/06	10/9/06	10/9/06
Rating Data Type							LEAF	ROOT	HARVEST	HARVEST	HARVEST
Rating Unit							KG/PLOT	KG/PLOT	KG/PLOT	#/PLOT	KG/PLOT
1	pyrazon	68	DF	3	lb ai/a	PRE	4.73	9.27	25.32	42.3	35.87
2	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	4.05	6.64	23.96	44.3	40.45
3	dimethenamid-P	6	EC	0.6	lb ai/a	PRE	2.81	5.81	18.91	42.3	41.00
4	ethofumesate	4	SC	2	lb ai/a	PRE	3.63	6.64	28.77	48.3	35.91
5	cycloate	6	EC	3	lb ai/a	PPI	3.24	4.65	22.79	48.7	31.47
6	triallate	4	EC	3	lb ai/a	PPI	2.35	3.34	17.15	49.0	33.94
7	triallate	4	EC	6	lb ai/a	PPI	1.74	1.99	20.98	26.3	25.41
8	untreated					PRE	3.01	4.93	28.14	51.7	49.17
	triflusulfuron	50	WDG	0.016	lb ai/a	PO1					
	phenmedipham	1.3	L	1	lb ai/a	PO1					
	clethodim	0.97	EC	0.07	lb ai/a	PO1					
9	untreated					PRE	2.39	3.04	18.48	46.3	35.07
	clopyralid	3	L	0.125	lb ai/a	PO1					
	clethodim	0.97	EC	0.07	lb ai/a	PO1					
10	untreated					PRE	1.84	2.32	16.07	50.3	29.56
	ethofumesate	4	SC	0.5	lb ai/a	PO1					
	clethodim	0.97	EC	0.07	lb ai/a	PO1					
LSD (P=.05)							1.323	2.164	11.331	14.93	14.334
Standard Deviation							0.771	1.261	6.605	8.70	8.356
CV							25.89	25.95	29.95	19.36	23.35

Weed Control in Broccoli and Cabbage - HTRC

Project Code: WC 114-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Broccoli, Cabbage **Variety: Packman, Blue Lagoon**
Planting Method: Transplant **Planting Date: 5/25/06**
Spacing: 24″ **Row Spacing: 36 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 35 ft long

Soil Type: Marlette Sandy Loam **OM: 2.5%** **pH: 7.0**
Sand: 60% **Silt: 21%** **Clay: 19** **CEC: 7.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	5/25/06	10:45 am	67/60	°F	Dry	5 S	82	100% cloudy	N
PRT	5/25/06	11:15 am	67/60	°F	Dry	5 S	82	100% cloudy	N
POT	5/25/06	3:00 pm	79/69	°F	Dry	5 S	55	85% cloudy	N
PO1	6/19/06	10:30 am	79/73	°F	Damp	7 SW	66	10% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/19	Broccoli	6-10″		
6/19	Cabbage	6-10″		
6/19	GIFT = giant foxtail	3-4″		few
6/19	GRFT = green foxtail	3-4″		few
6/19	LACG = large crabgrass	3-4		few
6/19	COLQ = common lambsquarters	2-6″		moderate
6/19	EBNS = eastern black nightshade	1-3″		moderate
6/19	LATH = ladysthumb	2-4″		few
6/19	RRPW = redroot pigweed	3-6″		moderate
6/19	WIRA = wild radish	3-6″		moderate
6/30	GRFT = green foxtail			
	CORW = common ragweed			
	EBNS = eastern black nightshade			
	RRPW = redroot pigweed			
	WIRA = wild radish			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One row for each crop/plot
4. Broccoli harvested 3 times, all mature heads each harvest.
5. Cabbage harvested 3 times, all mature heads each harvest.

Weed Control in Broccoli and Cabbage - HTRC

Dept. of Horticulture, MSU

Trial ID: 114-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BROC	CABB	GIFT	GRFT	LACG	COLQ
	Pest Code						BROC	CABB	GIFT	GRFT	LACG	COLQ
	Rating Date						6/19/06	6/19/06	6/19/06	6/19/06	6/19/06	6/19/06
	Rating Data Type						RATING	RATING	RATING	RATING	RATING	RATING
	Rating Unit											
1	trifluralin	4	EC	1	lb ai/a	PPI	1.3	1.3	7.3	7.3	9.3	9.7
2	trifluralin	4	EC	1	lb ai/a	PPI	1.7	1.0	9.0	9.0	9.7	10.0
	oxyfluorfen	2	L	0.5	lb ai/a	PRT						
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	9.3	10.0	10.0	9.0
4	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	8.0
5	clomazone	3	ME	0.5	lb ai/a	PRT	3.0	1.0	9.3	9.3	8.7	9.3
6	dimethenamid	6	EC	0.75	lb ai/a	POT	2.0	1.3	10.0	10.0	10.0	10.0
7	sulfentrazone	4	F	0.14	lb ai/a	PRT	1.0	1.7	6.7	6.3	7.7	10.0
8	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	1.0	1.3	9.0	9.0	9.0	8.0
	oxyfluorfen	2	L	0.063	lb ai/a	PO1						
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	9.3	10.0	10.0	6.3
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1						
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	2.0	9.7	10.0	10.0	8.0
11	carfentrazone	4	F	0.14	lb ai/a	PO1	1.0	1.0	3.0	3.0	3.0	5.3
12	KIH-485	85	WG	0.112	lb ai/a	POT	1.3	1.3	9.0	9.3	9.7	10.0
13	pendimethalin	3.3	EC	1	lb ai/a	POT	1.0	2.0	7.0	7.0	8.0	10.0
14	pendimethalin	3.8	CS	1	lb ai/a	POT	1.0	1.3	8.3	8.3	9.0	10.0
15	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.98	0.94	1.45	1.31	1.57	1.43
Standard Deviation							0.59	0.56	0.86	0.78	0.94	0.85
CV							45.64	43.39	10.99	9.81	11.29	10.26

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	EBNS	LATH	RRPW	WIRA	BROC	CABB
	Pest Code						EBNS	LATH	RRPW	WIRA	BROC	CABB
	Rating Date						6/19/06	6/19/06	6/19/06	6/19/06	6/30/06	6/30/06
	Rating Data Type						RATING	RATING	RATING	RATING	RATING	RATING
	Rating Unit											
1	trifluralin	4	EC	1	lb ai/a	PPI	6.3	8.7	9.3	6.7	1.0	1.0
2	trifluralin	4	EC	1	lb ai/a	PPI	10.0	10.0	10.0	9.7	1.3	1.0
	oxyfluorfen	2	L	0.5	lb ai/a	PRT						
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	9.0	9.0	8.0	1.0	1.0
4	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	9.3	9.0	10.0	6.3	1.3	1.3
5	clomazone	3	ME	0.5	lb ai/a	PRT	7.7	9.7	9.0	8.3	1.0	1.3
6	dimethenamid	6	EC	0.75	lb ai/a	POT	10.0	10.0	10.0	6.7	1.3	1.3
7	sulfentrazone	4	F	0.14	lb ai/a	PRT	10.0	10.0	10.0	6.3	1.3	1.3
8	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	10.0	10.0	10.0	5.0	1.3	1.7
	oxyfluorfen	2	L	0.063	lb ai/a	PO1						
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	9.0	10.0	7.3	1.3	1.3
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1						
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	9.0	10.0	6.0	1.0	1.3
11	carfentrazone	4	F	0.14	lb ai/a	PO1	7.0	7.3	4.0	7.7	2.3	2.0
12	KIH-485	85	WG	0.112	lb ai/a	POT	10.0	10.0	10.0	9.7	1.0	1.0
13	pendimethalin	3.3	EC	1	lb ai/a	POT	10.0	9.7	9.3	6.3	1.0	2.0
14	pendimethalin	3.8	CS	1	lb ai/a	POT	9.3	9.0	9.0	6.3	1.3	1.7
15	Untreated						1.0	1.0	1.0	1.0	2.0	1.7
LSD (P=.05)							1.21	1.55	1.15	1.85	0.94	1.01
Standard Deviation							0.73	0.92	0.69	1.10	0.56	0.61
CV							8.33	10.56	7.87	16.33	42.65	43.25

Weed Control in Broccoli and Cabbage - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	GRFT 6/30/06 RATING	CORW 6/30/06 RATING	EBNS 6/30/06 RATING	RRPW 6/30/06 RATING	WIRA 6/30/06 RATING	BROC 7/17/06 HARVEST #/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	4.0	6.0	1.7	6.7	4.0	10.7
2	trifluralin	4	EC	1	lb ai/a	PPI	7.0	10.0	10.0	10.0	9.7	13.3
	oxyfluorfen	2	L	0.5	lb ai/a	PRT						
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	8.0	7.3	10.0	9.3	8.0	12.3
4	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	9.3	7.0	10.0	10.0	5.3	9.7
5	clomazone	3	ME	0.5	lb ai/a	PRT	8.0	10.0	6.3	8.3	9.0	11.3
6	dimethenamid	6	EC	0.75	lb ai/a	POT	9.7	10.0	10.0	10.0	6.0	10.0
7	sulfentrazone	4	F	0.14	lb ai/a	PRT	6.0	9.0	10.0	10.0	5.7	11.0
8	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	9.7	10.0	10.0	10.0	8.3	8.7
	oxyfluorfen	2	L	0.063	lb ai/a	PO1						
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.7	10.0	10.0	10.0	8.3	10.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1						
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.0	7.7	10.0	8.7	5.3	11.0
11	carfentrazone	4	F	0.14	lb ai/a	PO1	1.7	5.0	10.0	10.0	4.3	5.7
12	KIH-485	85	WG	0.112	lb ai/a	POT	8.7	10.0	7.0	10.0	9.3	11.0
13	pendimethalin	3.3	EC	1	lb ai/a	POT	4.7	5.3	7.7	6.7	2.3	5.0
14	pendimethalin	3.8	CS	1	lb ai/a	POT	7.3	7.7	9.7	8.3	5.0	7.0
15	Untreated						6.7	10.0	9.0	10.0	9.0	4.7
LSD (P=.05)							1.71	4.60	3.20	1.93	2.90	4.72
Standard Deviation							1.02	2.75	1.91	1.16	1.73	2.82
CV							14.0	33.0	21.85	12.57	26.1	29.93

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BROC 7/17/06 HARVEST KG/PLOT	BROC 7/21/06 HARVEST #/PLOT	BROC 7/21/06 HARVEST KG/PLOT	BROC 7/26/06 HARVEST #/PLOT	BROC 7/26/06 HARVEST KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	2.07	4.3	0.62	3.0	0.34
2	trifluralin	4	EC	1	lb ai/a	PPI	3.82	1.3	0.22	3.3	0.40
	oxyfluorfen	2	L	0.5	lb ai/a	PRT					
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	3.05	2.7	0.43	2.3	0.30
4	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	2.67	4.7	0.69	2.7	0.37
5	clomazone	3	ME	0.5	lb ai/a	PRT	2.40	3.3	0.59	3.3	0.37
6	dimethenamid	6	EC	0.75	lb ai/a	POT	2.61	3.7	0.60	3.0	0.27
7	sulfentrazone	4	F	0.14	lb ai/a	PRT	2.07	2.7	0.35	3.0	0.28
8	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	2.33	3.3	0.55	3.3	0.41
	oxyfluorfen	2	L	0.063	lb ai/a	PO1					
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	2.76	3.3	0.49	5.0	0.72
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1					
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	2.61	3.0	0.69	4.0	0.51
11	carfentrazone	4	F	0.14	lb ai/a	PO1	0.75	2.3	0.21	4.7	0.32
12	KIH-485	85	WG	0.112	lb ai/a	POT	2.94	3.7	0.75	3.3	0.40
13	pendimethalin	3.3	EC	1	lb ai/a	POT	0.77	2.7	0.49	4.3	0.49
14	pendimethalin	3.8	CS	1	lb ai/a	POT	1.63	5.3	0.85	2.3	0.29
15	Untreated						0.73	4.0	0.43	5.3	0.52
LSD (P=.05)							1.532	3.29	0.551	2.77	0.400
Standard Deviation							0.916	1.97	0.330	1.66	0.239
CV							41.38	58.62	61.99	46.91	59.79

Weed Control in Broccoli and Cabbage - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BROC 7/28/06 HARVEST TOTAL #	BROC 7/28/06 HARVEST TOTAL KG	CABB 8/1/06 HARVEST #/PLOT	CABB 8/1/06 HARVEST KG/PLOT	CABB 8/9/06 HARVEST #/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	18.0	3.03	2.0	2.07	6.7
2	trifluralin	4	EC	1	lb ai/a	PPI	18.0	4.44	6.7	8.06	7.0
	oxyfluorfen	2	L	0.5	lb ai/a	PRT					
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	17.3	3.78	2.0	2.25	7.0
4	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	17.0	3.73	0.7	0.81	5.0
5	clomazone	3	ME	0.5	lb ai/a	PRT	18.0	3.37	3.3	3.44	6.7
6	dimethenamid	6	EC	0.75	lb ai/a	POT	16.7	3.48	3.7	4.63	12.3
7	sulfentrazone	4	F	0.14	lb ai/a	PRT	16.7	2.70	1.0	1.37	7.7
8	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	15.3	3.29	3.0	3.57	6.7
	oxyfluorfen	2	L	0.063	lb ai/a	PO1					
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	18.3	3.97	1.0	1.21	9.3
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1					
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	18.0	3.81	3.3	3.93	4.0
11	carfentrazone	4	F	0.14	lb ai/a	PO1	12.7	1.28	1.3	1.68	8.7
12	KIH-485	85	WG	0.112	lb ai/a	POT	18.0	4.09	4.3	5.58	8.3
13	pendimethalin	3.3	EC	1	lb ai/a	POT	12.0	1.75	0.3	0.35	1.7
14	pendimethalin	3.8	CS	1	lb ai/a	POT	14.7	2.77	2.0	2.19	3.3
15	Untreated						14.0	1.68	0.7	0.77	4.7
LSD (P=.05)							4.48	1.453	2.60	3.403	5.27
Standard Deviation							2.68	0.869	1.55	2.035	3.15
CV							16.43	27.63	66.01	72.81	47.78

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CABB 8/9/06 HARVEST KG/PLOT	CABB 8/16/06 HARVEST #/PLOT	CABB 8/16/06 HARVEST KG/PLOT	CABB HARVEST TOTAL #	CABB HARVEST TOTAL KG
1	trifluralin	4	EC	1	lb ai/a	PPI	6.47	7.0	5.69	15.7	14.23
2	trifluralin	4	EC	1	lb ai/a	PPI	7.62	4.0	4.47	17.7	20.14
	oxyfluorfen	2	L	0.5	lb ai/a	PRT					
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.10	8.7	9.27	17.7	20.61
4	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	6.80	6.0	6.35	11.7	13.96
5	clomazone	3	ME	0.5	lb ai/a	PRT	7.49	7.0	7.39	17.0	18.33
6	dimethenamid	6	EC	0.75	lb ai/a	POT	13.57	1.0	0.88	17.0	19.09
7	sulfentrazone	4	F	0.14	lb ai/a	PRT	6.19	4.7	3.46	13.3	11.03
8	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	8.23	6.3	6.43	16.0	18.24
	oxyfluorfen	2	L	0.063	lb ai/a	PO1					
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	11.04	5.7	5.63	16.0	17.89
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1					
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	4.83	7.3	7.15	14.7	15.92
11	carfentrazone	4	F	0.14	lb ai/a	PO1	5.81	1.0	0.57	11.0	8.07
12	KIH-485	85	WG	0.112	lb ai/a	POT	10.08	5.0	5.97	17.7	21.63
13	pendimethalin	3.3	EC	1	lb ai/a	POT	1.69	4.3	3.34	6.3	5.38
14	pendimethalin	3.8	CS	1	lb ai/a	POT	3.65	7.0	5.91	12.3	11.75
15	Untreated						4.84	6.0	4.23	11.3	9.85
LSD (P=.05)							5.268	4.09	4.208	5.29	6.441
Standard Deviation							3.150	2.44	2.517	3.16	3.852
CV							43.99	45.25	49.17	22.03	25.55

Preemergence Weed Control in Cantaloupe with Matrix - HTRC

Project Code: WC 108-06-02 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott, Sylvia Morse
Crop: Cantaloupe **Variety: Odyssey**
Planting Method: Transplant **Planting Date: 6/5/06**
Spacing: 3 FT **Row Spacing: 10 FT**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 10 ft wide x 30 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 2.2%** **pH: 7.4**
Sand: 56% **Silt: 24%** **Clay: 19%** **CEC: 13.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRT	6/2/06	2:20 pm	79/72	°F	Dry	5 S	45	Clear	N

Date	Crop or Weed	Height or Diameter	Growth Stage	Density

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Transplants started in greenhouse 4/25/06.
4. Black plastic laid 6/5/06 and plants set the same day.

Preemergence Weed Control in Cantaloupe with Matrix - HTRC

Dept. of Horticulture, MSU

Trial ID: WC-IR-4-06
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 6/12/06 RATING	CANTAL 6/26/06 RATING	CANTAL 7/13/06 RATING	CANTAL 7/28/06 RATING	CANTAL 8/18/06 HARVEST #/PLOT	CANTAL 8/18/06 HARVEST KG/PLOT
1	Untreated					PRT	1.0	3.3	2.7	1.3	1.7	6.63
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	1.0	6.3	4.0	2.0	1.3	4.73
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	1.0	7.3	5.7	3.3	0.7	1.59
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	1.0	6.0	4.0	2.0	0.3	1.58
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	1.0	6.3	5.7	3.3	0.0	0.00
6	clomazone	3	ME	0.25	lb ai/a	PRT	1.0	6.3	2.3	1.0	2.7	9.53
LSD (P=.05)							0.00	3.56	3.13	1.91	3.21	12.158
Standard Deviation							0.00	1.96	1.72	1.05	1.77	6.683
CV							0.0	32.89	42.39	48.41	159.03	166.71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 8/21/06 HARVEST #/PLOT	CANTAL 8/21/06 HARVEST KG/PLOT	CANTAL 8/22/06 HARVEST #/PLOT	CANTAL 8/22/06 HARVEST KG/PLOT	CANTAL 8/23/06 HARVEST #/PLOT
1	Untreated					PRT	2.3	8.61	0.7	2.35	0.3
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	0.3	1.41	0.7	2.03	1.0
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	0.0	0.00	0.7	2.69	0.3
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	1.3	4.78	1.0	3.41	0.3
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	0.3	1.07	0.0	0.00	0.0
6	clomazone	3	ME	0.25	lb ai/a	PRT	2.0	9.07	2.0	8.24	1.0
LSD (P=.05)							2.29	9.146	1.96	6.998	1.37
Standard Deviation							1.26	5.028	1.08	3.847	0.75
CV							119.42	120.96	129.61	123.24	150.55

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 8/23/06 HARVEST KG/PLOT	CANTAL 8/24/06 HARVEST #/PLOT	CANTAL 8/24/06 HARVEST KG/PLOT	CANTAL 8/25/06 HARVEST #/PLOT	CANTAL 8/25/06 HARVEST KG/PLOT
1	Untreated					PRT	0.91	1.7	6.40	0.7	1.57
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	4.08	1.7	5.38	1.0	3.70
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	1.17	1.0	3.66	0.7	2.02
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	1.22	1.7	5.54	0.7	2.60
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	0.00	0.3	1.63	0.7	2.45
6	clomazone	3	ME	0.25	lb ai/a	PRT	3.57	2.7	9.49	0.7	2.41
LSD (P=.05)							4.825	1.73	7.233	1.51	5.356
Standard Deviation							2.652	0.95	3.976	0.83	2.944
CV							145.37	63.25	74.33	114.92	119.75

Preemergence Weed Control in Cantaloupe with Matrix - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 8/28/06 HARVEST #/PLOT	CANTAL 8/28/06 HARVEST KG/PLOT	CANTAL 8/29/06 HARVEST #/PLOT	CANTAL 8/29/06 HARVEST KG/PLOT	CANTAL 8/30/06 HARVEST #/PLOT
1	Untreated					PRT	2.7	9.71	0.0	0.00	0.3
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	0.3	1.34	0.0	0.00	0.7
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	0.7	2.03	0.3	0.47	0.3
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	1.7	6.43	0.7	1.45	0.3
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	0.0	0.00	0.7	1.51	0.3
6	clomazone	3	ME	0.25	lb ai/a	PRT	1.0	3.67	0.3	0.89	1.0
LSD (P=.05)							2.32	8.738	0.74	1.635	1.15
Standard Deviation							1.27	4.803	0.41	0.899	0.63
CV							120.66	124.33	122.47	124.58	126.49

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 8/30/06 HARVEST KG/PLOT	CANTAL 8/30/06 HARVEST #/PLOT	CANTAL 8/30/06 HARVEST KG/PLOT	CANTAL 9/1/06 HARVEST #/PLOT	CANTAL 9/1/06 HARVEST KG/PLOT
1	Untreated					PRT	1.03	0.3	1.23	0.3	1.43
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	2.43	0.0	0.00	0.0	0.00
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	1.17	0.3	0.86	0.0	0.00
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	1.17	0.7	2.39	1.0	3.37
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	1.38	0.3	1.45	0.0	0.00
6	clomazone	3	ME	0.25	lb ai/a	PRT	4.53	0.3	1.34	0.3	1.45
LSD (P=.05)							4.628	1.00	3.652	0.79	3.010
Standard Deviation							2.544	0.55	2.008	0.43	1.655
CV							130.2	164.32	165.99	156.46	158.86

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 9/5/06 HARVEST #/PLOT	CANTAL 9/5/06 HARVEST KG/PLOT	CANTAL 9/7/06 HARVEST #/PLOT	CANTAL 9/7/06 HARVEST KG/PLOT	CANTAL 9/8/06 HARVEST #/PLOT
1	Untreated					PRT	0.3	1.51	0.0	0.00	1.0
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	1.0	3.66	1.0	3.86	0.7
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	0.3	1.17	0.3	1.18	2.0
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	0.7	2.35	0.7	1.80	0.7
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	1.0	3.81	0.0	0.00	1.0
6	clomazone	3	ME	0.25	lb ai/a	PRT	1.3	4.29	0.3	1.41	0.3
LSD (P=.05)							1.58	5.853	1.13	3.769	2.48
Standard Deviation							0.87	3.218	0.62	2.072	1.36
CV							111.76	115.02	160.36	150.56	144.23

Preemergence Weed Control in Cantaloupe with Matrix - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							CANTAL	CANTAL	CANTAL	CANTAL	CANTAL
Rating Date							9/8/06	9/11/06	9/11/06	9/13/06	9/13/06
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							KG/PLOT	#/PLOT	KG/PLOT	#/PLOT	KG/PLOT
1	Untreated					PRT	3.09	0.0	0.00	0.3	1.61
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	2.29	0.3	1.39	1.3	3.88
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	5.80	1.7	6.11	0.3	0.98
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	1.45	0.3	1.32	0.3	0.93
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	3.65	2.3	10.30	2.7	9.69
6	clomazone	3	ME	0.25	lb ai/a	PRT	1.50	1.3	5.28	1.0	4.56
LSD (P=.05)							7.479	2.15	8.951	1.20	4.455
Standard Deviation							4.111	1.18	4.920	0.66	2.449
CV							138.73	118.32	120.96	65.83	67.86

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							CANTAL	CANTAL	CANTAL	CANTAL	CANTAL
Rating Date							9/15/06	9/15/06	9/18/06	9/18/06	9/20/06
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							#/PLOT	KG/PLOT	#/PLOT	KG/PLOT	#/PLOT
1	Untreated					PRT	0.0	0.00	1.3	4.34	1.7
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	1.3	3.44	1.7	4.93	1.0
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	1.0	2.93	1.3	3.87	1.0
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	0.3	0.87	1.7	5.91	1.7
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	1.3	4.74	1.0	3.93	0.3
6	clomazone	3	ME	0.25	lb ai/a	PRT	0.0	0.00	2.7	9.87	1.0
LSD (P=.05)							1.96	6.499	2.85	10.190	1.93
Standard Deviation							1.08	3.573	1.57	5.601	1.06
CV							162.02	178.89	97.26	102.3	95.34

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage					
Pest Code							CANTAL	CANTAL	CANTAL	CANTAL	CANTAL
Rating Date							9/20/06	9/22/06	9/22/06	9/25/06	9/25/06
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							KG/PLOT	#/PLOT	KG/PLOT	#/PLOT	KG/PLOT
1	Untreated					PRT	3.89	0.3	0.76	0.0	0.00
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	3.72	1.0	1.81	1.3	3.36
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	3.91	0.7	1.70	0.0	0.00
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	5.55	0.3	0.76	0.7	2.14
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	1.26	0.7	1.90	0.0	0.00
6	clomazone	3	ME	0.25	lb ai/a	PRT	4.37	0.7	1.10	0.3	0.60
LSD (P=.05)							5.868	1.40	3.100	2.09	5.506
Standard Deviation							3.226	0.77	1.704	1.15	3.027
CV							85.28	125.57	127.31	295.68	297.69

Preemergence Weed Control in Cantaloupe with Matrix - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CANTAL 9/27/06 HARVEST #/PLOT	CANTAL 9/27/06 HARVEST KG/PLOT	CANTAL 10/3/06 HARVEST #/PLOT	CANTAL 10/3/06 HARVEST KG/PLOT	CANTAL TOTAL #/PLOT	CANTAL TOTAL KG/PLOT
1	Untreated					PRT	0.0	0.00	3.3	7.45	19.3	62.49
2	rimsulfuron	25	DF	0.015	lb ai/a	PRT	0.0	0.00	2.0	4.32	19.7	61.77
3	rimsulfuron	25	DF	0.0225	lb ai/a	PRT	1.0	3.20	5.7	14.23	20.3	60.76
4	rimsulfuron	25	DF	0.03	lb ai/a	PRT	0.0	0.00	3.7	8.83	20.7	65.86
5	rimsulfuron	25	DF	0.06	lb ai/a	PRT	0.3	1.01	2.3	4.92	15.7	54.70
6	clomazone	3	ME	0.25	lb ai/a	PRT	1.0	2.85	1.3	3.30	25.3	93.34
LSD (P=.05)							0.79	2.065	3.66	10.959	7.67	27.338
Standard Deviation							0.43	1.135	2.01	6.024	4.22	15.028
CV							111.76	96.47	65.91	83.95	20.9	22.6

Postemergence Weed Control in Carrot - Fremont

Project Code: WC 107-06-01 **Location: Fremont, Vogel Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Sugarsnax**
Planting Method: Seed **Planting Date: 5/20/06**
Spacing: 0.32 IN **Row Spacing: See notes**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 35 ft long

Soil Type: Piperstone Sand **OM: 2.4%** **pH: 5.8**
Sand: 89% **Silt: 7%** **Clay: 2.4%** **CEC: 5.2**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/13/06	3:00 pm	75/82	°F	Dry	6 NW	34	20% Cloudy	N
PO2	7/13/06	10:00 am	87/72	°F	Adequate	1 W	48	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/23	Carrot	2-4″		
6/23	COLQ = common lambsquarters	4-12″		many
6/23	HANS = hairy nightshade	4-6″		many
6/23	RRPW = redroot pigweed	2-6″		many
6/23	PRSP = prostrate spurge	4-6″		moderate
7/25	Carrot			
7/25	PRSP = prostrate spurge	4-6″		moderate

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. 3 double rows/plot spaced 18″ in between double rows.
4. Harvested all carrots from 5 ft of bed.
5. 0.5 lb/A Lorox sprayed on weedy plots 6/23/06.

Postemergence Weed Control in Carrot - Fremont

Dept. of Horticulture, MSU

Trial ID: WC 107-06-01 Study Director: Dr. Bernard Zandstra
Location: Fremont – Vogel Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CARROT 6/23/06 RATING	COLQ 6/23/06 RATING	HANS 6/23/06 RATING	RRPW 6/23/06 RATING	CARROT 7/25/06 RATING	PRSP 7/25/06 RATING	CARROT 9/6/06 HARVEST KG/ 5 FT
1	linuron	50	DF	0.5	lb ai/a	PO1,2	1.7	10.0	10.0	10.0	1.0	8.3	14.08
	NIS	100	SL	0.25	% v/v	PO1,2							
2	linuron	50	DF	1	lb ai/a	PO1,2	2.3	10.0	10.0	10.0	1.7	8.3	13.22
	NIS	100	SL	0.25	% v/v	PO1,2							
3	oxyfluorfen	2	L	0.031	lb ai/a	PO1,2	1.0	6.7	6.7	3.7	3.0	3.0	10.82
4	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	2.3	8.3	8.7	5.3	2.3	7.0	12.38
5	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2	1.3	8.3	9.7	4.7	2.0	3.7	11.91
6	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.0	8.3	8.7	5.3	2.3	6.7	11.02
7	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	7.0	8.3	10.0	7.7	5.0	5.7	9.07
8	prometryn	4	L	0.75	lb ai/a	PO1,2	4.7	9.3	10.0	10.0	3.0	4.7	11.35
9	metribuzin	75	DF	0.25	lb ai/a	PO1,2	1.7	10.0	4.0	7.7	2.3	10.0	12.89
10	metribuzin	75	DF	0.5	lb ai/a	PO1,2	2.3	9.3	3.7	9.3	3.7	10.0	10.25
11	Untreated						1.0	3.0	1.7	2.7	1.3	6.0	12.76
LSD (P=.05)							1.50	2.74	3.58	2.33	1.18	5.74	2.170
Standard Deviation							0.88	1.61	2.10	1.37	0.69	3.37	1.274
CV							36.79	19.33	27.86	19.67	27.51	50.58	10.80

Preemergence Weed Control in Carrot – Muck Farm

Project Code: WC 107-06-02 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Sugarsnax 54**
Planting Method: Seeded **Planting Date: 5/8/06**
Spacing: 0.5 IN **Row Spacing: 16 IN, 3 rows/plot**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 7.0**
Sand: 6% **Silt: 13%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/9/06	9:30 am	70/58	°F	Dry	3 W	61	100% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/12	Carrot			
6/12	LACG = large crabgrass			
6/12	COPU = common purslane			
6/12	LATH = ladysthumb			
6/12	RRPW = redroot pigweed			
6/12	SHPU = shepherdspurse			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Field suffered serious water damage from heavy rains in July. Carrots were not harvested.

Preemergence Weed Control in Carrot – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 107-06-02 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CARROT 6/12/06 RATING	LACG 6/12/06 RATING	COPU 6/12/06 RATING	LATH 6/12/06 RATING	RRPW 6/12/06 RATING	SHPU 6/12/06 RATING
1	linuron	50	DF	1	lb ai/a	PRE	1.0	6.7	6.0	4.7	8.3	9.0
2	metribuzin	75	DF	0.5	lb ai/a	PRE	2.3	8.7	8.3	9.7	8.7	10.0
3	prometryn	4	L	1	lb ai/a	PRE	1.0	7.0	6.3	6.7	7.7	6.3
4	s-metolachlor	7.62	EC	1.9	lb ai/a	PRE	2.3	10.0	8.0	8.0	10.0	9.0
5	linuron	50	DF	1	lb ai/a	PRE	1.7	10.0	8.3	8.0	10.0	9.7
	s-metolachlor	7.62	EC	1.9	lb ai/a	PRE						
6	flumioxazin	51	WDG	0.032	lb ai/a	PRE	4.7	4.7	7.3	7.7	9.3	8.7
7	flumioxazin	51	WDG	0.064	lb ai/a	PRE	6.7	7.7	9.0	9.0	9.7	9.3
8	clomazone	3	ME	1	lb ai/a	PRE	1.3	6.7	8.0	9.0	8.7	8.0
9	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.0	8.7	7.3	4.3	7.0	2.7
10	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	7.7	7.0	6.7	6.7	4.3
11	ethofumesate	4	SC	2	lb ai/a	PRE	1.0	10.0	6.3	8.7	8.7	4.0
12	Untreated						1.0	1.7	1.0	2.3	1.0	1.7
LSD (P=.05)							0.71	3.78	1.19	2.72	2.34	2.76
Standard Deviation							0.42	2.23	0.70	1.60	1.38	1.63
CV							20.04	30.01	10.15	22.74	17.32	23.66

Postemergence Weed Control in Carrot – Muck Farm

Project Code: WC 107-06-03 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Sugarsnax 54**
Planting Method: Seeded **Planting Date: 5/8/06**
Spacing: 0.5 IN **Row Spacing: 16 IN, 3 rows/plot**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 7.0**
Sand: 6% **Silt: 13%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/12/06	10:30 am	69/67	°F	Dry	8 N	55	20% Cloudy	N
PO2	7/10/06	1:00 pm	80/72	°F	Dry	8 W	34	5% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/12	Carrot			
6/12	COPU = common purslane	3-4″		few
6/12	RRPW = redroot pigweed	2-4″		few
6/12	LATH = ladysthumb	2-4		few
6/12	SHPU = shepherdspurse			
7/21	COLQ = common lambsquarters			
	LATH = ladysthumb			
	RRPW = redroot pigweed			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Field suffered serious water damage from heavy rains in July. Carrots were not harvested.

Postemergence Weed Control in Carrot – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 107-06-04 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CARROT 6/26/06 RATING	COLQ 6/26/06 RATING	COPU 6/26/06 RATING	LATH 6/26/06 RATING	RRPW 6/26/06 RATING	SHPU 6/26/06 RATING
1	linuron	50	DF	0.5	lb ai/a	PO1,2	1.0	10.0	9.7	9.0	10.0	10.0
	NIS	100	SL	0.25	% v/v	PO1,2						
2	oxyfluorfen	2	L	0.031	lb ai/a	PO1,2	2.0	4.0	8.0	8.3	10.0	9.7
3	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2	1.7	4.7	9.3	8.7	9.7	10.0
4	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	2.7	6.7	6.0	8.7	8.7
5	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	2.7	2.3	9.7	9.0	10.0	10.0
6	metribuzin	75	DF	0.25	lb ai/a	PO1,2	1.0	9.7	10.0	9.7	10.0	10.0
7	prometryn	4	L	1	lb ai/a	PO1,2	2.0	10.0	10.0	9.7	10.0	10.0
8	ethofumesate	4	SC	1	lb ai/a	PO1,2	1.0	8.0	10.0	8.7	10.0	9.7
9	ethofumesate	4	SC	2	lb ai/a	PO1,2	1.3	8.7	10.0	9.0	10.0	7.0
10	Untreated						1.0	1.0	1.0	1.0	1.0	3.7
LSD (P=.05)							0.55	2.64	1.16	2.07	0.68	4.06
Standard Deviation							0.32	1.54	0.67	1.20	0.40	2.36
CV							21.47	25.26	8.0	15.25	4.47	26.66

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CARROT 7/21/06 RATING	COLQ 7/21/06 RATING	LATH 7/21/06 RATING	RRPW 7/21/06 RATING
1	linuron	50	DF	0.5	lb ai/a	PO1,2	1.3	9.3	10.0	10.0
	NIS	100	SL	0.25	% v/v	PO1,2				
2	oxyfluorfen	2	L	0.031	lb ai/a	PO1,2	2.3	5.3	9.3	10.0
3	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2	1.7	4.3	8.0	9.7
4	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.7	5.0	8.0	10.0
5	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	3.0	4.7	8.7	10.0
6	metribuzin	75	DF	0.25	lb ai/a	PO1,2	1.7	9.3	9.7	10.0
7	prometryn	4	L	1	lb ai/a	PO1,2	1.7	10.0	8.7	10.0
8	ethofumesate	4	SC	1	lb ai/a	PO1,2	1.3	8.7	7.0	10.0
9	ethofumesate	4	SC	2	lb ai/a	PO1,2	1.7	8.3	8.3	10.0
10	Untreated						2.0	10.0	6.3	9.3
LSD (P=.05)							1.03	2.28	2.31	0.67
Standard Deviation							0.60	1.33	1.35	0.39
CV							32.69	17.68	16.02	3.94

Postemergence Weed Control in Carrot - HTRC

Project Code: WC 107-06-04 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Carson**
Planting Method: Seeded **Planting Date: 7/3/06**
Spacing: 3 IN **Row Spacing: 16 IN, 3 rows/plot**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 35t long

Soil Type: Capac Loam **OM: 5%** **pH: 6.5**
Sand: 61% **Silt: 15%** **Clay: 24%** **CEC: 16.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	8/16/06	10:30	78/70	°F	Dry	2 SE	53	Clear	N

Crop and Weed Information at Application

	Crop or Weed	Height or Diameter	Growth Stage	Density
8/16	Carrot	6-8″		

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Postemergence Weed Control in Carrot - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 107-06-04 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CARROT 8/28/06 RATING	CARROT 10/16/06 HARVEST KG/PLOT
	Pest Code						CARROT	CARROT
	Rating Date						8/28/06	10/16/06
	Rating Data Type						RATING	HARVEST
	Rating Unit							KG/PLOT
1	linuron	50	DF	0.5	lb ai/a	PO1	2.0	57.12
	NIS	100	SL	0.25	% v/v	PO1		
2	oxyfluorfen	2	L	0.031	lb ai/a	PO1	2.3	56.20
3	oxyfluorfen	4	SC	0.031	lb ai/a	PO1	1.3	54.34
4	flumioxazin	51	WDG	0.032	lb ai/a	PO1	3.7	45.67
5	flumioxazin	51	WDG	0.064	lb ai/a	PO1	5.0	45.52
6	metribuzin	75	DF	0.25	lb ai/a	PO1	1.0	60.84
7	prometryn	4	L	1	lb ai/a	PO1	1.3	54.57
8	ethofumesate	4	SC	1	lb ai/a	PO1	2.0	54.14
9	ethofumesate	4	SC	2	lb ai/a	PO1	1.7	47.35
10	Untreated						2.0	54.67
LSD (P=.05)							1.33	11.179
Standard Deviation							0.78	6.517
CV							34.79	12.29

Weed Control in Celery - Muck Farm

Project Code: WC 113-06-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Celery **Variety: Duchess**
Planting Method: Transplant **Planting Date: 6/1/06**
Spacing: 6 IN **Row Spacing: 36 IN, 2 rows/plot**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.33 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 6.9**
Sand: 6% **Silt: 14%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
POT	6/12/06	10:00 am	62/59	°F	Dry	5 SE	62	25% Cloudy	N
PO1	7/10/06	10:00 am	80/72	°F	Dry	8 W	34	5% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/26	Celery	4-6″		
7/10	Celery	10-14″		
7/10	COPU = common purslane	3-4″		moderate
7/10	RRPW = redroot pigweed	4-6″		few
	LACG = large crabgrass			
	COLQ = common lambsquarters			
	LATH = ladysthumb			

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Fields suffered serious water damage from heavy rains in July. Celery was not harvested.

Weed Control in Celery - Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 113-06-01 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CELERY 7/10/06 RATING	LACG 7/10/06 RATING	COLQ 7/10/06 RATING	COPU 7/10/06 RATING	RRPW 7/10/06 RATING	CELERY 7/21/06 RATING
1	prometryn	4	L	1	lb ai/a	POT,PO1	1.3	9.0	9.3	7.0	8.0	1.0
2	prometryn	4	L	1	lb ai/a	POT	1.3	10.0	9.7	8.7	10.0	1.0
	s-metolachlor	7.62	EC	1.9	lb ai/a	POT						
	prometryn	4	L	1	lb ai/a	PO1						
3	prometryn	4	L	1	lb ai/a	POT	1.3	9.7	9.7	8.7	9.7	1.3
	dimethenamid-P	6	EC	0.98	lb ai/a	POT						
	prometryn	4	L	1	lb ai/a	PO1						
4	prometryn	4	L	2	lb ai/a	POT	1.0	9.7	10.0	8.0	10.0	1.0
	linuron	50	DF	1	lb ai/a	PO1						
5	linuron	50	DF	1	lb ai/a	POT	1.3	7.7	10.0	5.0	8.0	1.0
	prometryn	4	L	2	lb ai/a	PO1						
6	sulfentrazone	4	F	0.14	lb ai/a	POT	1.3	4.0	7.7	4.0	5.3	1.3
	prometryn	4	L	1	lb ai/a	PO1						
7	flumioxazin	51	WDG	0.064	lb ai/a	POT	1.7	3.3	10.0	4.0	9.0	1.3
	prometryn	4	L	1	lb ai/a	PO1						
8	prometryn	4	L	1	lb ai/a	POT	1.3	10.0	8.7	7.7	7.7	3.0
	flumioxazin	51	WDG	0.064	lb ai/a	PO1						
9	prometryn	4	L	1	lb ai/a	POT	1.3	9.7	10.0	7.0	7.7	1.0
	KIH-485	85	WG	0.112	lb ai/a	PO1						
10	KIH-485	85	WG	0.112	lb ai/a	POT	1.3	8.7	9.0	4.0	9.0	1.3
	prometryn	4	L	1	lb ai/a	PO1						
11	pendimethalin	3.8	CS	2	lb ai/a	POT	1.7	6.7	10.0	7.7	4.7	1.0
	prometryn	4	L	1	lb ai/a	PO1						
12	prometryn	4	L	1	lb ai/a	POT	1.3	9.0	10.0	5.7	8.7	3.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1						
13	prometryn	4	L	1	lb ai/a	POT	1.0	9.0	9.7	6.7	8.7	3.3
	oxyfluorfen	2	L	0.063	lb ai/a	PO1						
14	s-metolachlor	7.62	EC	1.9	lb ai/a	POT	1.0	10.0	8.3	4.7	9.7	1.0
	prometryn	4	L	1	lb ai/a	PO1						
15	Untreated						1.3	2.3	4.7	2.0	3.7	2.0
LSD (P=.05)							0.88	4.00	2.39	2.69	2.77	0.57
Standard Deviation							0.52	2.39	1.43	1.61	1.66	0.34
CV							39.97	30.22	15.66	26.64	20.79	21.72

Weed Control in Celery - Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	LACG 7/21/06 RATING	COPU 7/21/06 RATING	LATH 7/21/06 RATING	RRPW 7/21/06 RATING
1	prometryn	4	L	1	lb ai/a	POT,PO1	8.7	10.0	10.0	9.3
2	prometryn	4	L	1	lb ai/a	POT	10.0	9.7	10.0	10.0
	s-metolachlor	7.62	EC	1.9	lb ai/a	POT				
	prometryn	4	L	1	lb ai/a	PO1				
3	prometryn	4	L	1	lb ai/a	POT	10.0	10.0	9.7	10.0
	dimethenamid-P	6	EC	0.98	lb ai/a	POT				
	prometryn	4	L	1	lb ai/a	PO1				
4	prometryn	4	L	2	lb ai/a	POT	9.3	9.3	10.0	10.0
	inuron	50	DF	1	lb ai/a	PO1				
5	linuron	50	DF	1	lb ai/a	POT	7.7	9.0	9.3	9.3
	prometryn	4	L	2	lb ai/a	PO1				
6	sulfentrazone	4	F	0.14	lb ai/a	POT	4.7	5.7	8.0	6.3
	prometryn	4	L	1	lb ai/a	PO1				
7	flumioxazin	51	WDG	0.064	lb ai/a	POT	2.3	5.0	9.0	8.7
	prometryn	4	L	1	lb ai/a	PO1				
8	prometryn	4	L	1	lb ai/a	POT	9.0	6.3	10.0	10.0
	flumioxazin	51	WDG	0.064	lb ai/a	PO1				
9	prometryn	4	L	1	lb ai/a	POT	5.0	1.0	9.3	7.0
	KIH-485	85	WG	0.112	lb ai/a	PO1				
10	KIH-485	85	WG	0.112	lb ai/a	POT	10.0	7.0	7.3	8.3
	prometryn	4	L	1	lb ai/a	PO1				
11	pendimethalin	3.8	CS	2	lb ai/a	POT	6.0	9.7	10.0	5.0
	prometryn	4	L	1	lb ai/a	PO1				
12	prometryn	4	L	1	lb ai/a	POT	5.3	9.3	9.0	9.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1				
13	prometryn	4	L	1	lb ai/a	POT	6.3	9.0	9.3	9.3
	oxyfluorfen	2	L	0.063	lb ai/a	PO1				
14	s-metolachlor	7.62	EC	1.9	lb ai/a	POT	10.0	8.3	8.3	10.0
	prometryn	4	L	1	lb ai/a	PO1				
15	Untreated						5.0	1.7	6.3	6.0
LSD (P=.05)							4.18	1.72	2.38	2.45
Standard Deviation							2.50	1.03	1.42	1.46
CV							34.33	13.93	15.72	17.12

Weed Control in Celery - Hudsonville

Project Code: WC 113-06-02 **Location: Schreur Farm, Hudsonville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Celery **Variety: Duchess**
Planting Method: Transplant **Planting Date: 5/8/05**
Spacing: 6 IN **Row Spacing: 24 IN, 2 rows/plot**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 4 ft wide x 30 ft long

Soil Type: Carlisle Muck **OM: 70%** **pH: 5.5**
Sand: 6% **Silt: 21%** **Clay: 3%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
POT	5/9/06	11:30 am	73/59	°F	moist	7 SE	36	20% Cloudy	N
PO1	6/15/06	1:00 pm	87/71	°F	moist	2 S	36	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/9	Celery	4-6″		
6/15	Celery	10-14″		
6/15	COGR = common groundsel	3-8″		
6/15	LATH = ladysthumb	4-6″		
6/15	PAWE = pineappleweed	3-6″		
	SHPU = shepherdspurse			
6/29	COGR = common groundsel			
	LATH = ladysthumb			
	PAWE = pineappleweed			
7/13	COGR = common groundsel			
	FIPW = field pepperweed			
	PAWE = pineappleweed			

Notes and Comments
1. Sprays applied with 2 nozzle shielded boom FF11002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Harvested 10 ft of plot.

Weed Control in Celery - Hudsonville

Dept. of Horticulture, MSU

Trial ID: 113-06-02 Study Director: Dr. Bernard Zandstra
Location: Hudsonville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CELERY 6/15/06 RATING	COGR 6/15/06 RATING	LATH 6/15/06 RATING	PAWE 6/15/06 RATING	SHPU 6/15/06 RATING	CELERY 6/29/06 RATING	COGR 6/29/06 RATING
1	prometryn	4	L	1	lb ai/a	POT	1.3	5.7	5.3	2.7	4.0	1.0	3.7
	prometryn	4	L	1	lb ai/a	PO1							
2	prometryn	4	L	2	lb ai/a	POT	1.0	7.0	7.3	5.0	6.7	1.7	9.3
	linuron	50	DF	1	lb ai/a	PO1							
3	linuron	50	DF	1	lb ai/a	POT	1.3	3.0	6.3	4.7	6.3	1.3	7.3
	prometryn	4	L	2	lb ai/a	PO1							
4	prometryn	4	L	1	lb ai/a	POT	2.0	8.3	9.7	7.0	7.7	1.3	9.3
	s-metolachlor	7.62	EC	1.9	lb ai/a	POT							
	prometryn	4	L	1	lb ai/a	PO1							
5	s-metolachlor	7.62	EC	1.9	lb ai/a	POT	1.3	5.0	6.3	2.3	7.0	1.3	8.7
	prometryn	4	L	2	lb ai/a	PO1							
6	flumioxazin	51	WDG	0.064	lb ai/a	POT	1.3	8.3	8.0	5.0	9.7	1.0	10.0
	prometryn	4	L	2	lb ai/a	PO1							
7	prometryn	4	L	2	lb ai/a	POT	1.3	5.0	8.7	5.7	5.0	1.7	3.7
	flumioxazin	51	WDG	0.064	lb ai/a	PO1							
8	sulfentrazone	4	F	0.14	lb ai/a	POT	2.7	9.7	8.0	2.3	2.7	2.0	6.3
	prometryn	4	L	2	lb ai/a	PO1							
9	KIH-485	85	WG	0.112	lb ai/a	POT	2.7	5.7	9.0	5.3	7.3	1.3	8.0
	prometryn	4	L	2	lb ai/a	PO1							
10	dimethenamid-P	6	EC	0.98	lb ai/a	POT	1.7	9.0	8.0	5.7	8.7	1.0	8.3
	prometryn	4	L	2	lb ai/a	PO1							
11	Untreated						1.0	1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.84	4.19	3.52	4.95	4.21	0.90	2.64
Standard Deviation							0.50	2.46	2.07	2.91	2.47	0.53	1.55
CV							30.85	39.97	29.3	68.51	41.25	39.6	22.56

Weed Control in Celery - Hudsonville

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	LATH 6/29/06 RATING	PAWE 6/29/06 RATING	CELER 7/13/06 RATING	COGR 7/13/06 RATING	FIPW 7/13/06 RATING	PAWE 7/13/06 RATING	CELERY 7/18/06 HARVEST KG/10 FT
1	prometryn	4	L	1	lb ai/a	POT	9.0	8.0	1.0	9.3	4.7	6.3	43.70
	prometryn	4	L	1	lb ai/a	PO1							
2	prometryn	4	L	2	lb ai/a	POT	10.0	10.0	1.7	10.0	10.0	8.3	38.73
	linuron	50	DF	1	lb ai/a	PO1							
3	linuron	50	DF	1	lb ai/a	POT	9.3	9.7	2.0	9.0	9.7	8.3	44.32
	prometryn	4	L	2	lb ai/a	PO1							
4	prometryn	4	L	1	lb ai/a	POT	10.0	7.3	1.7	9.0	10.0	8.3	42.32
	s-metolachlor	7.62	EC	1.9	lb ai/a	POT							
	prometryn	4	L	1	lb ai/a	PO1							
5	s-metolachlor	7.62	EC	1.9	lb ai/a	POT	7.0	9.0	2.0	9.3	8.0	8.3	36.92
	prometryn	4	L	2	lb ai/a	PO1							
6	flumioxazin	51	WDG	0.064	lb ai/a	POT	9.3	8.0	1.0	10.0	8.7	7.0	47.82
	prometryn	4	L	2	lb ai/a	PO1							
7	prometryn	4	L	2	lb ai/a	POT	7.3	9.3	2.0	8.0	3.0	8.0	46.50
	flumioxazin	51	WDG	0.064	lb ai/a	PO1							
8	sulfentrazone	4	F	0.14	lb ai/a	POT	7.0	7.3	2.0	9.3	4.3	7.7	41.12
	prometryn	4	L	2	lb ai/a	PO1							
9	KIH-485	85	WG	0.112	lb ai/a	POT	8.7	6.3	2.3	7.7	8.7	7.0	40.18
	prometryn	4	L	2	lb ai/a	PO1							
10	dimethenamid-P	6	EC	0.98	lb ai/a	POT	9.3	9.3	1.7	8.7	9.0	7.3	39.12
	prometryn	4	L	2	lb ai/a	PO1							
11	Untreated						1.0	1.0	1.0	8.7	5.3	6.3	53.61
LSD (P=.05)							1.95	3.05	1.74	2.29	2.75	3.28	8.722
Standard Deviation							1.15	1.79	1.02	1.35	1.62	1.93	5.121
CV							14.32	23.11	61.17	14.94	21.87	25.64	11.87

Weed Control in Sweet Corn - HTRC

Project Code: WC 106-06-02 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Sweet corn **Variety: BC0805 and GSS 966**
Planting Method: Seed **Planting Date: 6/5/06**
Spacing: 6 IN **Row Spacing: 30 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 7 ft wide x 30 ft long, 1 row of each cultivar per plot

Soil Type: Marlette Fine Sandy Loam **OM: 2.2%** **pH: 7.4**
Sand: 56% **Silt: 24%** **Clay: 19%** **CEC: 13.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	6/5/06	4:00 pm	87/78	°F	Dry	2 NW	23	Clear	N
PO1	6/26/06	9:30 am	71/70	°F	Dry	2 NW	61	95% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/26	SW CORN = sweet corn	8-10″		
6/26	COLQ = common lambsquarters	4-6″		few
6/26	CORW = common ragweed	4-6″		few
6/26	RRPW = redroot pigweed	4-6″		few
	WIBW = wild buckwheat			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One row of each variety/plot.
4. Plots had relatively few weeds in early growing season.

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 106-06-01
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BC0805	GSS 966	COLQ	CORW	LATH	RRPW
Pest Code							BC0805	GSS 966	COLQ	CORW	LATH	RRPW
Rating Date							6/26/06	6/26/06	6/26/06	6/26/06	6/26/06	6/26/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	s-metolachlor	7.62	EC	1.6	lb ai/a	PRE	1.0	1.0	8.3	9.0	9.0	9.7
2	s-metolachlor	7.64	EC	1.6	lb ai/a	PRE	1.0	1.3	8.3	9.7	8.3	9.3
3	dimethenamid-P	6	EC	0.75	lb ai/a	PRE	1.3	1.3	9.0	9.0	8.7	10.0
4	flufenacet	60	DF	0.6	lb ai/a	PRE	1.0	1.0	8.3	9.0	8.7	9.0
5	Axiom	68	DF	0.5	lb ai/a	PRE	1.3	2.0	8.7	9.3	8.7	9.0
6	atrazine	4	L	1	lb ai/a	PRE	1.3	1.3	8.7	9.0	9.3	9.7
7	Lumax	3.948	EC	2.46	lb ai/a	PRE	1.0	1.3	10.0	10.0	10.0	10.0
8	mesotrione	4	SC	0.188	lb ai/a	PRE	1.0	1.3	8.7	9.0	8.3	9.0
9	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.7	8.7	8.7	8.7	9.3
	mesotrione	4	SC	0.094	lb ai/a	PRE						
10	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.3	8.7	9.7	9.0	9.7
	clopyralid	3	EC	0.125	lb ai/a	PO1						
11	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.3	8.0	8.7	9.3	9.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
12	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.3	1.7	9.7	10.0	10.0	10.0
	fluroxypyr	1.5	L	0.125	lb ai/a	PO1						
13	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.0	9.3	10.0	10.0	10.0
	carfentrazone	1.9	EW	0.008	lb ai/a	PO1						
14	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.3	7.3	9.3	7.7	6.0
	carfentrazone	1.9	EW	0.008	lb ai/a	PO1						
	atrazine	4	L	0.25	lb ai/a	PO1						
15	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.0	9.7	10.0	10.0	10.0
	halosulfuron	75	WG	.023	lb ai/a	PO1						
16	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.3	1.7	9.7	9.7	9.7	9.7
	rimsulfuron	25	DF	0.016	lb ai/a	PO1						
17	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.7	8.3	9.7	8.7	8.3
	2,4-D amine	3.8	L	0.5	lb ai/a	PO1						
18	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.0	1.3	7.7	9.3	8.0	9.7
	nicosulfuron	75	SP	0.031	lb ai/a	PO1						
19	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	1.3	1.7	9.7	10.0	9.0	9.7
	glufosinate	1.67	L	0.26	lb ai/a	PO1						
20	Untreated						1.0	1.0	4.0	5.7	3.7	2.3
LSD (P=.05)							0.53	0.86	1.68	1.78	1.36	1.81
Standard Deviation							0.32	0.52	1.02	1.08	0.83	1.10
CV							29.12	38.28	11.94	11.67	9.47	12.22

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	WIBW 6/26/06 RATING	BC0805 7/3/06 RATING	GSS 966 7/3/06 RATING	GRFT 7/3/06 RATING	COLQ 7/3/06 RATING	CORW 7/3/06 RATING
1	s-metolachlor	7.62	EC	1.6	lb ai/a	PRE	9.7	1.3	1.3	10.0	7.7	6.7
2	s-metolachlor	7.64	EC	1.6	lb ai/a	PRE	10.0	1.7	1.7	10.0	8.3	8.7
3	dimethenamid-P	6	EC	0.75	lb ai/a	PRE	10.0	1.3	1.0	10.0	9.0	9.0
4	flufenacet	60	DF	0.6	lb ai/a	PRE	9.0	1.3	1.3	10.0	7.7	8.0
5	Axiom	68	DF	0.5	lb ai/a	PRE	10.0	1.3	1.3	10.0	7.7	9.3
6	atrazine	4	L	1	lb ai/a	PRE	9.0	1.0	1.0	10.0	8.3	9.0
7	Lumax	3.948	EC	2.46	lb ai/a	PRE	10.0	1.3	1.3	10.0	10.0	10.0
8	mesotrione	4	SC	0.188	lb ai/a	PRE	10.0	1.3	1.3	9.7	8.0	8.3
9	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.0	1.7	10.0	8.3	8.0
	mesotrione	4	SC	0.094	lb ai/a	PRE						
10	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	9.0	1.0	1.7	10.0	9.0	9.7
	clopyralid	3	EC	0.125	lb ai/a	PO1						
11	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.0	1.0	9.7	9.7	10.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
12	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.7	1.0	10.0	9.7	10.0
	fluroxypyr	1.5	L	0.125	lb ai/a	PO1						
13	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.3	1.3	10.0	9.7	10.0
	carfentrazone	1.9	EW	0.008	lb ai/a	PO1						
14	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	8.7	1.0	1.0	7.7	6.7	7.7
	carfentrazone	1.9	EW	0.008	lb ai/a	PO1						
	atrazine	4	L	0.25	lb ai/a	PO1						
15	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.0	1.0	9.3	9.3	10.0
	halosulfuron	75	WG	.023	lb ai/a	PO1						
16	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.0	1.0	10.0	9.7	10.0
	rimsulfuron	25	DF	0.016	lb ai/a	PO1						
17	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.0	1.0	10.0	8.7	10.0
	2,4-D amine	3.8	L	0.5	lb ai/a	PO1						
18	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.0	1.0	10.0	8.7	9.7
	nicosulfuron	75	SP	0.031	lb ai/a	PO1						
19	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	1.3	1.7	10.0	10.0	10.0
	glufosinate	1.67	L	0.26	lb ai/a	PO1						
20	Untreated						7.7	1.0	1.3	8.3	7.0	7.7
LSD (P=.05)							1.80	0.69	0.66	0.93	1.78	2.11
Standard Deviation							1.09	0.42	0.40	0.56	1.08	1.28
CV							11.31	34.64	32.14	5.8	12.46	14.07

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Pest Code							RRPW	WIBW	BC0805	BC0805	GSS966	GSS966
Rating Date							7/3/06	7/3/06	8/28/06	8/28/06	8/25/06	8/25/06
Rating Data Type							RATING	RATING	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit									#/PLOT	KG/PLOT	#/PLOT	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage						
1	s-metolachlor	7.62	EC	1.6	lb ai/a	PRE	8.7	7.0	37.0	11.87	32.0	8.23
2	s-metolachlor	7.64	EC	1.6	lb ai/a	PRE	8.3	10.0	37.3	10.98	32.0	8.68
3	dimethenamid-P	6	EC	0.75	lb ai/a	PRE	10.0	10.0	36.3	12.71	37.3	9.51
4	flufenacet	60	DF	0.6	lb ai/a	PRE	7.7	7.3	33.3	11.42	34.7	8.62
5	Axiom	68	DF	0.5	lb ai/a	PRE	8.7	10.0	39.7	13.13	38.0	10.10
6	atrazine	4	L	1	lb ai/a	PRE	8.3	7.0	42.7	13.77	35.0	9.44
7	Lumax	3.948	EC	2.46	lb ai/a	PRE	10.0	10.0	36.3	12.66	42.7	11.21
8	mesotrione	4	SC	0.188	lb ai/a	PRE	8.0	10.0	37.0	12.03	32.0	8.29
9	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	8.0	7.7	40.7	12.49	31.0	8.17
	mesotrione	4	SC	0.094	lb ai/a	PRE						
10	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	9.3	10.0	37.3	12.81	35.0	9.26
	clopyralid	3	EC	0.125	lb ai/a	PO1						
11	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	9.7	10.0	40.3	13.53	40.7	11.14
	mesotrione	4	SC	0.094	lb ai/a	PO1						
12	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	9.7	10.0	37.3	12.49	41.7	10.42
	fluroxypyr	1.5	L	0.125	lb ai/a	PO1						
13	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	10.0	41.0	13.89	40.7	10.71
	carfentrazone	1.9	EW	0.008	lb ai/a	PO1						
14	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	6.3	8.3	35.3	10.66	29.3	7.06
	carfentrazone	1.9	EW	0.008	lb ai/a	PO1						
	atrazine	4	L	0.25	lb ai/a	PO1						
15	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	10.0	43.7	15.11	52.7	14.15
	halosulfuron	75	WG	.023	lb ai/a	PO1						
16	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	10.0	37.3	12.75	48.7	12.55
	rimsulfuron	25	DF	0.016	lb ai/a	PO1						
17	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	9.3	10.0	46.3	15.34	46.7	11.95
	2,4-D amine	3.8	L	0.5	lb ai/a	PO1						
18	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	10.0	42.7	14.31	39.0	9.93
	nicosulfuron	75	SP	0.031	lb ai/a	PO1						
19	s-metolachlor	7.64	EC	1.3	lb ai/a	PRE	10.0	10.0	45.7	15.17	47.3	12.75
	glufosinate	1.67	L	0.26	lb ai/a	PO1						
20	Untreated						6.7	7.0	35.3	11.43	20.7	5.39
LSD (P=.05)							2.04	2.85	8.40	3.607	12.04	3.445
Standard Deviation							1.23	1.73	5.09	2.186	7.30	2.088
CV							13.82	18.74	13.01	16.91	19.28	21.14

Weed Control in Poast Tolerant Sweet Corn - HTRC

Project Code: WC 106-06-02 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Sweet corn **Variety: Cahill**
Planting Method: Seed **Planting Date: 6/8/06**
Spacing: 6 IN **Row Spacing: 30 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 7 ft wide x 30 ft long; 2 rows per plot

Soil Type: Marlette Fine Sandy Loam **OM: 2.2%** **pH: 7.4**
Sand: 56% **Silt: 24%** **Clay: 19%** **CEC: 13.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	6/5/06	4:00 pm	87/78	°F	Dry	2 NW	23	Clear	N
PO1	6/26/06	10:30 am	73/70	°F	Dry	3 NW	60	100% cloudy	N
PO2	7/3/06	9:00 am	83/70	°F	Adequate	3 S	54	5% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/26	SW CORN = sweet corn	8-10″		
6/26	GRFT = green foxtail	3-6″		few
6/26	COLQ = common lambsquarters	4-6″		few
6/26	CORW = common ragweed	4-6″		few
6/26	RRPW = redroot pigweed	4-6″		few
7/3	SW CORN = sweet corn	10-14″		
7/3	GRFT = green foxtail	5-7″		few
7/3	COLQ = common lambsquarters	8-10″		few
7/3	CORW = common ragweed	6-8″		few
7/3	RRPW = redroot pigweed	8-10″		few

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Plots had relatively few weeds in early growing season.

Weed Control in Poast Tolerant Sweet Corn - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 106-06-02 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SW CORN 7/3/06 RATING	GRFT 7/3/06 RATING	COLQ 7/3/06 RATING	CORW 7/3/06 RATING	LATH 7/3/06 RATING	RRPW 7/3/06 RATING
1	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.3	10.0	7.0	6.3	7.0	7.0
2	Lumax	3.948	EC	2.46	lb ai/a	PRE	1.3	10.0	10.0	10.0	10.0	10.0
3	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.0	10.0	8.0	6.3	7.3	8.0
	sethoxydim	1.53	EC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
4	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.3	10.0	8.0	6.3	7.3	8.0
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
5	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.3	10.0	10.0	9.7	10.0	10.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.3	10.0	10.0	10.0	10.0	10.0
	sethoxydim	1.53	EC	0.094	lb ai/a	PO1						
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
7	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.0	10.0	10.0	9.3	10.0	10.0
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1						
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
8	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	2.3	10.0	9.7	9.7	10.0	10.0
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1						
	mesotrione	4	SC	0.188	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
9	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	2.7	10.0	10.0	9.3	10.0	9.7
	sethoxydim	1.53	EC	0.38	lb ai/a	PO1						
	mesotrione	4	SC	0.188	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
10	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.0	10.0	10.0	10.0	10.0	10.0
	sethoxydim	1.53	EC	0.094	lb ai/a	PO1						
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	atrazine	4	L	0.25	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
11	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	2.0	10.0	10.0	10.0	10.0	10.0
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1						
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	atrazine	4	L	0.25	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
12	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	2.3	10.0	10.0	10.0	10.0	10.0
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1						
	mesotrione	4	SC	0.188	lb ai/a	PO1						
	atrazine	4	L	0.5	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
13	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.7	10.0	10.0	10.0	10.0	9.7
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.094	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
14	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.3	10.0	9.7	9.7	9.7	9.7
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	atrazine	4	L	0.25	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
	sethoxydim	1.53	EC	0.188	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
15	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	1.3	10.0	10.0	9.3	10.0	10.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.188	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
16	Untreated						1.7	10.0	9.0	7.3	9.3	9.3
LSD (P=.05)							0.93	0.00	0.78	2.08	1.20	0.94
Standard Deviation							0.56	0.00	0.47	1.25	0.72	0.57
CV							35.78	0.0	4.94	13.92	7.66	5.99

Weed Control in Poast Tolerant Sweet Corn - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SW CORN 8/10/06 HARVEST #/PLOT	SW CORN 8/10/06 HARVEST KG/PLOT
1	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	50	12.97
2	Lumax	3.948	EC	2.46	lb ai/a	PRE	64	17.31
3	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	53	15.07
	sethoxydim	1.53	EC	0.094	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
4	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	59	15.43
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
5	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	58	15.90
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
6	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	73	21.33
	sethoxydim	1.53	EC	0.094	lb ai/a	PO1		
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
7	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	68	19.23
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1		
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
8	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	60	17.67
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1		
	mesotrione	4	SC	0.188	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
9	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	67	18.97
	sethoxydim	1.53	EC	0.38	lb ai/a	PO1		
	mesotrione	4	SC	0.188	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
10	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	81	21.89
	sethoxydim	1.53	EC	0.094	lb ai/a	PO1		
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	atrazine	4	L	0.25	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
11	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	70	19.83
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1		
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	atrazine	4	L	0.25	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
12	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	52	15.34
	sethoxydim	1.53	EC	0.188	lb ai/a	PO1		
	mesotrione	4	SC	0.188	lb ai/a	PO1		
	atrazine	4	L	0.5	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
13	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	68	18.53
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	NIS	100	SL	0.25	lb ai/a	PO1		
	sethoxydim	1.53	EC	0.094	lb ai/a	PO2		
	NIS	100	SL	0.25	% v/v	PO2		
14	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	61	17.59
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	atrazine	4	L	0.25	lb ai/a	PO1		
	NIS	100	SL	0.25	% v/v	PO1		
	sethoxydim	1.53	EC	0.188	lb ai/a	PO2		
	NIS	100	SL	0.25	% v/v	PO2		
15	s-metolachlor	7.64	EC	0.955	lb ai/a	PRE	56	14.86
	mesotrione	4	SC	0.094	lb ai/a	PO1		
	NIS	100	SL	0.25	lb ai/a	PO1		
	sethoxydim	1.53	EC	0.188	lb ai/a	PO2		
	NIS	100	SL	0.25	% v/v	PO2		
16	Untreated						50	13.55
LSD (P=.05)							16.8	4.503
Standard Deviation							10.1	2.701
CV							16.26	15.69

Weed Control in Cucumber, Pumpkin, and Squash - HTRC

Project Code: WC 108-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: See notes **Variety: See notes**
Planting Method: Seeded **Planting Date: 6/8/06**
Spacing: See notes **Row Spacing: 14 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 30 ft wide x 40 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 2.0%** **pH: 5.6**
Sand: 58% **Silt: 26%** **Clay: 16%** **CEC: 7.8**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	6/12/06	2:00 pm	77/77	°F	Dry	6 NE	39	40% Cloudy	N
PO1	6/30/06	10:00 am	70/65	°F	Dry	Calm	53	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/30	CUKE = cucumber	10-12 in		
6/30	Pumpkin	4-6 in		
6/30	Squash	3-6″		
6/30	GRFT = green foxtail	2-6″		moderate
6/30	LACG = large crabgrass	2-6″		moderate
6/30	WIRA = wild radish	3-6″		moderate
	CORW = common ragweed			
	RRPW = redroot pigweed			

Notes and Comments

1. Sprays applied with 16 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 tractor mounted sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Crops and Varieties: Cucumber – Journey, Pumpkin – Howden, Squash – Burgess Buttercup
4. Planted pumpkin in left row with 12 IN spacing, squash in right row with 12 IN spacing, cucumber in center 3 rows with 3 in spacing.
5. Spray center 16 ft of plot with tractor; area between plots cultivated until covered with vines.
6. Harvested all fruit in 40 ft plot.

Weed Control in Cucumber, Pumpkin, and Squash - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 108-06-01
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CUKE 6/30/06 RATING	PUMPKIN 6/30/06 RATING	SQUASH 6/30/06 RATING	GRFT 6/30/06 RATING	LACG 6/30/06 RATING	CORW 6/30/06 RATING
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	1.3	1.0	1.7	6.7	9.7	8.7
2	Strategy	2.1	SE	1.05	lb ai/a	PRE	1.7	1.0	1.7	8.7	10.0	9.0
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	1.7	1.3	2.0	8.7	7.0	10.0
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	ethalfluralin	3	EC	0.75	lb ai/a	PRE	3.7	3.7	5.3	8.3	10.0	10.0
	halosulfuron	75	WG	.023	lb ai/a	PRE						
5	ethalfluralin	3	EC	0.75	lb ai/a	PRE	2.7	2.3	2.7	8.0	10.0	9.7
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	quizalofop	0.88	EC	0.08	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	3.7	3.3	5.3	7.3	8.0	10.0
7	ethalfluralin	3	EC	0.75	lb ai/a	PRE	2.3	1.3	1.7	8.3	10.0	10.0
	imazosulfuron	75	WDG	0.1	lb ai/a	PO1						
8	ethalfluralin	3	EC	0.75	lb ai/a	PRE	4.7	2.3	3.3	9.0	10.0	10.0
	sulfentrazone	4	F	0.09	lb ai/a	PRE						
9	ethalfluralin	3	EC	1.13	lb ai/a	PRE	1.3	1.0	2.0	6.0	10.0	7.7
	sulfentrazone	4	F	0.09	lb ai/a	PO1						
	ethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	ethalfluralin	3	EC	0.75	lb ai/a	PRE	1.7	3.3	5.7	7.3	10.0	10.0
	halosulfuron	75	WG	.023	lb ai/a	PRE						
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	ethalfluralin	3	EC	1.13	lb ai/a	PRE	1.3	1.0	2.0	7.3	10.0	10.0
	clopyralid	3	EC	0.125	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
12	Untreated						1.0	1.0	1.0	1.0	2.3	1.0
LSD (P=.05)							2.04	1.44	2.38	2.06	3.39	2.50
Standard Deviation							1.20	0.85	1.40	1.21	2.00	1.48
CV							53.46	45.07	49.02	16.81	22.45	16.72

Weed Control in Cucumber, Pumpkin, and Squash - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RRPW 6/30/06 RATING	WIRA 6/30/06 RATING	CUKE 7/7/06 RATING	PUMPKIN 7/7/06 RATING	SQUASH 7/7/06 RATING	BYGR 7/7/06 RATING
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	9.3	6.3	1.7	1.0	1.7	5.7
2	Strategy	2.1	SE	1.05	lb ai/a	PRE	9.3	7.7	2.0	1.0	1.3	5.7
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	10.0	6.3	2.0	1.3	2.3	9.7
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	ethalfluralin	3	EC	0.75	lb ai/a	PRE	10.0	6.7	2.3	3.3	3.3	8.7
	halosulfuron	75	WG	.023	lb ai/a	PRE						
5	ethalfluralin	3	EC	0.75	lb ai/a	PRE	9.3	6.7	3.3	4.0	3.3	9.0
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	quizalofop	0.88	EC	0.08	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	10.0	8.0	3.7	2.3	3.7	7.7
7	ethalfluralin	3	EC	0.75	lb ai/a	PRE	10.0	7.7	3.0	2.7	2.3	6.7
	imazosulfuron	75	WDG	0.1	lb ai/a	PO1						
8	ethalfluralin	3	EC	0.75	lb ai/a	PRE	10.0	7.3	6.0	2.7	4.0	8.7
	sulfentrazone	4	F	0.09	lb ai/a	PRE						
9	ethalfluralin	3	EC	1.13	lb ai/a	PRE	10.0	5.3	5.7	4.0	4.7	9.0
	sulfentrazone	4	F	0.09	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	ethalfluralin	3	EC	0.75	lb ai/a	PRE	10.0	8.3	3.3	3.7	3.7	9.0
	halosulfuron	75	WG	.023	lb ai/a	PRE						
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	ethalfluralin	3	EC	1.13	lb ai/a	PRE	10.0	6.7	3.3	2.7	3.7	9.0
	clopyralid	3	EC	0.125	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
12	Untreated						1.0	1.0	1.0	1.0	2.3	1.0
LSD (P=.05)							0.98	2.46	1.71	1.55	2.08	3.92
Standard Deviation							0.58	1.45	1.01	0.92	1.23	2.31
CV							6.36	22.37	32.47	37.04	40.62	30.96

Weed Control in Cucumber, Pumpkin, and Squash - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	GRFT	LACG	COLQ	EBNS	RRPW	WIRA
Pest Code							GRFT	LACG	COLQ	EBNS	RRPW	WIRA
Rating Date							7/7/06	7/7/06	7/7/06	7/7/06	7/7/06	7/7/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	7.7	8.7	9.3	9.7	10.0	5.0
2	Strategy	2.1	SE	1.05	lb ai/a	PRE	6.7	9.0	10.0	9.0	10.0	7.3
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	9.0	9.3	10.0	9.0	9.3	6.0
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	ethalfluralin	3	EC	0.75	lb ai/a	PRE	8.7	9.3	10.0	10.0	10.0	9.0
	halosulfuron	75	WG	.023	lb ai/a	PRE						
5	ethalfluralin	3	EC	0.75	lb ai/a	PRE	9.3	10.0	10.0	7.7	10.0	8.7
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	quizalofop	0.88	EC	0.08	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	6.7	7.3	9.0	7.7	10.0	8.3
7	ethalfluralin	3	EC	0.75	lb ai/a	PRE	7.0	9.0	9.3	8.3	10.0	8.0
	imazosulfuron	75	WDG	0.1	lb ai/a	PO1						
8	ethalfluralin	3	EC	0.75	lb ai/a	PRE	8.7	8.7	10.0	10.0	10.0	5.7
	sulfentrazone	4	F	0.09	lb ai/a	PRE						
9	ethalfluralin	3	EC	1.13	lb ai/a	PRE	9.7	10.0	10.0	10.0	10.0	3.3
	sulfentrazone	4	F	0.09	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	ethalfluralin	3	EC	0.75	lb ai/a	PRE	9.3	9.0	9.7	7.7	10.0	9.3
	halosulfuron	75	WG	.023	lb ai/a	PRE						
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	ethalfluralin	3	EC	1.13	lb ai/a	PRE	10.0	10.0	9.3	10.0	9.3	6.7
	clopyralid	3	EC	0.125	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
12	Untreated						1.0	1.0	3.0	3.0	3.0	1.0
LSD (P=.05)							3.10	3.02	2.24	4.42	1.83	3.52
Standard Deviation							1.83	1.78	1.32	2.61	1.08	2.08
CV							23.46	21.09	14.46	30.74	11.63	31.82

Weed Control in Cucumber, Pumpkin, and Squash - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CUKE 7/27/06 PLANT KG/PLOT	CUKE 7/27/06 FRUIT KG/PLOT	CUKE 7/28/06 GRADE 1 KG/PLOT	CUKE 7/28/06 GRADE 2 KG/PLOT	CUKE 7/28/06 GRADE 3 KG/PLOT	CUKE 7/28/06 GRADE OS KG/PLOT
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	33.01	44.72	1.22	3.63	17.92	21.95
2	Strategy	2.1	SE	1.05	lb ai/a	PRE	30.90	40.04	1.05	3.02	20.13	15.83
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	32.39	38.55	1.14	3.24	18.06	16.11
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	ethalfluralin	3	EC	0.75	lb ai/a	PRE	33.32	44.37	1.09	3.46	16.57	23.23
	halosulfuron	75	WG	.023	lb ai/a	PRE						
5	ethalfluralin	3	EC	0.75	lb ai/a	PRE	26.01	30.80	1.40	3.56	13.26	12.58
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	quizalofop	0.88	EC	0.08	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	22.13	25.24	1.14	4.29	14.67	5.14
7	ethalfluralin	3	EC	0.75	lb ai/a	PRE	30.75	36.29	1.34	3.08	15.09	16.78
	imazosulfuron	75	WDG	0.1	lb ai/a	PO1						
8	ethalfluralin	3	EC	0.75	lb ai/a	PRE	13.40	18.68	0.94	2.21	7.39	8.15
	sulfentrazone	4	F	0.09	lb ai/a	PRE						
9	ethalfluralin	3	EC	1.13	lb ai/a	PRE	11.47	12.77	1.02	3.95	6.35	1.45
	sulfentrazone	4	F	0.09	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	ethalfluralin	3	EC	0.75	lb ai/a	PRE	37.52	51.66	1.14	4.01	22.98	23.53
	halosulfuron	75	WG	.023	lb ai/a	PRE						
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	ethalfluralin	3	EC	1.13	lb ai/a	PRE	24.37	36.63	0.80	3.11	18.29	14.44
	clopyralid	3	EC	0.125	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
12	Untreated						31.28	38.39	0.59	1.63	14.25	21.91
LSD (P=.05)							16.506	28.186	0.333	1.697	10.724	18.664
Standard Deviation							9.747	16.644	0.196	1.002	6.333	11.021
CV							35.82	47.77	18.3	30.67	41.08	73.03

Weed Control in Cucumber, Pumpkin, and Squash - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	PUMPKIN 10/9/06 GREEN #/PLOT	PUMPKIN 10/9/06 GREEN KG/PLOT	PUMPKIN 10/9/06 ORANGE #/PLOT	PUMPKIN 10/9/06 ORANGE KG/PLOT	SQUASH 10/9/06 #/PLOT	SQUASH 10/9/06 KG/PLOT
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	5.7	43.77	20.0	67.29	18.0	25.06
2	Strategy	2.1	SE	1.05	lb ai/a	PRE	5.3	42.98	24.7	210.29	27.0	38.66
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	3.7	20.17	24.7	216.66	27.3	42.32
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	ethalfluralin	3	EC	0.75	lb ai/a	PRE	5.0	47.47	17.7	165.13	22.3	27.09
	halosulfuron	75	WG	.023	lb ai/a	PRE						
5	ethalfluralin	3	EC	0.75	lb ai/a	PRE	3.7	23.67	22.0	203.47	28.3	39.48
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	quizalofop	0.88	EC	0.08	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	4.0	33.65	16.0	137.91	21.3	28.36
7	ethalfluralin	3	EC	0.75	lb ai/a	PRE	2.7	13.34	22.7	205.27	31.3	38.13
	imazosulfuron	75	WDG	0.1	lb ai/a	PO1						
8	ethalfluralin	3	EC	0.75	lb ai/a	PRE	3.7	31.77	18.3	184.70	27.0	42.99
	sulfentrazone	4	F	0.09	lb ai/a	PRE						
9	ethalfluralin	3	EC	1.13	lb ai/a	PRE	4.3	26.28	21.3	199.11	31.7	46.81
	sulfentrazone	4	F	0.09	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	ethalfluralin	3	EC	0.75	lb ai/a	PRE	3.7	20.37	24.0	225.55	24.0	41.66
	halosulfuron	75	WG	.023	lb ai/a	PRE						
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	ethalfluralin	3	EC	1.13	lb ai/a	PRE	6.0	28.99	24.0	145.13	18.3	18.02
	clopyralid	3	EC	0.125	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
12	Untreated						3.3	27.55	13.7	145.50	18.7	27.95
LSD (P=.05)							4.93	36.454	7.60	72.480	20.07	26.459
Standard Deviation							2.91	21.527	4.49	42.801	11.85	15.625
CV							68.57	71.76	21.64	23.28	48.15	45.01

Weed Control in Eggplant and Tomatillo - HTRC

Project Code: WC 101-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Eggplant, Tomatillo **Variety: Ichiban, Tomatillo**
Planting Method: Transplant **Planting Date: 5/25/06**
Spacing: 24″ **Row Spacing: 36 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 35 ft long

Soil Type: Marlette Sandy Loam **OM: 2.5%** **pH: 7.0**
Sand: 60% **Silt: 21%** **Clay: 19** **CEC: 7.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	5/25/06	2:00 pm	79/64	°F	Dry	5 SW	57	95% Cloudy	N
PRT	5/25/06	3:00 pm	79/66	°F	Dry	4 SW	57	95% Cloudy	N
POT	5/26/06	2:00 pm	71/64	°F	Wet	5 S	55	100% Cloudy	N
PO1	6/19/06	10:30 am	79/73	°F	Damp	7 SW	66	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/19	EGGPT = Eggplant	6-10″		
6/19	TOMATIL = Tomatillo	6-8″		
6/19	GIFT = giant foxtail	3-4″		few
6/19	GRFT = green foxtail	3-4″		few
6/19	LACG = large crabgrass	3-4		few
6/19	COLQ = common lambsquarters	2-6″		moderate
6/19	EBNS = eastern black nightshade	1-3″		moderate
6/19	LATH = ladysthumb	2-4″		few
6/19	RRPW = redroot pigweed	3-6″		moderate
6/19	WIRA = wild radish	3-6″		moderate
6/30	GRFT = green foxtail			
	CORW = common ragweed			
	EBNS = eastern black nightshade			
	RRPW = redroot pigweed			
	WIRA = wild radish			

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One row for each crop/plot
4. Eggplant was harvested 5 times, and tomatillo was harvested 4 times
5. Treatment 7 was not sprayed and tomatillo suffered severe yield reduction from weed competition

Weed Control in Eggplant and Tomatillo - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 101-06-03 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	EGGPT 6/19/06 RATING	TOMATIL 6/19/06 RATING	GIFT 6/19/06 RATING	GRFT 6/19/06 RATING	YEFT 6/19/06 RATING	YENS 6/19/06 RATING
1	trifluralin	4	EC	1	lb ai/a	PPI	1.0	1.0	7.3	7.3	6.7	7.0
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	1.0	1.0	8.3	8.3	8.3	7.3
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	8.3
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	1.0	1.0	9.3	9.3	8.7	7.7
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	9.3
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	2.0	1.7	10.0	10.0	10.0	9.7
	clomazone	3	ME	0.5	lb ai/a	PRT						
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	1.0	1.0	1.0	1.0
	clomazone	3	ME	0.5	lb ai/a	POT						
8	ethalfluralin	1.6	SE	0.8	lb ai/a	POT	1.0	1.0	9.0	9.0	9.0	7.3
	clomazone	0.5	SE	0.25								
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	6.0	6.0	7.7	7.7	7.7	7.3
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	9.7	8.3
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	1.3	2.3	9.3	9.3	9.0	8.3
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	9.7	9.7	9.7	9.3
	metribuzin	75	DF	0.5	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
13	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							2.21	2.32	1.43	1.43	1.44	1.93
Standard Deviation							1.31	1.37	0.85	0.85	0.86	1.14
CV							88.3	89.33	10.76	10.76	11.07	16.17

Weed Control in Eggplant and Tomatillo - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CORW 6/19/06 RATING	WIRA 6/19/06 RATING	EGGPT 6/27/06 RATING	TOMATIL 6/27/06 RATING	GRFT 6/27/06 RATING	CORW 6/27/06 RATING
1	trifluralin	4	EC	1	lb ai/a	PPI	6.0	4.0	1.3	1.0	2.3	3.3
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	6.7	4.0	2.0	1.0	4.3	1.7
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	7.3	3.7	1.7	1.0	8.7	1.0
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	6.3	3.7	1.0	1.7	7.7	1.0
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	7.3	3.7	2.7	1.7	8.7	3.0
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	10.0	8.3	6.3	1.7	10.0	10.0
	clomazone	3	ME	0.5	lb ai/a	PRT						
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	1.3	1.0	1.0	1.0
	clomazone	3	ME	0.5	lb ai/a	POT						
8	ethalfluralin	1.6	SE	0.8	lb ai/a	POT	7.3	5.0	2.7	1.0	4.7	1.0
	clomazone	0.5	SE	0.25								
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	10.0	8.3	3.0	6.7	4.3	4.3
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	7.3	3.7	4.7	1.3	10.0	9.0
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	7.3	4.3	3.0	4.0	6.3	2.3
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	7.0	4.0	10.0	8.7	10.0	10.0
	metribuzin	75	DF	0.5	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
13	Untreated						1.0	1.0	2.3	1.0	6.0	9.3
LSD (P=.05)							1.76	1.61	2.07	2.19	2.48	3.31
Standard Deviation							1.04	0.96	1.23	1.30	1.47	1.96
CV							16.03	22.77	37.96	53.27	22.8	44.75

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	WIRA 6/27/06 RATING	EGGPT 8/9/06 HARVEST #/PLOT	EGGPT 8/9/06 HARVEST KG/PLOT	EGGPT 8/21/06 HARVEST #/PLOT	EGGPLT 8/21/06 HARVEST KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	1.0	5.0	1.21	7.7	1.20
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	1.3	6.0	1.65	8.7	1.81
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	2.0	0.53	5.0	0.59
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	1.0	3.3	0.81	8.0	1.15
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.0	3.0	0.70	7.0	0.95
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	8.7	0.7	0.11	6.7	0.91
	clomazone	3	ME	0.5	lb ai/a	PRT					
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	3.3	0.57	8.3	1.30
	clomazone	3	ME	0.5	lb ai/a	POT					
8	ethalfluralin	1.6	SE	0.8	lb ai/a	POT	2.0	5.3	1.20	9.0	1.29
	clomazone	0.5	SE	0.25							
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	9.3	5.0	1.18	7.3	0.96
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	8.3	12.0	3.20	12.3	2.55
	halosulfuron	75	WG	.023	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	2.0	2.0	0.48	1.3	0.27
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	0.0	0.00	0.0	0.00
	metribuzin	75	DF	0.5	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
13	Untreated						9.3	3.7	1.47	7.7	2.68
LSD (P=.05)							0.93	6.17	1.569	8.77	2.142
Standard Deviation							0.55	3.66	0.931	5.20	1.271
CV							12.83	92.68	92.51	76.0	105.51

Weed Control in Eggplant and Tomatillo - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	EGGPT 8/28/06 HARVEST #/PLOT	EGGPLT 8/28/06 HARVEST KG/PLOT	EGGPT 9/5/06 HARVEST #/PLOT	EGGPT 9/5/06 HARVEST KG/PLOT	EGGPT 9/18/06 HARVEST #/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	18.3	3.15	12.7	1.82	21.7
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	15.0	3.71	20.7	4.89	17.0
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	11.3	2.10	12.7	1.64	20.3
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	8.0	1.43	15.3	2.01	21.3
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	12.0	1.78	16.0	1.79	27.0
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	10.0	1.27	18.0	2.13	18.3
	clomazone	3	ME	0.5	lb ai/a	PRT					
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.3	1.63	4.7	0.69	21.3
	clomazone	3	ME	0.5	lb ai/a	POT					
8	ethalfluralin	1.6	SE	0.8	lb ai/a	POT	12.0	2.19	16.3	2.25	14.3
	clomazone	0.5	SE	0.25							
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	24.7	3.93	22.3	2.39	30.0
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	25.3	4.43	28.3	5.15	20.0
	halosulfuron	75	WG	.023	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	10.0	1.36	7.3	0.83	11.3
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	0.0	0.00	0.0	0.00	0.0
	metribuzin	75	DF	0.5	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
13	Untreated						17.7	4.62	15.0	3.78	21.7
LSD (P=.05)							19.77	3.268	15.61	3.379	15.57
Standard Deviation							11.73	1.939	9.26	2.005	9.24
CV							87.32	79.73	63.61	88.84	49.16

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	EGGPT 9/18/06 HARVEST KG/PLOT	EGGPT TOTAL #/PLOT	EGGPT TOTAL KG/PLOT	TOMATIL 8/2/06 HARVEST KG/PLOT	TOMATIL 8/9/06 HARVEST KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	2.91	65	10.30	2.32	1.07
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	3.65	67	15.70	2.18	1.56
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	2.98	51	7.84	3.34	1.56
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	2.73	56	8.13	2.89	1.23
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	3.08	65	8.29	2.55	1.89
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	2.15	54	6.56	4.74	4.63
	clomazone	3	ME	0.5	lb ai/a	PRT					
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	3.34	48	7.53	1.78	1.28
	clomazone	3	ME	0.5	lb ai/a	POT					
8	ethalfluralin	1.6	SE	0.8	lb ai/a	POT	2.39	57	9.32	4.41	1.82
	clomazone	0.5	SE	0.25							
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	3.58	89	12.03	0.90	1.36
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	4.05	98	19.38	2.51	5.31
	halosulfuron	75	WG	.023	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	1.41	32	4.34	2.03	1.17
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	0.00	0	0.00	0.01	0.27
	metribuzin	75	DF	0.5	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
13	Untreated						4.33	66	16.88	2.59	2.11
LSD (P=.05)							2.037	40.4	8.564	1.850	1.852
Standard Deviation							1.209	24.0	5.082	1.098	1.099
CV							42.94	41.61	52.31	44.25	56.59

Weed Control in Eggplant and Tomatillo - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	TOMATIL 8/22/06 HARVEST KG/PLOT	TOMATIL 9/5/06 HARVEST KG/PLOT	TOMATIL TOTAL KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	1.52	0.83	5.74
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	1.31	2.11	7.15
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	3.69	2.73	11.31
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	1.55	1.24	6.90
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.98	3.21	9.63
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	3.97	5.83	19.16
	clomazone	3	ME	0.5	lb ai/a	PRT			
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.07	0.59	4.73
	clomazone	3	ME	0.5	lb ai/a	POT			
8	ethalfluralin	1.6	SE	0.8	lb ai/a	POT	1.19	1.79	9.21
	clomazone	0.5	SE	0.25					
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	0.74	1.31	4.31
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	5.18	4.55	17.55
	halosulfuron	75	WG	.023	lb ai/a	PO1			
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	2.81	0.78	6.79
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	0.70	1.29	2.27
	metribuzin	75	DF	0.5	lb ai/a	PO1			
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
13	Untreated						3.11	2.36	10.16
LSD (P=.05)							3.166	2.383	4.592
Standard Deviation							1.879	1.414	2.725
CV							84.81	64.24	30.82

Weed Control in Cilantro, Dill, Fennel, and Parsley - HTRC

Project Code: WC 117-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Basil, Cilantro, Dill, Fennel, Parsley **Variety: Basil, Santo, Dukat, Fennel, Green Wave**
Planting Method: Seed **Planting Date: 5/8/06**
Spacing: 3 IN **Row Spacing: 7 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 30 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 2.2%** **pH: 7.4**
Sand: 56% **Silt: 24%** **Clay: 19%** **CEC: 13.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/8/06	2:30 pm	71/72	°F	Dry	5 S	23	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/12	GRFT = green foxtail SHPU = shepherdspurse			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. 1 row crop/plot
4. Basil did not emerge. Parsley stand was very thin.

Weed Control in Cilantro, Dill, Fennel, and Parsley - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 117-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BASIL 6/12/06 RATING 1-10	CILANTRO 6/12/06 RATING 1-10	DILL 6/12/06 RATING 1-10	FENNEL 6/12/06 RATING 1-10	PARSLEY 6/12/06 RATING 1-10	GRFT 6/12/06 RATING 1-10
1	napropamide	50	DF	2	lb ai/a	PRE	0.0	8.3	9.3	8.3	0.0	9.0
2	linuron	50	DF	0.5	lb ai/a	PRE	0.0	1.0	2.0	1.3	0.0	4.3
3	prometryn	4	L	1	lb ai/a	PRE	0.0	3.7	4.3	3.3	0.0	6.7
4	s-metolachlor	7.62	EC	0.5	lb ai/a	PRE	0.0	3.0	3.7	3.3	0.0	9.3
5	pendimethalin	3.8	CS	0.5	lb ai/a	PRE	0.0	3.3	4.0	3.0	0.0	6.7
6	KIH-485	85	WG	0.112	lb ai/a	PRE	0.0	7.0	9.3	8.3	0.0	10.0
7	ethofumesate	4	SC	1	lb ai/a	PRE	0.0	1.3	1.3	1.0	0.0	1.0
8	trifluralin	4	EC	0.5	lb ai/a	PRE	0.0	2.3	1.7	1.3	0.0	7.7
9	DPCA	75	WP	8	lb ai/a	PRE	0.0	2.7	3.3	2.7	0.0	9.3
10	Untreated						0.0	1.7	1.7	1.7	0.0	1.0
LSD (P=.05)							0.00	3.71	4.07	3.67	0.00	3.85
Standard Deviation							0.00	2.16	2.37	2.14	0.00	2.24
CV							0.0	62.99	58.38	62.27	0.0	34.52

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SHPU 6/12/06 RATING 1-10	CILANTRO 7/3/06 RATING 1-10	DILL 7/3/06 RATING 1-10	FENNEL 7/3/06 RATING 1-10	PARSLEY 7/3/06 RATING 1-10	CILANTRO 7/10/06 HARVEST KG/PLOT
1	napropamide	50	DF	2	lb ai/a	PRE	8.3	6.0	9.0	8.3	10.0	0.99
2	linuron	50	DF	0.5	lb ai/a	PRE	8.0	1.0	2.3	1.3	5.0	4.98
3	prometryn	4	L	1	lb ai/a	PRE	9.0	2.7	3.3	2.7	6.0	3.21
4	s-metolachlor	7.62	EC	0.5	lb ai/a	PRE	3.3	2.7	3.3	3.7	9.7	3.09
5	pendimethalin	3.8	CS	0.5	lb ai/a	PRE	3.7	2.7	3.0	3.0	9.0	3.23
6	KIH-485	85	WG	0.112	lb ai/a	PRE	10.0	4.7	7.7	6.0	10.0	1.43
7	ethofumesate	4	SC	1	lb ai/a	PRE	1.0	3.0	2.3	2.3	6.0	1.81
8	trifluralin	4	EC	0.5	lb ai/a	PRE	4.7	1.7	1.3	1.3	6.3	3.22
9	DPCA	75	WP	8	lb ai/a	PRE	7.3	3.0	2.7	3.3	7.0	2.93
10	Untreated						1.3	3.7	4.3	3.7	7.7	1.11
LSD (P=.05)							2.53	3.54	3.38	3.09	3.18	2.488
Standard Deviation							1.47	2.07	1.97	1.80	1.85	1.450
CV							26.02	66.63	50.16	50.53	24.19	55.77

Weed Control in Cilantro, Dill, Fennel, and Parsley - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	DILL	FENNEL	FENNEL	PARSLEY
Pest Code							DILL	FENNEL	FENNEL	PARSLEY
Rating Date							7/11/06	8/7/06	8/7/06	8/21/06
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							KG/PLOT	NUMBER	KG/PLOT	KG/PLOT
1	napropamide	50	DF	2	lb ai/a	PRE	0.01	5.0	0.89	0.25
2	linuron	50	DF	0.5	lb ai/a	PRE	1.92	53.3	20.49	0.49
3	prometryn	4	L	1	lb ai/a	PRE	2.15	41.3	16.24	0.23
4	s-metolachlor	7.62	EC	0.5	lb ai/a	PRE	1.66	40.7	14.83	0.17
5	pendimethalin	3.8	CS	0.5	lb ai/a	PRE	1.83	37.7	12.70	0.10
6	KIH-485	85	WG	0.112	lb ai/a	PRE	0.14	32.3	9.98	0.17
7	ethofumesate	4	SC	1	lb ai/a	PRE	1.12	53.3	13.08	0.32
8	trifluralin	4	EC	0.5	lb ai/a	PRE	2.31	43.7	15.93	0.33
9	DPCA	75	WP	8	lb ai/a	PRE	1.91	38.0	14.66	0.23
10	Untreated						0.63	32.0	9.39	0.23
LSD (P=.05)							1.469	16.87	8.710	0.404
Standard Deviation							0.856	9.83	5.077	0.235
CV							62.57	26.06	39.61	93.69

Weed Control in Lettuce – Muck Farm

Project Code: WC 116-06-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: See notes **Variety: See notes**
Planting Method: Seeded **Planting Date: 5/8/06**
Spacing: 6 IN **Row Spacing: 16 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long; 1 row of each cultivar per plot

Soil Type: Houghton Muck **OM: 79%** **pH: 6.6**
Sand: 4% **Silt: 15%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/9/06	9:30 am	80/58	°F	Dry	3 SE	61	100% cloudy	N
PO1	6/12/06	10:00 am	60/59	°F	Dry	5 SE	62	25% cloudy	N

Crop and Weed Information at Application

		Height or Diameter	Growth Stage	Density
6/12	HEAD = head lettuce	4″		
6/12	LEAF = leaf lettuce	4″		
6/12	ROMAINE = romaine lettuce	4″		
6/12	COLQ = common lambsquarters	4-6″		moderate
6/12	COPU = common purslane	3-5″		moderate
6/12	LATH = ladysthumb	4-6″		moderate
6/12	RRPW = redroot pigweed	4-6″		moderate
6/20	COLQ = common lambsquarters			
	COPU = common purslane			
	LATH = ladysthumb			
	RRPW = redroot pigweed			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Romaine (Paris Island Cos), Leaf (Grand Rapids TBR), Head (Great Lakes 659)

Weed Control in Lettuce – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 116-06-01 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	HEAD RATING	LEAF RATING	ROMAINE RATING	COLQ RATING	COPU RATING	LATH RATING
	Pest Code						HEAD	LEAF	ROMAINE	COLQ	COPU	LATH
	Rating Date						6/2/06	6/2/06	6/2/06	6/2/06	6/2/06	6/2/06
	Rating Data Type						RATING	RATING	RATING	RATING	RATING	RATING
1	pronamide	50	WP	4	lb ai/a	PRE	1.0	1.0	1.0	9.7	8.0	9.3
2	sulfentrazone	4	F	0.1	lb ai/a	PRE	3.0	3.3	4.7	9.3	7.7	7.0
3	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	1.7	1.7	2.0	9.7	9.0	9.7
4	flucarbazone	70	WDG	0.02	lb ai/a	PRE	1.0	1.0	1.0	1.7	2.7	3.7
5	imazamox	1	AS	0.016	lb ai/a	PO1	1.3	1.0	1.7	1.0	1.0	1.0
6	imazethapyr	2	AS	0.047	lb ai/a	PO1	1.0	1.0	1.0	1.0	1.0	1.0
7	flucarbazone	70	WDG	0.02	lb ai/a	PO1	1.0	1.0	1.0	1.0	1.0	1.0
8	imazosulfuron	75	WDG	0.1	lb ai/a	PO1	1.0	1.0	1.0	1.0	1.0	1.0
9	ethofumesate	4	SC	1	lb ai/a	PO1	1.0	1.0	1.0	1.0	1.0	1.0
10	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.72	0.43	0.46	0.89	1.92	2.68
Standard Deviation							0.42	0.25	0.27	0.52	1.12	1.56
CV							32.09	19.3	17.3	14.21	33.52	43.8

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RRPW RATING	HEAD RATING	LEAF RATING	ROMAINE RATING	COLQ RATING	COPU RATING
	Pest Code						RRPW	HEAD	LEAF	ROMAINE	COLQ	COPU
	Rating Date						6/2/06	6/20/06	6/20/06	6/20/06	6/20/06	6/20/06
	Rating Data Type						RATING	RATING	RATING	RATING	RATING	RATING
1	pronamide	50	WP	4	lb ai/a	PRE	8.3	1.3	1.0	1.0	7.7	7.0
2	sulfentrazone	4	F	0.1	lb ai/a	PRE	9.7	2.0	1.3	1.3	7.7	4.7
3	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	9.7	1.7	1.7	1.7	6.0	5.3
4	flucarbazone	70	WDG	0.02	lb ai/a	PRE	1.7	1.3	1.3	1.7	1.7	2.7
5	imazamox	1	AS	0.016	lb ai/a	PO1	1.0	2.3	1.3	2.0	2.0	3.7
6	imazethapyr	2	AS	0.047	lb ai/a	PO1	1.0	1.7	1.7	2.0	3.0	5.7
7	flucarbazone	70	WDG	0.02	lb ai/a	PO1	1.0	2.0	1.7	1.7	2.7	5.0
8	imazosulfuron	75	WDG	0.1	lb ai/a	PO1	1.0	2.0	2.3	2.3	2.3	4.0
9	ethofumesate	4	SC	1	lb ai/a	PO1	1.0	2.3	2.0	2.0	5.7	6.0
10	Untreated						1.0	1.0	1.0	1.7	1.3	1.0
LSD (P=.05)							1.13	0.98	0.97	0.88	2.47	3.37
Standard Deviation							0.66	0.57	0.57	0.51	1.44	1.97
CV							18.63	32.5	37.02	29.58	35.97	43.68

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	LATH RATING	RRPW RATING	YENS RATING	LEAF KG/PLOT	ROMAINE KG/PLOT	HEAD HEADS	HEAD KG/PLOT
	Pest Code						LATH	RRPW	YENS	LEAF	ROMAINE	HEAD	HEAD
	Rating Date						6/20/06	6/20/06	6/20/06	6/26/06	7/17/06	7/26/06	7/26/06
	Rating Data Type						RATING	RATING	RATING	KG/PLOT	KG/PLOT	HEADS	KG/PLOT
1	pronamide	50	WP	4	lb ai/a	PRE	7.7	2.3	1.3	5.61	11.88	25.3	7.93
2	sulfentrazone	4	F	0.1	lb ai/a	PRE	3.7	5.0	2.7	3.63	8.53	25.0	9.48
3	imazosulfuron	75	WDG	0.1	lb ai/a	PRE	7.3	6.3	4.3	6.41	14.14	18.0	10.65
4	flucarbazone	70	WDG	0.02	lb ai/a	PRE	5.0	2.7	1.7	5.09	10.88	25.7	6.96
5	imazamox	1	AS	0.016	lb ai/a	PO1	7.7	7.7	2.0	4.09	11.83	23.7	8.61
6	imazethapyr	2	AS	0.047	lb ai/a	PO1	7.7	7.7	2.7	3.63	10.62	20.7	8.33
7	flucarbazone	70	WDG	0.02	lb ai/a	PO1	6.3	7.3	2.3	4.35	11.49	23.0	7.37
8	imazosulfuron	75	WDG	0.1	lb ai/a	PO1	7.7	6.7	5.0	3.88	10.58	19.7	7.32
9	ethofumesate	4	SC	1	lb ai/a	PO1	7.0	6.0	2.3	3.42	11.98	20.7	7.31
10	Untreated						1.7	1.0	1.3	3.65	7.64	21.3	5.57
LSD (P=.05)							2.53	3.15	2.13	1.310	3.317	7.47	3.147
Standard Deviation							1.47	1.83	1.24	0.764	1.934	4.35	1.835
CV							23.89	34.84	48.48	17.45	17.65	19.53	23.07

Weed Control in Mint - St. Johns

Project Code: WC 121-06-01 **Location: St. Johns, Irrer Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Mint **Variety: Native Spearmint**
Planting Method: Seeded **Planting Date: 3/30/02**
Spacing: Solid **Row Spacing: Meadow Mint**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 15 ft wide x 120 ft long

Soil Type: Gilford Loam **OM: 2.7%** **pH: 6.0**
Sand: 74% **Silt: 15%** **Clay: 11%** **CEC: 9.5**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PR1	3/30/06								
PR2	3/31/06								

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
	Mint			
	HOWE = horseweed (marestail)			
	WHCA = white campion			

Notes and Comments
1. Sprays applied with 15 ft boom FF8002, 22 gpa, 22 psi, 2.27 mph, tractor mounted sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Weed Control in Mint - St. Johns

Dept. of Horticulture, MSU

Trial ID: WC 121-06-01 Study Director: Dr. Bernard Zandstra
Location: St. Johns, Irrer Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	MINT 6/19/06 RATING	HOWE 6/19/06 RATING	WHCA 6/19/06 RATING
1	terbacil	80	WP	1	lb ai/a	PR1	1.0	9.3	8.3
2	flumioxazin	51	WDG	0.128	lb ai/a	PR1	3.3	3.7	9.7
3	flumioxazin	51	WDG	.255	lb ai/a	PR1	2.7	2.3	9.3
4	paraquat	3	L	0.49	lb ai/a	PR1	4.7	10.0	9.0
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WP	0.4	lb ai/a	PR2			
	flumioxazin	51	WDG	0.128	lb ai/a	PR2			
5	paraquat	3	L	0.49	lb ai/a	PR1	3.0	10.0	7.3
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR1			
	flumioxazin	51	WDG	0.128	lb ai/a	PR1			
6	paraquat	3	L	0.49	lb ai/a	PR1	2.7	7.3	7.0
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR2			
	flumioxazin	51	WDG	0.255	lb ai/a	PR2			
7	paraquat	3	L	0.49	lb ai/a	PR1	2.3	10.0	6.7
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR1			
	flumioxazin	51	WDG	.255	lb ai/a	PR1			
8	paraquat	3	L	0.49	lb ai/a	PR1	7.0	10.0	7.0
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR2			
	mesotrione	4	SC	.15	lb ai/a	PR2			
9	paraquat	3	L	0.49	lb ai/a	PR1	6.0	10.0	10.0
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR1			
	mesotrione	4	SC	.15	lb ai/a	PR1			
10	paraquat	3	L	0.49	lb ai/a	PR1	8.7	10.0	7.7
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR2			
	mesotrione	4	SC	0.3	lb ai/a	PR2			
11	paraquat	3	L	0.49	lb ai/a	PR1	9.0	9.7	5.3
	NIS	100	SL	0.25	% v/v	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR1			
	mesotrione	4	SC	0.3	lb ai/a	PR1			
12	clomazone	3	ME	0.56	lb ai/a	PR1	1.3	7.3	9.7
13	clomazone	3	ME	0.56	lb ai/a	PR1	1.7	9.3	10.0
	paraquat	3	L	0.49	lb ai/a	PR1			
	NIS	100	SL	0.25	% v/v	PR1			
14	carfentrazone	1.9	EW	0.008	lb ai/a	PR1	2.0	10.0	9.0
	oxyfluorfen	2	L	0.5	lb ai/a	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR1			
15	carfentrazone	1.9	EW	0.016	lb ai/a	PR1	3.0	10.0	6.0
	oxyfluorfen	2	L	0.5	lb ai/a	PR1			
	terbacil	80	WDG	0.4	lb ai/a	PR1			
16	flumioxazin	51	WDG	0.128	lb ai/a	PR1	3.0	10.0	7.3
	paraquat	3	L	0.49	lb ai/a	PR1			
	NIS	100	SL	0.25	% v/v	PR1			
LSD (P=.05)							1.35	2.43	4.71
Standard Deviation							0.81	1.46	2.82
CV							21.19	16.79	34.93

Preemergence Weed Control in Onion - Muck Farm

Project Code: WC 112-05-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Infinity**
Planting Method: Seeded **Planting Date: 4/26/05**
Spacing: 2 IN **Row Spacing: 16 IN**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 6.8**
Sand: 5% **Silt: 14%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/1/06	2:00 pm	71/57	°F	Dry	7 W	36	85% cloudy	N
PO1	6/8/06	9:45 am	71/67	°F	Moist	5 NE	72	Clear	N
PO2	7/3/06	1:30 pm	77/72	°F	Adequate	5 SW	74	100% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/8	Onion	4-6″		
6/8	COLQ = common lambsquarters	4-8″		Few
6/8	RRPW = redroot pigweed	4-8″		moderate
6/8	SHPU = shepherdspurse	6-8″		moderate
6/8	YENS = yellow nutsedge	4-8″		moderate
7/3	Onion	10-12″		
7/3	RRPW = redroot pigweed	10-14″		moderate
7/3	YENS = yellow nutsedge	10-14″		moderate
7/21	Onion			
	YENS			

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Two rows were 3 inches apart and three row groupings were 16 inches apart on a raised bed.
4. Harvested 16.67 ft from each plot.
5. The field suffered serious water damage from heavy rains in July.
6. The field was handweeded in mid July

Preemergence Weed Control in Onion - Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-06-01
Location: Muck Farm

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ONION	COCW	COLQ	COPU	LATH	RRPW
	Pest Code						ONION	COCW	COLQ	COPU	LATH	RRPW
	Rating Date						6/2/06	6/2/06	6/2/06	6/2/06	6/2/06	6/2/06
	Rating Data Type						RATING	RATING	RATING	RATING	RATING	RATING
	Rating Unit											
1	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	8.7	10.0	10.0	7.7	9.7
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2						
2	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.0	8.0	10.0	10.0	6.3	9.3
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
3	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.3	9.7	10.0	10.0	8.3	9.7
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
4	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.0	8.0	10.0	9.0	6.0	8.7
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1						
	s-metolachlor	7.62	EC	1.2	lb ai/a	PO2						
5	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.3	9.0	10.0	10.0	8.7	9.3
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2						
	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2						
6	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.0	9.3	10.0	9.7	5.3	9.3
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2						
7	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.0	8.7	10.0	9.7	6.7	9.7
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1						
	flumioxazin	51	WDG	0.032	lb ai/a	PO2						
8	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	9.0	10.0	9.7	7.7	9.7
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1						
	flumioxazin	51	WDG	0.032	lb ai/a	PO2						
9	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.7	9.7	10.0	10.0	8.0	10.0
	flumioxazin	51	WDG	0.032	lb ai/a	PO1						
	dimethenamid-P	6	EC	0.98	lb ai/a	PO2						
10	Untreated						1.3	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.63	1.94	0.00	0.79	2.28	1.20
Standard Deviation							0.37	1.13	0.00	0.46	1.33	0.70
CV							31.3	14.0	0.0	5.16	20.24	8.13

Preemergence Weed Control in Onion - Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SHPU 6/2/06 RATING	ONION 7/11/06 RATING	ONION 7/21/06 RATING	YENS 7/21/06 RATING	ONION 9/19/06 HARVEST KG/PLOT
1	pendimethalin	3.3	EC	2	lb ai/a	PRE	7.0	3.3	2.7	4.0	15.91
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
2	pendimethalin	3.8	CS	2	lb ai/a	PRE	7.0	1.0	1.0	4.0	20.08
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
3	pendimethalin	3.3	EC	2	lb ai/a	PRE	8.7	2.3	2.0	4.7	16.60
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
4	pendimethalin	3.8	CS	2	lb ai/a	PRE	8.0	1.3	1.0	8.0	22.16
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1					
	s-metolachlor	7.62	EC	1.2	lb ai/a	PO2					
5	pendimethalin	3.3	EC	2	lb ai/a	PRE	9.3	5.3	5.0	7.3	10.49
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2					
6	pendimethalin	3.8	CS	2	lb ai/a	PRE	5.3	2.3	2.0	6.3	21.22
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2					
7	pendimethalin	3.8	CS	2	lb ai/a	PRE	7.3	2.0	1.0	7.3	23.67
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1					
	flumioxazin	51	WDG	0.032	lb ai/a	PO2					
8	pendimethalin	3.3	EC	2	lb ai/a	PRE	9.7	2.0	2.3	8.3	21.38
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1					
	flumioxazin	51	WDG	0.032	lb ai/a	PO2					
9	pendimethalin	3.3	EC	2	lb ai/a	PRE	9.7	1.3	1.7	7.3	20.94
	flumioxazin	51	WDG	0.032	lb ai/a	PO1					
	dimethenamid-P	6	EC	0.98	lb ai/a	PO2					
10	Untreated						1.0	5.3	5.7	7.0	7.57
LSD (P=.05)							2.03	1.61	1.69	2.44	6.184
Standard Deviation							1.18	0.94	0.98	1.42	3.605
CV							16.21	35.58	40.41	22.14	20.02

Postemergence Weed Control in Onion - Muck Farm

Project Code: WC 112-06-02 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Infinity**
Planting Method: Seeded **Planting Date: 4/26/06**
Spacing: 2 IN **Row Spacing: See notes**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 6.6**
Sand: 4% **Silt: 15%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/8/06	11:00 am	75/67	°F	Moist	7 NW	62	Clear	N
PO2	7/10/06	10:30 am	71/71	°F	Dry	4 W	66	25% Cloudy	N
PO3	7/17/06	11:20 am	65/71	°F	Adequate	6 W	52	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/8	Onion	3-4″	2 leaf	
6/8	YENS = yellow nutsedge	2-6″		many
6/8	RRPW = redroot pigweed	2-4″		moderate
7/10	Onion	10-14″	5-6 leaf	
7/10	LACG = large crabgrass	3-6″		few
	YENS = yellow nutsedge	6-14″		many
	PRSP = prostrate spurge	3-6″		
7/17	Onion	12-14″	6 leaf	
	YENS = yellow nutsedge	8-14″		Many
7/21	Onion			
	LACG = large crabgrass			
	PRSP = prostrate spurge			

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Two rows were 2 inches apart and three row groupings were 16 inches apart on a raised bed.
4. Harvested 16.67 ft from each plot.
5. The field suffered serious water damage from heavy rains in July.
6. The field was handweeded in mid July

Postemergence Weed Control in Onion - Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-06-02 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ONION 7/10/06 RATING	RRPW 7/10/06 RATING	ONION 7/21/06 RATING	LACG 7/21/06 RATING	PRSP 7/21/06 RATING	ONION 9/19/06 HARVEST KG/PLOT
1	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	3.7	9.0	3.3	10.0	6.3	10.89
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
2	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	2.7	9.0	3.0	10.0	8.7	12.29
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
3	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	2.3	8.3	3.0	8.7	8.3	13.61
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
4	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	2.7	9.0	2.7	10.0	7.7	10.04
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
5	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.3	8.3	3.0	5.7	9.3	8.17
6	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	4.0	10.0	3.7	9.7	10.0	5.64
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
7	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.3	10.0	3.3	10.0	10.0	8.81
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
8	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	2.3	9.3	2.7	10.0	10.0	10.56
	flumioxazin	51	WDG	0.016	lb ai/a	PO1,2						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
9	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	2.7	10.0	2.7	6.0	10.0	6.26
	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
10	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.7	9.7	2.3	9.0	10.0	9.83
	flumioxazin	51	WDG	0.016	lb ai/a	PO1,2						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
11	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	4.0	10.0	2.3	10.0	10.0	8.29
	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1,2						
12	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	8.3	2.7	10.0	10.0	11.51
	sethoxydim	1	EC	0.125	lb ai/a	PO1,2						
13	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.7	10.0	5.3	4.0	10.0	3.92
	dimethenamid-P	6	EC	0.98	lb ai/a	PO1,2						
14	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	4.0	10.0	5.7	7.0	10.0	2.81
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2						
15	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.0	8.0	2.7	7.7	10.0	11.84
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
16	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	2.3	7.3	3.3	10.0	8.7	7.91
	V10137	1	EC	0.07	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO3						
17	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	3.7	7.0	3.7	10.0	9.0	10.06
	V10181	1	EC	0.07	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO3						
18	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	5.0	8.0	4.7	10.0	10.0	5.57
	V10180	1.6	EC	0.075	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO3						

Postemergence Weed Control in Onion - Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ONION 7/10/06 RATING	RRPW 7/10/06 RATING	ONION 7/21/06 RATING	LACG 7/21/06 RATING	PRSP 7/21/06 RATING	ONION 9/19/06 HARVEST KG/PLOT
	Pest Code						ONION	RRPW	ONION	LACG	PRSP	ONION
	Rating Date						7/10/06	7/10/06	7/21/06	7/21/06	7/21/06	9/19/06
	Rating Data Type						RATING	RATING	RATING	RATING	RATING	HARVEST
	Rating Unit											KG/PLOT
19	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	1.7	7.3	2.7	10.0	7.3	12.84
	V10139	1.6	EC	0.075	lb ai/a	PO2						
	NIS	100	SL	0.25	% v/v	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO3						
20	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	3.0	8.0	3.7	10.0	9.0	9.42
	V10137	1	EC	0.07	lb ai/a	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO3						
21	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	3.7	7.3	5.3	10.0	8.7	6.06
	V10181	1	EC	0.07	lb ai/a	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO2						
22	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	2.0	5.3	2.7	10.0	7.7	10.73
	V10180	1.6	EC	0.075	lb ai/a	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO2						
23	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	2.0	6.0	2.0	10.0	8.3	16.91
	V10139	1.6	EC	0.038	lb ai/a	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO2						
24	oxyfluorfen	4	SC	0.063	lb ai/a	PO1	2.0	4.3	1.7	10.0	8.0	16.31
	sethoxydim	2	EC	0.125	lb ai/a	PO2						
	oxyfluorfen	4	SC	0.063	lb ai/a	PO2						
25	Untreated						2.3	2.0	1.7	7.7	7.7	14.14
LSD (P=.05)							2.60	2.64	2.54	3.64	3.32	7.985
Standard Deviation							1.57	1.60	1.54	2.21	2.01	4.839
CV							54.41	19.85	48.25	24.49	22.41	49.5

Onion Postemergence Weed Control with Chateau - Muck Farm

Project Code: WC 112-06-03 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Infinity**
Planting Method: Seeded **Planting Date: 4/26/06**
Spacing: 2 IN **Row Spacing: See notes**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 6.6**
Sand: 4% **Silt: 15%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/8/06	12:15 pm	77/68	°F	Moist	5 NW	51	40% cloudy	N
PO2	7/11/06	9:30 am	79/72	°F	Moist	4 W	66	100% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/8	Onion	3-4″	2 leaf	
6/8	YENS = yellow nutsedge	2-6″		many
6/8	RRPW = redroot pigweed	2-4″		moderate
7/11	Onion	10-14″	5-6 leaf	
	YENS = yellow nutsedge	12-16″		many
	RRPW = redroot pigweed	10-14″		moderate

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Two rows were 2 inches apart and three row groupings were 16 inches apart on a raised bed.
4. Harvested 16.67 ft from each plot.
5. The field suffered serious water damage from heavy rains in July.
6. The field was handweeded in mid July.

Onion Postemergence Weed Control with Chateau - Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-06-03 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ONION 6/20/06 RATING	LACG 6/20/06 RATING	COPU 6/20/06 RATING	LATH 6/20/06 RATING	RRPW 6/20/06 RATING
1	Untreated						1.3	1.7	3.0	1.3	1.3
2	pendimethalin	3.3	EC	2	lb ai/a	PO1,2	1.3	4.3	6.7	3.3	6.3
3	pendimethalin	3.8	CS	2	lb ai/a	PO1,2	1.0	7.0	8.0	3.0	3.3
4	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	1.0	7.0	9.0	5.7	7.7
5	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	1.0	7.7	9.3	5.7	9.0
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
6	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	1.3	7.7	9.3	6.0	9.3
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
7	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.3	7.0	10.0	4.3	7.3
8	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	2.3	6.7	9.3	4.7	10.0
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
9	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.3	7.7	9.7	5.7	7.0
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
10	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	6.7	8.0	3.7	6.0
11	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	5.0	4.0	10.0	7.7	10.0
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
12	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.0	6.7	9.7	6.0	8.3
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
13	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	2.0	5.7	9.7	6.0	10.0
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2					
14	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	5.0	8.0	10.0	7.7	9.3
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2					
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
15	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	2.3	9.0	9.7	7.3	9.3
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2					
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
16	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	6.3	9.3	6.0	8.3
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2					
17	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	4.7	8.0	10.0	7.0	10.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2					
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
18	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	2.3	6.0	10.0	7.7	9.7
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2					
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
19	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	1.0	5.0	8.7	5.7	6.7
20	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	3.7	6.3	9.7	7.7	10.0
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
21	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	1.0	5.7	9.3	5.3	9.3
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
22	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	2.3	8.3	9.3	8.7	10.0
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2					
23	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	5.3	6.3	10.0	8.0	10.0
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2					
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
24	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	1.3	9.0	10.0	8.0	10.0
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2					
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
25	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	2.0	6.0	9.3	6.0	8.3
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2					
26	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	4.7	6.0	10.0	8.7	10.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2					
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2					
27	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	2.0	6.3	9.3	7.0	8.7
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2					
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2					
LSD (P=.05)							1.13	5.20	1.93	3.26	2.44
Standard Deviation							0.69	3.18	1.18	2.00	1.50
CV							31.08	48.81	12.98	32.96	17.92

Onion Postemergence Weed Control with Chateau - Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SHPU 6/20/06 RATING	ONION 7/10/06 RATING	ONION 9/20/06 HARVEST KG/PLOT
1	Untreated						1.7	2.7	10.69
2	pendimethalin	3.3	EC	2	lb ai/a	PO1,2	1.3	3.0	11.53
3	pendimethalin	3.8	CS	2	lb ai/a	PO1,2	1.7	2.3	14.69
4	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	1.3	1.3	18.58
5	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	3.0	1.3	16.83
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
6	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	2.7	1.0	17.87
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
7	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.7	2.3	12.39
8	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	3.7	1.0	14.65
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
9	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	2.3	2.0	16.56
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
10	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.3	2.0	12.44
11	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	8.3	3.7	3.38
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
12	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	2.0	15.54
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
13	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.3	2.0	12.53
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2			
14	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	6.7	4.0	4.31
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2			
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
15	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.7	1.0	13.47
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2			
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
16	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	2.0	2.0	14.57
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2			
17	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	7.3	4.0	4.90
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2			
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
18	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	5.0	2.0	12.49
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2			
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
19	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	2.3	2.0	15.39
20	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	7.0	3.0	3.91
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
21	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	1.7	2.3	14.79
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
22	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	2.3	2.3	11.07
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2			
23	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	8.0	4.3	3.65
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2			
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
24	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	4.3	1.3	14.57
	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2			
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
25	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	4.3	2.0	15.39
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2			
26	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	9.7	3.3	4.41
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2			
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2			
27	flumioxazin	51	WDG	0.064	lb ai/a	PO1,2	4.3	1.3	14.92
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2			
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2			
LSD (P=.05)							2.51	1.11	5.071
Standard Deviation							1.54	0.68	3.106
CV							39.85	29.78	25.76

Postemergence Weed Control in Onion - Grant

Project Code: WC 112-06-04 **Location: Brink Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Prince**
Planting Method: Seeded **Planting Date: 4/26/06**
Spacing: 2 IN **Row Spacing: See notes**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 30ft long

Soil Type: Adrian Muck **OM: 60%** **pH: 6.1**
Sand: 17% **Silt: 19%** **Clay: 4%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/6/06	1:00 pm	81/67	°F	Dry	8 SW	30	50% Cloudy	N
PO2	7/13/06	10:00 am	80/73	°F	Dry	2 NE	54	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/6/06	Onion		2 leaf	
6/23/06	LATH = ladysthumb			
	PRSP = prostrate spurge			
	RRPW = redroot pigweed			
7/13/06	Onion		3-5 leaf	
7/13/06	RRPW = redroot pigweed		4-6″	moderate
7/13/06	LATH = ladysthumb		3-4″	moderate
7/13/06	PRSP = prostrate spruge		2-4″	moderate
7/25/06	LACG = large crabgrass			
	COPU = common purslane			
	LATH = ladysthumb			
	PRSP = prostrate spurge			
	RRPW = redroot pigweed			
	TUPW = tumble pigweed			

Notes and Comments

1. Sprays applied with 2 nozzle boom FF11002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Two double rows were 10 inches apart and double rows were 34 inches apart
4. Harvested 30 ft from each plot.

Postemergence Weed Control in Onion - Grant

Dept. of Horticulture, MSU

Trial ID: WC 112-06-04
Location: Grant - Brink Farm

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ONION 6/23/06 RATING	LATH 6/23/06 RATING	PRSP 6/23/06 RATING	RRPW 6/23/06 RATING	ONION 7/25/06 RATING	LACG 7/25/06 RATING
1	oxyfluorfen	2	L	0.031	lb ai/a	PO1,2	1.0	6.3	5.0	7.0	1.7	10.0
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
2	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	2.0	7.3	7.3	8.0	2.7	10.0
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
3	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2	2.3	5.3	3.0	6.7	1.7	10.0
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
4	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	2.0	7.7	6.0	8.7	2.3	10.0
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
5	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.3	8.3	7.0	8.7	1.7	10.0
	V10137	1	EC	0.07	lb ai/a	PO2						
6	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.7	7.0	7.7	8.3	2.3	10.0
	V10181	1	EC	0.07	lb ai/a	PO2						
7	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.0	6.7	4.0	8.0	1.3	10.0
	V10180	1.6	EC	0.0775	lb ai/a	PO2						
8	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	1.3	3.7	2.3	7.7	2.3	10.0
	V10139	1.6	EC	0.038	lb ai/a	PO2						
9	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	7.0	7.0	8.0	1.7	10.0
10	flumioxazin	51	WDG	0.047	lb ai/a	PO1,2	1.7	5.7	6.3	8.7	1.7	10.0
11	flumioxazin	51	WDG	0.032	lb ai/a	PO1	1.0	8.7	7.7	9.3	1.3	10.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO2						
	clethodim	2	EC	0.125	lb ai/a	PO2						
12	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	3.7	9.3	9.7	9.7	3.0	10.0
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2						
13	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.3	6.3	8.3	9.0	1.7	10.0
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
14	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.7	8.3	8.3	8.3	2.3	10.0
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2						
15	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	1.0	8.3	7.7	9.0	1.7	10.0
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2						
16	Untreated						1.0	5.3	6.0	3.7	2.0	1.0
LSD (P=.05)							1.49	3.20	3.98	2.61	1.24	0.00
Standard Deviation							0.89	1.92	2.39	1.57	0.75	0.00
CV							56.29	27.6	36.95	19.46	38.06	0.00

Postemergence Weed Control in Onion - Grant

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	COPU 7/25/06 RATING	LATH 7/25/06 RATING	PASP 7/25/06 RATING	RRPW 7/25/06 RATING	TUPW 7/25/06 RATING	ONION 9/8/06 HARVEST KG/PLOT
1	oxyfluorfen	2	L	0.031	lb ai/a	PO1,2	5.3	7.3	5.3	7.3	6.7	100.19
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
2	oxyfluorfen	2	L	0.063	lb ai/a	PO1,2	6.3	7.3	2.7	8.0	6.7	69.38
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
3	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2	7.7	7.7	2.7	6.7	7.3	88.33
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
4	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	7.0	6.3	2.7	7.3	8.0	80.70
	clethodim	2	EC	0.125	lb ai/a	PO1,2						
	NIS	100	SL	0.25	% v/v	PO1,2						
5	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	7.7	7.7	2.7	5.7	7.3	79.98
	V10137	1	EC	0.07	lb ai/a	PO2						
6	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	6.3	9.3	2.3	7.7	7.0	88.55
	V10181	1	EC	0.07	lb ai/a	PO2						
7	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	7.3	7.0	2.7	7.0	5.0	85.79
	V10180	1.6	EC	0.0775	lb ai/a	PO2						
8	oxyfluorfen	4	SC	0.063	lb ai/a	PO1,2	6.7	5.0	3.3	5.0	6.0	85.39
	V10139	1.6	EC	0.038	lb ai/a	PO2						
9	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	6.7	9.3	3.0	7.3	7.3	92.18
10	flumioxazin	51	WDG	0.047	lb ai/a	PO1,2	8.7	9.3	4.7	7.0	9.0	82.26
11	flumioxazin	51	WDG	0.032	lb ai/a	PO1	8.0	9.7	3.3	7.3	7.0	81.69
	oxyfluorfen	4	SC	0.063	lb ai/a	PO2						
	clethodim	2	EC	0.125	lb ai/a	PO2						
12	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	7.0	8.7	5.3	7.3	8.0	72.26
	pendimethalin	3.3	EC	2	lb ai/a	PO1,2						
13	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	9.7	8.0	6.0	8.0	7.3	82.47
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
14	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	9.3	9.3	4.3	9.3	8.3	85.22
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2						
15	flumioxazin	51	WDG	0.032	lb ai/a	PO1,2	7.7	9.3	6.0	8.3	7.7	87.53
	pendimethalin	3.8	CS	2	lb ai/a	PO1,2						
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1,2						
16	Untreated						4.0	2.7	1.7	1.0	1.0	75.13
LSD (P=.05)							4.46	2.99	3.26	2.42	2.11	14.385
Standard Deviation							2.67	1.79	1.96	1.45	1.27	8.586
CV							37.07	23.1	53.37	21.08	18.46	10.27

Weed Control in Green Onion and Leek – Muck Farm

Project Code: WC 116-06-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Green onion, Leek **Variety: Southport White Globe, American Flag**
Planting Method: Seeded **Planting Date: 4/27/06**
Spacing: 1 IN **Row Spacing: 16 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 6.6**
Sand: 4% **Silt: 15%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/1/06	2:00 pm	71/57	°F	Dry	7 SE	36	85% cloudy	N
PO1	6/8/06	9:45 am	71/67	°F	Dry	5 NE	72	Clear	N

Crop and Weed Information at Application

		Height or Diameter	Growth Stage	Density
6/8	GRNON = green onion	3-6″	2-3 leaves	
6/9	LEEK = leek	3-6″	2-3 leaves	
	COLQ = common lambsquarters	2-6″		Moderate
	LATH = ladysthumb	3-6″		Moderate
	RRPW = redroot pigweed	3-6″		moderate
	SHPU = shepherdspurse			
6/12	COLQ = common lambsquarters			
	COPU = common purslane			
	LATH = ladysthumb			
	RRPW = redroot pigweed			
	SHPU = shepherdspurse			

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. 1 row of each crop per plot
4. Harvested 16.67 ft from each plot.

Weed Control in Green Onion and Leek – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-06-07
Location: Muck Farm

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	LEEK	GRNON	COLQ	COPU	LATH	RRPW
Pest Code							LEEK	GRNON	COLQ	COPU	LATH	RRPW
Rating Date							6/8/06	6/8/06	6/8/06	6/8/06	6/8/06	6/8/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	8.3	8.0	6.7	6.7
2	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.0	1.0	8.3	7.7	7.0	7.7
3	s-metolachlor	7.62	EC	1.2	lb ai/a	PRE	1.0	1.0	2.0	6.7	7.0	7.3
4	dimethenamid-P	6	EC	0.98	lb ai/a	PRE	2.3	2.3	4.3	8.0	7.3	8.7
5	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	8.3	7.0	7.3	8.0
	oxyfluorfen	2	L	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
6	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	8.7	8.0	7.3	8.0
	oxyfluorfen	2	L	0.063	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
7	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	8.7	7.7	7.3	7.7
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
8	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	8.0	7.3	6.3	7.3
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
9	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	8.7	7.7	6.3	7.7
	ethofumesate	4	SC	2	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.31	0.31	1.80	1.37	1.27	1.28
Standard Deviation							0.18	0.18	1.05	0.80	0.74	0.75
CV							16.11	16.11	15.81	11.6	11.59	10.68

Weed Control in Green Onion and Leek – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SHPU 6/8/06 RATING	LEEK 6/12/06 RATING	GRNON 6/12/06 RATING	COLQ 6/12/06 RATING	COPU 6/12/06 RATING	LATH 6/12/06 RATING
1	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.0	1.0	1.0	4.0	6.7	4.7
2	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.3	1.0	1.0	5.3	7.0	6.0
3	s-metolachlor	7.62	EC	1.2	lb ai/a	PRE	2.3	1.0	1.0	1.0	4.7	3.0
4	dimethenamid-P	6	EC	0.98	lb ai/a	PRE	7.3	2.3	2.3	2.7	7.3	6.7
5	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.3	2.3	1.7	10.0	10.0	9.3
	oxyfluorfen	2	L	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
6	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.7	2.7	1.7	10.0	10.0	8.3
	oxyfluorfen	2	L	0.063	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
7	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.7	2.0	1.7	10.0	9.3	9.3
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
8	pendimethalin	3.3	EC	2	lb ai/a	PRE	2.3	2.3	1.7	9.0	9.7	9.0
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
9	pendimethalin	3.3	EC	2	lb ai/a	PRE	1.7	1.3	1.3	8.0	7.7	8.3
	ethofumesate	4	SC	2	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
10	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							1.28	0.64	0.80	2.96	2.09	2.06
Standard Deviation							0.75	0.38	0.47	1.72	1.22	1.20
CV							34.52	22.07	32.61	28.27	16.62	18.28

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RRPW 6/12/06 RATING	SHPU 6/12/06 RATING	GRNON 7/14/06 HARVEST KG/PLOT	LEEK 9/20/06 HARVEST KG/PLOT
1	pendimethalin	3.3	EC	2	lb ai/a	PRE	4.7	1.0	2.30	4.76
2	pendimethalin	3.8	CS	2	lb ai/a	PRE	6.0	1.7	2.05	5.14
3	s-metolachlor	7.62	EC	1.2	lb ai/a	PRE	3.0	2.3	0.99	2.32
4	dimethenamid-P	6	EC	0.98	lb ai/a	PRE	8.7	7.7	2.11	2.50
5	pendimethalin	3.3	EC	2	lb ai/a	PRE	10.0	4.3	2.80	8.06
	oxyfluorfen	2	L	0.031	lb ai/a	PO1				
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1				
6	pendimethalin	3.3	EC	2	lb ai/a	PRE	10.0	4.3	2.98	6.44
	oxyfluorfen	2	L	0.063	lb ai/a	PO1				
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1				
7	pendimethalin	3.3	EC	2	lb ai/a	PRE	9.3	4.3	2.52	6.27
	oxyfluorfen	4	SC	0.031	lb ai/a	PO1				
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1				
8	pendimethalin	3.3	EC	2	lb ai/a	PRE	10.0	5.0	3.94	6.46
	oxyfluorfen	4	SC	0.063	lb ai/a	PO1				
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1				
9	pendimethalin	3.3	EC	2	lb ai/a	PRE	9.0	1.7	3.57	4.52
	ethofumesate	4	SC	2	lb ai/a	PO1				
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1				
10	Untreated						1.0	1.0	0.68	1.86
LSD (P=.05)							2.33	1.47	1.289	2.455
Standard Deviation							1.36	0.86	0.752	1.431
CV							18.93	25.69	31.41	29.61

Preemergence Nutsedge Control with V-10142 – Muck Farm

Project Code: WC 112-06-06 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: **Variety:**
Planting Method: **Planting Date:**
Spacing: **Row Spacing:**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 79%** **pH: 6.6**
Sand: 4% **Silt: 15%** **Clay: 2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/24/06	10:30 am	76/57	°F	Dry	6 W	28	15% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
	YENS = yellow nutsedge			
	LACG = large crabgrass			
	COPU = common purslane			
	PRSP = prostrate spurge			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Preemergence Nutsedge Control with V-10142 – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-06-06
Location: Muck Farm

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	YENS 6/26/06 RATING	LACG 6/26/06 RATING	COPU 6/26/06 RATING	RRPW 6/26/06 RATING
1	V-10142	75	WDG	0.7	lb ai/a	PRE	7.5	2.0	4.0	7.3
	NIS	100	SL	0.25	% v/v	PRE				
2	V-10142	3.3	F	0.1	lb ai/a	PRE	5.8	1.8	1.3	4.3
	NIS	100	SL	0.25	% v/v	PRE				
3	V-10142	75	WDG	0.2	lb ai/a	PRE	5.0	1.5	3.3	5.0
	NIS	100	SL	0.25	% v/v	PRE				
4	V-10142	3.3	F	0.2	lb ai/a	PRE	8.0	2.3	3.8	8.0
	NIS	100	SL	0.25	% v/v	PRE				
5	halosulfuron	75	WG	0.047	lb ai/a	PRE	7.8	1.8	1.3	6.8
	NIS	100	SL	0.25	% v/v	PRE				
6	sulfentrazone	4	F	0.25	lb ai/a	PRE	2.3	1.5	5.5	4.3
	NIS	100	SL	0.25	% v/v	PRE				
7	flumioxazin	51	WDG	0.256	lb ai/a	PRE	1.0	9.0	9.3	9.8
	NIS	100	SL	0.25	% v/v	PRE				
8	dimethenamid-P	6	EC	0.98	lb ai/a	PRE	2.0	9.8	8.3	10.0
9	Untreated						2.8	1.8	1.8	3.0
LSD (P=.05)							3.47	1.50	2.04	4.31
Standard Deviation							2.38	1.03	1.40	2.96
CV							50.97	29.65	32.87	45.67

Weed Control in Parsnip - Grant

Project Code: WC 133-06-01 **Location: Grant, Veurink Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Parsnip **Variety:**
Planting Method: **Planting Date: 5/18/06**
Spacing: **Row Spacing:**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 4 ft wide x 35 ft long

Soil Type: Kingsville Mucky Sand **OM: 37%** **pH: 7.5**
Sand: 31% **Silt: 12%** **Clay: 20%** **CEC: NA**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/23/06	11:00 am	62/50	°F	Adequate	2 SW	35	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/23	Parsnip			
	COPU = common purslane			
	RRPW = redroot pigweed			

Notes and Comments
1. Sprays applied with 2 nozzle boom FF11002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. 1 lb/A Lorox sprayed over all plots 6/23/06.

Weed Control in Parsnip - Grant

Dept. of Horticulture, MSU

Trial ID: WC 133-06-01
Location: Grant - Veurink Farm

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	PARSNIP 6/23/06 RATING	COPU 6/23/06 RATING	RRPW 6/23/06 RATING	PARSNIP 10/25/06 HARVEST KG/5 FT
1	linuron	50	DF	1	lb ai/a	PRE	1.7	6.0	4.3	6.35
2	linuron	50	DF	2	lb ai/a	PRE	2.3	7.7	6.3	7.05
3	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	1.7	6.0	3.3	6.89
4	s-metolachlor	7.62	EC	1.26	lb ai/a	PRE	1.7	7.0	4.3	7.67
5	s-metolachlor	7.62	EC	1.6	lb ai/a	PRE	2.7	7.0	5.0	7.10
6	s-metolachlor	7.62	EC	1.9	lb ai/a	PRE	2.3	7.0	6.0	7.39
7	prometryn	4	L	1	lb ai/a	PRE	1.3	6.0	2.3	6.67
8	Untreated						1.0	1.0	1.0	7.62
LSD (P=.05)							1.33	2.44	2.23	0.945
Standard Deviation							0.76	1.39	1.27	0.540
CV							41.45	23.34	31.22	7.61

Weed Control in Pea - HTRC

Project Code: WC 131-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Pea **Variety: Bolero**
Planting Method: Seed **Planting Date: 4/26/06**
Spacing: 3 IN **Row Spacing: 14 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 7 ft wide x 35 ft long

Soil Type: Spinks Loamy Sand **OM: 1.7%** **pH: 6.5**
Sand: 83% **Silt: 10%** **Clay: 7%** **CEC: 2.9**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/27/06	10:30 pm	58/52	°F	Dry	3 E	25	Clear	N
PO1	6/14/06	4:30 pm	78/84	°F	Dry	5 NE	25	50% cloudy	N

Crop and Weed Application at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/14	PEA = pea	6-8″		
6/14	GRFT = green foxtail	3-4″		
6/14	COLQ = common lambsquarters	4-6″		
6/14	LATH = ladysthumb	4-6″		
6/14	PRLE = prickly lettuce	6-10″		
6/14	RRPW = redroot pigweed	4-6″		
6/27	LACG = large crabgrass			
	COLQ = common lambsquarters			
	EBNS = eastern black nightshade			
	PRLE = prickly lettuce			
	RRPW = redroot pigweed			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. 3 rows of peas per plot

Weed Control in Pea - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 131-06-01
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	PEA 5/22/06 RATING	PEA 6/14/06 RATING	GRFT 6/14/06 RATING	COLQ 6/14/06 RATING	LATH 6/14/06 RATING	PRLE 6/14/06 RATING
1	trifluralin	4	EC	0.75	lb ai/a	PPI	1.3	1.0	8.0	2.0	2.7	6.0
	bentazon	4	L	1	lb ai/a	PO1						
	Assure II	0.88	EC	0.055	lb ai/a	PO1						
2	s-metolachlor	7.62	EC	1.5	lb ai/a	PRE	2.0	2.0	9.3	4.0	6.3	4.3
	bentazon	4	L	1	lb ai/a	PO1						
	Assure II	0.88	EC	0.055	lb ai/a	PO1						
3	clomazone	3	ME	0.5	lb ai/a	PRE	1.0	1.3	8.7	8.3	8.7	7.7
	bentazon	4	L	1	lb ai/a	PO1						
	Assure II	0.88	EC	0.055	lb ai/a	PO1						
4	imazamox	1	AS	0.064	lb ai/a	PRE	1.7	1.7	7.0	8.0	8.7	9.3
5	imazethapyr	2	AS	0.47	lb ai/a	PRE	3.7	2.3	10.0	10.0	10.0	10.0
6	s-metolachlor	7.62	EC	1.5	lb ai/a	PRE	4.0	5.0	9.3	9.3	9.7	9.7
	halosulfuron	75	WG	0.023	lb ai/a	PRE						
7	halosulfuron	75	WG	0.023	lb ai/a	PRE	3.3	2.7	5.0	8.0	9.3	8.7
	Targa	0.88	EC	0.055	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.032	lb ai/a	PRE	3.3	3.3	4.0	8.7	10.0	9.3
	Targa	0.88	EC	0.055	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
9	halosulfuron	75	WG	0.047	lb ai/a	PRE	4.7	3.7	5.7	9.7	10.0	7.7
	Targa	0.88	EC	0.055	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
10	Untreated						1.0	1.0	4.0	1.7	2.3	9.0
LSD (P=.05)							1.24	2.03	3.37	1.98	1.89	4.31
Standard Deviation							0.72	1.18	1.96	1.16	1.10	2.51
CV							27.79	49.3	27.67	16.6	14.17	30.73

Weed Control in Pea - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RRPW	PEA	LACG	COLQ	EBNS	PRLE
Pest Code							RRPW	PEA	LACG	COLQ	EBNS	PRLE
Rating Date							6/14/06	6/27/06	6/27/06	6/27/06	6/27/06	6/27/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	trifluralin	4	EC	0.75	lb ai/a	PPI	7.3	1.7	4.7	5.3	10.0	6.7
	bentazon	4	L	1	lb ai/a	PO1						
	Assure II	0.88	EC	0.055	lb ai/a	PO1						
2	s-metolachlor	7.62	EC	1.5	lb ai/a	PRE	8.0	2.3	10.0	8.0	10.0	7.3
	bentazon	4	L	1	lb ai/a	PO1						
	Assure II	0.88	EC	0.055	lb ai/a	PO1						
3	clomazone	3	ME	0.5	lb ai/a	PRE	7.7	1.3	8.3	8.3	7.7	7.3
	bentazon	4	L	1	lb ai/a	PO1						
	Assure II	0.88	EC	0.055	lb ai/a	PO1						
4	imazamox	1	AS	0.064	lb ai/a	PRE	9.0	1.7	5.3	7.7	10.0	9.3
5	imazethapyr	2	AS	0.47	lb ai/a	PRE	10.0	2.3	8.0	10.0	10.0	10.0
6	s-metolachlor	7.62	EC	1.5	lb ai/a	PRE	8.0	5.3	8.3	8.0	6.3	10.0
	halosulfuron	75	WG	0.023	lb ai/a	PRE						
7	halosulfuron	75	WG	0.023	lb ai/a	PRE	10.0	2.3	9.0	8.7	3.0	7.3
	Targa	0.88	EC	0.055	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.032	lb ai/a	PRE	10.0	3.3	8.3	8.3	1.0	9.0
	Targa	0.88	EC	0.055	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
9	halosulfuron	75	WG	0.047	lb ai/a	PRE	10.0	3.0	8.3	8.0	1.0	7.0
	Targa	0.88	EC	0.055	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
10	Untreated						5.0	1.7	1.0	1.0	6.3	1.0
LSD (P=.05)							2.25	1.63	3.03	2.12	3.92	4.90
Standard Deviation							1.31	0.95	1.77	1.24	2.28	2.86
CV							15.42	37.95	24.8	16.84	34.97	38.07

Weed Control in Pea - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RRPW 6/27/06 RATING	PEA 7/7/06 WHOLE PLT KG/PLOT	PEA 7/7/06 PEA KG/PLOT
1	trifluralin	4	EC	0.75	lb ai/a	PPI	9.3	17.79	9.84
	bentazon	4	L	1	lb ai/a	PO1			
	Assure II	0.88	EC	0.055	lb ai/a	PO1			
2	s-metolachlor	7.62	EC	1.5	lb ai/a	PRE	9.3	9.96	5.76
	bentazon	4	L	1	lb ai/a	PO1			
	Assure II	0.88	EC	0.055	lb ai/a	PO1			
3	clomazone	3	ME	0.5	lb ai/a	PRE	8.3	19.15	10.52
	bentazon	4	L	1	lb ai/a	PO1			
	Assure II	0.88	EC	0.055	lb ai/a	PO1			
4	imazamox	1	AS	0.064	lb ai/a	PRE	9.7	15.08	8.81
5	imazethapyr	2	AS	0.47	lb ai/a	PRE	10.0	15.07	8.01
6	s-metolachlor	7.62	EC	1.5	lb ai/a	PRE	10.0	7.07	3.67
	halosulfuron	75	WG	0.023	lb ai/a	PRE			
7	halosulfuron	75	WG	0.023	lb ai/a	PRE	10.0	11.87	6.62
	Targa	0.88	EC	0.055	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
8	halosulfuron	75	WG	0.032	lb ai/a	PRE	10.0	11.72	6.21
	Targa	0.88	EC	0.055	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
9	halosulfuron	75	WG	0.047	lb ai/a	PRE	10.0	10.81	5.23
	Targa	0.88	EC	0.055	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
10	Untreated						1.0	14.05	7.93
LSD (P=.05)							0.87	5.815	2.938
Standard Deviation							0.51	3.390	1.713
CV							5.77	25.57	23.59

Weed Control in Transplanted Pepper - HTRC

Project Code: WC 101-06-02 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Pepper **Variety: Camelot (Bell), Inferno (Banana)**
Planting Method: Transplant **Planting Date: 6-1-06**
Spacing: 24 IN **Row Spacing: 36 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 8 ft wide x 35 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 1.8%** **pH: 5.5**
Sand: 55% **Silt: 30%** **Clay: 15%** **CEC: 6.7**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	6/1/06	10:30 am	71/70	°F	Moist	2 NE	55	100% Cloudy	N
PRT	6/1/06	11:10 am	72/70	°F	Moist	4 NE	53	50% Cloudy	N
POT	6/2/06	12:15 pm	76/70	°F	Dry	6 NE	50	100% Cloudy	N
PO1	6/19/06	10:30 am	79/73	°F	Moist	7 SW	66	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/19	Pepper (Bell)	6-8″		
6/19	Pepper (Banana)	6-8″		
6/19	GIFT = giant foxtail	4-6″		few
6/19	GRFT = green foxtail	4-6″		moderate
6/19	LACG = large crabgrass	3-5″		moderate
6/19	YEFT = yellow foxtail	4-6″		few
6/19	YENS = yellow nutsedge	4-8″		few
6/19	COLQ = common lambsquarters	6-8″		moderate
6/19	RRPW = redroot pigweed	4-8″		moderate
6/19	WIRA = wild radish	2-4″		moderate

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One row Camelot (Bell) and one row Inferno(Banana)/plot.
4. 3 harvests Banana, 4 harvests Bell

Weed Control in Transplanted Pepper - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 101-06-02
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BANANA 6/19/06 RATING	BELL 6/19/06 RATING	GIFT 6/19/06 RATING	GRFT 6/19/06 RATING	LACG 6/19/06 RATING	YEFT 6/19/06 RATING
1	trifluralin	4	EC	1	lb ai/a	PPI	1.0	1.0	8.3	8.3	9.3	7.0
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	1.0	1.0	10.0	10.0	10.0	10.0
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	10.0
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	1.0	1.0	9.3	9.3	9.7	9.3
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	10.0
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	1.0	1.0	10.0	10.0	10.0	10.0
	clomazone	3	ME	0.5	lb ai/a	PRT						
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	10.0
	clomazone	3	ME	0.5	lb ai/a	POT						
8	Strategy	2.1	SE	1.05	lb ai/a	POT	1.0	1.0	9.7	9.7	9.3	10.0
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	1.0	1.0	9.7	10.0	10.0	10.0
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	7.0	8.3	10.0
	halosulfuron	75	WG	0.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	1.0	1.0	8.3	8.0	7.0	10.0
12	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.00	0.00	0.97	2.68	1.94	1.44
Standard Deviation							0.00	0.00	0.58	1.58	1.15	0.85
CV							0.0	0.0	6.49	18.35	13.15	9.52

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	YENS 6/19/06 RATING	COLQ 6/19/06 RATING	RRPW 6/19/06 RATING	WIRA 6/19/06 RATING	BANANA 6/30/06 RATING	BELL 6/30/06 RATING
1	trifluralin	4	EC	1	lb ai/a	PPI	10.0	9.3	10.0	7.7	1.0	1.0
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	10.0	9.0	8.3	8.7	1.3	1.7
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	7.3	9.0	8.0	1.0	1.0
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	10.0	8.0	9.0	6.7	1.7	2.3
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	10.0	6.7	10.0	6.7	1.3	1.7
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	10.0	10.0	10.0	9.7	1.7	1.3
	clomazone	3	ME	0.5	lb ai/a	PRT						
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.0	10.0	9.7	9.0	1.3	1.3
	clomazone	3	ME	0.5	lb ai/a	POT						
8	Strategy	2.1	SE	1.05	lb ai/a	POT	9.3	10.0	7.7	9.7	1.0	1.0
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	9.3	8.7	8.7	7.0	2.3	2.0
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	8.3	8.3	9.3	7.0	2.0	2.0
	halosulfuron	75	WG	0.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	8.7	7.0	10.0	5.3	2.7	1.7
12	Untreated						1.0	1.0	1.0	1.0	1.7	1.7
LSD (P=.05)							1.79	3.39	2.02	2.46	1.06	1.28
Standard Deviation							1.05	2.00	1.19	1.45	0.63	0.76
CV							11.97	25.17	13.94	20.16	39.64	48.67

Weed Control in Transplanted Pepper - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	GRFT	CORW	EBNS	RRPW	WIRA	BANANA
Pest Code							GRFT	CORW	EBNS	RRPW	WIRA	BANANA
Rating Date							6/30/06	6/30/06	6/30/06	6/30/06	6/30/06	8/9/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	HARVEST
Rating Unit												KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	8.0	4.3	6.0	8.3	7.0	6.08
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	8.0	8.3	10.0	9.3	7.3	4.01
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.3	7.7	10.0	9.3	8.0	3.85
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	8.3	7.7	9.0	10.0	6.0	4.16
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	9.3	7.7	10.0	10.0	7.7	5.63
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	10.0	10.0	10.0	10.0	10.0	6.06
	clomazone	3	ME	0.5	lb ai/a	PRT						
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	10.0	10.0	10.0	9.3	5.98
	clomazone	3	ME	0.5	lb ai/a	POT						
8	Strategy	2.1	SE	1.05	lb ai/a	POT	9.7	8.3	9.0	8.3	9.7	7.49
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	8.7	10.0	10.0	10.0	9.7	4.78
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	10.0	10.0	10.0	10.0	4.36
	halosulfuron	75	WG	0.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	7.7	7.3	10.0	9.7	6.7	2.03
12	Untreated						5.0	6.7	8.7	5.7	9.3	3.08
LSD (P=.05)							1.52	4.21	1.88	2.31	3.20	2.956
Standard Deviation							0.90	2.49	1.11	1.36	1.89	1.746
CV							10.39	30.46	11.82	14.79	22.51	36.42

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BANANA	BANANA	BANANA	BELL	BELL
Pest Code							BANANA	BANANA	BANANA	BELL	BELL
Rating Date							8/28/06	9/14/06		8/9/06	8/9/06
Rating Data Type							HARVEST	HARVEST	TOTAL	HARVEST	HARVEST
Rating Unit							KG/PLOT	KG/PLOT	KG/PLOT	NUMBER	KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	5.11	9.42	20.60	19.7	3.41
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	3.93	4.64	12.58	10.3	1.81
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	6.30	6.23	16.38	16.0	2.53
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	2.82	5.83	12.82	8.7	1.52
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	5.79	7.55	18.97	5.3	0.91
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	6.28	8.47	20.81	19.0	3.09
	clomazone	3	ME	0.5	lb ai/a	PRT					
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	6.19	10.11	22.28	14.0	2.15
	clomazone	3	ME	0.5	lb ai/a	POT					
8	Strategy	2.1	SE	1.05	lb ai/a	POT	5.59	8.11	21.19	14.3	2.35
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	5.63	5.32	15.73	11.7	2.02
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	6.59	8.04	18.98	9.7	1.53
	halosulfuron	75	WG	0.023	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	2.86	3.27	8.17	7.3	1.14
12	Untreated						3.10	4.35	10.54	3.3	0.54
LSD (P=.05)							3.701	4.382	8.925	10.49	1.737
Standard Deviation							2.186	2.588	5.270	6.19	1.026
CV							43.59	38.17	31.77	53.35	53.55

Weed Control in Transplanted Pepper - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BELL 8/21/06 HARVEST NUMBER	BELL 8/21/06 HARVEST KG/PLOT	BELL 8/28/06 HARVEST NUMBER	BELL 8/28/06 HARVEST KG/PLOT	BELL 9/13/06 HARVEST NUMBER
1	trifluralin	4	EC	1	lb ai/a	PPI	10.0	1.95	24.0	4.87	12.7
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	11.0	2.36	22.3	4.05	15.3
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	11.0	2.02	22.3	4.29	21.3
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	8.0	1.53	17.3	2.90	9.7
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	11.7	2.16	27.3	4.11	11.0
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	15.0	2.69	24.3	4.37	23.7
	clomazone	3	ME	0.5	lb ai/a	PRT					
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	6.7	1.30	28.7	5.27	19.7
	clomazone	3	ME	0.5	lb ai/a	POT					
8	Strategy	2.1	SE	1.05	lb ai/a	POT	16.7	3.19	31.0	6.26	29.3
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	16.3	3.23	19.0	3.77	15.7
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	19.0	3.33	33.0	5.23	16.7
	halosulfuron	75	WG	0.023	lb ai/a	PO1					
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1					
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	11.7	2.09	23.0	3.57	18.0
12	Untreated						14.3	2.48	25.0	3.94	15.3
LSD (P=.05)							11.75	2.406	20.44	3.260	15.00
Standard Deviation							6.94	1.421	12.07	1.925	8.86
CV							55.02	60.2	48.72	43.89	51.04

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BELL 9/13/06 HARVEST KG/PLOT	BELL TOTAL NUMBER	BELL TOTAL KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	2.57	66.3	12.81
2	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	2.77	59.0	10.99
3	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	3.93	70.7	12.77
4	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	1.56	43.7	7.51
5	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.71	55.3	8.89
6	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT	4.11	82.0	14.26
	clomazone	3	ME	0.5	lb ai/a	PRT			
7	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	3.41	69.0	12.13
	clomazone	3	ME	0.5	lb ai/a	POT			
8	Strategy	2.1	SE	1.05	lb ai/a	POT	5.43	91.3	17.23
9	flumioxazin	51	WDG	0.064	lb ai/a	PRT	2.95	62.7	11.96
10	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	2.85	78.3	12.93
	halosulfuron	75	WG	0.023	lb ai/a	PO1			
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1			
11	sulfentrazone	4	F	0.14	lb ai/a	PRT	3.01	60.0	9.81
12	Untreated						2.50	58.0	9.46
LSD (P=.05)							2.650	28.47	5.352
Standard Deviation							1.565	16.81	3.161
CV							51.03	25.34	26.95

Weed Control in Rhubarb - CHES

Project Code: WC 102-06-01 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Rhubarb **Variety: Valentine**
Planting Method: Root Divisions **Planting Date: 2004**
Spacing: 4 FT **Row Spacing: 10 FT**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 5.3 ft wide x 20 ft long

Soil Type: Spinks Loamy Sand **OM: 1.6%** **pH: 6.3**
Sand: 51% **Silt: 37%** **Clay: 11%** **CEC: 6.3**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/11/06	9:30 am	55/47	°F	Adequate	5 SE	48	50% Cloudy	N
PO1	5/4/06	9:30 am	60/56	°F	Adequate	5 W	46	5% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/11	Rhubarb		dormant	
4/11	COCW = common chickweed	1-2″		many
4/11	MECR = mouse-ear cress	2-4″	flower	many
4/11	WHCA = white campion	1-2″		many
5/4	Rhubarb	4-6″		
5/4	COCW = common chickweed	2-3″		many
5/4	SHPU = shepherdspurse	8-12″	flower	many
5/4	DAND = dandelion	6-8″	flower	moderate
5/4	WHCA = white campion	4-6″		few
5/4	PRLE = prickly lettuce	1-4″		moderate

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Plots were weeded in mid May.

Weed Control in Rhubarb - CHES

Dept. of Horticulture, MSU

Trial ID: WC 102-06-01 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RHUBARB 5/4/06 RATING	REFE 5/4/06 RATING	COCW 5/4/06 RATING	DAND 5/4/06 RATING	PRLE 5/4/06 RATING	RESO 5/4/06 RATING
1	mesotrione	4	SC	0.094	lb ai/a	PRE	2.3	5.0	8.3	9.3	7.7	7.0
2	mesotrione	4	SC	0.188	lb ai/a	PRE	3.0	5.3	9.7	9.7	10.0	5.3
3	mesotrione	4	SC	0.3	lb ai/a	PRE	3.7	6.0	10.0	10.0	9.3	7.0
4	mesotrione	4	SC	0.094	lb ai/a	PRE	2.3	5.0	8.3	9.3	10.0	10.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
5	propyzamide	50	WP	3	lb ai/a	PRE	1.3	5.7	6.0	1.0	1.0	10.0
	mesotrione	4	SC	0.094	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
6	halosulfuron	75	WG	0.047	lb ai/a	PRE	2.3	7.0	1.7	1.3	1.7	10.0
7	halosulfuron	75	WG	0.094	lb ai/a	PRE	2.0	8.3	2.7	8.7	9.7	7.0
8	Handweeded						1.0	5.3	1.0	4.3	1.0	4.0
LSD (P=.05)							1.73	3.78	3.72	2.01	2.70	7.47
Standard Deviation							0.99	2.16	2.12	1.15	1.54	4.26
CV							43.78	36.19	35.6	17.1	24.53	56.54

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SHPU 5/4/06 RATING	WHCA 5/4/06 RATING	RHUBARB 5/9/06 RATING	RHUBARB 5/18/06 RATING	RHUBARB 5/23/06 RATING
1	mesotrione	4	SC	0.094	lb ai/a	PRE	10.0	8.7	2.0	1.0	1.7
2	mesotrione	4	SC	0.188	lb ai/a	PRE	10.0	9.0	3.7	3.0	4.7
3	mesotrione	4	SC	0.3	lb ai/a	PRE	9.7	9.7	4.3	3.0	3.0
4	mesotrione	4	SC	0.094	lb ai/a	PRE	10.0	8.7	3.3	3.3	3.7
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
5	propyzamide	50	WP	3	lb ai/a	PRE	1.7	1.7	1.7	2.7	3.0
	mesotrione	4	SC	0.094	lb ai/a	PO1					
	NIS	100	SL	0.25	% v/v	PO1					
6	halosulfuron	75	WG	0.047	lb ai/a	PRE	10.0	9.3	2.0	1.3	2.0
7	halosulfuron	75	WG	0.094	lb ai/a	PRE	10.0	10.0	2.3	2.7	2.3
8	Handweeded						1.0	3.3	1.3	1.3	2.0
LSD (P=.05)							0.78	3.10	2.08	1.80	2.20
Standard Deviation							0.44	1.77	1.19	1.03	1.26
CV							5.69	23.48	45.88	44.79	44.99

Weed Control in Rhubarb - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RHUBARB	WHCA	YEHW
Pest Code							RHUBARB	WHCA	YEHW
Rating Date							6/15/06	6/15/06	6/15/06
Rating Data Type							RATING	RATING	RATING
1	mesotrione	4	SC	0.094	lb ai/a	PRE	1.7	10.0	4.0
2	mesotrione	4	SC	0.188	lb ai/a	PRE	2.7	7.0	9.3
3	mesotrione	4	SC	0.3	lb ai/a	PRE	2.7	8.0	7.7
4	mesotrione	4	SC	0.094	lb ai/a	PRE	2.7	7.0	9.3
	mesotrione	4	SC	0.094	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
5	propyzamide	50	WP	3	lb ai/a	PRE	4.3	7.7	4.0
	mesotrione	4	SC	0.094	lb ai/a	PO1			
	NIS	100	SL	0.25	% v/v	PO1			
6	halosulfuron	75	WG	0.047	lb ai/a	PRE	4.0	9.0	2.0
7	halosulfuron	75	WG	0.094	lb ai/a	PRE	4.0	7.0	5.7
8	Handweeded						3.7	7.0	2.3
LSD (P=.05)							3.47	6.69	5.82
Standard Deviation							1.98	3.82	3.32
CV							61.73	48.77	59.99

Weed Control in Spinach - Muck Farm

Project Code: WC 109-06-02 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Spinach **Variety: UniPack 151**
Planting Method: Seeded **Planting Date: 4/25/06**
Spacing: 3 IN **Row Spacing: 16 IN**
Tillage Type: Conventional **Study Design: RCBD** **Replications: 3**
Plot Size: 5.5 ft wide x 16.67 ft long

Soil Type: Houghton Muck **OM: 89%** **pH: 6.6**
Sand: 4% **15%** **2%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/1/06	1:00 pm	71/57 °F	Dry	7 SE	36	85% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/2/06	spinach			
	COLQ = common lambsquarters			
	LATH = ladysthumb			

Notes and Comments
1. Sprays applied with 4-nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Planted 3 rows of spinach per plot.
4. 5 ft long by width of plot harvested.

Weed Control in Spinach - Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 109-06-02 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	SPINACH 6/2/06 RATING	COLQ 6/2/06 RATING	LATH 6/2/06 RATING	SPINACH 6/6/06 HARVEST KG/PLOT
1	pyrazon	68	DF	3	lb ai/a	PRE	2.0	4.7	5.0	2.30
2	s-metolachlor	7.62	EC	0.95	lb ai/a	PRE	2.3	6.0	4.7	2.65
3	dimethenamid-P	6	EC	0.6	lb ai/a	PRE	3.3	8.3	5.7	2.32
4	ethofumesate	4	SC	2	lb ai/a	PRE	2.0	3.0	5.0	3.21
5	cycloate	6	EC	3	lb ai/a	PRE	2.3	5.0	1.0	2.72
6	triallate	4	EC	3	lb ai/a	PRE	2.0	4.3	5.0	2.74
7	triallate	4	EC	6	lb ai/a	PRE	1.7	6.0	5.0	3.24
8	Untreated						1.7	1.3	2.0	3.62
LSD (P=.05)							1.34	5.66	4.01	0.821
Standard Deviation							0.77	3.23	2.29	0.469
CV							35.43	66.89	54.9	16.44

Weed Control in Strawberry - HTRC

Project Code: WC 126-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Strawberry **Variety: Darselect**
Planting Method: Transplant **Planting Date: 6/3/04**
Spacing: 2 FT **Row Spacing: 6 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 30 ft long

Soil Type: Spinks Loamy Sand **OM: 2.1%** **pH: 6.5**
Sand: 86% **Silt: 6%** **Clay: 8%** **CEC: 6.7**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/10/06	2:30 pm	61/53	°F	Adequate	4 SW	32	20% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/22	STBE = strawberry			
6/14	STBE = strawberry			
	QUGR = quackgrass			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Entire trial received 2 pt Poast + 0.125 lb/a Stinger + 0.25% v/v NIS (5/3/06).
4. All plots were harvested 5 times.

Weed Control in Strawberry - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 126-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	STBE 5/22/06 RATING 1-10	STBE 6/14/06 RATING 1-10	QUGR 6/14/06 RATING 1-10	STBE 6/8/06 HARVEST KG/PLOT	STBE 6/13/06 HARVEST KG/PLOT
1	napropamide	50	DF	4	lb ai/a	PRE	2.3	2.3	4.0	3.40	5.90
2	sulfentrazone	4	F	.375	lb ai/a	PRE	2.3	2.3	3.7	4.42	8.05
3	flumioxazin	51	WDG	0.256	lb ai/a	PRE	2.3	3.0	4.0	2.91	3.20
4	flumioxazin	51	WDG	0.51	lb ai/a	PRE	5.0	5.3	6.0	1.78	2.74
5	terbacil	80	WP	0.4	lb ai/a	PRE	3.7	3.3	7.3	4.31	4.37
6	oxyfluorfen	4	SC	0.5	lb ai/a	PRE	3.3	3.0	4.3	4.33	5.69
7	pendimethalin	3.8	CS	2	lb ai/a	PRE	3.0	2.0	3.3	5.20	6.09
8	s-metolachlor	7.62	EC	1.27	lb ai/a	PRE	1.7	2.7	4.3	4.05	5.24
9	dimethenamid-P	6	EC	0.98	lb ai/a	PRE	2.3	2.3	2.3	3.63	5.72
10	Untreated						1.3	1.7	1.7	3.62	5.71
LSD (P=.05)							2.92	2.52	3.26	2.063	3.692
Standard Deviation							1.70	1.47	1.90	1.202	2.152
CV							62.22	52.48	46.3	31.93	40.83

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	STBE 6/16/06 HARVEST KG/PLOT	STBE 6/19/06 HARVEST KG/PLOT	STBE 6/22/06 HARVEST KG/PLOT	STBE TOTAL KG/PLOT
1	napropamide	50	DF	4	lb ai/a	PRE	3.20	0.55	1.22	14.27
2	sulfentrazone	4	F	.375	lb ai/a	PRE	1.03	1.27	1.01	15.78
3	flumioxazin	51	WDG	0.256	lb ai/a	PRE	2.04	0.89	0.69	9.74
4	flumioxazin	51	WDG	0.51	lb ai/a	PRE	1.55	0.38	1.35	7.79
5	terbacil	80	WP	0.4	lb ai/a	PRE	2.34	1.30	0.80	13.13
6	oxyfluorfen	4	SC	0.5	lb ai/a	PRE	1.49	1.26	1.50	14.26
7	pendimethalin	3.8	CS	2	lb ai/a	PRE	1.81	0.60	1.33	15.03
8	s-metolachlor	7.62	EC	1.27	lb ai/a	PRE	1.88	1.91	1.07	14.16
9	dimethenamid-P	6	EC	0.98	lb ai/a	PRE	2.20	2.04	0.73	14.31
10	Untreated						1.99	0.90	1.56	13.78
LSD (P=.05)							1.958	1.344	1.165	6.945
Standard Deviation							1.142	0.783	0.679	4.048
CV							58.48	70.56	60.33	30.61

Weed Control in Transplanted Tomato - HTRC

Project Code: WC 101-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Tomato **Variety: Roma, Sunny**
Planting Method: Transplant **Planting Date: 6-1-06**
Spacing: 24 IN **Row Spacing: 36 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 8 ft wide x 35 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 1.8%** **pH: 5.5**
Sand: 55% **Silt: 30%** **Clay: 15%** **CEC: 6.7**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	6/1/06	10:30 am	71/70	°F	Moist	2 NE	55	100% Cloudy	N
PRT	6/1/06	11:10 am	72/70	°F	Moist	4 NE	53	50% Cloudy	N
POT	6/2/06	12:15 pm	76/70	°F	Dry	6 NE	50	100% Cloudy	N
PO1	6/19/06	10:30 am	79/73	°F	Moist	7 SW	66	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/19	Tomato (Roma)	6-8″		
6/19	Tomato (Round)	6-8″		
6/19	GRFT = green foxtail	4-6″		moderate
6/19	COLQ = common lambsquarters	3-4″		moderate
6/19	RRPW = redroot pigweed	4-5″		moderate
6/19	WIRA = wild radish	2-3″		moderate

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One row Roma and one row Sunny (Round)/plot.
4. Three harvests for each Roma and Round.

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 101-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ROMA 6/19/06 RATING	ROUND 6/19/06 RATING	GIFT 6/19/06 RATING	GRFT 6/19/06 RATING	LACG 6/19/06 RATING	COLQ 6/19/06 RATING
1	trifluralin	4	EC	1	lb ai/a	PPI	2.0	2.0	7.3	7.0	9.0	8.7
2	trifluralin	4	EC	1	lb ai/a	PPI	1.3	1.3	7.0	7.7	8.7	9.7
	metribuzin	75	DF	0.5	lb ai/a	PPI						
3	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	1.0	1.0	8.3	8.7	8.3	8.7
4	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	9.0	9.0	9.7	7.0
5	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	1.0	1.0	8.3	8.3	8.3	9.0
6	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	1.0	1.0	9.7	9.7	9.7	8.0
7	flumioxazin	51	WDG	0.064	lb ai/a	PRT	1.0	1.0	9.0	9.7	9.0	10.0
8	sulfentrazone	4	F	0.14	lb ai/a	PRT	1.0	1.0	7.3	7.3	6.7	10.0
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	3.3	3.3	10.0	10.0	10.0	10.0
	clomazone	3	ME	0.5	lb ai/a	POT						
10	halosulfuron	75	WG	0.023	lb ai/a	PRT	1.0	1.0	8.0	8.0	8.7	9.3
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT						
11	Strategy	2.1	SE	1.05	lb ai/a	POT	2.0	2.0	9.0	9.0	9.0	10.0
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.3	1.3	10.0	10.0	10.0	7.0
	halosulfuron	75	WG	0.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
13	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	10.0	10.0	10.0	6.7
	rimsulfruon	25	DF	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
14	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.3	1.3	10.0	10.0	10.0	7.0
	sufentrazone	4	F	0.14	lb ai/a	PO1						
15	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	1.0	1.0	9.3	9.3	9.3	5.7
	metribuzin	75	DF	0.25	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
16	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							0.83	0.83	1.46	1.32	1.71	1.26
Standard Deviation							0.50	0.50	0.87	0.79	1.03	0.76
CV							37.19	37.19	10.5	9.42	11.95	9.49

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RRPW	WIRA	ROMA	ROUND	GRFT	CORW	COLQ
Pest Code							RRPW	WIRA	ROMA	ROUND	GRFT	CORW	COLQ
Rating Date							6/19/06	6/19/06	6/30/06	6/30/06	6/30/06	6/30/06	6/30/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit													
1	trifluralin	4	EC	1	lb ai/a	PPI	10.0	7.0	1.3	1.3	7.7	8.7	8.7
2	trifluralin	4	EC	1	lb ai/a	PPI	9.3	8.7	1.3	1.0	7.3	9.3	8.0
	metribuzin	75	DF	0.5	lb ai/a	PPI							
3	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	10.0	7.7	1.3	1.3	7.7	7.7	9.3
4	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	6.7	1.3	1.0	9.3	7.7	8.7
5	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	9.0	8.7	1.7	1.3	7.3	9.3	8.0
6	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	9.0	6.7	1.0	1.0	9.7	8.7	7.7
7	flumioxazin	51	WDG	0.064	lb ai/a	PRT	10.0	8.7	1.7	1.7	8.7	10.0	10.0
8	sulfentrazone	4	F	0.14	lb ai/a	PRT	10.0	6.7	1.3	1.3	7.0	9.0	10.0
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.7	7.7	3.0	3.0	10.0	10.0	10.0
	clomazone	3	ME	0.5	lb ai/a	POT							
10	halosulfuron	75	WG	0.023	lb ai/a	PRT	10.0	10.0	1.3	1.3	9.0	10.0	8.7
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT							
11	Strategy	2.1	SE	1.05	lb ai/a	POT	9.3	9.3	2.0	2.0	9.0	10.0	8.3
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.7	7.0	1.3	1.0	10.0	8.3	7.7
	halosulfuron	75	WG	0.023	lb ai/a	PO1							
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
13	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.7	7.0	1.3	1.0	10.0	10.0	10.0
	rimsulfruon	25	DF	0.031	lb ai/a	PO1							
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
14	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	7.7	3.3	3.3	10.0	10.0	10.0
	sufentrazone	4	F	0.14	lb ai/a	PO1							
15	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	7.0	1.3	1.3	10.0	10.0	10.0
	metribuzin	75	DF	0.25	lb ai/a	PO1							
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1							
	NIS	100	SL	0.25	% v/v	PO1							
16	Untreated						1.0	1.0	1.0	1.0	5.0	5.7	4.0
LSD (P=.05)							0.82	1.16	1.00	0.68	1.75	3.48	2.89
Standard Deviation							0.49	0.70	0.60	0.41	1.05	2.09	1.73
CV							5.38	9.52	37.46	27.1	12.17	23.14	19.97

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	EBNS 6/30/06 RATING	RRPW 6/30/06 RATING	WIRA 6/30/06 RATING	ROMA 8/23/06 HARVEST KG/PLOT	ROMA 8/30/06 HARVEST KG/PLOT	ROMA 9/15/06 HARVEST KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	5.3	10.0	7.3	2.71	11.40	29.39
2	trifluralin	4	EC	1	lb ai/a	PPI	8.7	10.0	9.7	2.17	15.51	36.65
	metribuzin	75	DF	0.5	lb ai/a	PPI						
3	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	9.3	9.0	8.3	4.14	11.17	21.30
4	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.7	9.3	9.0	6.72	12.62	18.52
5	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	8.0	9.3	8.7	5.38	11.65	20.96
6	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	9.3	7.7	8.0	4.75	15.93	30.03
7	flumioxazin	51	WDG	0.064	lb ai/a	PRT	10.0	9.7	9.7	1.55	8.41	31.53
8	sulfentrazone	4	F	0.14	lb ai/a	PRT	10.0	9.3	6.7	4.79	12.59	17.13
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	9.0	9.7	9.0	3.80	16.76	30.23
	clomazone	3	ME	0.5	lb ai/a	POT						
10	halosulfuron	75	WG	0.023	lb ai/a	PRT	10.0	10.0	10.0	3.65	18.21	29.62
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT						
11	Strategy	2.1	SE	1.05	lb ai/a	POT	9.0	9.3	10.0	4.35	19.35	26.87
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	10.0	10.0	3.83	15.81	28.18
	halosulfuron	75	WG	0.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
13	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	10.0	10.0	5.29	13.28	30.03
	rimsulfruon	25	DF	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
14	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	9.7	9.7	0.59	10.14	32.17
	sufentrazone	4	F	0.14	lb ai/a	PO1						
15	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	10.0	10.0	10.0	2.20	16.95	39.47
	metribuzin	75	DF	0.25	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
16	Untreated						4.0	4.7	6.3	4.27	14.65	18.90
LSD (P=.05)							2.67	2.86	2.55	2.644	5.455	12.519
Standard Deviation							1.60	1.71	1.53	1.586	3.272	7.509
CV							17.98	18.58	17.18	42.16	23.33	27.24

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	ROMA TOTAL KG/PLOT	ROUND 8/23/06 HARVEST KG/PLOT	ROUND 8/29/06 HARVEST KG/PLOT	ROUND 9/5/06 HARVEST KG/PLOT	ROUND 9/15/06 HARVEST KG/PLOT	ROUND TOTAL KG/PLOT
1	trifluralin	4	EC	1	lb ai/a	PPI	43.50	2.85	14.85	21.72	11.33	39.42
2	trifluralin	4	EC	1	lb ai/a	PPI	54.33	3.99	16.93	22.73	11.18	43.65
	metribuzin	75	DF	0.5	lb ai/a	PPI						
3	s-metolachlor	7.62	EC	1.3	lb ai/a	PPI	36.61	4.68	11.44	16.79	6.26	32.91
4	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	37.86	5.73	13.02	13.97	4.10	32.73
5	s-metolachlor	7.64	EC	1.3	lb ai/a	PPI	37.99	6.30	14.67	24.98	9.32	45.95
6	s-metolachlor	7.64	EC	1.3	lb ai/a	POT	50.71	6.36	15.43	15.24	6.07	37.03
7	flumioxazin	51	WDG	0.064	lb ai/a	PRT	41.50	3.05	13.91	19.84	10.15	36.80
8	sulfentrazone	4	F	0.14	lb ai/a	PRT	34.51	5.38	17.42	15.33	5.67	38.12
9	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	50.79	4.40	12.65	18.89	7.24	35.93
	clomazone	3	ME	0.5	lb ai/a	POT						
10	halosulfuron	75	WG	0.023	lb ai/a	PRT	51.49	4.59	17.39	25.67	8.14	47.65
	s-metolachlor	7.62	EC	1.3	lb ai/a	PRT						
11	Strategy	2.1	SE	1.05	lb ai/a	POT	50.57	6.73	16.01	19.93	9.91	42.68
12	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	47.82	5.79	18.31	18.01	7.93	42.11
	halosulfuron	75	WG	0.023	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
13	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	48.61	7.23	13.86	26.17	8.95	47.26
	rimsulfruon	25	DF	0.031	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
14	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	42.90	0.62	10.51	19.97	13.90	31.10
	sufentrazone	4	F	0.14	lb ai/a	PO1						
15	s-metolachlor	7.62	EC	1.3	lb ai/a	POT	58.61	6.33	16.84	23.85	9.13	47.02
	metribuzin	75	DF	0.25	lb ai/a	PO1						
	sethoxydim	1.53	EC	0.19	lb ai/a	PO1						
	NIS	100	SL	0.25	% v/v	PO1						
16	Untreated						37.82	4.31	11.57	11.34	5.16	27.23
LSD (P=.05)							15.329	2.740	7.488	10.545	6.569	15.893
Standard Deviation							9.194	1.643	4.491	6.325	3.940	9.532
CV							20.27	33.56	30.6	32.18	46.89	24.30

Weed Control in Apple 1 - CHES

Project Code: WC 128-06-01 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Apple **Variety: Liberty, Empire, Ida Red**
Planting Method: Transplant **Planting Date:**
Spacing: 4 FT **Row Spacing: 15 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 11 ft wide x 32 ft long

Soil Type: Lapeer Sandy Loam **OM: 1.2%** **pH: 7.0**
Sand: 63% **Silt: 25%** **Clay: 12%** **CEC: 7.0**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
LPRE (1)	5/4/06	11:00 am	63/60	°F	Dry	6 W	38	10% Cloudy	N
PO1 (2)	6/15/06	9:00 am	73/63	°F	Dry	2 E	46	Clear	N
PO2(3)	7/13/06	3:30 pm	97/81	°F	Dry	4 S	39	5% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/4	Apple		Bloom	
5/4	ANBG = annual bluegrass	4-6 in		moderate
5/4	BHPL = buckhorn plantain	5-8 in		few
5/4	COCW = common chickweed	4-6 in		moderate
5/4	DAND = dandelion	3-5 in		moderate
5/4	RSFI = redstem filaree	3-6 in		moderate
6/15	Apple		0.5″ fruit	
6/15	ANBG = annual bluegrass	3-10 in		moderate
6/15	BHPL = buckhorn plantain	6-12 in		many
6/15	DAND = dandelion	4-6 in		moderate
6/15	HOWE = horseweed (marestail)	6-10 in		few
	REFE = red fescue			
7/13	Apple		2″ fruit	
7/13	BHPL = buckhorn plantain	12-30″		moderate
7/13	LACG = large crabgrass	4-8″		moderate
7/13	HOWE = horseweed (marestail)	8-20″		moderate
	RECL = red clover			
	REFE = red fescue			
	RSFI = redstem filaree			

Notes and Comments

1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One boom pass on each side of row
4. 5/4/06: The circumference of 2 branches were measured on all trees (8-9 per plot). The number of blossom clusters was counted on the same branches.

Weed Control in Apple 1 - CHES

Dept. of Horticulture, MSU

Trial ID: WC 128-06-01 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	APPLE LEAF COLOR 5/18/06 RATING	ANBG 5/18/06 RATING	BHPL 5/18/06 RATING	DAND 5/18/06 RATING	RSFI 5/18/06 RATING
1	diuron	80	DF	3.8	lb ai/a	LPRE	1.0	7.0	3.3	4.7	10.0
	glyphosate	5	L	1	lb ai/a	123					
	AMS	100	SG	3.4	lb ai/a	123					
2	Firestorm	3	L	1	lb ai/a	123	1.0	8.3	6.3	8.0	10.0
	NIS	100	SL	0.25	lb ai/a	123					
3	Gramoxone Inteon	3	L	1	lb ai/a	123	1.7	7.0	5.0	8.7	8.0
	NIS	100	SL	0.25	% v/v	123					
4	Gramoxone Max	3	L	1	lb ai/a	123	1.3	8.0	4.0	9.0	9.7
	NIS	100	SL	0.25	% v/v	123					
5	simazine	90	WDG	3	lb ai/a	LPRE	1.3	9.0	10.0	10.0	7.3
	carfentrazone	1.9	EW	0.015	lb ai/a	123					
	glyphosate	5	L	1	lb ai/a	123					
	AMS	100	SG	3.4	lb ai/a	123					
	NIS	100	SL	0.25	% v/v	123					
6	simazine	90	WDG	3	lb ai/a	LPRE	1.0	9.3	7.3	10.0	10.0
	carfentrazone	1.9	EW	0.03	lb ai/a	123					
	Gramoxone Max	3	L	1	lb ai/a	123					
	COC	100	SL	1	% v/v	123					
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	1.7	8.3	10.0	10.0	7.7
	Gramoxone Max	3	L	1	lb ai/a	123					
	NIS	100	SL	0.25	% v/v	123					
8	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	1.3	9.7	9.0	10.0	8.3
	Gramoxone Max	3	L	1	lb ai/a	123					
	NIS	100	SL	0.25	lb ai/a	123					
9	halosulfuron	75	WG	0.047	lb ai/a	13	1.3	9.3	5.7	10.0	7.3
	Gramoxone Max	3	L	1	lb ai/a	13					
	NIS	100	SL	0.25	% v/v	13					
10	halosulfuron	75	WG	0.094	lb ai/a	13	1.0	9.7	3.0	10.0	6.7
	Gramoxone Max	3	L	1	lb ai/a	13					
	NIS	100	SL	0.25	% v/v	13					
11	halosulfuron	75	WG	0.188	lb ai/a	13	1.0	9.7	3.0	9.3	8.3
	Gramoxone Max	3	L	1	lb ai/a	13					
	NIS	100	SL	0.25	% v/v	13					
12	Untreated						1.0	1.0	1.0	3.0	1.0
LSD (P=.05)							0.69	1.91	3.89	2.59	2.14
Standard Deviation							0.41	1.13	2.30	1.53	1.26
CV							33.15	14.04	40.77	17.9	16.07

Weed Control in Apple 1 - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	APPLE LEAF COLOR 6/15/06 RATING	ANBG 6/15/06 RATING	REFE 6/15/06 RATING	BHPL 6/15/06 RATING	HOWE 6/15/06 RATING
1	diuron	80	DF	3.8	lb ai/a	LPRE	1.0	9.7	10.0	7.7	10.0
	glyphosate	5	L	1	lb ai/a	123					
	AMS	100	SG	3.4	lb ai/a	123					
2	Firestorm	3	L	1	lb ai/a	123	1.0	7.7	7.7	4.7	6.0
	NIS	100	SL	0.25	lb ai/a	123					
3	Gramoxone Inteon	3	L	1	lb ai/a	123	1.0	6.3	7.3	2.7	8.0
	NIS	100	SL	0.25	% v/v	123					
4	Gramoxone Max	3	L	1	lb ai/a	123	1.0	7.0	7.3	2.7	10.0
	NIS	100	SL	0.25	% v/v	123					
5	simazine	90	WDG	3	lb ai/a	LPRE	1.0	9.7	10.0	10.0	10.0
	carfentrazone	1.9	EW	0.015	lb ai/a	123					
	glyphosate	5	L	1	lb ai/a	123					
	AMS	100	SG	3.4	lb ai/a	123					
	NIS	100	SL	0.25	% v/v	123					
6	simazine	90	WDG	3	lb ai/a	LPRE	1.3	10.0	10.0	10.0	10.0
	carfentrazone	1.9	EW	0.03	lb ai/a	123					
	Gramoxone Max	3	L	1	lb ai/a	123					
	COC	100	SL	1	% v/v	123					
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	1.3	9.7	9.7	10.0	3.7
	Gramoxone Max	3	L	1	lb ai/a	123					
	NIS	100	SL	0.25	% v/v	123					
8	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	1.0	10.0	10.0	10.0	4.0
	Gramoxone Max	3	L	1	lb ai/a	123					
	NIS	100	SL	0.25	lb ai/a	123					
9	halosulfuron	75	WG	0.047	lb ai/a	13	1.0	9.7	8.3	4.7	9.3
	Gramoxone Max	3	L	1	lb ai/a	13					
	NIS	100	SL	0.25	% v/v	13					
10	halosulfuron	75	WG	0.094	lb ai/a	13	1.0	10.0	9.3	5.0	10.0
	Gramoxone Max	3	L	1	lb ai/a	13					
	NIS	100	SL	0.25	% v/v	13					
11	halosulfuron	75	WG	0.188	lb ai/a	13	1.0	9.7	9.3	1.7	10.0
	Gramoxone Max	3	L	1	lb ai/a	13					
	NIS	100	SL	0.25	% v/v	13					
12	Untreated						1.0	7.7	1.0	4.0	8.7
LSD (P=.05)							0.38	2.13	1.03	3.58	3.42
Standard Deviation							0.22	1.26	0.61	2.12	2.02
CV							21.29	14.11	7.31	34.78	24.34

Weed Control in Apple 1 - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RSFI 6/15/06 RATING	APPLE VIGOR 7/13/06 RATING	APPLE FRUIT SET 7/13/06 RATING	LACG 7/13/06 RATING	REFE 7/13/06 RATING	BHPL 7/13/06 RATING
1	diuron	80	DF	3.8	lb ai/a	LPRE	10.0	1.0	1.0	8.7	9.7	8.7
	glyphosate	5	L	1	lb ai/a	123						
	AMS	100	SG	3.4	lb ai/a	123						
2	Firestorm	3	L	1	lb ai/a	123	7.7	1.0	1.0	6.7	8.7	7.7
	NIS	100	SL	0.25	lb ai/a	123						
3	Gramoxone Inteon	3	L	1	lb ai/a	123	5.0	1.7	1.3	6.7	8.0	6.3
	NIS	100	SL	0.25	% v/v	123						
4	Gramoxone Max	3	L	1	lb ai/a	123	6.3	1.3	1.3	5.7	8.3	5.7
	NIS	100	SL	0.25	% v/v	123						
5	simazine	90	WDG	3	lb ai/a	LPRE	4.3	1.3	1.3	9.0	9.7	9.7
	carfentrazone	1.9	EW	0.015	lb ai/a	123						
	glyphosate	5	L	1	lb ai/a	123						
	AMS	100	SG	3.4	lb ai/a	123						
	NIS	100	SL	0.25	% v/v	123						
6	simazine	90	WDG	3	lb ai/a	LPRE	10.0	1.3	1.0	9.3	10.0	10.0
	carfentrazone	1.9	EW	0.03	lb ai/a	123						
	Gramoxone Max	3	L	1	lb ai/a	123						
	COC	100	SL	1	% v/v	123						
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	10.0	1.3	1.0	10.0	9.7	10.0
	Gramoxone Max	3	L	1	lb ai/a	123						
	NIS	100	SL	0.25	% v/v	123						
8	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	7.7	1.0	1.3	7.0	10.0	10.0
	Gramoxone Max	3	L	1	lb ai/a	123						
	NIS	100	SL	0.25	lb ai/a	123						
9	halosulfuron	75	WG	0.047	lb ai/a	13	2.7	1.3	4.3	1.3	9.7	3.3
	Gramoxone Max	3	L	1	lb ai/a	13						
	NIS	100	SL	0.25	% v/v	13						
10	halosulfuron	75	WG	0.094	lb ai/a	13	3.3	1.0	1.0	1.3	10.0	3.7
	Gramoxone Max	3	L	1	lb ai/a	13						
	NIS	100	SL	0.25	% v/v	13						
11	halosulfuron	75	WG	0.188	lb ai/a	13	2.3	1.0	1.0	1.3	10.0	2.0
	Gramoxone Max	3	L	1	lb ai/a	13						
	NIS	100	SL	0.25	% v/v	13						
12	Untreated						6.0	1.3	1.0	7.3	1.0	4.7
LSD (P=.05)							4.66	0.78	2.89	3.59	1.28	3.62
Standard Deviation							2.75	0.46	1.70	2.12	0.76	2.14
CV							43.84	37.46	122.75	34.18	8.68	31.42

Weed Control in Apple 1 - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	HOWE	RECL	RRPW	RSFI	APPLE	LACG
Pest Code							HOWE	RECL	RRPW	RSFI	APPLE	LACG
Description												
Rating Date							7/13/06	7/13/06	7/13/06	7/13/06	8/24/06	8/24/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
1	diuron	80	DF	3.8	lb ai/a	LPRE	10.0	10.0	8.7	10.0	1.0	7.7
	glyphosate	5	L	1	lb ai/a	123						
	AMS	100	SG	3.4	lb ai/a	123						
2	Firestorm	3	L	1	lb ai/a	123	5.0	7.0	10.0	10.0	1.0	7.3
	NIS	100	SL	0.25	lb ai/a	123						
3	Gramoxone Inteon	3	L	1	lb ai/a	123	4.3	6.0	9.7	9.3	1.3	5.7
	NIS	100	SL	0.25	% v/v	123						
4	Gramoxone Max	3	L	1	lb ai/a	123	7.0	8.0	9.7	10.0	1.3	5.3
	NIS	100	SL	0.25	% v/v	123						
5	simazine	90	WDG	3	lb ai/a	LPRE	10.0	10.0	5.3	6.0	1.7	9.3
	carfentrazone	1.9	EW	0.015	lb ai/a	123						
	glyphosate	5	L	1	lb ai/a	123						
	AMS	100	SG	3.4	lb ai/a	123						
	NIS	100	SL	0.25	% v/v	123						
6	simazine	90	WDG	3	lb ai/a	LPRE	9.7	10.0	9.3	10.0	1.7	9.3
	carfentrazone	1.9	EW	0.03	lb ai/a	123						
	Gramoxone Max	3	L	1	lb ai/a	123						
	COC	100	SL	1	% v/v	123						
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	3.3	10.0	10.0	10.0	2.0	9.0
	Gramoxone Max	3	L	1	lb ai/a	123						
	NIS	100	SL	0.25	% v/v	123						
8	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	3.0	10.0	10.0	10.0	1.3	8.7
	Gramoxone Max	3	L	1	lb ai/a	123						
	NIS	100	SL	0.25	lb ai/a	123						
9	halosulfuron	75	WG	0.047	lb ai/a	13	8.7	10.0	10.0	7.7	1.3	1.3
	Gramoxone Max	3	L	1	lb ai/a	13						
	NIS	100	SL	0.25	% v/v	13						
10	halosulfuron	75	WG	0.094	lb ai/a	13	8.7	10.0	10.0	9.0	1.0	1.3
	Gramoxone Max	3	L	1	lb ai/a	13						
	NIS	100	SL	0.25	% v/v	13						
11	halosulfuron	75	WG	0.188	lb ai/a	13	9.3	10.0	10.0	10.0	1.3	4.3
	Gramoxone Max	3	L	1	lb ai/a	13						
	NIS	100	SL	0.25	% v/v	13						
12	Untreated						9.0	1.0	6.3	9.0	1.7	4.3
LSD (P=.05)							2.50	1.35	2.70	2.66	1.01	4.04
Standard Deviation							1.47	0.80	1.59	1.57	0.59	2.38
CV							20.11	9.38	17.54	16.96	42.81	38.82

Weed Control in Apple 1 - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BHPL	HOWE	RRPW
	Pest Code								
	Description								
	Rating Date						8/24/06	8/24/06	8/24/06
	Rating Data Type						RATING	RATING	RATING
1	diuron	80	DF	3.8	lb ai/a	LPRE	7.7	10.0	5.7
	glyphosate	5	L	1	lb ai/a	123			
	AMS	100	SG	3.4	lb ai/a	123			
2	Firestorm	3	L	1	lb ai/a	123	9.0	4.7	7.7
	NIS	100	SL	0.25	lb ai/a	123			
3	Gramoxone Inteon	3	L	1	lb ai/a	123	5.7	2.3	7.0
	NIS	100	SL	0.25	% v/v	123			
4	Gramoxone Max	3	L	1	lb ai/a	123	8.0	5.0	6.7
	NIS	100	SL	0.25	% v/v	123			
5	simazine	90	WDG	3	lb ai/a	LPRE	10.0	10.0	2.0
	carfentrazone	1.9	EW	0.015	lb ai/a	123			
	glyphosate	5	L	1	lb ai/a	123			
	AMS	100	SG	3.4	lb ai/a	123			
	NIS	100	SL	0.25	% v/v	123			
6	simazine	90	WDG	3	lb ai/a	LPRE	10.0	9.0	4.3
	carfentrazone	1.9	EW	0.03	lb ai/a	123			
	Gramoxone Max	3	L	1	lb ai/a	123			
	COC	100	SL	1	% v/v	123			
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	10.0	2.7	10.0
	Gramoxone Max	3	L	1	lb ai/a	123			
	NIS	100	SL	0.25	% v/v	123			
8	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	10.0	2.3	10.0
	Gramoxone Max	3	L	1	lb ai/a	123			
	NIS	100	SL	0.25	lb ai/a	123			
9	halosulfuron	75	WG	0.047	lb ai/a	13	10.0	9.0	10.0
	Gramoxone Max	3	L	1	lb ai/a	13			
	NIS	100	SL	0.25	% v/v	13			
10	halosulfuron	75	WG	0.094	lb ai/a	13	9.0	8.3	10.0
	Gramoxone Max	3	L	1	lb ai/a	13			
	NIS	100	SL	0.25	% v/v	13			
11	halosulfuron	75	WG	0.188	lb ai/a	13	9.7	10.0	10.0
	Gramoxone Max	3	L	1	lb ai/a	13			
	NIS	100	SL	0.25	% v/v	13			
12	Untreated						6.7	7.3	8.0
LSD (P=.05)							2.55	2.65	1.86
Standard Deviation							1.51	1.56	1.10
CV							17.11	23.26	14.45

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CIRC	BLOS/BRH
	Pest Code							
	Rating Date						5/4/06	5/4/06
	Rating Unit						CM	NUMBER
9	halosulfuron	75	WG	0.047	lb ai/a	13	6.9	16.3
	Gramoxone Max	3	L	1	lb ai/a	13		
	NIS	100	SL	0.25	% v/v	13		
10	halosulfuron	75	WG	0.094	lb ai/a	13	7.3	23.9
	Gramoxone Max	3	L	1	lb ai/a	13		
	NIS	100	SL	0.25	% v/v	13		
11	halosulfuron	75	WG	0.188	lb ai/a	13	7.3	26.3
	Gramoxone Max	3	L	1	lb ai/a	13		
	NIS	100	SL	0.25	% v/v	13		
12	Untreated						7.3	22.4
LSD (P=.05)							1.25	19.50
Standard Deviation							0.63	9.76
CV							8.7	43.89

Weed Control in Apple 2 - CHES

Project Code: WC 128-06-02 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Apple **Variety: Liberty, Empire, Ida Red**
Planting Method: Transplant **Planting Date:**
Spacing: 4 FT **Row Spacing: 15 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 11 ft wide x 40 ft long
Soil Type: Loam **OM: 1.3%** **pH: 7.2**
Sand: 49% **Silt: 36%** **Clay: 15%** **CEC: 4.9**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/11/06	11:30 am	62/48	°F	Adequate	5 SW	38	50% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/4	Apple		Dormant	
5/4	ANBG = annual bluegrass	1″		moderate-dense
5/4	COCW = common chickweed	1-3″		moderate
6/15	Apple			
	ANBG = annual bluegrass			
	REFE = red fescue			
	BLME = black medic			
	DAND = dandelion			
7/13	BYGR = barnyardgrass			
	REFE = red fescue			
	COCW = common chickweed			
	DAND = dandelion			
	HOWE = horseweed (marestail)			
	RRPW = redroot pigweed			
8/24	BYGR = barnyardgrass			
	LACG = large crabgrass			
	COCW = common chickweed			
	COLQ = common lambsquarters			
	HOWE = horseweed (marestail)			
	RRPW = redroot pigweed			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One sprayer pass on both sides of trees.

Weed Control in Apple 2 - CHES

Dept. of Horticulture, MSU

Trial ID: WC 128-06-02 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	APPLE 6/15/06 RATING	ANBG 6/15/06 RATING	REFE 6/15/06 RATING	BLME 6/15/06 RATING	DAND 6/15/06 RATING	APPLE 7/13/06 RATING
1	terbacil	80	WP	1.2	lb ai/a	PRE	1.7	9.7	7.3	10.0	7.0	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
2	diuron	80	DF	3.8	lb ai/a	PRE	1.0	7.0	5.3	7.0	4.7	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
3	terbacil	80	WP	0.6	lb ai/a	PRE	1.0	10.0	8.0	10.0	6.7	1.0
	diuron	80	DF	1.7	lb ai/a	PRE						
	glyphosate	5	L	1	lb ai/a	PRE						
4	simazine	90	WDG	4	lb ai/a	PRE	1.0	10.0	9.0	10.0	4.3	1.3
	glyphosate	5	L	1	lb ai/a	PRE						
5	flumioxazin	51	WDG	0.765	lb ai/a	PRE	1.0	8.7	7.7	7.7	7.7	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
6	oxyfluorfen	2	L	2	lb ai/a	PRE	1.0	8.7	8.3	10.0	8.3	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
7	oryzalin	4	AS	4	lb ai/a	PRE	1.0	7.0	8.3	10.0	7.7	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
8	norflurazon	80	DF	4	lb ai/a	PRE	1.3	7.3	8.3	7.7	7.3	1.7
	glyphosate	5	L	1	lb ai/a	PRE						
9	sulfentrazone	4	F	0.375	lb ai/a	PRE	1.0	7.7	7.0	8.0	7.3	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
10	diclobenil	1.38	CS	4	lb ai/a	PRE	1.0	6.7	8.3	10.0	9.3	1.0
	glyphosate	5	L	1	lb ai/a	PRE						
11	mesotrione	4	SC	0.481	lb ai/a	PRE	1.0	8.3	8.3	7.7	5.7	1.0
12	Untreated						1.0	1.7	2.0	4.0	3.7	1.0
LSD (P=.05)							0.39	3.55	2.64	5.47	3.29	0.42
Standard Deviation							0.23	2.10	1.56	3.23	1.95	0.25
CV							21.26	27.14	21.23	37.98	29.31	22.72

Weed Control in Apple 2 - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BYGR 7/13/06 RATING	REFE 7/13/06 RATING	COCW 7/13/06 RATING	DAND 7/13/06 RATING	HOWE 7/13/06 RATING	RRPW 7/13/06 RATING
1	terbacil	80	WP	1.2	lb ai/a	PRE	10.0	7.7	10.0	6.0	8.7	5.7
	glyphosate	5	L	1	lb ai/a	PRE						
2	diuron	80	DF	3.8	lb ai/a	PRE	7.0	7.3	6.0	4.7	6.3	5.7
	glyphosate	5	L	1	lb ai/a	PRE						
3	terbacil	80	WP	0.6	lb ai/a	PRE	10.0	6.3	10.0	5.3	8.7	6.0
	diuron	80	DF	1.7	lb ai/a	PRE						
	glyphosate	5	L	1	lb ai/a	PRE						
4	simazine	90	WDG	4	lb ai/a	PRE	10.0	8.3	10.0	5.0	10.0	7.3
	glyphosate	5	L	1	lb ai/a	PRE						
5	flumioxazin	51	WDG	0.765	lb ai/a	PRE	10.0	4.3	9.3	6.7	6.3	10.0
	glyphosate	5	L	1	lb ai/a	PRE						
6	oxyfluorfen	2	L	2	lb ai/a	PRE	10.0	9.5	5.3	7.3	8.0	10.0
	glyphosate	5	L	1	lb ai/a	PRE						
7	oryzalin	4	AS	4	lb ai/a	PRE	10.0	7.7	8.7	7.7	8.0	10.0
	glyphosate	5	L	1	lb ai/a	PRE						
8	norflurazon	80	DF	4	lb ai/a	PRE	10.0	3.3	7.7	7.7	6.7	8.0
	glyphosate	5	L	1	lb ai/a	PRE						
9	sulfentrazone	4	F	0.375	lb ai/a	PRE	6.3	7.0	5.0	6.0	8.3	10.0
	glyphosate	5	L	1	lb ai/a	PRE						
10	diclobenil	1.38	CS	4	lb ai/a	PRE	9.7	7.0	9.7	9.3	9.0	9.7
	glyphosate	5	L	1	lb ai/a	PRE						
11	mesotrione	4	SC	0.481	lb ai/a	PRE	5.7	6.3	8.3	6.0	8.7	4.7
12	Untreated						9.0	7.3	5.7	4.3	3.0	7.3
LSD (P=.05)							3.24	4.01	3.70	3.33	3.61	4.40
Standard Deviation							1.91	2.36	2.18	1.97	2.13	2.60
CV							21.31	34.52	27.4	31.07	27.9	33.06

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	APPLE 8/24/06 RATING	BYGR 8/24/06 RATING	LACG 8/24/06 RATING	COCW 8/24/06 RATING	COLQ 8/24/06 RATING	HOWE 8/24/06 RATING	RRPW 8/24/06 RATING
1	terbacil	80	WP	1.2	lb ai/a	PRE	1.3	9.3	9.0	8.7	8.3	5.7	4.0
	glyphosate	5	L	1	lb ai/a	PRE							
2	diuron	80	DF	3.8	lb ai/a	PRE	1.3	9.0	7.7	7.7	8.0	5.7	6.0
	glyphosate	5	L	1	lb ai/a	PRE							
3	terbacil	80	WP	0.6	lb ai/a	PRE	1.3	9.3	9.0	9.3	7.7	7.7	4.7
	diuron	80	DF	1.7	lb ai/a	PRE							
	glyphosate	5	L	1	lb ai/a	PRE							
4	simazine	90	WDG	4	lb ai/a	PRE	1.3	8.0	7.3	6.0	7.0	9.7	5.3
	glyphosate	5	L	1	lb ai/a	PRE							
5	flumioxazin	51	WDG	0.765	lb ai/a	PRE	1.0	10.0	10.0	9.3	10.0	6.7	10.0
	glyphosate	5	L	1	lb ai/a	PRE							
6	oxyfluorfen	2	L	2	lb ai/a	PRE	1.3	10.0	9.0	4.3	8.3	8.0	8.0
	glyphosate	5	L	1	lb ai/a	PRE							
7	oryzalin	4	AS	4	lb ai/a	PRE	1.0	10.0	9.7	7.7	10.0	7.0	8.0
	glyphosate	5	L	1	lb ai/a	PRE							
8	norflurazon	80	DF	4	lb ai/a	PRE	1.0	10.0	9.0	9.0	7.3	5.3	7.7
	glyphosate	5	L	1	lb ai/a	PRE							
9	sulfentrazone	4	F	0.375	lb ai/a	PRE	4.7	4.3	4.7	3.7	10.0	7.7	9.0
	glyphosate	5	L	1	lb ai/a	PRE							
10	diclobenil	1.38	CS	4	lb ai/a	PRE	1.3	9.0	6.0	8.7	9.7	8.7	6.0
	glyphosate	5	L	1	lb ai/a	PRE							
11	mesotrione	4	SC	0.481	lb ai/a	PRE	1.7	4.7	6.3	4.3	9.0	7.3	5.0
12	Untreated						1.0	9.7	10.0	7.0	7.0	2.0	5.0
LSD (P=.05)							3.15	3.03	4.02	4.41	3.37	3.63	2.61
Standard Deviation							1.86	1.79	2.38	2.60	1.99	2.15	1.54
CV							121.61	20.78	29.2	36.45	23.36	31.66	23.55

Weed Control in Blueberry - HTRC

Project Code: WC 127-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Blueberry **Variety: Various**
Planting Method: Transplant **Planting Date: 1991**
Spacing: 4 FT **Row Spacing: 10 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 40 ft long

Soil Type: Capac Loam **OM: 5.0%** **pH: 5.2**
Sand: 61% **Silt: 15%** **Clay: 24%** **CEC: 16.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
LPRE	5/3/06	2:00 pm	75/68	°F	Dry	5 W	52	30% Cloudy	N
LPO	7/12/06	2:00 pm	76/73	°F	Dry	2 W	82	100% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/3	BLBE = blueberry			
5/3	QUGR = quackgrass	3-8″		moderate
5/3	DAND = dandelion	4-6″		few
7/12	QUGR = quackgrass	8-16″		moderate
	VICR = Virginia creeper			
	WIGRP = wild grape			

Notes and Comments
1. Sprays applied with 2 nozzle boom FF11002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Application made with 2 nozzle boom with one pass on each side of row.
4. 5 plants per plot

Weed Control in Blueberry - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 127-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Block 114 Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BLBE 5/22/06 RATING	BLBE 7/6/06 RATING	GRFT 7/6/06 RATING	QUGR 7/6/06 RATING	VICR 7/6/06 RATING	WIGRP 7/6/06 RATING	BLBE 7/17/06 RATING
1	diclobenil	1.38	CS	2	lb ai/a	LPRE	1.0	1.7	7.3	7.3	5.3	7.0	1.0
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
2	diclobenil	1.38	CS	3	lb ai/a	LPRE	1.0	1.7	8.7	9.0	3.3	4.3	1.0
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
3	diclobenil	1.38	CS	4	lb ai/a	LPRE	1.0	1.0	10.0	8.7	7.0	6.3	1.3
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
4	diclobenil	1.38	CS	4	lb ai/a	LPRE	1.0	1.3	8.0	8.3	10.0	7.0	1.0
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
5	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	1.0	1.0	9.0	7.0	6.0	2.7	1.0
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
6	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	1.0	1.0	10.0	5.0	10.0	7.7	1.0
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
7	halosulfuron	75	WG	0.047	lb ai/a	LPRE	1.0	1.0	4.0	3.3	5.3	7.3	1.7
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
	halosulfuron	75	WG	0.047	lb ai/a	LPO							
	paraquat	3	L	1	lb ai/a	LPO							
	NIS		L	0.25	% v/v	LPO							
8	halosulfuron	75	WG	0.094	lb ai/a	LPRE	1.0	1.3	7.7	6.7	5.7	4.3	2.0
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
	halosulfuron	75	WG	0.094	lb ai/a	LPO							
	paraquat	3	L	1	lb ai/a	LPO							
	NIS		L	0.25	% v/v	LPO							
9	halosulfuron	75	WG	0.188	lb ai/a	LPRE	1.0	1.0	3.0	5.3	6.7	3.0	1.3
	paraquat	3	L	1	lb ai/a	LPRE							
	NIS		L	0.25	% v/v	LPRE							
	halosulfuron	75	WG	0.188	lb ai/a	LPO							
	paraquat	3	L	1	lb ai/a	LPO							
	NIS		L	0.25	% v/v	LPO							
10	Untreated						0.0	1.0	3.3	1.3	4.0	4.0	1.0
LSD (P=.05)							0.00	0.82	3.60	3.02	6.73	7.47	0.95
Standard Deviation							0.00	0.48	2.10	1.76	3.92	4.36	0.55
CV							0.0	39.61	29.52	28.42	61.95	81.17	44.95

Weed Control in Blueberry - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	GRFT 7/17/06 RATING	HOWE 7/17/06 RATING	VICR 7/17/06 RATING	BHPL 7/17/06 RATING
1	diclobenil	1.38	CS	2	lb ai/a	LPRE	4.3	7.0	4.0	10.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
2	diclobenil	1.38	CS	3	lb ai/a	LPRE	3.7	8.0	2.3	9.3
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
3	diclobenil	1.38	CS	4	lb ai/a	LPRE	7.0	8.3	9.3	7.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
4	diclobenil	1.38	CS	4	lb ai/a	LPRE	6.0	9.0	9.3	10.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
5	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	8.0	7.3	5.3	9.7
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
6	flumioxazin	51	WDG	0.765	lb ai/a	LPRE	8.3	4.7	9.7	10.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
7	halosulfuron	75	WG	0.047	lb ai/a	LPRE	8.3	7.0	10.0	10.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
	halosulfuron	75	WG	0.047	lb ai/a	LPO				
	paraquat	3	L	1	lb ai/a	LPO				
	NIS		L	0.25	% v/v	LPO				
8	halosulfuron	75	WG	0.094	lb ai/a	LPRE	9.7	10.0	9.0	10.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
	halosulfuron	75	WG	0.094	lb ai/a	LPO				
	paraquat	3	L	1	lb ai/a	LPO				
	NIS		L	0.25	% v/v	LPO				
9	halosulfuron	75	WG	0.188	lb ai/a	LPRE	9.0	9.3	9.3	7.0
	paraquat	3	L	1	lb ai/a	LPRE				
	NIS		L	0.25	% v/v	LPRE				
	halosulfuron	75	WG	0.188	lb ai/a	LPO				
	paraquat	3	L	1	lb ai/a	LPO				
	NIS		L	0.25	% v/v	LPO				
10	Untreated						7.7	4.7	8.7	3.7
LSD (P=.05)							3.22	4.26	4.18	4.52
Standard Deviation							1.88	2.48	2.44	2.63
CV							26.11	32.97	31.64	30.37

Weed Control in Blueberry - TNRC

Project Code: WC 127-06-02 **Location: Fennville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Blueberry **Variety:**
Planting Method: Transplant **Planting Date:**
Spacing: 4 FT **Row Spacing: 12 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 24 ft long

Soil Type: Loamy sand **OM: 4.1%** **pH: 4.1**
Sand: 80% **Silt: 12%** **Clay: 8 %** **CEC: 16.6**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/19/06	11:00 am	67/54	°F	Dry	5 NW	33	60% Cloudy	N
LPRE	5/9/06	10:00 am	68/58	°F	Dry	2 SE	45	10% Cloudy	N
EPO	6/13/06	10:00 am	69/63	°F	Dry	1 W	53	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/19/06	BLBE = blueberry		Dormant	
4/19/06	QUGR = quackgrass	4-8″		few
4/19/06	PUDN = purple deadnettle	1-2″		few
4/19/06	COCW = common chickweed	2-6″		few
5/9/06	BLBE = blueberry			
5/9/06	QUGR = quackgrass	6-14″		moderate
5/9/06	VICR = Virginia creeper			
5/9/06	WIGRP = wild grape			
6/13/06	Blueberry			
6/13/06	VICR = Virginia creeper	2-4′		moderate
6/13/06	WIGRP = wild grape	2-4′		moderate
6/13/06	WIRB = wild raspberry	1-3′		few

Notes and Comments
1. Sprays applied with 2 nozzle boom FF11002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One boom pass on each side of row.

Weed Control in Blueberry - TNRC

Dept. of Horticulture, MSU

Trial ID: WC 127-06-02 Study Director: Dr. Bernard Zandstra
Location: Fennville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	BLBE 5/18/06 RATING	BLBE 6/13/06 RATING	VICR 6/13/06 RATING	WIGRP 6/13/06 RATING	WIRB 6/13/06 RATING
1	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	1.3	5.3	6.3	7.0
	glyphosate	4.17	SL	1	lb ai/a	PRE					
2	mesotrione	4	SC	0.188	lb ai/a	PRE	1.0	1.0	5.0	7.7	9.0
	glyphosate	4.17	SL	1	lb ai/a	PRE					
3	mesotrione	4	SC	0.094	lb ai/a	PRE	1.0	1.0	7.0	3.7	7.3
	glyphosate	4.17	SC	1	lb ai/a	PRE					
	mesotrione	4	SC	0.094	lb ai/a	EPO					
	NIS	100	SL	0.25	% v/v	EPO					
4	mesotrione	4	SC	0.094	lb ai/a	EPO	1.0	1.0	8.3	6.7	10.0
	NIS	100	SL	0.25	% v/v	EPO					
5	hexazinone	75	DF	1	lb ai/a	PRE	1.3	1.3	3.7	2.0	6.0
6	hexazinone	75	DF	0.75	lb ai/a	PRE	1.0	1.3	4.7	3.7	9.7
7	hexazinone	75	DF	0.75	lb ai/a	PRE	1.3	1.3	4.3	5.3	9.0
	diuron	80	DF	1.6	lb ai/a	PRE					
8	glyphosate	4	L	1	lb ai/a	PRE	1.0	1.0	5.0	3.3	9.0
9	diuron	80	DF	2	lb ai/a	LPRE	2.0	2.0	5.7	6.7	9.3
	terbacil	80	WP	1	lb ai/a	LPRE					
10	glyphosate	4	L	1	lb ai/a	LPRE	1.0	1.3	4.7	5.7	10.0
11	flumioxazin	51	WDG	0.383	lb ai/a	PRE	1.0	1.3	7.3	4.7	6.3
	glyphosate	4	L	1	lb ai/a	PRE					
12	flumioxazin	51	WDG	0.383	lb ai/a	EPO	1.3	1.0	5.3	4.3	7.0
	glyphosate	5	L	0.86	lb ai/a	EPO					
13	flumioxazin	51	WDG	0.765	lb ai/a	EPO	1.3	1.0	4.3	3.0	7.0
	glyphosate	5	L	0.86	lb ai/a	EPO					
14	diuron	80	DF	2	lb ai/a	PRE	1.0	1.3	4.3	5.7	9.0
	terbacil	80	WP	1	lb ai/a	PRE					
15	halosulfuron	75	WG	0.094	lb ai/a	PRE	1.3	1.0	4.0	4.0	10.0
16	Untreated						1.0	1.0	1.0	2.3	9.3
LSD (P=.05)							0.66	0.78	5.93	5.31	4.85
Standard Deviation							0.39	0.47	3.56	3.19	2.91
CV							33.81	38.89	71.16	67.97	34.5

Weed Control in Cherry - CHES

Project Code: WC 128-06-03 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Cherry **Variety: Ulster**
Planting Method: Transplant **Planting Date:**
Spacing: 8 FT **Row Spacing: 16 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 10.6 ft wide x 32 ft long
Soil Type: Dryden Sandy Loam **OM: 1.6%** **pH: 6.8**
Sand: 46% **Silt: 40%** **Clay: 14%** **CEC: 7.2**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/17/06	11:00 am	62/48	°F	Dry	5 SW	38	50% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/17/06	Cherry		bud swell	
4/17/06	QUGR = quackgrass	4-6″		moderate
4/19/06	DAND = dandelion	3-5″		few
6/15/06	MATA = marestail (horseweed)			
	VIPW = Virginia pepperweed			
7/13/06	LACG = large crabgrass			
	COCW = common chickweed			
	HOWE = horseweed (marestail)			
	VIPW = Virginia pepperweed			
8/24/06	LACG = large crabgrass			
	ROFB = rough fleabane			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. One boom pass on each side of row.

Weed Control in Cherry - CHES

Dept. of Horticulture, MSU

Trial ID: WC 128-06-03 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CHERRY 6/15/06 RATING	HOWE 6/15/06 RATING	VIPW 6/15/06 RATING	CHERRY 7/13/06 RATING	LACG 7/13/06 RATING	COCW 7/13/06 RATING
1	rimsulfuron	25	DF	0.0625	lb ai/a	PRE	1.0	10.0	10.0	1.0	6.0	10.0
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
2	rimsulfuron	25	DF	0.125	lb ai/a	PRE	1.0	10.0	9.7	1.0	9.3	9.3
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
3	rimsulfuron	25	DF	0.0625	lb ai/a	PRE	1.0	10.0	10.0	1.0	10.0	10.0
	diuron	80	DF	2.4	lb ai/a	PRE						
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
4	rimsulfuron	25	DF	0.0625	lb ai/a	PRE	1.0	6.7	6.7	1.0	9.3	9.3
	simazine	90	WDG	3.6	lb ai/a	PRE						
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
5	simazine	90	WDG	3.6	lb ai/a	PRE	1.0	10.0	8.3	1.0	6.7	10.0
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
6	glyphosate	4	L	1	lb ai/a	PRE	1.0	10.0	10.0	1.0	7.0	7.7
	NIS	100	SL	0.25	% v/v	PRE						
7	flumioxazin	51	WDG	0.25	lb ai/a	PRE	1.0	10.0	9.7	1.0	9.7	10.0
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
8	halosulfuron	75	WG	0.094	lb ai/a	PRE	1.0	7.0	7.0	1.0	4.7	7.0
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
9	sulfentrazone4	F	0.375	lb	ai/a	PRE	1.0	6.7	5.7	1.0	8.7	9.0
	glyphosate	4	L	1	lb ai/a	PRE						
	NIS	100	SL	0.25	% v/v	PRE						
10	Untreated						1.0	1.7	1.3	1.0	8.3	8.7
LSD (P=.05)							0.00	5.25	5.28	0.00	4.32	2.97
Standard Deviation							0.00	3.08	3.10	0.00	2.54	1.74
CV							0.0	37.59	39.55	0.0	31.84	19.14

Weed Control in Cherry - CHES

Dept. of Horticulture, MSU

Pest Code							HOWE	VIPW	CHERRY	LACG	ROFB
Rating Date							7/13/06	7/13/06	8/24/06	8/24/06	8/24/06
Rating Data Type							RATING	RATING	RATING	RATING	RATING
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Growth Unit	Stage					
1	rimsulfuron	25	DF	0.0625	lb ai/a	PRE	9.7	9.0	1.0	5.7	9.7
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
2	rimsulfuron	25	DF	0.125	lb ai/a	PRE	9.3	9.3	1.0	8.0	8.0
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
3	rimsulfuron	25	DF	0.0625	lb ai/a	PRE	9.3	10.0	1.0	10.0	9.3
	diuron	80	DF	2.4	lb ai/a	PRE					
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
4	rimsulfuron	25	DF	0.0625	lb ai/a	PRE	9.3	9.0	1.0	7.7	9.7
	simazine	90	WDG	3.6	lb ai/a	PRE					
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
5	simazine	90	WDG	3.6	lb ai/a	PRE	8.0	7.7	1.7	5.3	8.0
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
6	glyphosate	4	L	1	lb ai/a	PRE	8.7	9.7	1.0	9.0	6.0
	NIS	100	SL	0.25	% v/v	PRE					
7	flumioxazin	51	WDG	0.25	lb ai/a	PRE	9.3	9.7	1.0	9.7	8.7
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
8	halosulfuron	75	WG	0.094	lb ai/a	PRE	6.7	9.0	1.3	4.3	6.0
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
9	sulfentrazone 4	F		0.375	lb ai/a	PRE	9.3	8.0	1.0	6.3	8.7
	glyphosate	4	L	1	lb ai/a	PRE					
	NIS	100	SL	0.25	% v/v	PRE					
10	Untreated						4.0	6.0	1.0	10.0	6.7
LSD (P=.05)							3.80	4.04	0.44	4.28	3.81
Standard Deviation							2.23	2.37	0.26	2.51	2.24
CV							26.64	27.18	23.47	33.03	27.72

Weed Control in Third Year Cherry and Peach - HTRC

Project Code: WC 128-06-04 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Cherry, Peach **Variety: Montmorency, Coral Star**
Planting Method: Transplant **Planting Date: 4/28/04**
Spacing: 15 FT **Row Spacing: 18 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 11 ft wide x 45 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 2.2%** **pH: 7.4**
Sand: 56% **Silt: 24%** **Clay: 19%** **CEC: 13.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/3/06	2:30 pm	75/64	°F	Dry	5 SW	48	25% Cloudy	N

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/3/06	Cherry		pre bloom	
5/3/06	Peach		pre bloom	
5/3/06	DAND = dandelion	3-6″		moderate
5/3/06	WHCL = white clover	2-4″		moderate
6/20/06	GRFT = green foxtail			
	DAND = dandelion			
	MATA = marestail			
	WHCL = white clover			
7/7/06	BYGR = barnyardgrass			
	YENS = yellow nutsedge			
	CORW = common ragweed			
	MATA = marestail (horseweed)			
	RRPW = redroot pigweed			

Notes and Comments
1. **Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.**
2. **Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.**
3. **One boom pass on each side of row.**
4. **Cherry and peach tress alternated by row**

Weed Control in Third Year Cherry and Peach - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 128-06-04
Location: HTRC

Study Director: Dr. Bernard Zandstra
Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CHERRY 6/20/06 RATING	PEACH 6/20/06 RATING	GRFT 6/20/06 RATING	DAND 6/20/06 RATING	MATA 6/20/06 RATING
1	terbacil	80	WP	0.4	lb ai/a	LPRE	0.7	0.7	3.0	5.0	9.0
	glyphosate	5.5	L	1	lb ai/a	LPRE					
2	terbacil	80	WP	0.8	lb ai/a	LPRE	1.3	0.7	7.0	4.7	7.7
	glyphosate	5.5	L	1	lb ai/a	LPRE					
3	terbacil	80	WP	1.6	lb ai/a	LPRE	0.7	0.7	10.0	8.7	9.7
	glyphosate	5.5	L	1	lb ai/a	LPRE					
4	oryzalin	4	AS	2	lb ai/a	LPRE	1.3	0.7	10.0	4.0	6.7
	glyphosate	5.5	L	1	lb ai/a	LPRE					
5	simazine	90	WDG	4	lb ai/a	LPRE	0.0	1.7	1.3	4.7	10.0
	glyphosate	5.5	L	1	lb ai/a	LPRE					
6	diuron	80	DF	3	lb ai/a	LPRE	0.7	0.3	5.0	6.3	10.0
	glyphosate	5.5	L	1	lb ai/a	LPRE					
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	0.7	0.3	9.3	8.3	5.7
	glyphosate	5.5	L	1	lb ai/a	LPRE					
8	Untreated						1.0	1.3	5.7	1.0	1.0
LSD (P=.05)							2.09	1.70	3.15	3.25	3.48
Standard Deviation							1.19	0.97	1.80	1.86	1.99
CV							150.66	122.89	28.07	34.81	26.66

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	WHCL 6/20/06 RATING	PEACH 7/7/06 RATING	CHERRY 7/7/06 RATING	BYGR 7/7/06 RATING	GRFT 7/7/06 RATING	YENS 7/7/06 RATING
1	terbacil	80	WP	0.4	lb ai/a	LPRE	10.0	0.3	0.7	3.0	1.7	2.3
	glyphosate	5.5	L	1	lb ai/a	LPRE						
2	terbacil	80	WP	0.8	lb ai/a	LPRE	9.3	0.7	2.3	3.7	2.0	7.7
	glyphosate	5.5	L	1	lb ai/a	LPRE						
3	terbacil	80	WP	1.6	lb ai/a	LPRE	10.0	0.7	1.0	9.3	8.7	10.0
	glyphosate	5.5	L	1	lb ai/a	LPRE						
4	oryzalin	4	AS	2	lb ai/a	LPRE	6.0	0.3	1.3	8.3	8.0	4.7
	glyphosate	5.5	L	1	lb ai/a	LPRE						
5	simazine	90	WDG	4	lb ai/a	LPRE	9.7	1.3	0.0	2.3	1.7	1.0
	glyphosate	5.5	L	1	lb ai/a	LPRE						
6	diuron	80	DF	3	lb ai/a	LPRE	10.0	0.3	0.7	3.0	3.0	3.3
	glyphosate	5.5	L	1	lb ai/a	LPRE						
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	10.0	0.3	0.7	7.7	8.3	5.7
	glyphosate	5.5	L	1	lb ai/a	LPRE						
8	Untreated						1.7	1.7	1.0	5.3	6.0	8.0
LSD (P=.05)							2.01	1.53	2.86	3.62	2.44	2.52
Standard Deviation							1.15	0.88	1.63	2.07	1.39	1.44
CV							13.76	123.71	170.21	38.79	28.29	26.99

Weed Control in Third Year Cherry and Peach - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CORW 7/7/06 RATING	MATA 7/7/06 RATING	RRPW 7/7/06 RATING
1	terbacil	80	WP	0.4	lb ai/a	LPRE	10.0	9.0	6.3
	glyphosate	5.5	L	1	lb ai/a	LPRE			
2	terbacil	80	WP	0.8	lb ai/a	LPRE	10.0	5.0	6.7
	glyphosate	5.5	L	1	lb ai/a	LPRE			
3	terbacil	80	WP	1.6	lb ai/a	LPRE	10.0	8.3	9.7
	glyphosate	5.5	L	1	lb ai/a	LPRE			
4	oryzalin	4	AS	2	lb ai/a	LPRE	1.0	5.0	9.3
	glyphosate	5.5	L	1	lb ai/a	LPRE			
5	simazine	90	WDG	4	lb ai/a	LPRE	5.3	8.3	10.0
	glyphosate	5.5	L	1	lb ai/a	LPRE			
6	diuron	80	DF	3	lb ai/a	LPRE	10.0	6.0	5.0
	glyphosate	5.5	L	1	lb ai/a	LPRE			
7	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	10.0	3.0	8.7
	glyphosate	5.5	L	1	lb ai/a	LPRE			
8	Untreated						9.3	2.3	7.7
LSD (P=.05)							2.70	4.05	3.50
Standard Deviation							1.54	2.31	2.00
CV							18.77	39.33	25.24

Weed Control in Grape - HTRC

Project Code: WC 132-06-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Grape **Variety: Frontenac and Marechal Foch**
Planting Method: Transplant **Planting Date: 1991**
Spacing: 6 FT **Row Spacing: 10 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 5 ft wide x 20 ft long

Soil Type: Marlette Sandy Loam **OM: 2.5%** **pH: 7.0**
Sand: 60% **Silt: 21%** **Clay: 19** **Sand: 60%**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
LPRE	5/3/06	3:00 pm	78/69	°F	Dry	5 W	46	35% Cloudy	N
PO1	5/24/06	9:00 am	65/53	°F	Dry	4 SSE	45	5% Cloudy	N
PO2	6/2/06	3:00 pm	80/71	°F	Dry	1 NE	39	65% Cloudy	N
PO3	7/3/06	3:00 pm	82/71	°F	Dry	3 SW	64	60% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/24	COLQ = common lambsquarters	2-4″		moderate
5/24	RRPW = redroot pigweed	2-4″		moderate
6/2	COLQ = common lambsquarters	3-6″		moderate
6/2	RRPW = redroot pigweed	3-6″		moderate
7/3	ANBG = annual bluegrass	4-8″		moderate
7/3	HOWE = horseweed	6-10″		moderate
7/3	COLQ = common lambsquarters	10-14″		moderate
7/3	RRPW = redroot pigweed	12-16″		moderate

Notes and Comments
1. Sprays applied with 2 nozzle boom FF11002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Application made with 2 nozzle boom with one pass on each side of row.

Weed Control in Grape - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 132-06-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	GRAPE 6/2/06 RATING	TAFE 6/2/06 RATING	COLQ 6/2/06 RATING	COMA 6/2/06 RATING	DAND 6/2/06 RATING	HOWE 6/2/06 RATING
1	Firestorm	3	L	1	lb ai/a	PO1,2,3	1.0	9.0	7.7	5.7	6.0	8.7
2	Gramoxone Max	3	L	1	lb ai/a	PO1,2,3	1.0	7.7	4.3	6.3	8.0	9.0
3	Gramoxone Inteon	2	L	1	lb ai/a	PO1,2,3	1.0	7.7	5.7	8.0	8.0	10.0
4	glufosinate	1	L	1	lb ai/a	PO1,2,3	1.0	6.7	9.3	8.3	9.3	9.0
5	glyphosate	5	L	1	lb ai/a	PO1,2,3	1.0	4.7	7.0	6.7	5.7	9.0
6	diuron	80	DF	4	lb ai/a	LPRE	1.0	7.0	10.0	8.0	5.7	10.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
7	simazine	90	WDG	4	lb ai/a	LPRE	1.0	9.0	10.0	9.7	5.3	10.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
8	oxyfluorfen	2	L	2	lb ai/a	LPRE	1.0	6.3	10.0	9.7	10.0	8.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
9	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	1.0	7.3	10.0	10.0	7.7	7.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
10	Untreated						1.0	3.0	2.3	4.7	3.0	1.7
LSD (P=.05)							0.00	3.17	3.82	4.37	3.78	3.21
Standard Deviation							0.00	1.85	2.23	2.55	2.20	1.87
CV							0.0	27.06	29.17	33.12	32.07	22.7

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	LATH 6/2/06 RATING	GRAPE 7/3/06 RATING	YEFT 7/3/06 RATING	COLQ 7/3/06 RATING	COMA 7/3/06 RATING	RRPW 7/3/06 RATING
1	Firestorm	3	L	1	lb ai/a	PO1,2,3	7.7	1.0	5.0	8.3	4.3	8.7
2	Gramoxone Max	3	L	1	lb ai/a	PO1,2,3	9.7	1.0	2.7	3.3	4.0	4.0
3	Gramoxone Inteon	2	L	1	lb ai/a	PO1,2,3	10.0	1.7	6.7	7.3	8.3	6.3
4	glufosinate	1	L	1	lb ai/a	PO1,2,3	10.0	1.0	4.7	9.7	8.3	6.0
5	glyphosate	5	L	1	lb ai/a	PO1,2,3	9.0	0.7	5.0	8.0	7.3	4.0
6	diuron	80	DF	4	lb ai/a	LPRE	10.0	1.0	7.7	8.7	7.7	7.3
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
7	simazine	90	WDG	4	lb ai/a	LPRE	10.0	1.0	1.0	8.7	5.7	3.7
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
8	oxyfluorfen	2	L	2	lb ai/a	LPRE	10.0	0.7	7.0	8.3	7.7	8.3
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
9	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	10.0	2.3	8.7	10.0	7.3	10.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
10	Untreated						5.3	1.0	2.7	1.7	3.0	6.0
LSD (P=.05)							2.89	0.87	3.43	2.54	4.82	3.21
Standard Deviation							1.68	0.51	2.00	1.48	2.81	1.87
CV							18.35	44.61	39.16	20.03	44.1	29.05

Weed Control in Grape - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	GRAPE 7/17/06 RATING	FAPA 7/17/06 RATING	COLQ 7/17/06 RATING	COMA 7/17/06 RATING	HOWE 7/17/06 RATING	RRPW 7/17/06 RATING
1	Firestorm	3	L	1	lb ai/a	PO1,2,3	1.0	7.7	8.3	8.7	10.0	10.0
2	Gramoxone Max	3	L	1	lb ai/a	PO1,2,3	1.0	7.0	4.7	9.0	10.0	10.0
3	Gramoxone Inteon	2	L	1	lb ai/a	PO1,2,3	1.7	9.7	8.3	9.0	10.0	10.0
4	glufosinate	1	L	1	lb ai/a	PO1,2,3	1.3	8.7	10.0	9.7	10.0	9.3
5	Roundup Ultramax	5	L	1	lb ai/a	PO1,2,3	1.0	7.0	10.0	8.3	10.0	8.0
6	diuron	80	DF	4	lb ai/a	LPRE	1.0	5.0	9.0	7.0	10.0	4.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
7	simazine	90	WDG	4	lb ai/a	LPRE	1.0	1.0	9.3	7.3	10.0	7.3
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
8	oxyfluorfen	2	L	2	lb ai/a	LPRE	1.7	4.3	9.0	8.0	6.7	7.7
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
9	flumioxazin	51	WDG	0.383	lb ai/a	LPRE	1.3	9.3	10.0	6.7	9.3	10.0
	Gramoxone Max	3	L	0.64	lb ai/a	LPRE						
10	Untreated						1.0	3.3	3.3	5.3	3.7	8.0
LSD (P=.05)							0.93	2.92	2.42	3.65	2.44	2.38
Standard Deviation							0.54	1.70	1.41	2.13	1.42	1.39
CV							45.08	27.03	17.23	26.92	15.89	16.47

Weed Control in Raspberry - CHES

Project Code: WC 131-06-01 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Raspberry **Variety: Heritage**
Planting Method: Transplant **Planting Date: 5/3/02**
Spacing: 2 FT **Row Spacing: 14 FT**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 5.33 ft wide x 20 ft long

Soil Type: Lapeer Sandy Loam **OM: 1.2%** **pH: 7.0**
Sand: 63% **Silt: 25%** **Clay: 12%** **CEC: 7.0**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	4/11/06	11:00 am	60/46	°F	Adequate	5 SW	36	50% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/11	RASP = raspberry		Dormant	
5/18	QUGR = quakcgrass			
	PUDN = purple deadnettle			
	SHPU = shepherdspurse			
	WHCA = white campion			
	YERO = yellow rocket			
6/15	ORGR = orchardgrass			
	WHCA = white campion			

Notes and Comments
1. Sprays applied with 4 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 backpack sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.

Weed Control in Raspberry - CHES

Dept. of Horticulture, MSU

Trial ID: WC 131-06-01 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RASP 5/18/06 RATING	QUGR 5/18/06 RATING	PUDN 5/18/06 RATING	SHPU 5/18/06 RATING	WHCA 5/18/06 RATING	YERO 5/18/06 RATING
1	mesotrione	4	SC	0.094	lb ai/a	PRE	2.0	7.0	9.0	6.3	4.0	10.0
2	mesotrione	4	SC	0.188	lb ai/a	PRE	4.3	7.7	10.0	10.0	9.0	10.0
3	flumioxazin	51	WDG	0.383	lb ai/a	PRE	3.7	9.3	8.7	8.3	10.0	10.0
4	sulfentrazone	4	F	0.375	lb ai/a	PRE	1.7	6.7	9.0	7.3	9.0	10.0
5	diuron	80	DF	3	lb ai/a	PRE	1.0	9.3	8.7	10.0	7.0	9.0
6	Untreated						1.7	4.7	3.0	4.7	6.3	3.0
LSD (P=.05)							2.09	4.74	3.32	4.30	7.06	2.76
Standard Deviation							1.15	2.61	1.82	2.36	3.88	1.52
CV							48.13	35.0	22.63	30.4	51.35	17.5

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	RASP 6/15/06 RATING	ORGR 6/15/06 RATING	WHCA 6/15/06 RATING	RASP 7/13/06 RATING
1	mesotrione	4	SC	0.094	lb ai/a	PRE	1.7	4.7	4.0	1.7
2	mesotrione	4	SC	0.188	lb ai/a	PRE	3.7	4.3	7.3	3.3
3	flumioxazin	51	WDG	0.383	lb ai/a	PRE	2.7	7.3	5.0	2.0
4	sulfentrazone	4	F	0.375	lb ai/a	PRE	2.0	10.0	7.7	2.0
5	diuron	80	DF	3	lb ai/a	PRE	1.0	10.0	10.0	1.0
6	Untreated						2.3	3.3	4.7	2.7
LSD (P=.05)							2.32	7.27	8.21	2.43
Standard Deviation							1.27	4.00	4.51	1.34
CV							57.31	60.48	70.01	63.35

Carryover in Winter Wheat in 2006 following Weed Control in Cucumber, Pumpkin and Squash in 2005- HTRC

Project Code: WC 108-05-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: See notes **Variety: See notes**
Planting Method: Seeded **Planting Date: 5/26/05**
Spacing: See notes **Row Spacing: 14 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 30 ft wide x 40 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 2.0%** **pH: 5.6**
Sand: 58% **Silt: 26%** **Clay: 16%** **CEC: 7.8**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PPI	5/24/05	2:00 pm	67/66	°F	Dry	8 NE	46	10% Cloudy	N
PRE	5/27/05	1:30 pm	69/64	°F	Dry	7 W	45	65% Cloudy	N
PO1	6/17/05	11:20 am	62/60	°F	Damp	6 NW	58	90% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/17	CUKE = cucumber	10-12 in		
6/17	PUMP = pumpkin squash	4-6 in		
	BYGR = barnyardgrass			
	GRFT = green foxtail			
	COLQ = common lambsquarters			
	CORW = common ragweed			
	EBNS = eastern black nightshade			
	LATH = ladysthumb			
	RRPW = redroot pigweed			
	WIBW = wild buckwheat			

Notes and Comments

1. Sprays applied with 16 nozzle boom FF8002, 20 gpa, 30 psi, 3.2 mph, CO_2 tractor mounted sprayer.
2. Crop and weed injury ratings on scale of 1-10: 1 = no injury, 10 = complete kill.
3. Crops and Varieties: Cucumber – Vlaspik, Pumpkin – Howden, Squash – Golden Hubbard
4. Planted pumpkin in left row with 6 IN spacing, squash in right row with 6 IN spacing, cucumber in center 3 rows with 3 in spacing.
5. Spray center 16 ft of plot with tractor; area between plots cultivated until covered with vines.
6. Harvested all fruit in 40 ft plot.
7. Squash was not harvested due to poor stand establishment.
8. Red winter wheat was planted in entire field in fall of 2005.
9. Harvested 2 meter^2 of wheat plants June 1, 2006.

Carryover in Winter Wheat in 2006 following Weed Control in Cucumber, Pumpkin and Squash in 2005- HTRC

Dept. of Horticulture, MSU

Trial ID: WC 108-05-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CUKE 6/14/05 RATING	PUMP 6/14/05 RATING	SQUASH 6/14/05 RATING	BYGR 6/14/05 RATING	GRFT 6/14/05 RATING	COLQ 6/14/05 RATING
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	2.3	2.0	5.0	7.3	9.0	9.3
2	ethalfluralin	1.6	SE	0.8	lb ai/a	PRE	1.7	1.3	4.3	9.0	9.7	10.0
	clomazone	0.5	SE	0.25								
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	1.0	1.0	5.7	9.3	9.7	9.3
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	imazamox	1	AS	0.031	lb ai/a	PRE	4.0	2.0	5.0	4.3	5.0	9.3
5	halosulfuron	75	WG	0.035	lb ai/a	PRE	1.7	1.7	6.3	6.7	8.0	8.7
	quizalofop	0.88	EC	0.034	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
6	halosulfuron	75	WG	0.035	lb ai/a	PRE	1.7	1.7	4.3	5.7	6.3	8.3
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
7	halosulfuron	75	WG	0.035	lb ai/a	PRE	1.3	1.3	6.7	6.3	7.0	9.7
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.035	lb ai/a	PRE	1.3	1.3	4.0	3.3	4.7	7.0
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
9	bensulide	4	EC	6	lb ai/a	PPI	2.3	2.7	7.0	8.3	9.3	9.3
	halosulfuron	75	WG	0.047	lb ai/a	PPI						
10	bensulide	4	EC	6	lb ai/a	PPI	1.0	1.0	3.7	6.3	7.3	8.3
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
11	imazosulfuron	75	WG	0.1	lb ai/a	PRE	1.7	1.7	6.3	6.3	8.7	8.7
12	ethalfluralin	3	EC	0.75	lb ai/a	PRE	2.0	1.7	6.0	7.0	8.7	8.7
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
13	ethalfluralin	3	EC	0.75	lb ai/a	PRE	1.0	1.0	4.3	4.3	6.3	6.3
	sulfentrazone	4	F	0.14	lb ai/a	PO1						
14	ethalfluralin	3	EC	0.75	lb ai/a	PRE	1.3	1.3	6.3	6.3	8.3	8.0
	imazosulfuron	75	WG	0.1	lb ai/a	PO1						
15	Untreated						1.0	1.0	5.0	1.7	1.7	1.0
LSD (P=.05)							1.35	1.34	4.63	3.17	2.98	1.70
Standard Deviation							0.81	0.80	2.77	1.89	1.78	1.02
CV							47.94	52.99	51.96	30.76	24.35	12.5

Carryover in Winter Wheat in 2006 following Weed Control in Cucumber, Pumpkin and Squash in 2005- HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CORW	EBNS	LATH	RRPW	WIBW	CUKE
Pest Code							CORW	EBNS	LATH	RRPW	WIBW	CUKE
Rating Date							6/14/05	6/14/05	6/14/05	6/14/05	6/14/05	6/22/05
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit												
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	7.3	10.0	9.0	8.7	8.7	1.7
2	ethalfluralin	1.6	SE	0.8	lb ai/a	PRE	10.0	10.0	9.7	9.3	10.0	1.7
	clomazone	0.5	SE	0.25								
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	9.3	10.0	10.0	8.7	10.0	1.3
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	imazamox	1	AS	0.031	lb ai/a	PRE	9.3	10.0	9.7	9.7	9.7	4.7
5	halosulfuron	75	WG	0.035	lb ai/a	PRE	10.0	10.0	10.0	9.7	8.3	2.0
	quizalofop	0.88	EC	0.034	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
6	halosulfuron	75	WG	0.035	lb ai/a	PRE	10.0	6.0	10.0	10.0	10.0	1.3
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
7	halosulfuron	75	WG	0.035	lb ai/a	PRE	10.0	8.3	10.0	10.0	9.3	2.0
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.035	lb ai/a	PRE	10.0	7.0	10.0	9.7	9.3	2.3
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
9	bensulide	4	EC	6	lb ai/a	PPI	10.0	9.3	10.0	10.0	8.7	2.7
	halosulfuron	75	WG	0.047	lb ai/a	PPI						
10	bensulide	4	EC	6	lb ai/a	PPI	5.3	9.3	9.3	9.0	7.0	2.0
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
11	imazosulfuron	75	WG	0.1	lb ai/a	PRE	10.0	10.0	10.0	10.0	9.7	1.3
12	ethalfluralin	3	EC	0.75	lb ai/a	PRE	7.0	10.0	9.3	7.0	5.0	2.3
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
13	ethalfluralin	3	EC	0.75	lb ai/a	PRE	6.0	10.0	9.7	7.0	7.0	7.3
	sulfentrazone	4	F	0.14	lb ai/a	PO1						
14	ethalfluralin	3	EC	0.75	lb ai/a	PRE	4.3	9.7	10.0	8.3	9.7	2.3
	imazosulfuron	75	WG	0.1	lb ai/a	PO1						
15	Untreated						1.7	3.7	1.0	1.0	1.0	1.0
LSD (P=.05)							3.42	3.23	0.85	2.00	2.98	1.81
Standard Deviation							2.05	1.93	0.51	1.20	1.78	1.08
CV							25.51	21.76	5.51	14.03	21.69	45.1

Carryover in Winter Wheat in 2006 following Weed Control in Cucumber, Pumpkin and Squash in 2005- HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	PUMP 6/22/05 RATING	SQUASH 6/22/05 RATING	BYGR 6/22/05 RATING	COLQ 6/22/05 RATING	EBNS 6/22/05 RATING	RRPW 6/22/05 RATING
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	1.7	2.3	5.7	8.3	10.0	8.0
2	ethalfluralin	1.6	SE	0.8	lb ai/a	PRE	1.7	1.7	8.3	9.3	10.0	9.3
	clomazone	0.5	SE	0.25								
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	1.0	2.7	8.0	9.0	10.0	8.7
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	imazamox	1	AS	0.031	lb ai/a	PRE	1.7	2.3	2.0	7.3	10.0	10.0
5	halosulfuron	75	WG	0.035	lb ai/a	PRE	1.7	5.3	5.3	7.7	9.3	10.0
	quizalofop	0.88	EC	0.034	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
6	halosulfuron	75	WG	0.035	lb ai/a	PRE	1.3	3.7	4.0	7.0	7.0	10.0
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
7	halosulfuron	75	WG	0.035	lb ai/a	PRE	4.0	6.7	6.0	9.0	8.3	10.0
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.035	lb ai/a	PRE	3.7	3.7	2.0	8.7	5.3	10.0
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
9	bensulide	4	EC	6	lb ai/a	PPI	3.0	7.0	7.0	10.0	4.3	10.0
	halosulfuron	75	WG	0.047	lb ai/a	PPI						
10	bensulide	4	EC	6	lb ai/a	PPI	3.3	4.0	6.7	8.3	5.0	8.7
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
11	imazosulfuron	75	WG	0.1	lb ai/a	PRE	1.7	4.0	3.0	8.0	9.3	10.0
12	ethalfluralin	3	EC	0.75	lb ai/a	PRE	3.7	6.0	8.0	9.7	10.0	10.0
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
13	ethalfluralin	3	EC	0.75	lb ai/a	PRE	6.7	7.7	3.3	10.0	10.0	10.0
	sulfentrazone	4	F	0.14	lb ai/a	PO1						
14	ethalfluralin	3	EC	0.75	lb ai/a	PRE	2.7	5.3	5.3	8.0	7.7	8.7
	imazosulfuron	75	WG	0.1	lb ai/a	PO1						
15	Untreated						1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)							1.28	3.77	3.11	1.53	3.25	1.00
Standard Deviation							0.77	2.26	1.86	0.91	1.94	0.60
CV							29.77	53.45	36.9	11.31	24.84	6.66

Carryover in Winter Wheat in 2006 following Weed Control in Cucumber, Pumpkin and Squash in 2005- HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	CUKE 7/18/05 YIELD KG/PLOT	CUKE 7/18/05 YIELD KG/PLOT	CUKE 7/18/05 YIELD KG/PLOT	CUKE 7/18/05 YIELD KG/PLOT	CUKE 7/18/05 YIELD KG/PLOT	CUKE 7/18/05 YIELD KG/PLOT
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	21.29	21.57	1.16	3.93	11.73	4.19
2	ethalfluralin	1.6	SE	0.8	lb ai/a	PRE	24.79	26.98	1.44	3.19	13.12	8.49
	clomazone	0.5	SE	0.25								
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	26.69	29.87	1.17	3.71	13.20	11.32
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	imazamox	1	AS	0.031	lb ai/a	PRE	8.50	8.53	0.74	2.08	6.59	3.82
5	halosulfuron	75	WG	0.035	lb ai/a	PRE	27.32	32.17	1.01	3.07	15.47	14.83
	quizalofop	0.88	EC	0.034	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
6	halosulfuron	75	WG	0.035	lb ai/a	PRE	26.44	34.77	1.20	3.55	14.92	13.96
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
7	halosulfuron	75	WG	0.035	lb ai/a	PRE	30.63	41.83	0.83	2.84	17.81	14.10
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.035	lb ai/a	PRE	26.54	28.40	1.20	5.24	20.03	6.58
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
9	bensulide	4	EC	6	lb ai/a	PPI	25.89	31.64	1.26	3.70	13.98	11.70
	halosulfuron	75	WG	0.047	lb ai/a	PPI						
10	bensulide	4	EC	6	lb ai/a	PPI	27.01	28.35	1.05	3.69	16.25	6.63
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
11	imazosulfuron	75	WG	0.1	lb ai/a	PRE	23.73	23.17	1.58	4.65	11.76	4.29
12	ethalfluralin	3	EC	0.75	lb ai/a	PRE	28.47	37.43	0.91	3.80	18.87	12.89
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
13	ethalfluralin	3	EC	0.75	lb ai/a	PRE	4.55	2.55	0.24	1.11	1.15	0.00
	sulfentrazone	4	F	0.14	lb ai/a	PO1						
14	ethalfluralin	3	EC	0.75	lb ai/a	PRE	23.84	25.77	1.09	3.59	13.94	6.66
	imazosulfuron	75	WG	0.1	lb ai/a	PO1						
15	Untreated						30.23	40.48	0.85	3.29	15.50	15.08
LSD (P=.05)							11.822	17.766	0.619	1.898	8.921	9.853
Standard Deviation							7.070	10.624	0.370	1.135	5.335	5.893
CV							29.79	38.54	35.33	33.09	39.17	65.7

Carryover in Winter Wheat in 2006 following Weed Control in Cucumber, Pumpkin and Squash in 2005- HTRC

Dept. of Horticulture, MSU

Pest Code							PUMP	PUMP	PUMP	PUMP	WHEAT	WHEAT
Rating Date							9/27/05	9/27/05	9/27/05	9/27/05	5/26/06	5/26/06
Rating Data Type							YIELD	YIELD	YIELD	YIELD	FRESH WT	DRY WT
Rating Unit							NO./PLOT	KG/PLOT	NO./PLOT	KG/PLOT	KG/2 m^2	KG/2 m^2
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage						
1	ethalfluralin	3	EC	1.13	lb ai/a	PRE	13.0	40.15	1.3	3.21	2.79	0.80
2	ethalfluralin	1.6	SE	0.8	lb ai/a	PRE	28.7	96.07	3.7	10.90	3.07	0.86
	clomazone	0.5	SE	0.25								
3	ethalfluralin	3	EC	0.75	lb ai/a	PRE	23.3	92.33	2.3	11.04	3.16	0.88
	clomazone	3	ME	0.25	lb ai/a	PRE						
4	imazamox	1	AS	0.031	lb ai/a	PRE	13.7	40.75	2.3	5.12	2.60	0.75
5	halosulfuron	75	WG	0.035	lb ai/a	PRE	18.3	62.59	3.0	8.39	3.09	0.87
	quizalofop	0.88	EC	0.034	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
6	halosulfuron	75	WG	0.035	lb ai/a	PRE	17.0	56.23	1.0	2.04	3.33	0.92
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
7	halosulfuron	75	WG	0.035	lb ai/a	PRE	23.0	78.88	1.3	3.15	3.36	0.92
	halosulfuron	75	WG	.023	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
8	halosulfuron	75	WG	0.035	lb ai/a	PRE	16.3	52.20	2.0	9.69	3.71	1.00
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	quizalofop	0.88	EC	.069	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
9	bensulide	4	EC	6	lb ai/a	PPI	20.3	72.18	4.0	11.99	3.47	0.95
	halosulfuron	75	WG	0.047	lb ai/a	PPI						
10	bensulide	4	EC	6	lb ai/a	PPI	24.7	105.05	1.3	3.67	3.96	1.05
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
11	imazosulfuron	75	WG	0.1	lb ai/a	PRE	20.0	64.43	0.7	1.53	3.67	0.99
12	ethalfluralin	3	EC	0.75	lb ai/a	PRE	31.3	130.69	4.3	12.39	3.44	0.93
	halosulfuron	75	WG	0.035	lb ai/a	PO1						
	clethodim	2	EC	0.094	lb ai/a	PO1						
	NIS		L	0.25	% v/v	PO1						
13	ethalfluralin	3	EC	0.75	lb ai/a	PRE	17.0	63.47	1.3	5.61	3.23	0.88
	sulfentrazone	4	F	0.14	lb ai/a	PO1						
14	ethalfluralin	3	EC	0.75	lb ai/a	PRE	23.3	70.25	3.0	6.06	3.10	0.88
	imazosulfuron	75	WG	0.1	lb ai/a	PO1						
15	Untreated						27.0	88.97	0.7	2.89	3.24	0.90
LSD (P=.05)							12.42	57.995	3.54	11.492	1.042	0.251
Standard Deviation							7.43	34.682	2.12	6.872	0.623	0.150
CV							35.15	46.69	98.34	105.55	18.99	16.57