HORTICULTURAL REPORT

2007 WEED CONTROL RESEARCH ON FRUIT & VEGETABLE CROPS

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WEED CONTROL IN HORTICULTURAL CROPS – 2007
FORWARD

This report summarizes the results of weed control experiments on horticultural crops in Michigan in 2007. 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 7.3.6, 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.
ANFB	annual fleabane	*Erigeron annuus (L.) Pers.*
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 amine	Weedar 64	3.8 L	Nufarm Inc.
acifluorfen	Ultra Blazer	2 L	United Phosphorus
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	Intensity One	0.97 EC	UAP
clethodim	Select	2 EC	Valent
clethodim	Select Max	0.97 EC	Valent
clomazone	Command	3 ME	FMC
clopyralid	Clopyr Ag	3 L	United Phosphorus
clopyralid	Stinger	3 EC	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 170 CS	1.4 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
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

CHEMICAL LIST

COMMON NAME	TRADE NAME	FORMULATION	MANUFACTURER
glufosinate	Rely	1 L	Bayer CropScience
glufosinate	Liberty	1.67 EC	Bayer CropScience
glyphosate	Roundup WeatherMax	5.5 L	Monsanto
glyphosate	Touchdown Total	4.17 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	BASF
sethoxydim	Poast Plus	1 EC	BASF
simazine	Princep	90 DF	Syngenta
s-metolachlor	Dual Magnum	7.62 EC	Syngenta

CHEMICAL LIST

COMMON NAME	TRADE NAME	FORMULATION	MANUFACTURER
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
sulfosulfuron	Maverick	75 WG	Monsanto
tembotrione	Laudis	3.5 SC	Bayer CropScience
terbacil	Sinbar	80 WP	DuPont
topramezone	Impact	2.8 L	Amvac
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
LI6193-11	COC		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 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
2007

	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	67.9	46.6	0.56	**1**	58.6	47.7	0.42	1	81.6	63.7	0.25
2	54.8	40.8		**2**	61.0	46.6		2	85.3	62.1	0.84
3	73.0	39.8	0.09	**3**	66.6	39.5		3	68.7	60.8	0.26
4	61.4	24.1		**4**	69.5	39.2		4	73.1	55.6	0.30
5	27.7	21.2		**5**	68.3	43.0		5	58.9	49.6	0.10
6	28.8	19.9		**6**	63.0	39.4		6	67.3	39.9	
7	29.4	17.3	0.01	**7**	73.4	38.9		7	89.3	56.7	
8	34.2	22.6		**8**	83.2	55.7		8	81.7	52.4	
9	39.6	25.9		**9**	70.3	58.3	0.87	9	75.8	45.8	
10	45.2	23.6	0.06	**10**	78.4	51.1	0.01	10	79.6	48.4	
11	39.5	29.4	0.58	**11**	82.2	51.0		11	81.6	53.3	
12	41.6	33.6	0.11	**12**	61.5	43.0		12	82.8	50.4	
13	49.7	28.7		**13**	66.6	31.5		13	87.0	55.2	
14	43.0	23.5		**14**	82.5	46.1		14	87.6	57.1	
15	52.6	28.0		**15**	82.4	55.0	1.18	15	83.5	59.0	
16	56.2	32.2		**16**	58.0	42.8	0.01	16	85.9	58.9	
17	60.9	32.1		**17**	58.7	39.0		17	85.6	64.3	
18	47.6	35.3		**18**	66.3	30.7		18	90.8	68.0	
19	62.3	36.4		**19**	74.1	45.3	0.01	19	78.2	62.1	0.37
20	69.6	34.1		**20**	63.0	47.1		20	78.2	51.2	
21	74.5	36.8		**21**	67.0	43.6		21	78.8	57.8	0.01
22	80.6	43.2		**22**	83.7	49.4		22	73.5	49.2	
23	72.8	50.3		**23**	87.7	56.1		23	75.1	49.0	
24	65.0	39.5		**24**	87.9	56.2		24	78.2	48.4	
25	55.5	43.2	0.63	**25**	74.4	55.6	0.13	25	86.2	58.4	
26	52.8	43.7	0.42	**26**	64.0	52.4	0.99	26	89.0	65.4	
27	54.1	42.5		**27**	71.6	48.9	0.20	27	82.2	65.3	1.38
28	66.9	41.8	0.02	**28**	76.9	43.7		28	75.3	60.1	
29	75.8	40.7		**29**	83.5	53.7		29	74.6	52.3	
30	69.6	49.6	0.13	**30**	87.1	59.6		30	78.3	49.9	
				31	86.0	60.2					

TEMPERATURE AND PRECIPITATION DATA

MSU Horticulture Teaching and Research Center

Recorded at
MSU Horticulture Teaching and Research Center (HTRC)
East Lansing, Michigan
2007

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	70.6	50.3		**1**	93.5	63.4		**1**	79.6	50.8	
2	72.4	43.7		**2**	91.0	63.4		**2**	79.4	52.8	
3	80.7	55.7		**3**	89.6	64.0		**3**	85.2	59.8	
4	80.2	61.5	0.04	**4**	82.1	55.2		**4**	84.9	58.6	
5	83.3	60.6	0.04	**5**	71.6	63.1	0.18	**5**	87.9	60.9	
6	82.1	55.5		**6**	85.5	68.5	0.01	**6**	83.7	65.4	
7	86.8	52.9		**7**	86.1	70.5	0.32	**7**	79.1	67.8	0.56
8	95.1	71.0		**8**	89.3	73.4		**8**	77.5	58.2	
9	92.7	72.0		**9**	79.2	67.2	0.15	**9**	78.3	60.3	0.01
10	90.9	67.5	0.10	**10**	83.9	69.0		**10**	66.8	53.2	0.42
11	77.1	54.5		**11**	85.4	61.4		**11**	67.0	52.4	0.08
12	75.7	54.8		**12**	86.9	66.6	0.06	**12**	61.0	43.1	
13	73.6	47.5		**13**	80.6	54.1		**13**	72.3	41.2	
14	77.5	49.5	0.01	**14**	81.5	53.3		**14**	64.1	48.1	0.03
15	78.4	46.5		**15**	77.1	63.3	0.01	**15**	58.9	38.4	
16	77.2	50.2		**16**	80.9	59.6		**16**	65.1	33.6	
17	74.8	64.0	0.06	**17**	78.5	53.2		**17**	71.9	41.9	
18	84.2	64.4		**18**	69.5	45.4	0.03	**18**	82.0	54.8	
19	82.1	60.8		**19**	61.4	54.3	0.53	**19**	83.5	55.9	
20	74.5	52.6		**20**	60.9	58.3	1.85	**20**	78.2	54.1	
21	75.8	44.8		**21**	71.0	57.3		**21**	85.0	55.5	
22	81.2	50.2		**22**	88.0	65.4	0.31	**22**	74.2	48.5	0.05
23	82.3	48.6	0.14	**23**	86.8	65.6	0.23	**23**	76.7	41.7	
24	83.9	53.5		**24**	82.8	66.2	0.42	**24**	88.4	52.6	
25	81.4	58.3	0.02	**25**	77.5	63.1	0.04	**25**	81.0	66.3	0.81
26	77.2	57.3	0.05	**26**	76.0	52.6		**26**	69.8	55.0	0.11
27	87.7	64.0	0.03	**27**	77.8	51.0		**27**	70.4	47.8	0.01
28	81.0	65.2		**28**	86.3	60.6		**28**	69.2	45.2	0.01
29	85.1	56.6		**29**	89.2	65.7	1.38	**29**	73.0	40.1	
30	88.2	53.8		**30**	73.1	52.5		**30**	76.5	49.9	
31	92.9	60.6		**31**	77.0	47.6					

TEMPERATURE AND PRECIPITATION DATA

MSU Muck Soils Research Station

Recorded at
MSU Muck Soils Research Station (Muck Farm)
Laingsburg, Michigan
2007

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	67.6	46.5	0.60	**1**	57.5	48.2	0.64	**1**	82.8	61.2	
2	53.7	39.0		**2**	60.6	46.5		**2**	85.9	58.4	0.40
3	72.3	37.7	0.26	**3**	66.0	35.4		**3**	68.8	59.2	0.78
4	49.0	24.3		**4**	70.0	31.0		**4**	74.1	56.7	0.29
5	27.6	22.4		**5**	68.0	33.8		**5**	58.6	49.6	0.11
6	27.5	20.3		**6**	63.8	30.0		**6**	68.1	36.1	
7	28.3	17.9	0.01	**7**	75.0	36.4		**7**	90.4	57.6	
8	33.3	23.3		**8**	83.9	54.6		**8**	82.7	48.5	0.01
9	37.9	23.5		**9**	71.6	58.1	0.99	**9**	76.5	41.4	
10	46.0	24.8		**10**	78.5	46.5		**10**	80.7	43.2	
11	37.9	29.9	0.65	**11**	79.7	47.5		**11**	84.0	48.5	
12	40.9	34.0	0.11	**12**	60.1	36.4		**12**	84.0	44.4	
13	48.8	28.9		**13**	66.9	27.9		**13**	89.0	49.2	
14	43.8	23.5		**14**	82.7	47.8		**14**	89.5	52.7	
15	52.3	27.7		**15**	83.7	54.8	0.99	**15**	84.7	55.7	
16	55.7	31.9		**16**	57.1	39.7	0.01	**16**	86.0	58.0	
17	60.4	27.0		**17**	59.3	35.6		**17**	87.6	60.1	
18	47.0	30.2		**18**	69.2	29.3		**18**	91.3	68.2	
19	62.8	33.5		**19**	75.6	42.0		**19**	77.9	54.4	0.48
20	69.7	30.2		**20**	61.4	44.2		**20**	79.3	45.7	0.01
21	75.0	31.5		**21**	68.1	38.1		**21**	79.4	52.5	0.02
22	81.0	37.5		**22**	85.0	50.8		**22**	75.8	43.2	
23	72.6	49.7		**23**	88.8	57.1		**23**	77.4	44.2	
24	66.9	31.1		**24**	88.7	53.0		**24**	81.4	44.3	
25	56.0	43.7	0.60	**25**	75.1	53.7	0.12	**25**	87.6	55.1	
26	52.5	43.7	0.47	**26**	65.1	49.9	0.66	**26**	89.2	63.0	
27	54.7	43.6		**27**	72.0	46.4	0.20	**27**	82.3	69.1	1.81
28	67.2	42.0	0.02	**28**	78.9	39.6		**28**	75.6	58.3	
29	75.7	35.1		**29**	84.5	50.5		**29**	76.5	47.2	
30	69.4	48.1	0.08	**30**	88.0	60.3		**30**	79.8	45.8	
				31	86.5	58.2	0.01				

TEMPERATURE AND PRECIPITATION DATA

MSU Muck Soils Research Station

Recorded at
MSU Muck Soils Research Station (Muck Farm)
Laingsburg, Michigan
2007

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	70.5	44.1		**1**	93.4	59.5		**1**	81.2	47.1	
2	75.6	37.7		**2**	91.0	59.2		**2**	80.9	49.6	
3	81.4	54.5		**3**	89.2	57.3		**3**	86.2	53.1	
4	80.5	60.6	0.14	**4**	81.8	47.4		**4**	85.2	53.9	
5	84.1	58.9	0.03	**5**	70.2	54.7	0.08	**5**	90.0	56.2	
6	82.8	51.1		**6**	85.2	66.0	0.01	**6**	86.9	64.1	
7	85.9	48.4		**7**	84.9	67.6	0.30	**7**	79.2	68.0	0.40
8	95.2	60.7		**8**	90.0	69.9		**8**	77.5	51.2	0.01
9	91.3	69.8		**9**	78.2	67.0	0.30	**9**	79.9	57.6	
10	89.9	63.6	0.02	**10**	84.8	66.9		**10**	65.9	53.1	0.58
11	75.2	51.4		**11**	86.5	57.2		**11**	66.8	51.7	0.09
12	74.1	50.2	0.09	**12**	87.6	62.0	0.07	**12**	61.9	41.2	
13	74.0	42.5		**13**	81.4	42.9		**13**	73.5	36.2	
14	76.3	47.0	0.02	**14**	82.8	49.0		**14**	63.6	47.9	0.01
15	77.0	42.1		**15**	78.4	59.3		**15**	58.6	34.1	
16	77.3	45.5		**16**	81.5	53.1		**16**	65.8	29.9	
17	77.6	61.8	0.11	**17**	77.9	47.7		**17**	73.5	40.6	
18	85.0	62.1		**18**	69.8	36.3	0.07	**18**	83.8	54.0	
19	82.2	60.0	0.27	**19**	60.6	54.5	0.54	**19**	84.2	52.4	
20	75.1	45.0		**20**	60.9	58.0	2.68	**20**	79.2	47.3	
21	77.1	38.8		**21**	70.8	57.7	0.22	**21**	86.5	50.7	
22	80.6	44.7		**22**	89.0	63.5	0.15	**22**	74.6	44.7	0.07
23	82.8	43.2		**23**	87.1	63.4	0.24	**23**	78.7	36.2	
24	85.2	49.5		**24**	83.2	66.3	1.18	**24**	90.0	52.4	
25	81.8	56.3	0.03	**25**	78.0	57.1	0.04	**25**	81.8	65.6	0.76
26	79.2	54.4		**26**	75.8	47.9		**26**	69.7	51.4	0.06
27	87.9	64.4	0.09	**27**	78.4	47.3		**27**	69.7	43.3	
28	82.1	56.5		**28**	88.0	58.2		**28**	69.9	41.6	
29	84.5	47.7		**29**	90.8	64.1	0.29	**29**	73.5	34.3	
30	90.0	48.4		**30**	73.0	49.9	0.01	**30**	77.1	51.7	
31	93.1	56.0		**31**	78.2	42.5					

TEMPERATURE AND PRECIPITATION DATA

MSU Clarksville Horticulture Research Station

Recorded at
MSU Clarksville Horticulture Research Station (Clarksville)
Clarksville, Michigan
2007

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	65.4	44.3	0.39	**1**	58.2	48.1	0.63	**1**	82.3	63.8	
2	51.8	39.4		**2**	63.0	46.8		**2**	84.6	61.4	0.32
3	68.8	39.1	0.94	**3**	65.7	39.4		**3**	65.0	61.2	0.87
4	49.2	22.7	0.05	**4**	70.2	38.0		**4**	71.0	51.8	0.01
5	27.2	20.3		**5**	66.6	42.5		**5**	59.2	46.4	
6	27.2	19.3		**6**	64.1	39.5		**6**	68.2	40.2	
7	27.9	17.3		**7**	76.0	34.9		**7**	88.1	57.4	
8	32.0	21.7		**8**	82.7	56.8		**8**	80.9	50.0	0.02
9	38.0	24.4	0.01	**9**	72.5	56.2	0.36	**9**	74.8	46.9	
10	44.6	19.0	0.01	**10**	78.3	51.2		**10**	80.7	48.0	
11	33.7	28.4	0.43	**11**	81.3	51.0		**11**	84.2	55.1	
12	35.4	31.5	0.44	**12**	64.7	44.8		**12**	84.7	52.5	
13	47.7	29.4		**13**	66.8	35.5		**13**	88.4	58.3	
14	45.1	25.8		**14**	82.8	44.7		**14**	90.2	61.1	
15	53.9	25.8		**15**	78.5	54.1	0.32	**15**	86.6	61.1	
16	55.8	30.4		**16**	56.9	41.4		**16**	87.7	63.4	
17	59.6	30.3		**17**	63.3	38.8		**17**	86.3	63.1	
18	46.3	38.8		**18**	68.5	33.6		**18**	91.0	68.1	
19	63.3	34.5		**19**	72.9	51.0		**19**	76.8	59.5	0.36
20	69.5	34.8		**20**	63.1	47.2		**20**	78.5	51.4	
21	73.7	41.3		**21**	70.0	45.2		**21**	79.6	58.5	0.15
22	79.6	47.5		**22**	83.4	49.7		**22**	75.5	51.5	
23	69.9	45.4		**23**	87.4	58.8		**23**	78.4	50.5	
24	66.9	39.3		**24**	86.6	64.1		**24**	80.5	50.8	
25	54.0	43.1	0.53	**25**	75.3	53.2	0.38	**25**	86.6	59.1	
26	51.0	42.6	0.37	**26**	64.4	52.3	0.38	**26**	88.1	65.6	0.01
27	51.9	40.6		**27**	69.0	52.7	0.14	**27**	86.4	69.1	0.22
28	66.2	38.9		**28**	77.3	46.0		**28**	76.6	59.0	
29	74.9	41.1		**29**	84.0	55.2		**29**	77.5	50.8	
30	68.0	47.5	0.12	**30**	85.4	61.3		**30**	80.5	48.8	
				31	83.9	64.2					

TEMPERATURE AND PRECIPITATION DATA

MSU Clarksville Horticulture Research Station

Recorded at
MSU Clarksville Horticulture Research Station (Clarksville)
Clarksville, Michigan
2007

	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	74.3	49.3		**1**	93.1	62.9		**1**	81.4	52.2	
2	75.3	44.3		**2**	91.2	64.1		**2**	80.2	57.2	
3	82.3	60.0		**3**	88.3	63.5		**3**	85.4	60.4	
4	79.3	60.9	0.19	**4**	81.5	56.1		**4**	84.6	56.8	
5	84.9	61.8	0.01	**5**	69.7	60.7	0.17	**5**	88.7	61.1	
6	83.5	55.9		**6**	84.7	66.6	0.01	**6**	82.8	65.0	0.05
7	86.2	54.3		**7**	83.6	69.5	0.55	**7**	78.3	67.9	0.66
8	93.2	69.8		**8**	88.2	71.1		**8**	77.8	53.7	
9	91.7	70.5		**9**	81.3	69.5	0.04	**9**	78.4	55.1	
10	91.0	63.7	0.33	**10**	84.6	63.6	0.01	**10**	61.3	51.4	0.33
11	73.6	58.5		**11**	87.3	61.2		**11**	66.7	49.8	0.04
12	73.5	53.0	0.05	**12**	86.8	67.0	0.22	**12**	59.4	44.5	
13	73.7	48.5		**13**	80.8	53.8		**13**	73.1	42.9	
14	76.2	52.8	0.13	**14**	81.0	55.7		**14**	62.2	45.8	
15	76.6	48.6		**15**	75.4	63.9		**15**	58.0	36.8	
16	77.4	51.4		**16**	79.0	59.8		**16**	65.7	35.6	
17	74.9	62.8	0.02	**17**	76.7	55.6		**17**	73.5	44.5	
18	83.1	63.4		**18**	68.9	45.1	0.07	**18**	83.7	55.6	
19	81.7	57.6		**19**	60.7	53.0	0.48	**19**	80.6	59.8	
20	77.6	51.2		**20**	60.1	57.2	1.77	**20**	78.9	54.5	
21	77.8	46.8		**21**	68.4	55.7	0.07	**21**	85.9	55.6	
22	82.3	48.9		**22**	88.2	64.7	0.66	**22**	75.8	48.8	0.14
23	84.2	52.0		**23**	86.6	66.5	0.39	**23**	78.3	42.7	
24	84.1	59.7		**24**	78.8	66.4	0.63	**24**	88.6	55.5	
25	82.8	55.7	0.62	**25**	76.7	58.9	0.04	**25**	81.5	64.9	0.27
26	74.2	60.4		**26**	76.5	52.2		**26**	68.3	50.0	0.05
27	86.9	62.2		**27**	77.6	51.9		**27**	66.0	43.6	
28	82.4	64.5		**28**	87.7	61.7		**28**	68.5	46.2	
29	86.3	56.1		**29**	85.7	65.9		**29**	73.3	41.1	
30	91.2	55.1		**30**	75.9	54.6		**30**	77.7	49.5	
31	95.3	61.6		**31**	78.8	49.5					

TEMPERATURE AND PRECIPITATION DATA

MSU Trevor Nichols Research Complex

Recorded at
MSU Trevor Nichols Research Complex (Fennville)
Fennville, Michigan
2007

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	65.1	43.6	0.39	**1**	71.2	48.1	0.25	**1**	78.6	64.3	
2	52.1	40.7		**2**	63.7	46.6		**2**	86.1	61.7	0.13
3	71.5	41.0	0.79	**3**	69.2	44.0		**3**	74.8	62.5	0.33
4	43.1	26.5	0.06	**4**	75.8	43.6		**4**	64.8	50.5	0.02
5	30.7	24.1		**5**	69.8	49.7		**5**	59.6	42.6	
6	28.2	21.9		**6**	68.2	46.1		**6**	72.4	37.7	
7	29.5	20.6	0.02	**7**	77.8	36.2		**7**	90.6	63.1	
8	32.8	25.5	0.01	**8**	78.4	57.2		**8**	81.5	48.9	0.02
9	41.2	27.7	0.01	**9**	78.3	55.4	0.37	**9**	73.2	44.6	
10	48.2	23.3		**10**	76.7	49.7		**10**	77.8	49.0	
11	38.6	30.0	0.57	**11**	68.5	47.1		**11**	82.6	52.8	
12	36.7	32.1	0.27	**12**	69.4	44.9		**12**	86.0	53.5	
13	46.5	30.4		**13**	70.3	41.4		**13**	88.2	56.6	
14	46.4	27.1		**14**	83.5	49.0		**14**	90.0	57.4	
15	49.1	27.2		**15**	76.9	50.0	0.52	**15**	87.2	59.2	
16	49.2	32.3		**16**	54.8	41.3	0.02	**16**	86.5	59.2	
17	59.9	29.2	0.01	**17**	57.4	40.9		**17**	85.0	63.6	0.02
18	50.3	40.3		**18**	64.3	32.8		**18**	89.5	67.3	
19	64.2	39.0		**19**	72.3	49.3		**19**	77.2	58.3	0.27
20	65.4	34.6		**20**	62.7	47.1		**20**	76.5	51.9	
21	71.7	38.4		**21**	72.7	47.5	0.21	**21**	78.3	57.3	
22	80.9	49.4		**22**	84.8	54.3		**22**	79.1	54.4	
23	70.4	43.6		**23**	85.7	56.9		**23**	78.4	50.1	
24	66.9	39.7		**24**	85.5	60.4		**24**	81.9	51.6	
25	55.4	46.6	0.73	**25**	68.4	48.8	0.08	**25**	86.1	57.7	
26	58.9	45.2	1.04	**26**	65.9	48.8	0.45	**26**	87.0	64.7	
27	53.3	38.7	0.04	**27**	68.3	53.3	0.08	**27**	84.3	68.3	0.18
28	63.1	33.8		**28**	78.3	43.9		**28**	77.4	61.7	
29	75.2	37.7		**29**	86.6	54.6		**29**	76.0	52.1	
30	69.2	49.6	0.12	**30**	86.7	63.3		**30**	79.5	46.6	
				31	83.9	61.4					

TEMPERATURE AND PRECIPITATION DATA

MSU Trevor Nichols Research Complex

Recorded at
MSU Trevor Nichols Research Complex(Fennville)
Fennville, Michigan
2007

	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	77.5	53.1		**1**	88.3	62.3		**1**	80.1	51.2	
2	77.3	52.0		**2**	88.9	63.1		**2**	79.4	54.2	
3	77.9	60.9		**3**	88.5	56.6		**3**	82.5	58.9	
4	76.2	61.5	0.04	**4**	82.8	50.9		**4**	83.8	60.3	
5	83.0	59.8		**5**	77.9	61.8	0.86	**5**	91.2	61.6	
6	81.4	55.9		**6**	81.6	67.7		**6**	83.8	66.9	
7	86.1	53.2		**7**	86.1	70.9	1.06	**7**	80.2	68.4	0.03
8	91.0	73.4		**8**	88.8	71.0		**8**	78.4	53.8	
9	90.2	69.4		**9**	80.5	67.4		**9**	79.4	57.3	
10	88.9	65.3	0.02	**10**	86.6	61.3		**10**	67.0	53.2	0.28
11	72.4	59.4		**11**	87.9	60.9		**11**	67.4	51.7	0.03
12	75.2	54.9		**12**	82.3	66.3	0.04	**12**	66.3	44.2	
13	74.4	48.6		**13**	80.2	57.2		**13**	72.9	43.1	
14	78.1	52.0	0.09	**14**	78.3	55.9		**14**	64.9	47.6	
15	75.7	46.5		**15**	76.2	62.5	0.02	**15**	59.8	38.5	0.01
16	77.6	56.1		**16**	79.6	57.7		**16**	68.2	37.1	
17	78.1	64.0	0.26	**17**	75.2	52.4		**17**	73.1	45.9	
18	81.8	63.7		**18**	70.6	47.9	0.47	**18**	85.7	56.4	
19	76.2	58.6	0.04	**19**	65.2	53.5	1.48	**19**	75.9	54.9	
20	77.4	53.1		**20**	63.1	60.6	2.03	**20**	79.6	49.5	
21	79.1	47.1		**21**	79.0	60.0		**21**	85.9	60.9	
22	79.6	48.3		**22**	87.4	66.9	0.18	**22**	79.0	46.9	0.19
23	83.4	53.2		**23**	86.8	67.6	0.58	**23**	79.3	42.0	
24	80.3	55.5	0.02	**24**	78.9	68.0	0.13	**24**	90.6	58.5	
25	73.3	60.2	0.45	**25**	75.7	57.9	0.14	**25**	81.9	65.4	0.29
26	75.1	63.7	0.01	**26**	80.2	53.1		**26**	70.1	47.0	0.22
27	84.3	65.5	0.41	**27**	79.2	53.8		**27**	67.5	45.4	0.20
28	85.6	63.7		**28**	87.8	63.6		**28**	68.8	44.6	
29	86.2	57.9		**29**	82.7	66.2		**29**	74.4	40.9	
30	86.1	55.9		**30**	74.6	56.7		**30**	80.9	50.6	
31	92.3	60.0		**31**	76.8	50.0					

TEMPERATURE AND PRECIPITATION DATA

Fremont and Grant

Recorded at
City of Fremont
Fremont, Michigan
2007

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	61.3	42.6	0.37	**1**	64.7	50.1	0.97	**1**	81.0	62.5	
2	52.5	37.9		**2**	66.8	44.3		**2**	85.7	60.5	0.04
3	62.1	38.6	1.40	**3**	66.3	40.2		**3**	70.3	61.4	0.27
4	47.1	21.8	0.06	**4**	69.9	41.0		**4**	68.0	49.8	0.21
5	29.0	21.0		**5**	67.7	47.8		**5**	60.2	42.1	0.01
6	27.4	20.2	0.01	**6**	65.9	43.8		**6**	69.9	36.2	0.01
7	30.1	19.3	0.02	**7**	74.6	38.7		**7**	88.5	58.1	
8	32.0	23.7		**8**	80.8	52.3		**8**	82.1	50.7	0.01
9	38.0	25.4	0.01	**9**	75.4	54.9	0.44	**9**	73.6	43.2	
10	44.0	20.8		**10**	80.2	50.5		**10**	81.9	46.2	
11	37.2	29.2	0.06	**11**	82.4	50.0		**11**	88.0	51.6	
12	35.0	31.9	0.49	**12**	72.1	47.0		**12**	87.2	52.4	
13	47.8	29.0		**13**	67.3	37.3		**13**	91.7	55.9	
14	48.5	25.9		**14**	81.5	49.9		**14**	93.7	57.8	
15	56.4	24.6		**15**	76.1	N/A	0.14	**15**	91.3	62.4	
16	55.2	30.8		**16**	56.0	42.2		**16**	88.1	58.8	0.01
17	58.5	28.3		**17**	68.4	41.1		**17**	88.2	61.7	
18	47.1	40.4	0.03	**18**	68.3	33.7		**18**	88.6	66.0	0.01
19	66.8	36.2		**19**	71.6	50.3		**19**	75.2	58.8	0.43
20	71.7	34.7		**20**	66.2	48.1		**20**	78.8	48.7	
21	70.9	39.5		**21**	70.4	46.7		**21**	80.6	56.5	0.06
22	77.9	48.7		**22**	83.7	50.4		**22**	80.2	48.0	
23	71.1	43.8	0.08	**23**	84.4	55.5		**23**	80.8	51.7	
24	66.9	38.5	0.04	**24**	85.8	63.6		**24**	85.0	52.4	
25	60.5	45.8	0.01	**25**	72.6	48.8	0.25	**25**	86.8	58.4	
26	49.4	43.4	0.80	**26**	63.4	45.1	0.24	**26**	88.0	63.7	
27	48.1	42.6	0.13	**27**	67.4	51.2		**27**	84.8	63.7	
28	67.2	35.5		**28**	78.1	41.9		**28**	76.3	57.7	
29	72.4	37.5		**29**	84.3	52.5		**29**	80.7	49.8	
30	69.9	42.9	0.16	**30**	86.2	61.5		**30**	83.1	46.0	
				31	84.1	61.3					

TEMPERATURE AND PRECIPITATION DATA

Fremont and Grant

Recorded at
City of Fremont
Fremont, Michigan
2007

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	78.3	48.5		**1**	93.3	61.1		**1**	79.7	49.8	
2	76.1	48.1		**2**	88.5	61.5	0.01	**2**	78.8	52.9	
3	77.5	58.1	0.03	**3**	87.0	57.2		**3**	86.6	58.3	
4	81.3	61.8	2.02	**4**	81.8	50.9		**4**	84.8	57.3	
5	84.8	61.1		**5**	72.1	63.3		**5**	89.6	59.0	
6	83.7	57.0		**6**	81.8	67.0		**6**	83.7	69.3	
7	83.9	54.1		**7**	84.9	66.3		**7**	77.7	63.2	0.43
8	87.9	73.2		**8**	92.2	71.1		**8**	77.8	50.1	
9	84.8	69.1		**9**	78.9	64.9	0.02	**9**	80.0	53.9	
10	84.7	65.0		**10**	91.3	60.2		**10**	61.2	51.9	0.34
11	73.1	59.0		**11**	91.9	59.9		**11**	65.7	49.3	
12	72.3	53.4	0.28	**12**	88.7	64.4	0.62	**12**	60.9	44.9	
13	72.4	48.5	0.01	**13**	84.5	52.7		**13**	71.1	41.5	
14	76.0	54.1	0.54	**14**	76.6	54.7		**14**	62.3	43.7	0.05
15	74.7	47.9		**15**	76.5	64.5		**15**	57.6	35.1	
16	75.7	52.7	0.01	**16**	81.4	57.6		**16**	65.4	35.6	
17	77.8	60.6		**17**	74.8	54.3		**17**	73.0	43.7	
18	82.3	62.0	0.01	**18**	66.8	44.6	0.20	**18**	83.0	59.3	
19	78.8	57.7		**19**	59.5	54.1	0.24	**19**	76.7	56.2	
20	75.9	54.0		**20**	63.8	58.2	0.87	**20**	79.9	50.0	
21	79.5	45.1		**21**	68.0	57.9		**21**	83.4	58.4	
22	82.8	49.2		**22**	85.0	64.8	1.51	**22**	79.9	48.2	0.15
23	85.8	51.1		**23**	82.3	67.0	0.07	**23**	77.7	42.6	
24	81.8	60.0		**24**	75.7	68.5	0.06	**24**	86.6	56.8	
25	77.9	58.8		**25**	76.5	56.4	0.05	**25**	80.1	66.2	0.06
26	74.2	63.1		**26**	78.8	51.0		**26**	69.8	47.5	0.28
27	91.3	61.2		**27**	77.3	52.2		**27**	66.3	42.2	0.04
28	88.6	66.3		**28**	85.7	65.1		**28**	69.8	43.9	
29	89.3	57.6		**29**	81.1	63.0		**29**	73.2	41.2	
30	93.4	56.0		**30**	78.8	53.6		**30**	77.6	55.9	
31	96.0	59.4		**31**	80.8	48.4					

TEMPERATURE AND PRECIPITATION DATA

Hart

Recorded at
Asparagus Research Farm
Hart, Michigan
2007

	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	60.8	43.2	0.34	**1**	67.5	48.8	1.00	**1**	79.6	58.5	
2	50.1	37.3		**2**	59.0	40.7	0.01	**2**	84.2	60.4	0.01
3	56.6	38.1	0.76	**3**	67.8	39.9		**3**	74.2	62.6	0.08
4	39.9	21.4	0.05	**4**	71.1	41.0		**4**	63.8	48.3	0.32
5	29.9	21.4		**5**	69.3	49.0		**5**	60.2	38.4	0.01
6	26.6	20.2		**6**	66.6	45.6		**6**	68.3	34.9	0.03
7	28.4	19.7		**7**	75.0	44.3		**7**	87.7	59.0	
8	35.2	24.1	0.06	**8**	76.8	49.9		**8**	78.3	48.3	0.11
9	39.2	24.7		**9**	74.5	52.1	0.32	**9**	73.8	42.7	
10	45.1	21.3		**10**	76.3	46.5	0.01	**10**	81.2	49.0	
11	35.9	29.5	0.05	**11**	72.2	50.2		**11**	83.7	53.5	
12	34.7	31.3	0.14	**12**	65.5	44.0	0.01	**12**	83.3	55.6	
13	48.1	29.3		**13**	68.9	37.9		**13**	89.5	53.3	
14	52.1	26.8		**14**	81.0	51.0		**14**	88.5	55.8	
15	52.5	22.0		**15**	74.8	44.4	0.44	**15**	88.7	63.2	
16	53.9	30.5		**16**	55.1	40.2	0.01	**16**	87.2	57.9	
17	57.7	25.2		**17**	62.4	36.4		**17**	86.0	59.9	
18	47.0	38.9	0.13	**18**	65.8	30.9		**18**	88.7	70.1	0.07
19	62.6	34.0		**19**	72.5	48.8	0.04	**19**	74.1	56.6	0.57
20	65.7	35.4		**20**	59.9	40.9		**20**	78.1	46.3	
21	70.6	39.6		**21**	70.2	44.2	0.08	**21**	77.5	60.3	
22	77.1	56.5		**22**	82.6	54.8		**22**	76.8	47.9	
23	70.0	44.7	0.19	**23**	82.7	59.9		**23**	80.1	53.2	
24	63.8	39.5	0.02	**24**	85.6	62.2	0.05	**24**	80.0	52.6	
25	61.5	45.9		**25**	64.5	43.5	0.12	**25**	85.7	57.6	
26	51.0	43.4	0.72	**26**	66.5	41.9	0.13	**26**	87.9	64.5	
27	46.2	39.3	0.06	**27**	67.3	47.4		**27**	83.5	62.8	
28	65.8	34.7		**28**	71.6	40.1		**28**	72.9	53.3	
29	71.8	36.0		**29**	83.8	52.8		**29**	71.0	44.1	
30	69.3	41.0	0.10	**30**	86.5	64.2		**30**	76.9	40.8	
				31	82.7	63.4					

TEMPERATURE AND PRECIPITATION DATA

Hart

Recorded at
Asparagus Research Farm
Hart, Michigan
2007

	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	73.2	48.9		**1**	91.7	61.1		**1**	78.4	49.9	
2	73.8	50.6		**2**	89.7	66.0		**2**	79.4	54.7	
3	78.2	58.7	0.64	**3**	82.9	55.6		**3**	84.3	61.4	
4	78.7	61.5	0.61	**4**	81.9	52.4		**4**	85.7	61.4	
5	81.2	58.6	0.04	**5**	74.7	61.5		**5**	89.8	65.5	
6	77.1	53.9		**6**	79.7	64.5		**6**	82.7	67.5	
7	85.2	56.9		**7**	84.7	64.8	0.02	**7**	77.7	62.1	0.71
8	88.4	72.2		**8**	83.5	64.1		**8**	78.7	52.4	
9	84.3	70.3	0.04	**9**	81.3	60.4		**9**	76.3	49.8	
10	83.9	66.6	0.04	**10**	86.6	60.3		**10**	60.3	50.4	0.18
11	72.3	59.8		**11**	91.1	58.2		**11**	64.5	46.9	0.01
12	74.0	50.1	0.27	**12**	86.7	66.5	0.10	**12**	61.5	42.8	
13	69.3	48.5		**13**	79.2	51.3		**13**	70.9	42.8	
14	75.1	54.4	0.40	**14**	79.3	51.1		**14**	69.3	44.0	0.14
15	75.0	49.2		**15**	78.6	62.1		**15**	56.2	39.0	0.02
16	75.9	54.7	0.01	**16**	79.2	54.1		**16**	65.5	37.6	
17	79.7	58.4		**17**	73.5	55.0		**17**	73.4	48.5	
18	83.3	63.6	0.01	**18**	66.1	42.2	0.20	**18**	82.6	59.6	
19	74.5	56.9		**19**	59.1	53.8	0.32	**19**	76.5	52.8	
20	73.3	52.3		**20**	66.8	58.1	0.72	**20**	78.0	48.9	
21	73.4	43.7		**21**	69.0	58.1		**21**	83.8	59.3	
22	79.3	48.8		**22**	85.3	66.0	0.21	**22**	71.7	49.0	0.18
23	81.7	51.9		**23**	81.4	66.3	0.44	**23**	78.0	46.3	
24	75.7	58.1	0.01	**24**	75.5	68.4	0.03	**24**	85.6	58.8	
25	83.7	65.3		**25**	72.1	55.9	0.50	**25**	78.8	61.1	0.12
26	75.9	63.8		**26**	78.5	52.3		**26**	65.0	44.6	0.03
27	82.9	64.8		**27**	77.6	56.7		**27**	67.0	40.8	0.02
28	85.6	65.1		**28**	85.5	67.5		**28**	65.2	43.8	
29	84.8	58.1		**29**	77.0	60.5		**29**	73.9	42.6	
30	87.6	54.8		**30**	75.1	49.0		**30**	78.3	55.8	
31	88.4	59.0		**31**	76.9	44.6					

TEMPERATURE AND PRECIPITATION DATA

Hudsonville

Recorded at
Michigan Celery Cooperative
Hudsonville, Michigan
2007

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	65.9	45.4	0.45	**1**	64.2	50.6	0.27	**1**	80.8	64.9	
2	51.4	42.4		**2**	67.2	49.8		**2**	84.5	60.8	0.37
3	70.4	44.8	0.96	**3**	68.1	44.9	0.02	**3**	70.5	62.2	0.32
4	48.4	24.4	0.08	**4**	73.5	43.4		**4**	69.6	51.4	0.08
5	30.3	22.0	0.01	**5**	68.7	50.4		**5**	60.9	43.7	
6	28.0	22.1		**6**	65.8	45.9		**6**	70.4	37.9	
7	28.7	20.5	0.06	**7**	77.9	36.8		**7**	89.9	62.9	
8	32.8	24.2	0.01	**8**	80.0	56.5		**8**	82.1	51.0	0.13
9	40.1	28.5		**9**	74.9	56.9	0.31	**9**	73.7	45.2	
10	47.2	24.6		**10**	77.9	51.9		**10**	80.3	48.3	
11	38.2	29.9	0.53	**11**	80.2	51.2		**11**	83.8	52.7	
12	36.9	31.7	0.19	**12**	69.5	50.6		**12**	84.9	52.4	
13	46.6	30.9		**13**	69.1	38.2		**13**	90.6	56.4	
14	46.6	28.2		**14**	83.4	50.4		**14**	91.9	58.7	
15	55.3	24.7		**15**	76.5	54.8	0.31	**15**	89.2	61.3	
16	55.8	30.9		**16**	56.8	44.6		**16**	89.0	63.2	
17	61.0	28.9		**17**	67.0	42.8		**17**	87.9	62.6	
18	50.2	41.3		**18**	67.3	34.6		**18**	91.2	70.1	
19	65.1	37.5		**19**	73.3	52.4	0.01	**19**	77.3	57.2	0.29
20	67.9	35.6		**20**	68.2	50.3		**20**	77.7	51.2	
21	74.3	38.7		**21**	71.6	48.8		**21**	82.6	63.4	
22	82.2	48.3		**22**	83.9	54.9		**22**	77.7	53.7	
23	69.5	46.5		**23**	86.0	63.5		**23**	78.8	52.1	
24	68.1	40.1		**24**	86.1	67.6		**24**	81.1	53.2	
25	55.2	47.1	0.52	**25**	76.3	49.8	0.09	**25**	87.2	59.6	
26	53.5	44.7	0.69	**26**	65.6	49.5	0.55	**26**	88.3	64.4	
27	53.0	40.5	0.02	**27**	68.5	51.9	0.07	**27**	84.8	65.6	
28	64.9	36.1		**28**	78.8	44.0		**28**	76.7	62.1	
29	75.0	37.4		**29**	86.0	55.3		**29**	77.2	55.1	
30	70.6	51.3	0.61	**30**	86.8	65.0		**30**	81.2	47.7	
				31	84.4	63.9					

TEMPERATURE AND PRECIPITATION DATA

Hudsonville

Recorded at
Michigan Celery Cooperative
Hudsonville, Michigan
2007

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	76.2	57.5	0.08	**1**	92.5	61.1		**1**	82.8	51.0	
2	77.9	49.2		**2**	91.7	63.3		**2**	80.5	54.1	
3	79.5	62.7		**3**	88.6	58.1		**3**	85.3	60.6	
4	79.8	63.3	0.04	**4**	83.0	49.0		**4**	85.3	59.7	
5	84.8	60.1		**5**	73.4	62.3	0.24	**5**	89.9	63.9	
6	83.0	53.9		**6**	83.4	67.4		**6**	84.5	69.8	
7	86.3	52.8		**7**	84.9	71.3	0.62	**7**	81.2	68.8	0.14
8	91.9	73.0		**8**	90.3	72.2		**8**	79.3	53.1	
9	89.3	74.3		**9**	82.7	65.9	0.01	**9**	81.8	57.7	
10	90.0	66.8		**10**	87.9	61.9		**10**	64.2	53.5	0.49
11	73.3	58.4	0.01	**11**	88.9	59.3		**11**	67.3	51.6	0.01
12	74.9	52.2		**12**	84.6	66.1	0.47	**12**	62.6	45.0	
13	74.9	47.9		**13**	82.7	58.1		**13**	74.9	42.8	
14	77.5	53.8	0.20	**14**	80.3	55.8		**14**	62.6	47.9	
15	77.3	47.4		**15**	76.1	64.0	0.02	**15**	61.0	34.6	
16	77.2	53.7		**16**	79.7	59.8		**16**	68.4	37.0	
17	75.7	63.9	0.08	**17**	75.6	53.8		**17**	74.2	50.0	
18	82.5	60.2	0.01	**18**	70.6	44.7	0.28	**18**	85.1	57.6	
19	81.8	59.1		**19**	63.0	54.3	0.93	**19**	78.3	57.0	
20	78.3	51.2		**20**	63.0	59.5	2.16	**20**	79.3	50.5	
21	80.7	45.2		**21**	73.9	58.3		**21**	86.9	63.0	
22	82.9	49.2		**22**	86.9	67.6	0.46	**22**	78.4	48.4	0.35
23	85.7	51.4		**23**	86.2	67.5	0.29	**23**	78.9	42.4	
24	82.6	58.4	0.01	**24**	77.4	68.7	0.17	**24**	88.9	60.7	
25	75.8	58.3	0.02	**25**	77.7	57.8	0.04	**25**	82.0	66.3	0.05
26	75.7	64.7	0.02	**26**	80.0	52.3		**26**	71.2	49.5	0.03
27	87.0	65.5		**27**	78.6	52.7		**27**	68.5	43.7	0.03
28	83.6	64.0	0.24	**28**	88.1	65.1		**28**	70.2	43.6	0.01
29	87.5	58.5		**29**	86.3	67.1		**29**	74.8	39.8	
30	90.8	56.3		**30**	78.5	55.3		**30**	79.8	55.3	
31	94.3	60.5		**31**	80.6	50.4					

TEMPERATURE AND PRECIPITATION DATA

Imlay City

Recorded at
Lapeer USDA/NRCS Office
Lapeer, Michigan
2007

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	69.4	44.0	0.35	**1**	50.5	47.0	0.42	**1**	83.8	63.4	
2	53.5	35.8		**2**	64.0	44.9		**2**	89.0	59.5	
3	58.4	31.9	0.31	**3**	65.0	38.8		**3**	72.4	61.8	0.32
4	56.3	22.0	0.03	**4**	69.8	36.1		**4**	76.4	58.9	0.40
5	26.8	18.7	0.03	**5**	67.9	42.4		**5**	58.9	45.5	0.13
6	30.2	19.9	0.01	**6**	63.9	42.0		**6**	70.0	37.3	0.01
7	28.0	18.0	0.01	**7**	74.9	35.5		**7**	90.2	57.2	
8	31.4	22.6	0.01	**8**	85.6	52.1		**8**	85.1	54.8	0.06
9	40.0	19.7		**9**	67.2	57.6	1.01	**9**	78.0	45.6	
10	47.7	25.4		**10**	78.6	47.7		**10**	82.3	48.2	
11	39.9	27.4	0.35	**11**	80.0	50.6		**11**	82.2	52.3	
12	45.0	33.7	0.17	**12**	60.4	37.2		**12**	86.4	49.4	
13	49.0	28.7		**13**	67.4	29.8		**13**	91.6	53.5	
14	45.9	22.4		**14**	76.0	44.1	0.23	**14**	87.9	56.2	
15	51.9	27.7		**15**	84.4	52.5	1.02	**15**	82.9	56.8	
16	58.2	32.4		**16**	53.8	43.7	0.08	**16**	88.4	53.9	
17	60.5	33.0		**17**	61.5	36.2	0.03	**17**	87.7	64.8	
18	47.2	40.0	0.10	**18**	69.4	31.9		**18**	91.1	63.4	
19	63.2	36.7		**19**	74.6	39.5		**19**	79.9	60.5	1.02
20	72.7	31.9		**20**	60.1	36.4		**20**	78.2	50.5	
21	76.2	34.4		**21**	65.1	32.1		**21**	78.6	55.3	
22	82.1	45.1		**22**	84.7	46.3		**22**	74.7	47.8	
23	75.8	49.4		**23**	88.2	54.4		**23**	79.3	45.9	
24	66.4	39.7		**24**	89.2	56.1		**24**	84.1	49.4	
25	52.4	40.1	0.18	**25**	73.8	56.5	0.03	**25**	88.7	57.5	
26	52.8	-55.2	0.58	**26**	65.1	50.4	0.33	**26**	91.1	63.4	
27	55.2	44.6	0.01	**27**	74.6	48.9	0.14	**27**	85.4	68.5	0.12
28	69.2	43.4	0.03	**28**	76.9	41.7		**28**	76.0	54.5	
29	75.5	41.2		**29**	83.9	48.6		**29**	78.1	44.2	
30	70.1	48.2	0.01	**30**	89.5	56.2	0.10	**30**	78.7	46.5	
				31	88.3	62.0					

TEMPERATURE AND PRECIPITATION DATA

Imlay City

Recorded at
Lapeer USDA/NRCS Office
Lapeer, Michigan
2007

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	71.3	45.9		**1**	97.0	61.2		**1**	81.6	49.1	
2	76.8	40.0		**2**	93.7	62.9		**2**	80.9	51.2	
3	79.9	56.2		**3**	91.7	62.2		**3**	85.9	59.9	
4	78.9	61.5	0.22	**4**	85.9	55.0		**4**	83.3	54.2	
5	85.0	60.5	0.03	**5**	67.4	50.4	0.03	**5**	89.9	58.2	
6	83.5	55.0		**6**	84.4	66.5		**6**	85.9	59.3	
7	86.3	53.1		**7**	86.2	66.2	0.88	**7**	80.3	70.6	0.10
8	92.9	66.3		**8**	90.0	66.7		**8**	79.3	55.3	
9	92.1	69.8		**9**	75.7	63.8	1.00	**9**	76.9	59.4	
10	92.4	63.8	0.31	**10**	85.1	61.6		**10**	71.7	54.5	0.15
11	75.3	55.0	0.07	**11**	85.7	55.2		**11**	68.2	50.9	0.52
12	77.0	52.4		**12**	87.7	63.6	0.92	**12**	64.1	44.5	
13	76.4	49.7		**13**	82.1	50.6		**13**	73.0	39.0	
14	76.2	49.9	0.16	**14**	83.6	52.7		**14**	67.0	47.4	0.01
15	77.9	48.0		**15**	75.9	62.8		**15**	60.3	37.0	
16	80.5	50.6		**16**	82.5	58.6		**16**	67.0	32.9	
17	80.2	61.5	0.02	**17**	77.9	51.6		**17**	72.9	37.8	
18	86.6	60.2	0.01	**18**	72.7	41.7	0.01	**18**	83.6	49.9	
19	81.5	57.7	0.02	**19**	58.9	53.6	0.49	**19**	86.6	50.1	
20	76.2	51.6		**20**	62.8	56.6	0.93	**20**	78.7	49.1	
21	79.5	41.8		**21**	72.2	59.1		**21**	87.9	48.1	
22	82.7	43.4		**22**	89.2	62.8	0.39	**22**	74.8	45.0	0.01
23	83.6	48.0		**23**	87.7	62.9	0.04	**23**	77.7	37.8	
24	87.8	56.3		**24**	86.8	67.3	0.99	**24**	89.8	41.7	
25	80.6	60.5		**25**	78.0	62.6	0.05	**25**	84.6	65.2	0.34
26	80.9	53.6		**26**	79.3	51.7		**26**	70.8	58.3	0.01
27	87.2	62.4	0.16	**27**	80.2	50.8		**27**	72.3	50.4	
28	84.8	56.6		**28**	86.9	54.2		**28**	70.5	43.1	
29	87.0	53.4		**29**	90.9	62.4	0.42	**29**	73.5	37.6	
30	91.4	50.9		**30**	74.1	49.8		**30**	78.0	50.5	
31	97.0	58.5		**31**	79.8	46.3					

TEMPERATURE AND PRECIPITATION DATA

Momence

Recorded at
Stelle, Illinois Climate Network Station
Stelle, Illinois
2007

	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	64.9	43.4	0.34	**1**	85.8	50.5		**1**	83.0	59.8	0.07
2	71.1	40.1		**2**	64.4	47.1		**2**	77.6	63.2	0.11
3	67.0	33.0		**3**	71.6	47.1		**3**	75.3	61.3	0.15
4	33.2	26.7		**4**	68.3	50.1	0.01	**4**	70.6	56.6	0.15
5	40.8	25.4	0.03	**5**	74.7	53.1		**5**	65.4	47.8	0.25
6	35.6	22.9		**6**	69.7	50.4		**6**	75.9	43.6	0.02
7	31.5	20.8		**7**	83.8	43.0	0.02	**7**	88.6	67.0	0.07
8	37.5	25.5		**8**	84.1	58.0		**8**	76.7	54.8	
9	43.1	25.9		**9**	82.6	56.8	0.01	**9**	78.1	49.1	
10	54.0	25.0		**10**	84.4	52.9		**10**	78.5	52.4	
11	49.5	32.8	0.52	**11**	80.9	48.3		**11**	83.2	57.1	
12	38.1	32.6	0.29	**12**	70.1	44.5		**12**	82.9	61.7	
13	50.9	30.3	0.01	**13**	71.6	42.1	0.01	**13**	86.6	58.6	
14	43.0	32.2		**14**	90.0	47.4	0.01	**14**	88.0	62.0	
15	58.2	29.3		**15**	86.7	55.0	0.06	**15**	88.8	63.5	
16	62.4	30.1		**16**	67.1	45.1	0.01	**16**	90.2	61.6	
17	76.8	37.3		**17**	57.2	36.5		**17**	90.6	68.3	
18	56.3	35.5		**18**	71.0	35.3		**18**	82.7	61.9	
19	58.5	40.0		**19**	79.8	41.4		**19**	79.2	52.6	
20	69.4	36.6		**20**	77.7	46.0	0.01	**20**	82.3	51.3	
21	77.1	41.7		**21**	84.8	43.5		**21**	85.0	55.7	0.1
22	81.8	45.6		**22**	84.8	50.5		**22**	73.7	62.4	0.55
23	74.4	52.1		**23**	88.0	54.5		**23**	64.2	58.4	1.97
24	73.9	46.3		**24**	87.7	58.8	0.15	**24**	76.6	60.3	0.07
25	51.7	48.1	1.74	**25**	61.9	52.7	0.1	**25**	82.2	63.2	0.03
26	67.4	48.3	0.29	**26**	73.5	56.6	0.06	**26**	83.9	66.7	0.05
27	61.0	45.7	0.19	**27**	71.9	57.3	0.09	**27**	84.5	68.1	0.03
28	70.7	42.6		**28**	76.4	54.7	0.02	**28**	72.0	55.5	
29	82.1	45.9		**29**	83.9	60.4	0.03	**29**	71.9	51.8	0.01
30	87.0	51.5		**30**	84.5	61.4		**30**	75.3	55.0	
				31	75.7	62.0	1.35				

TEMPERATURE AND PRECIPITATION DATA

Momence

Recorded at
Stelle, Illinois Climate Network Station
Stelle, Illinois
2007

	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	78.3	53.2	0.02	**1**	87.8	60.1	0.01	**1**	77.4	54.3	
2	74.4	53.3		**2**	86.4	61.7		**2**	84.9	52.4	0.03
3	78.7	50.4	0.01	**3**	85.7	65	0.02	**3**	86.2	53.7	
4	83.4	64.1	0.72	**4**	77.7	61.2		**4**	90.7	54.9	0.01
5	82.8	65.9	0.05	**5**	85.2	65.9	0.54	**5**	89.2	60.3	
6	82.3	61.5		**6**	87.9	69.5	0.06	**6**	81.4	65.0	
7	83.8	58.1		**7**	89.8	74.5	0.06	**7**	85.2	67.5	0.04
8	86.7	64.7	0.02	**8**	84.5	67.6	0.01	**8**	80.9	62.3	
9	88.6	62.9		**9**	83.5	69.4	1.62	**9**	80.3	57.4	
10	83.4	64.5	0.02	**10**	84.3	67.5		**10**	80.0	56.6	0.19
11	73.7	57.6		**11**	85.4	61.1	0.01	**11**	72.9	46.1	0.07
12	78.2	54.3	0.01	**12**	87.0	65.3	0.02	**12**	69.4	40.2	
13	76.0	52.1		**13**	81.6	61.3		**13**	79.2	41.2	
14	82.2	50.9	0.01	**14**	82.8	59.1	0.16	**14**	65.7	39.0	
15	77.2	55.6		**15**	81.2	67.2	0.01	**15**	63.6	34.1	
16	80.7	53.8		**16**	77.6	65.5		**16**	71.3	42.0	
17	78.6	64.8	1.22	**17**	78.1	57.4		**17**	83.8	45.1	
18	83.5	65.1	1.31	**18**	69.7	54.3		**18**	87.8	53.9	
19	79.2	55.1	0.46	**19**	74.6	58.2	0.5	**19**	84.6	62.3	
20	72.5	52.9	0.01	**20**	72.4	68.3	0.27	**20**	85.6	58.5	
21	74.9	50.9	0.01	**21**	83.2	70.1		**21**	89.2	58.6	0.05
22	76.2	54.2	0.02	**22**	87.4	68.0	0.53	**22**	76.8	53.2	
23	78.7	52.6		**23**	87.4	67.1	0.24	**23**	87.4	50.0	
24	79.4	53.3	0.01	**24**	79.5	66.6	0.24	**24**	89.6	62.3	
25	80.6	60.6		**25**	76.9	61.8	0.15	**25**	82.5	67.9	
26	80.9	63	0.03	**26**	77.2	56.3		**26**	73.6	46.3	
27	77.7	66.1	0.07	**27**	80.4	54.2		**27**	75.8	42.3	
28	81.2	64.1	0.02	**28**	88.3	61.2		**28**	77.3	42.5	
29	81.1	58.7		**29**	86.9	62.8		**29**	81.0	44.3	
30	83.4	57.8		**30**	73.7	53.1		**30**	83.8	47.5	0.34
31	87.4	58.5		**31**	75.1	51.1					

Weed Control in Asparagus - Hart

Project Code: WC 120-07-01 **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	4/27/06	10:30 am	54/55	°F	Damp	8 SW	95	Foggy	Y

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/29	Asparagus			
5/29	FISB = field sandbur			
5/29	FIBW = field bindweed			
5/29	HOWE = horseweed			
5/29	RUTH = Russian thistle			
6/21	Asparagus			
6/21	FISB = field sandbur			
6/21	HOWE = horseweed			

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. 24 harvests between 5/5 and 6/13.

Weed Control in Asparagus - Hart

Dept. of Horticulture, MSU

Trial ID: WC 120-07-02 Study Director: Dr. Bernard Zandstra
Location: Hart Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA 5/29/07 RATING 1-10	FISB 5/29/07 RATING 1-10	FIBW 5/29/07 RATING 1-10	HOWE 5/29/07 RATING 1-10	RUTH 5/29/07 RATING 1-10	ASPA 6/21/07 RATING 1-10
1	diuron	80	WP	2	LB AI/A	PRE	A	1.3	8.7	9.0	3.0	4.7	1.3
2	linuron	50	DF	2	LB AI/A	PRE	A	1.3	9.3	7.0	1.0	7.7	1.7
3	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	1.3	10.0	9.0	1.7	5.0	1.0
4	flumioxazin	51	WDG	0.383	LB AI/A	PRE	A	1.0	4.7	10.0	1.0	10.0	1.0
5	halosulfuron	75	WG	0.047	LB AI/A	PRE	A	1.0	5.0	4.0	9.3	10.0	2.0
6	mesotrione	4	SC	0.188	LB AI/A	PRE	A	1.0	4.0	6.0	10.0	8.3	1.7
7	norfluazon	80	DF	3	LB AI/A	PRE	A	1.7	10.0	7.7	1.0	10.0	1.3
8	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	1.0	9.3	8.7	5.3	10.0	1.7
9	terbacil	80	WP	1	LB AI/A	PRE	A	1.7	10.0	9.3	10.0	10.0	2.0
10	Untreated							1.3	5.7	5.3	1.0	8.0	1.0
LSD (P=.05)								0.69	4.65	5.01	0.95	3.96	1.09
Standard Deviation								0.40	2.71	2.92	0.55	2.31	0.64
CV								31.87	35.38	38.39	12.79	27.59	43.32

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	FISB 6/21/07 RATING 1-10	HOWE 6/21/07 RATING 1-10	ASPA HARVEST KG/PLOT
1	diuron	80	WP	2	LB AI/A	PRE	A	10.0	2.3	2.982
2	linuron	50	DF	2	LB AI/A	PRE	A	9.7	2.3	3.566
3	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	10.0	3.7	3.489
4	flumioxazin	51	WDG	0.383	LB AI/A	PRE	A	5.0	4.7	2.542
5	halosulfuron	75	WG	0.047	LB AI/A	PRE	A	9.7	9.3	3.668
6	mesotrione	4	SC	0.188	LB AI/A	PRE	A	10.0	10.0	4.023
7	norfluazon	80	DF	3	LB AI/A	PRE	A	10.0	2.0	2.335
8	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	9.7	7.0	3.202
9	terbacil	80	WP	1	LB AI/A	PRE	A	10.0	10.0	3.317
10	Untreated							9.7	2.0	3.122
LSD (P=.05)								2.52	3.54	1.2039
Standard Deviation								1.47	2.06	0.7018
CV								15.67	38.65	21.76

Weed Control in Asparagus - Sandhill

Project Code: WC 120-07-03 **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	4/20/07	2:00 pm	66/56	°F	Dry	4 S	33	25% Cloudy	N
PO1	5/31/07	1:30 pm	89/70	°F	Dry	4 S	54	5% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/20	ASPA = asparagus			
4/20	QUGR = quackgrass	2-4″		few
5/31	QUGR = quackgrass	8-10″		
5/31	HANS = hairy nightshade			
5/31	SPKW = spotted knapweed			
5/31	WICA = wild carrot			
5/31	COMW = common milkweed			
6/18	QUGR = quackgrass			
6/18	COMW = common milkweed			
6/18	HANS = hairy nightshade			
6/18	SPKW = spotted knapweed			
6/18	WICA = wild carrot			

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. 19 harvests between 4/30 and 6/11.

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trial ID: WC 120-07-03 Study Director: Dr. Bernard Zandstra
Location: HTRC Sandhill Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA 5/31/07 RATING 1-10	QUGR 5/31/07 RATING 1-10	SPKW 5/31/07 RATING 1-10	WICA 5/31/07 RATING 1-10	ASPA 6/18/07 RATING 1-10	QUGR 6/18/07 RATING 1-10	SPKW 6/18/07 RATING 1-10	WICA 6/18/07 RATING 1-10
1	diuron	80	WP	1.2	LB AI/A	PRE	A	1.7	3.7	5.3	4.3	2.0	3.0	4.0	3.7
2	metribuzin	75	DF	0.5	LB AI/A	PRE	A	1.0	6.7	7.3	3.7	1.0	6.0	6.0	4.0
3	diuron	80	WP	1.2	LB AI/A	PRE	A	1.7	5.7	8.7	6.3	1.0	4.7	8.3	7.3
	metribuzin	75	DF	0.5	LB AI/A	PRE	A								
4	terbacil	80	WP	1.2	LB AI/A	PRE	A	2.0	9.3	9.7	10.0	2.3	10.0	9.7	9.3
5	flumioxazin	51	WDG	0.192	LB AI/A	PRE	A	2.0	4.7	5.3	6.0	2.3	5.0	3.0	3.7
6	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	1.0	6.7	2.3	1.7	1.3	5.0	3.0	1.7
7	halosulfuron	75	WG	0.047	LB AI/A	PRE	A	1.0	5.7	8.3	9.0	1.3	6.3	4.7	6.3
8	mesotrione	4	SC	0.094	LB AI/A	PRE	A	1.7	2.7	8.0	5.0	1.7	2.3	5.3	6.3
9	diuron	80	WP	1.2	LB AI/A	PRE	A	1.7	4.7	6.0	5.3	2.0	2.7	4.7	3.3
	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A								
10	clomazone	3	ME	1	LB AI/A	PRE	A	1.3	8.0	9.3	3.7	2.3	8.7	8.7	4.0
11	diuron	80	WP	1.2	LB AI/A	PRE	A	2.0	4.7	5.7	4.7	2.7	6.0	4.0	3.0
	mesotrione	4	SC	0.094	LB AI/A	PO1	B								
	COC	100	SL	1	% V/V	PO1	B								
	AMS	100	DF	2	% AI/V	PO1	B								
12	diuron	80	WP	1.2	LB AI/A	PRE	A	1.0	7.3	7.0	4.7	2.0	8.7	2.7	4.0
	carfentrazone	1.9	EW	0.03	LB AI/A	PO1	B								
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B								
	COC	100	SL	1	% V/V	PO1	B								
	AMS	100	DF	2	% AI/V	PO1	B								
LSD (P=.05)								0.82	3.74	3.55	4.28	0.93	3.23	3.64	3.85
Standard Deviation								0.48	2.21	2.09	2.53	0.55	1.91	2.15	2.28
CV								32.31	38.01	30.28	47.1	30.03	33.55	40.27	48.19

Weed Control in Asparagus - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA GOOD SPR TOTAL #	ASPA BAD SPR TOTAL #	ASPA GOOD SPR KG/PLOT	ASPA BAD SPR KG/PLOT
	Pest Name							ASPA	ASPA	ASPA	ASPA
	Rating Date										
	Rating Data Type							GOOD SPR	BAD SPR	GOOD SPR	BAD SPR
	Rating Unit							TOTAL #	TOTAL #	KG/PLOT	KG/PLOT
1	diuron	80	WP	1.2	LB AI/A	PRE	A	233.3	6.0	4.682	0.121
2	metribuzin	75	DF	0.5	LB AI/A	PRE	A	304.3	7.7	6.272	0.148
3	diuron	80	WP	1.2	LB AI/A	PRE	A	277.7	11.0	5.653	0.217
	metribuzin	75	DF	0.5	LB AI/A	PRE	A				
4	terbacil	80	WP	1.2	LB AI/A	PRE	A	268.7	12.0	5.424	0.220
5	flumioxazin	51	WDG	0.192	LB AI/A	PRE	A	249.3	11.3	5.118	0.225
6	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	305.7	9.3	6.136	0.173
7	halosulfuron	75	WG	0.047	LB AI/A	PRE	A	257.3	6.7	5.371	0.127
8	mesotrione	4	SC	0.094	LB AI/A	PRE	A	253.0	12.7	5.114	0.239
9	diuron	80	WP	1.2	LB AI/A	PRE	A	250.3	9.3	4.943	0.184
	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A				
10	clomazone	3	ME	1	LB AI/A	PRE	A	298.3	6.7	5.925	0.169
11	diuron	80	WP	1.2	LB AI/A	PRE	A	238.0	6.7	4.850	0.119
	mesotrione	4	SC	0.094	LB AI/A	PO1	B				
	COC	100	SL	1	% V/V	PO1	B				
	AMS	100	DF	2	% AI/V	PO1	B				
12	diuron	80	WP	1.2	LB AI/A	PRE	A	254.3	36.3	5.207	0.704
	carfentrazone	1.9	EW	0.03	LB AI/A	PO1	B				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B				
	COC	100	SL	1	% V/V	PO1	B				
	AMS	100	DF	2	% AI/V	PO1	B				
LSD (P=.05)								85.24	11.03	1.7062	0.2602
Standard Deviation								50.34	6.52	1.0076	0.1536
CV								18.93	57.63	18.69	69.67

Weed Control in Asparagus with Callisto - Sandhill

Project Code: WC 120-07-02 **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	4/20/07	2:00 pm	66/56	°F	Dry	4 S	33	25% cloudy	N
PO1	5/31/07	1:30 pm	89/70	°F	Dry	4 S	54	5% cloudy	N
POH	6/12/07	3:40 pm	85/82	°F	Dry	4 N	62	5% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/20	ASPA = asparagus			
4/20	QUGR = quackgrass	2-4″		few
5/31	QUGR = quackgrass	8-10″		
5/31	HANS = hairy nightshade			
5/31	SPKW = spotted knapweed			
5/31	WICA = wild carrot			
5/31	COMW = common milkweed			
6/12	QUGR = quackgrass	10-16″		moderate
6/12	COMW = common milkweed	20-30″		moderate
6/18	QUGR = quackgrass			
6/18	COMW = common milkweed			
6/18	HANS = hairy nightshade			
6/18	SPKW = spotted knapweed			
6/18	WICA = wild carrot			

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. 19 harvests between 4/30 and 6/11.

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trial ID: WC 120-07-01 Study Director: Dr. Bernard Zandstra
Location: Sandhill Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA 5/31/07 RATING 1-10	QUGR 5/31/07 RATING 1-10	HANS 5/31/07 RATING 1-10	SPKW 5/31/07 RATING 1-10	WICA 5/31/07 RATING 1-10	ASPA 6/18/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	2.0	8.0	7.3	9.0	7.3	4.3
	mesotrione	4	SC	0.094	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
	glyphosate	4.17	SL	1	LB AI/A	POH	C						
	mesotrione	4	SC	0.094	LB AI/A	POH	C						
	NIS	100	SL	0.25	% V/V	POH	C						
2	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	1.3	8.7	6.0	9.3	2.7	1.7
	mesotrione	4	SC	0.188	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
3	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	2.0	10.0	7.0	7.3	4.7	1.7
	mesotrione	4	SC	0.375	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
4	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	1.7	8.3	4.0	9.0	7.0	4.7
	mesotrione	4	SC	0.094	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
	glyphosate	4.17	SL	1	LB AI/A	POH	C						
	mesotrione	4	SC	0.188	LB AI/A	POH	C						
	NIS	100	SL	0.25	% V/V	POH	C						
5	diuron	80	WP	1	LB AI/A	PRE	A	1.7	7.7	8.0	8.3	5.3	2.0
	metribuzin	75	DF	0.5	LB AI/A	PRE	A						
6	s-metolachlor	7.62	EC	0.9	LB AI/A	PRE	A	2.7	5.7	9.0	7.0	6.0	2.3
	sulfentrazone	4	F	0.25	LB AI/A	PRE	A						
7	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	1.0	9.3	6.3	8.0	7.0	5.0
	mesotrione	4	SC	0.094	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
	glyphosate	4.17	SL	1	LB AI/A	POH	C						
	mesotrione	4	SC	0.375	LB AI/A	POH	C						
	NIS	100	SL	0.25	% V/V	POH	C						
8	Untreated					PRE	A	1.7	9.7	6.7	8.7	6.0	1.7
	linuron	50	DF	1	LB AI/A	PO1, POH	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1, POH	BC						
	NIS	100	SL	0.25	% V/V	PO1, POH	BC						
LSD (P=.05)								1.06	4.08	3.55	3.04	5.22	1.36
Standard Deviation								0.60	2.33	2.03	1.73	2.98	0.78
CV								34.43	27.67	29.88	20.81	51.85	26.58

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Pest Name							QUGR	COMW	HANS	SPKW	WICA	ASPA
Rating Date							6/18/07	6/18/07	6/18/07	6/18/07	6/18/07	
Rating Data Type							RATING	RATING	RATING	RATING	RATING	GOOD SPR
Rating Unit							1-10	1-10	1-10	1-10	1-10	TOTAL #
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	8.3	7.0	8.3	7.7	6.3	280.7
	mesotrione	4	SC	0.094	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
	glyphosate	4.17	SL	1	LB AI/A	POH	C						
	mesotrione	4	SC	0.094	LB AI/A	POH	C						
	NIS	100	SL	0.25	% V/V	POH	C						
2	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	9.7	7.3	3.0	6.3	2.7	283.7
	mesotrione	4	SC	0.188	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
3	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	9.0	5.7	2.0	4.0	3.3	179.0
	mesotrione	4	SC	0.375	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
4	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	10.0	8.0	4.7	9.3	4.0	191.0
	mesotrione	4	SC	0.094	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
	glyphosate	4.17	SL	1	LB AI/A	POH	C						
	mesotrione	4	SC	0.188	LB AI/A	POH	C						
	NIS	100	SL	0.25	% V/V	POH	C						
5	diuron	80	WP	1	LB AI/A	PRE	A	7.3	8.0	5.0	7.3	6.3	176.3
	metribuzin	75	DF	0.5	LB AI/A	PRE	A						
6	s-metolachlor	7.62	EC	0.9	LB AI/A	PRE	A	5.0	7.7	4.7	4.7	4.7	171.0
	sulfentrazone	4	F	0.25	LB AI/A	PRE	A						
7	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	8.7	6.3	6.7	8.0	5.7	249.0
	mesotrione	4	SC	0.094	LB AI/A	PRE	A						
	NIS	100	SL	0.25	% V/V	PRE	A						
	glyphosate	4.17	SL	1	LB AI/A	POH	C						
	mesotrione	4	SC	0.375	LB AI/A	POH	C						
	NIS	100	SL	0.25	% V/V	POH	C						
8	Untreated					PRE	A	10.0	9.0	7.0	8.7	5.0	262.7
	linuron	50	DF	1	LB AI/A	PO1, POH	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1, POH	BC						
	NIS	100	SL	0.25	% V/V	PO1, POH	BC						
LSD (P=.05)								3.91	3.39	4.27	5.33	4.69	92.68
Standard Deviation								2.23	1.93	2.44	3.04	2.68	52.92
CV								26.24	26.24	47.15	43.49	56.34	23.61

Weed Control in Asparagus with Callisto - Sandhill

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA BAD SPR TOTAL #	ASPA GOOD SPR KG/PLOT	ASPA BAD SPR KG/PLOT
Pest Name								ASPA	ASPA	ASPA
Rating Date										
Rating Data Type								BAD SPR	GOOD SPR	BAD SPR
Rating Unit								TOTAL #	KG/PLOT	KG/PLOT
1	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	10.0	6.105	0.233
	mesotrione	4	SC	0.094	LB AI/A	PRE	A			
	NIS	100	SL	0.25	% V/V	PRE	A			
	glyphosate	4.17	SL	1	LB AI/A	POH	C			
	mesotrione	4	SC	0.094	LB AI/A	POH	C			
	NIS	100	SL	0.25	% V/V	POH	C			
2	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	16.7	5.770	0.317
	mesotrione	4	SC	0.188	LB AI/A	PRE	A			
	NIS	100	SL	0.25	% V/V	PRE	A			
3	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	8.0	3.875	0.157
	mesotrione	4	SC	0.375	LB AI/A	PRE	A			
	NIS	100	SL	0.25	% V/V	PRE	A			
4	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	7.3	4.093	0.146
	mesotrione	4	SC	0.094	LB AI/A	PRE	A			
	NIS	100	SL	0.25	% V/V	PRE	A			
	glyphosate	4.17	SL	1	LB AI/A	POH	C			
	mesotrione	4	SC	0.188	LB AI/A	POH	C			
	NIS	100	SL	0.25	% V/V	POH	C			
5	diuron	80	WP	1	LB AI/A	PRE	A	6.3	3.614	0.142
	metribuzin	75	DF	0.5	LB AI/A	PRE	A			
6	s-metolachlor	7.62	EC	0.9	LB AI/A	PRE	A	5.3	3.196	0.092
	sulfentrazone	4	F	0.25	LB AI/A	PRE	A			
7	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	10.3	5.248	0.197
	mesotrione	4	SC	0.094	LB AI/A	PRE	A			
	NIS	100	SL	0.25	% V/V	PRE	A			
	glyphosate	4.17	SL	1	LB AI/A	POH	C			
	mesotrione	4	SC	0.375	LB AI/A	POH	C			
	NIS	100	SL	0.25	% V/V	POH	C			
8	Untreated					PRE	A	15.0	5.214	0.385
	linuron	50	DF	1	LB AI/A	PO1, POH	BC			
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1, POH	BC			
	NIS	100	SL	0.25	% V/V	PO1, POH	BC			
LSD (P=.05)								8.30	2.3398	0.1279
Standard Deviation								4.74	1.3360	0.0730
CV								47.96	28.8	35.0

Weed Control in Transplanted Asparagus - Hart

Project Code: WC 120-07-04 **Location: Hart, MI Res. Station**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Asparagus **Variety: Millennium**
Planting Method: Transplant **Planting Date: 6/21/07**
Spacing: 12 IN **Row Spacing: 4.5 FT**
Tillage Type: Conventional **Study Design: RCB** **Replications: 4**
Plot Size: 4 ft wide x 50 ft long

Soil Type: Spinks Loamy Fine Sand **OM: 3.3%** **pH: 5.5**
Sand: 77% **Silt: 19%** **Clay: 4%** **CEC: 11**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	6/21/07	1:30 pm	75/88	°F	Dry	8 S	33	10% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
7/12	Asparagus			
7/12	COLQ = common lambsquarters			
7/12	RRPW = redroot pigweed			
8/17	Asparagus			
8/17	STGR = stinkgrass			
8/17	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. Ferns were harvested and weighed 10/23/07.

Weed Control in Transplanted Asparagus - Hart

Dept. of Horticulture, MSU

Trial ID: WC 120-07-04 Study Director: Dr. Bernard Zandstra
Location: Hart Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA 7/12/07 RATING 1-10	COLQ 7/12/07 RATING 1-10	RRPW 7/12/07 RATING 1-10	ASPA 8/17/07 RATING 1-10	STGR 8/17/07 RATING 1-10	RSFI 8/17/07 RATING 1-10
1	diuron	80	WP	1	LB AI/A	PRE	A	1.3	9.5	7.3	1.8	9.0	7.8
2	linuron	50	DF	1	LB AI/A	PRE	A	1.3	10.0	8.5	1.5	8.8	7.3
3	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	1.0	7.3	7.5	1.3	9.3	9.3
4	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	2.5	9.0	8.5	2.8	9.0	9.5
5	halosulfuron	75	WG	0.047	LB AI/A	PRE	A	1.3	10.0	8.8	1.5	7.0	7.8
6	mesotrione	4	SC	0.094	LB AI/A	PRE	A	3.0	10.0	9.0	6.8	7.5	7.5
7	norfluazon	80	DF	3	LB AI/A	PRE	A	1.3	9.8	8.0	1.5	9.3	7.3
8	sulfentrazone	4	F	0.25	LB AI/A	PRE	A	3.0	9.5	9.3	3.0	7.8	8.3
9	napropamide	50	DF	2	LB AI/A	PRE	A	1.0	8.3	6.8	1.5	10.0	10.0
10	Untreated							1.0	1.0	1.0	1.5	9.0	10.0
LSD (P=.05)								0.62	1.41	1.67	1.14	2.77	4.00
Standard Deviation								0.43	0.97	1.15	0.78	1.91	2.76
CV								25.82	11.51	15.48	34.09	22.06	32.64

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ASPA 10/23/07 FERN #/PLOT	ASPA 10/23/07 FERN KG/PLOT
1	diuron	80	WP	1	LB AI/A	PRE	A	24.3	0.35
2	linuron	50	DF	1	LB AI/A	PRE	A	24.0	0.24
3	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	23.8	0.39
4	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	24.3	0.31
5	halosulfuron	75	WG	0.047	LB AI/A	PRE	A	25.3	0.40
6	mesotrione	4	SC	0.094	LB AI/A	PRE	A	17.3	0.06
7	norfluazon	80	DF	3	LB AI/A	PRE	A	24.3	0.41
8	sulfentrazone	4	F	0.25	LB AI/A	PRE	A	22.3	0.26
9	napropamide	50	DF	2	LB AI/A	PRE	A	23.8	0.41
10	Untreated							23.0	0.25
LSD (P=.05)								3.77	0.16
Standard Deviation								2.60	0.11
CV								11.2	36.3

Weed Control Snap Bean - HTRC

Project Code: WC 125-07-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Snap Bean **Variety: Bush Blue Lake 156**
Planting Method: Seeded **Planting Date: 5/14/07**
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	5/14/07	11:30 am	69/52	°F	Dry	5 SE	53	100% cloudy	N
PRE	5/15/07	8:00 am	70/61	°F	Dry	6 SW	53	20% cloudy	N
PO1	6/11/07	9:00 am	82/88	°F	Dry	4 NE	54	60% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/11	SNBE = snap bean		2 trifol.	
6/11	GRFT = green foxtail	1-2″		few
6/11	YEFT = yellow foxtail	1-3″		moderate
6/11	CORW = common ragweed	1-3″		many
6/11	RRPW = redroot pigweed	1-3″		few

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 Snap Bean - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 125-07-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	SNBE 6/11/07 RATING 1-10	BYGR 6/11/07 RATING 1-10	GRFT 6/11/07 RATING 1-10	LACG 6/11/07 RATING 1-10	COLQ 6/11/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	2.0	10.0	10.0	10.0	9.3
2	Prefix			1QT/A		PRE	B	2.3	10.0	10.0	10.0	9.7
	s-metolachlor +fomesafen											
3	fomesafen	2	EC	0.25	LB AI/A	PRE	B	1.3	8.7	8.0	10.0	9.3
4	dimethenamid-P	6	EC	0.66	LB AI/A	PRE	B	2.3	10.0	10.0	10.0	9.7
5	pendimethalin	3.8	CS	1.5	LB AI/A	PPI	A	1.7	6.0	6.7	9.7	9.0
6	pendimethalin	3.8	CS	1.5	LB AI/A	PRE	B	2.3	9.3	8.3	10.0	10.0
7	clomazone	3	ME	0.25	LB AI/A	PRE	B	1.0	9.0	8.7	9.0	9.7
8	halosulfuron	75	WG	0.023	LB AI/A	PRE	B	2.0	8.0	4.7	9.0	10.0
9	trifluralin	4	EC	0.75	LB AI/A	PPI	A	2.0	8.3	7.0	10.0	7.7
10	Strategy	2.1	SE	1.05	LB AI/A	PRE	B	2.3	9.7	9.3	9.7	10.0
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	2.0	10.0	10.0	10.0	9.3
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
	NIS	100	SL	0.25	% V/V	PO1	C					
12	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	2.0	10.0	10.0	10.0	10.0
	imazamox	1	AS	0.032	LB AI/A	PO1	C					
13	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	1.3	10.0	10.0	10.0	9.3
	imazamox	1	AS	0.032	LB AI/A	PO1	C					
	bentazon	4	WS	0.25	LB AI/A	PO1	C					
	COC	100	SL	1	% V/V	PO1	C					
	UAN	28	SL	2.5	% V/V	PO1	C					
14	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	1.0	10.0	10.0	10.0	9.3
	acifluorfen	2	L	0.38	LB AI/A	PO1	C					
15	EPTC	7	EC	3	LB AI/A	PPI	A	1.3	9.0	9.7	9.7	9.7
	trifluralin	4	EC	0.75	LB AI/A	PPI	A					
LSD (P=.05)								0.82	1.47	1.11	0.75	1.29
Standard Deviation								0.49	0.88	0.66	0.45	0.77
CV								27.38	9.58	7.53	4.56	8.15

Weed Control Snap Bean - HTRC

Dept. of Horticulture, MSU

Pest Name							CORW	EBNS	RRPW	SNBE	GRFT
Rating Date							6/11/07	6/11/07	6/11/07	6/15/07	6/15/07
Rating Data Type							RATING	RATING	RATING	RATING	RATING
Rating Unit							1-10	1-10	1-10	1-10	1-10
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code				
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	8.0	10.0	10.0	1.7	10.0
2	Prefix			1 QT/A		PRE	B	10.0	10.0	10.0	2.0	9.7
	s-metolachlor +fomesafen											
3	fomesafen	2	EC	0.25	LB AI/A	PRE	B	10.0	10.0	10.0	1.0	4.7
4	dimethenamid-P	6	EC	0.66	LB AI/A	PRE	B	9.7	10.0	10.0	2.7	9.7
5	pendimethalin	3.8	CS	1.5	LB AI/A	PPI	A	5.3	10.0	10.0	1.3	3.3
6	pendimethalin	3.8	CS	1.5	LB AI/A	PRE	B	5.3	10.0	10.0	2.0	7.7
7	clomazone	3	ME	0.25	LB AI/A	PRE	B	9.0	10.0	9.3	1.0	6.3
8	halosulfuron	75	WG	0.023	LB AI/A	PRE	B	10.0	5.0	10.0	1.0	1.3
9	trifluralin	4	EC	0.75	LB AI/A	PPI	A	7.0	10.0	8.0	1.3	2.3
10	Strategy	2.1	SE	1.05	LB AI/A	PRE	B	9.3	10.0	9.3	2.3	8.0
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	8.3	10.0	10.0	3.0	9.7
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
	NIS	100	SL	0.25	% V/V	PO1	C					
12	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	8.7	10.0	10.0	2.3	10.0
	imazamox	1	AS	0.032	LB AI/A	PO1	C					
13	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	6.3	10.0	10.0	1.7	10.0
	imazamox	1	AS	0.032	LB AI/A	PO1	C					
	bentazon	4	WS	0.25	LB AI/A	PO1	C					
	COC	100	SL	1	% V/V	PO1	C					
	UAN	28	SL	2.5	% V/V	PO1	C					
14	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	8.7	10.0	10.0	1.7	10.0
	acifluorfen	2	L	0.38	LB AI/A	PO1	C					
15	EPTC	7	EC	3	LB AI/A	PPI	A	8.7	8.3	10.0	1.0	8.7
	trifluralin	4	EC	0.75	LB AI/A	PPI	A					
LSD (P=.05)								2.11	2.23	0.55	0.72	1.75
Standard Deviation								1.26	1.33	0.33	0.43	1.05
CV								15.23	13.94	3.36	24.86	14.12

Weed Control Snap Bean - HTRC

Dept. of Horticulture, MSU

Pest Name							COLQ	CORW	EBNS	SNBE	SNBE
Rating Date							6/15/07	6/15/07	6/15/07	7/19/07	7/19/07
Rating Data Type							RATING	RATING	RATING	PLANT	BEAN
Rating Unit							1-10	1-10	1-10	KG/PLOT	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code				
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	9.0	7.0	9.3	7.25	7.09
2	Prefix			1 QT/A		PRE	B	9.7	9.7	10.0	9.23	9.62
	s-metolachlor +fomesafen											
3	fomesafen	2	EC	0.25	LB AI/A	PRE	B	9.3	10.0	10.0	8.69	7.57
4	dimethenamid-P	6	EC	0.66	LB AI/A	PRE	B	9.7	8.3	10.0	8.93	10.39
5	pendimethalin	3.8	CS	1.5	LB AI/A	PPI	A	6.3	3.0	8.3	5.21	5.32
6	pendimethalin	3.8	CS	1.5	LB AI/A	PRE	B	10.0	4.0	10.0	5.56	5.73
7	clomazone	3	ME	0.25	LB AI/A	PRE	B	8.0	7.7	10.0	9.21	8.43
8	halosulfuron	75	WG	0.023	LB AI/A	PRE	B	10.0	10.0	1.7	4.08	3.19
9	trifluralin	4	EC	0.75	LB AI/A	PPI	A	4.7	3.7	9.0	4.57	3.84
10	Strategy	2.1	SE	1.05	LB AI/A	PRE	B	9.0	8.3	10.0	6.97	7.24
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	9.7	9.0	10.0	8.87	8.42
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
	NIS	100	SL	0.25	% V/V	PO1	C					
12	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	9.0	7.7	10.0	7.85	7.38
	imazamox	1	AS	0.032	LB AI/A	PO1	C					
13	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	10.0	8.7	10.0	10.95	11.71
	imazamox	1	AS	0.032	LB AI/A	PO1	C					
	bentazon	4	WS	0.25	LB AI/A	PO1	C					
	COC	100	SL	1	% V/V	PO1	C					
	UAN	28	SL	2.5	% V/V	PO1	C					
14	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	B	10.0	9.3	10.0	8.99	9.66
	acifluorfen	2	L	0.38	LB AI/A	PO1	C					
15	EPTC	7	EC	3	LB AI/A	PPI	A	9.0	7.7	7.3	9.03	9.87
	trifluralin	4	EC	0.75	LB AI/A	PPI	A					
LSD (P=.05)								2.63	2.01	2.29	2.134	2.457
Standard Deviation								1.57	1.20	1.37	1.276	1.470
CV								17.66	15.81	15.14	16.59	19.1

Weed Control in Beets, Swiss Chard and Spinach - HTRC

Project Code: WC 109-07-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Spinach, Red Beet, Sugar Beet, Swiss Chard **Variety: See notes**
Planting Method: Seeded **Planting Date: 4/28/07**
Spacing: 3 IN **Row Spacing: 14 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 7 ft wide x 30 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
PRE	4/30/07	11:00 am	64/57	°F	Dry	2 NE	40	Clear	N
PO1	5/31/07	9:30 am	74/68	°F	Dry	3 S	67	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/31	REBE = Red beet	3-6″		
5/31	SPIN = Spinach	4-6″		
5/31	SUBE = Sugar beet	4-6″		
5/31	SWCH = Swiss chard	3-6″		
5/31	GRFT = green foxtail	2-4″		moderate
5/31	COLQ = common lambsquarters	2-4″		moderate
5/31	LATH = ladysthumb	2-4″		moderate
5/31	RRPW = redroot pigweed	2-4″		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. 1 row red beets, 1 row sugar beets, 2 rows spinach, 1 row Swiss chard
4. Red beet – Detroit Dark Red, Sugar beet – Crystal 693, Swiss chard – Giant Fordhook, Spinach – Unipack 151

Weed Control in Beets, Swiss Chard and Spinach - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 109-07-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	REBE 5/31/07 RATING 1-10	CHARD 5/31/07 RATING 1-10	SPIN 5/31/07 RATING 1-10	SUBE 5/31/07 RATING 1-10	GRFT 5/31/07 RATING 1-10	COLQ 5/31/07 RATING 1-10
1	pyrazon	68	DF	3	LB AI/A	PRE	B	1.7	4.0	3.7	1.0	7.0	5.3
2	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	B	1.7	4.3	3.3	2.0	10.0	8.0
3	ethofumesate	4	SC	1	LB AI/A	PRE	B	1.3	4.0	6.0	2.0	10.0	8.7
4	cycloate	6	EC	3	LB AI/A	PRE	A	2.0	4.0	2.7	2.0	10.0	8.0
5	pyrazon	68	DF	3	LB AI/A	PRE	B	2.3	4.7	3.7	2.3	9.3	8.3
	triflusulfuron	50	WDG	0.016	LB AI/A	PO1	C						
	phenmedipham	1.3	L	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
6	pyrazon	68	DF	3	LB AI/A	PRE	B	2.7	5.7	2.7	2.0	9.7	8.3
	clopyralid	3	EC	0.125	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
7	pyrazon	68	DF	3	LB AI/A	PRE	B	1.7	4.7	3.0	1.0	8.3	6.3
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
8	dimethenamid-P	6	EC	0.5	LB AI/A	PRE	B	2.7	4.7	5.3	2.3	10.0	8.3
9	ethofumesate	4	SC	1	LB AI/A	PRE	B	1.0	5.3	6.0	1.3	9.3	8.7
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
10	Untreated					PRE	B	1.0	3.7	2.0	1.3	1.0	1.0
	ethofumesate	4	SC	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
	s-metolachlor	7.62	EC	0.95	LB AI/A	PO1	C						
LSD (P=.05)								1.28	2.74	2.21	1.32	2.09	2.22
Standard Deviation								0.75	1.60	1.29	0.77	1.22	1.29
CV								41.55	35.55	33.64	44.27	14.41	18.2

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	Appl Code	LATH 5/31/07 RATING 1-10	RRPW 5/31/07 RATING 1-10	REBE 6/8/07 RATING 1-10	CHARD 6/8/07 RATING 1-10	SPIN 6/8/07 RATING 1-10	SUBE 6/8/07 RATING 1-10
1	pyrazon	68	DF	3	LB AI/A	PRE	B	5.7	6.7	2.0	3.3	3.3	1.0
2	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	B	8.7	9.3	1.3	4.3	3.3	1.0
3	ethofumesate	4	SC	1	LB AI/A	PRE	B	8.7	9.0	1.3	2.3	5.3	2.0
4	cycloate	6	EC	3	LB AI/A	PRE	A	6.3	4.7	1.7	5.0	4.3	2.0
5	pyrazon	68	DF	3	LB AI/A	PRE	B	9.3	9.0	1.7	5.7	6.3	1.7
	triflusulfuron	50	WDG	0.016	LB AI/A	PO1	C						
	phenmedipham	1.3	L	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
6	pyrazon	68	DF	3	LB AI/A	PRE	B	9.7	9.7	2.0	3.7	3.3	2.0
	clopyralid	3	EC	0.125	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
7	pyrazon	68	DF	3	LB AI/A	PRE	B	8.0	8.0	1.3	2.3	4.0	1.0
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
8	dimethenamid-P	6	EC	0.5	LB AI/A	PRE	B	9.3	10.0	2.3	3.3	3.3	1.3
9	ethofumesate	4	SC	1	LB AI/A	PRE	B	9.7	9.7	1.7	3.3	4.7	1.3
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
10	Untreated					PRE	B	1.0	1.0	3.3	5.3	6.0	2.3
	ethofumesate	4	SC	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
	s-metolachlor	7.62	EC	0.95	LB AI/A	PO1	C						
LSD (P=.05)								2.78	2.67	1.72	3.08	2.80	1.19
Standard Deviation								1.62	1.56	1.00	1.79	1.63	0.69
CV								21.23	20.2	53.67	46.4	37.09	44.12

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	GRFT 6/8/07 RATING 1-10	COLQ 6/8/07 RATING 1-10	LATH 6/8/07 RATING 1-10	RRPW 6/8/07 RATING 1-10	REBE 6/11/07 RATING 1-10	CHARD 6/11/07 RATING 1-10
1	pyrazon	68	DF	3	LB AI/A	PRE	B	4.0	8.0	7.7	7.3	2.0	3.0
2	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	B	10.0	7.7	7.7	9.0	1.7	3.7
3	ethofumesate	4	SC	1	LB AI/A	PRE	B	9.7	8.0	8.0	8.7	1.7	2.3
4	cycloate	6	EC	3	LB AI/A	PRE	A	7.3	8.0	6.0	4.0	2.3	4.0
5	pyrazon	68	DF	3	LB AI/A	PRE	B	10.0	9.7	9.7	9.3	2.0	3.7
	triflusulfuron	50	WDG	0.016	LB AI/A	PO1	C						
	phenmedipham	1.3	L	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
6	pyrazon	68	DF	3	LB AI/A	PRE	B	10.0	8.3	9.0	9.7	2.3	4.0
	clopyralid	3	EC	0.125	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
7	pyrazon	68	DF	3	LB AI/A	PRE	B	9.0	8.3	9.3	9.3	1.3	2.0
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
8	dimethenamid-P	6	EC	0.5	LB AI/A	PRE	B	9.7	7.7	8.7	9.3	2.0	3.3
9	ethofumesate	4	SC	1	LB AI/A	PRE	B	10.0	9.0	9.3	9.7	1.0	2.7
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
10	Untreated					PRE	B	7.7	6.3	6.3	7.7	2.7	5.7
	ethofumesate	4	SC	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
	s-metolachlor	7.62	EC	0.95	LB AI/A	PO1	C						
LSD (P=.05)								2.92	2.07	2.43	3.38	1.79	3.40
Standard Deviation								1.70	1.21	1.42	1.97	1.04	1.98
CV								19.5	14.89	17.36	23.47	54.92	57.66

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	Appl Code	SPIN 6/11/07 RATING 1-10	SUBE 6/11/07 RATING 1-10	GRFT 6/11/07 RATING 1-10	COLQ 6/11/07 RATING 1-10	LATH 6/11/07 RATING 1-10	RRPW 6/11/07 RATING 1-10
1	pyrazon	68	DF	3	LB AI/A	PRE	B	3.0	2.0	4.7	6.0	6.0	5.7
2	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	B	3.3	1.7	10.0	7.3	5.7	8.7
3	ethofumesate	4	SC	1	LB AI/A	PRE	B	5.3	2.0	9.7	6.0	7.0	8.0
4	cycloate	6	EC	3	LB AI/A	PRE	A	5.0	1.7	9.3	7.7	5.3	4.0
5	pyrazon	68	DF	3	LB AI/A	PRE	B	6.7	1.3	10.0	10.0	10.0	9.3
	triflusulfuron	50	WDG	0.016	LB AI/A	PO1	C						
	phenmedipham	1.3	L	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
6	pyrazon	68	DF	3	LB AI/A	PRE	B	2.3	1.7	10.0	8.3	9.7	9.3
	clopyralid	3	EC	0.125	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
7	pyrazon	68	DF	3	LB AI/A	PRE	B	3.7	1.0	9.0	8.0	8.3	9.0
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
8	dimethenamid-P	6	EC	0.5	LB AI/A	PRE	B	3.0	1.3	10.0	6.0	7.7	9.0
9	ethofumesate	4	SC	1	LB AI/A	PRE	B	4.3	1.0	10.0	8.0	8.3	9.3
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
10	Untreated					PRE	B	6.0	2.0	9.0	8.3	7.7	8.3
	ethofumesate	4	SC	0.5	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
	s-metolachlor	7.62	EC	0.95	LB AI/A	PO1	C						
LSD (P=.05)								2.42	1.45	1.94	2.71	2.69	3.34
Standard Deviation								1.41	0.85	1.13	1.58	1.57	1.95
CV								33.02	53.97	12.31	20.85	20.71	24.12

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	SPINACH 6/11/07 HARVEST KG/PLOT	REBE 7/16/07 NUMBER #/PLOT	REBE 7/16/07 ROOT KG/PLOT	REBE 7/16/07 LEAF KG/PLOT	CHARD 7/20/07 HARVEST KG/PLOT
1	pyrazon	68	DF	3	LB AI/A	PRE	B	1.31	65.0	5.55	2.69	1.01
2	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	B	1.49	78.7	7.75	3.92	2.13
3	ethofumesate	4	SC	1	LB AI/A	PRE	B	0.52	84.3	8.27	4.07	2.26
4	cycloate	6	EC	3	LB AI/A	PRE	A	1.33	59.7	3.86	2.12	0.48
5	pyrazon	68	DF	3	LB AI/A	PRE	B	0.15	81.3	8.06	4.39	3.23
	triflusulfuron	50	WDG	0.016	LB AI/A	PO1	C					
	phenmedipham	1.3	L	0.5	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
6	pyrazon	68	DF	3	LB AI/A	PRE	B	1.83	74.3	6.87	3.38	2.31
	clopyralid	3	EC	0.125	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
7	pyrazon	68	DF	3	LB AI/A	PRE	B	1.24	72.7	8.01	4.18	2.92
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
8	dimethenamid-P	6	EC	0.5	LB AI/A	PRE	B	1.34	75.3	7.17	3.70	3.63
9	ethofumesate	4	SC	1	LB AI/A	PRE	B	0.69	81.0	8.72	4.11	4.08
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
10	Untreated					PRE	B	0.68	44.3	3.94	2.04	0.96
	ethofumesate	4	SC	0.5	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
	s-metolachlor	7.62	EC	0.95	LB AI/A	PO1	C					
LSD (P=.05)								1.029	23.29	4.869	2.368	2.923
Standard Deviation								0.600	13.57	2.838	1.380	1.704
CV								56.71	18.94	41.61	39.87	74.09

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	Appl Code		
Pest Name								SUBE	SUBE
Rating Date								10/8/07	10/8/07
Rating Data Type								HARVEST	HARVEST
Rating Unit								#/PLOT	KG/PLOT
1	pyrazon	68	DF	3	LB AI/A	PRE	B	58.0	23.727
2	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	B	49.7	31.903
3	ethofumesate	4	SC	1	LB AI/A	PRE	B	61.0	23.327
4	cycloate	6	EC	3	LB AI/A	PRE	A	63.0	30.447
5	pyrazon	68	DF	3	LB AI/A	PRE	B	63.0	50.973
	triflusulfuron	50	WDG	0.016	LB AI/A	PO1	C		
	phenmedipham	1.3	L	0.5	LB AI/A	PO1	C		
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C		
6	pyrazon	68	DF	3	LB AI/A	PRE	B	63.0	51.527
	clopyralid	3	EC	0.125	LB AI/A	PO1	C		
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C		
7	pyrazon	68	DF	3	LB AI/A	PRE	B	70.0	49.300
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C		
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C		
8	dimethenamid-P	6	EC	0.5	LB AI/A	PRE	B	64.7	39.720
9	ethofumesate	4	SC	1	LB AI/A	PRE	B	73.0	51.520
	ethofumesate	4	SC	0.33	LB AI/A	PO1	C		
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C		
10	Untreated					PRE	B	71.3	35.533
	ethofumesate	4	SC	0.5	LB AI/A	PO1	C		
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C		
	s-metolachlor	7.62	EC	0.95	LB AI/A	PO1	C		
LSD (P=.05)								15.07	23.6250
Standard Deviation								8.74	13.7718
CV								13.73	35.5

Weed Control Cabbage and Chinese Cabbage - HTRC

Project Code: WC 114-07-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Green and Chinese Cabbage **Variety: Morris and Optiko**
Planting Method: Transplant **Planting Date: 5/22/07**
Spacing: 20″ **Row Spacing: 36 IN**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 6 ft wide x 30 ft long

Soil Type: Marlette Sandy Loam **OM: 2.5%** **pH: 6.8**
Sand: 46% **Silt: 33%** **Clay: 20%** **CEC: 7.1**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRT	5/22/07	10:30 am	76/57	°F	Dry	2 S	58	Clear	N
POT	5/23/07	11:30 am	82/63	°F	Dry	5 S	49	Clear	N
PO1	6/28/07	1:30 pm	74/77	°F	Moist	3 E	66	80% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/12	Cabbage	6-8″		
6/12	Chinese cabbage	6-8″		
6/12	GRFT = green foxtail			
6/12	LATH = ladysthumb			
6/12	RRPW = redroot pigweed			
6/28	Cabbage	8-12″		
6/28	Chinese cabbage	8-12″		
6/28	BYGR = barnyardgrass	6-8″		few
6/28	CORW = common ragweed	6-8″		few
6/28	LATH = ladysthumb	4-6″		moderate
6/28	RRPW = redroot pigweed	6-8″		few
7/2	GRFT = green foxtail			
7/2	COPU = common purslane			
7/2	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. **One row for each crop/plot**
4. **Green cabbage harvested 4 times, all mature heads each harvest.**
5. **Chinese cabbage harvested 4 times, all mature heads each harvest.**

Weed Control Cabbage and Chinese Cabbage - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 114-07-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CABBAGE 6/12/07 RATING 1-10	CHI CAB 6/12/07 RATING 1-10	GRFT 6/12/07 RATING 1-10	LATH 6/12/07 RATING 1-10	RRPW 6/12/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	2.0	4.3	10.0	10.0	10.0
	oxyfluorfen	4	SC	0.5	LB AI/A	PRT	A					
2	sulfentrazone	4	F	0.14	LB AI/A	PRT	A	1.0	1.3	9.7	9.3	9.3
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	5.3	7.0	10.0	10.0	10.0
4	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	3.7	3.7	9.3	9.7	10.0
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.7	2.7	10.0	9.3	10.0
6	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.0	2.0	10.0	9.7	10.0
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	C					
7	KIH-485	60	WG	0.112	LB AI/A	POT	B	3.3	8.0	10.0	9.7	10.0
8	pendimethalin	3.8	CS	0.95	LB AI/A	POT	B	1.0	1.0	10.0	5.7	8.7
9	dimethenamid-P	6	EC	0.75	LB AI/A	POT	B	3.0	3.7	10.0	10.0	10.0
10	clomazone	3	ME	0.5	LB AI/A	POT	B	1.3	3.7	10.0	9.7	10.0
11	flumioxazin	51	WDG	0.064	LB AI/A	POT	B	4.0	10.0	10.0	10.0	10.0
12	Untreated							1.0	1.0	1.7	1.7	3.3
LSD (P=.05)								2.01	2.26	0.86	1.32	1.98
Standard Deviation								1.19	1.34	0.51	0.78	1.17
CV								47.04	33.17	5.48	8.91	12.57

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CABBAGE 7/2/07 RATING 1-10	CHI CAB 7/2/07 RATING 1-10	GRFT 7/2/07 RATING 1-10	COPU 7/2/07 RATING 1-10	LATH 7/2/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	2.0	2.3	10.0	10.0	10.0
	oxyfluorfen	4	SC	0.5	LB AI/A	PRT	A					
2	sulfentrazone	4	F	0.14	LB AI/A	PRT	A	1.0	1.0	9.7	9.7	6.3
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	3.3	5.0	7.7	10.0	9.3
4	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	2.3	2.0	6.7	10.0	6.7
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.0	1.3	10.0	9.7	7.7
6	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	1.7	3.7	9.7	10.0	9.7
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	C					
7	KIH-485	60	WG	0.112	LB AI/A	POT	B	5.0	7.3	10.0	10.0	9.7
8	pendimethalin	3.8	CS	0.95	LB AI/A	POT	B	1.0	1.0	7.7	7.7	3.7
9	dimethenamid-P	6	EC	0.75	LB AI/A	POT	B	2.3	2.3	9.3	10.0	8.7
10	clomazone	3	ME	0.5	LB AI/A	POT	B	1.0	2.7	8.7	10.0	8.7
11	flumioxazin	51	WDG	0.064	LB AI/A	POT	B	2.0	10.0	8.3	10.0	9.7
12	Untreated							1.7	1.0	3.3	10.0	3.3
LSD (P=.05)								1.70	2.23	3.12	2.04	2.53
Standard Deviation								1.01	1.32	1.84	1.20	1.49
CV								47.67	39.9	21.91	12.34	19.21

Weed Control Cabbage and Chinese Cabbage - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHI CAB 7/25/07 HARVEST #/PLOT	CHI CAB 7/25/07 HARVEST KG/PLOT	CHI CAB 8/1/07 HARVEST #/PLOT	CHI CAB 8/1/07 HARVEST KG/PLOT	CHI CAB 8/8/07 HARVEST #/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	2.0	1.96	5.0	6.35	5.0
	oxyfluorfen	4	SC	0.5	LB AI/A	PRT	A					
2	sulfentrazone	4	F	0.14	LB AI/A	PRT	A	6.0	6.76	7.7	9.77	3.0
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	2.0	1.74	3.0	5.09	1.7
4	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	3.3	4.15	8.3	12.85	3.0
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	3.7	4.58	6.0	10.98	6.7
6	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.3	2.29	6.0	8.04	5.7
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	C					
7	KIH-485	60	WG	0.112	LB AI/A	POT	B	0.3	0.33	1.3	2.95	1.0
8	pendimethalin	3.8	CS	0.95	LB AI/A	POT	B	4.3	4.22	6.0	9.03	3.3
9	dimethenamid-P	6	EC	0.75	LB AI/A	POT	B	1.7	1.68	4.3	7.21	7.7
10	clomazone	3	ME	0.5	LB AI/A	POT	B	6.7	7.41	3.0	4.74	2.7
11	flumioxazin	51	WDG	0.064	LB AI/A	POT	B	0.0	0.00	0.0	0.00	0.0
12	Untreated							9.0	9.70	3.3	4.63	4.7
LSD (P=.05)								5.08	6.218	5.79	9.356	4.74
Standard Deviation								3.00	3.672	3.42	5.525	2.80
CV								87.08	98.3	75.98	81.22	75.78

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHI CAB 8/8/07 HARVEST KG/PLOT	CHINESE 8/9/07 HARVEST #/PLOT	CHI CAB 8/9/07 HARVEST KG/PLOT	CHI CAB TOTAL #/PLOT	CHI CAB TOTAL KG/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	1.87	2.7	1.11	14.7	11.28
	oxyfluorfen	4	SC	0.5	LB AI/A	PRT	A					
2	sulfentrazone	4	F	0.14	LB AI/A	PRT	A	1.17	2.0	0.92	18.7	18.62
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	1.10	1.7	0.93	8.3	8.85
4	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	1.13	0.7	0.34	15.3	18.47
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.15	2.0	1.51	18.3	19.23
6	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.28	0.7	0.23	14.7	12.84
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	C					
7	KIH-485	60	WG	0.112	LB AI/A	POT	B	0.50	0.7	0.27	3.3	4.05
8	pendimethalin	3.8	CS	0.95	LB AI/A	POT	B	1.67	1.0	0.29	14.7	15.21
9	dimethenamid-P	6	EC	0.75	LB AI/A	POT	B	3.07	0.7	0.27	14.3	12.22
10	clomazone	3	ME	0.5	LB AI/A	POT	B	0.95	0.3	0.17	12.7	13.26
11	flumioxazin	51	WDG	0.064	LB AI/A	POT	B	0.00	0.0	0.00	0.0	0.00
12	Untreated							1.54	1.0	0.63	18.0	16.50
LSD (P=.05)								1.883	2.19	1.168	7.04	9.479
Standard Deviation								1.112	1.30	0.690	4.16	5.598
CV								76.58	116.63	124.31	32.62	44.62

Weed Control Cabbage and Chinese Cabbage - HTRC

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Pest Name							CABBAGE	CABBAGE	CABBAGE	CABBAGE	CABBAGE
Rating Date							8/1/07	8/1/07	8/8/07	8/8/07	8/15/07
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							#	KG/PLOT	#	KG/PLOT	#
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code				
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	3.3	3.23	3.0	2.17	3.7
	oxyfluorfen	4	SC	0.5	LB AI/A	PRT	A					
2	sulfentrazone	4	F	0.14	LB AI/A	PRT	A	7.7	9.79	2.3	1.54	4.0
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	2.7	3.21	1.3	0.68	1.0
4	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	3.7	3.18	1.3	1.07	0.7
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	4.7	4.90	2.3	1.30	2.7
6	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	3.7	3.52	2.3	1.39	1.3
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	C					
7	KIH-485	60	WG	0.112	LB AI/A	POT	B	1.3	1.31	2.7	1.66	1.3
8	pendimethalin	3.8	CS	0.95	LB AI/A	POT	B	1.7	1.61	0.3	0.15	2.0
9	dimethenamid-P	6	EC	0.75	LB AI/A	POT	B	2.3	2.03	1.0	0.65	2.7
10	clomazone	3	ME	0.5	LB AI/A	POT	B	8.3	9.13	2.0	1.24	0.7
11	flumioxazin	51	WDG	0.064	LB AI/A	POT	B	3.7	3.73	1.7	0.89	1.0
12	Untreated							4.7	4.84	1.0	0.48	0.7
LSD (P=.05)								4.07	5.019	2.17	1.508	2.65
Standard Deviation								2.41	2.964	1.28	0.891	1.57
CV								60.55	70.46	72.23	80.79	86.73

Pest Name							CABBAGE	CABBAGE	CABBAGE	CABBAGE	CABBAGE
Rating Date							8/15/07	8/22/07	8/22/07		
Rating Data Type							HARVEST	HARVEST	HARVEST	TOTAL	TOTAL
Rating Unit							KG/PLOT	#/PLOT	KG/PLOT	#/PLOT	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	3.67	7.0	6.69	17.0	15.76
	oxyfluorfen	4	SC	0.5	LB AI/A	PRT	A					
2	sulfentrazone	4	F	0.14	LB AI/A	PRT	A	4.52	4.0	3.05	18.0	18.90
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	1.24	5.0	4.91	10.0	10.03
4	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	0.63	6.3	4.79	12.0	9.67
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.74	6.7	6.05	16.3	14.99
6	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	1.55	6.0	5.93	13.3	12.39
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	C					
7	KIH-485	60	WG	0.112	LB AI/A	POT	B	1.29	5.3	3.97	10.7	8.22
8	pendimethalin	3.8	CS	0.95	LB AI/A	POT	B	1.92	6.7	5.75	10.7	9.44
9	dimethenamid-P	6	EC	0.75	LB AI/A	POT	B	3.12	8.0	7.05	14.0	12.86
10	clomazone	3	ME	0.5	LB AI/A	POT	B	0.69	5.7	4.68	16.7	15.75
11	flumioxazin	51	WDG	0.064	LB AI/A	POT	B	0.99	4.7	4.21	11.0	9.82
12	Untreated							0.77	6.7	5.39	13.0	11.48
LSD (P=.05)								2.781	5.24	4.798	4.77	5.128
Standard Deviation								1.642	3.09	2.833	2.82	3.028
CV								85.18	51.55	54.42	20.77	24.33

Preemergence Weed Control in Carrot – Muck Farm

Project Code: WC 107-07-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Nevada**
Planting Method: Seeded **Planting Date: 5/22/07**
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: 78%** **pH: 7.0**
Sand: 7% **Silt: 14%** **Clay: 1%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/25/07	1:30 pm	67/73	°F	Damp	5 W	64	20% Cloudy	N

Crop and Weed Information at Application

	Crop or Weed	Height or Diameter	Growth Stage	Density
6/14	Carrot			
6/14	LACG = large crabgrass			
6/14	COLQ = common lambsquarters			
6/14	COPU = common purslane			
6/14	LATH = ladysthumb			
6/14	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. 3 rows per plot
4. 10 FT per plot was harvested 8/14/07

Premergence Weed Control in Carrot – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 107-07-01 Study Director: Dr. Bernard Zandstra
Location: Muck Farm B19 Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CARROT 6/14/07 RATING 1-10	LACG 6/14/07 RATING 1-10	COLQ 6/14/07 RATING 1-10	COPU 6/14/07 RATING 1-10	LATH 6/14/07 RATING 1-10	RRPW 6/14/07 RATING 1-10
1	linuron	50	DF	1	LB AI/A	PRE	A	1.0	1.0	3.0	1.7	2.3	3.7
2	clomazone	3	ME	1	LB AI/A	PRE	A	1.3	7.0	9.0	7.7	7.7	2.0
3	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	1.0	4.7	8.7	4.3	4.0	3.0
4	pendimethalin	3.8	CS	1.43	LB AI/A	PRE	A	1.7	6.7	7.7	6.7	4.3	4.3
5	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.3	6.7	8.3	8.0	7.3	5.7
6	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	1.3	9.0	3.3	8.0	4.3	9.0
7	prometryn	4	L	1	LB AI/A	PRE	A	1.3	2.3	7.3	5.0	4.7	5.3
8	metribuzin	75	DF	0.5	LB AI/A	PRE	A	3.0	8.7	8.3	7.7	8.7	8.7
9	ethofumesate	4	SC	1	LB AI/A	PRE	A	1.0	5.0	2.0	2.0	4.0	2.3
10	Untreated							1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)								0.88	3.77	3.00	2.76	2.69	3.25
Standard Deviation								0.51	2.20	1.75	1.61	1.57	1.89
CV								36.63	42.21	29.83	30.99	32.42	42.1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CARROT 8/14/07 HARVEST KG/PLOT
1	linuron	50	DF	1	LB AI/A	PRE	A	16.14
2	clomazone	3	ME	1	LB AI/A	PRE	A	21.22
3	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	18.50
4	pendimethalin	3.8	CS	1.43	LB AI/A	PRE	A	22.89
5	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	22.55
6	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	22.66
7	prometryn	4	L	1	LB AI/A	PRE	A	20.77
8	metribuzin	75	DF	0.5	LB AI/A	PRE	A	21.63
9	ethofumesate	4	SC	1	LB AI/A	PRE	A	22.30
10	Untreated							9.20
LSD (P=.05)								6.617
Standard Deviation								3.857
CV								19.49

Postemergence Weed Control in Carrot – Muck Farm

Project Code: WC 107-07-02 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Nevada**
Planting Method: Seeded **Planting Date: 5/22/07**
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: 78%** **pH: 7.0**
Sand: 7% **Silt: 14%** **Clay: 1%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/15/07	8:45 am	75/70	°F	Dry	Calm	64	Clear	N
PO2	7/11/07	9:15 am	69/72	°F	Dry	3 NW	69	80% cloudy	N

Crop and Weed Information at Application

	Crop or Weed	Height or Diameter	Growth Stage	Density
6/15	Carrot		3 leaf	
6/15	LACG = large crabgrass	1-2″		moderate
6/15	YENS = yellow nutsedge	5-6″		many
6/15	COLQ = common lambsquarters	1-4″		many
6/15	RRPW = redroot pigweed	2-5″		many
7/11	Carrot	4-5″		
7/11	LACG = large crabgrass	10-12″		moderate
7/11	YENS = yellow nutsedge	6-10″		moderate
7/11	LATH = ladysthumb	6-10″		many
7/11	RRPW = redroot pigweed	10-14″		few

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. 3 rows of carrots per bed.
4. 10 FT per plot was harvested 8/15/07.
5. Severe weed pressure as a result of wet weather caused reduced yields in some treatments.

Postemergence Weed Control in Carrot – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 107-07-02 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CARROT 6/22/07 RATING 1-10	LACG 6/22/07 RATING 1-10	COLQ 6/22/07 RATING 1-10	COPU 6/22/07 RATING 1-10	LATH 6/22/07 RATING 1-10	RRPW 6/22/07 RATING 1-10
1	linuron	50	DF	0.5	LB AI/A	PO1,2	AB	1.3	7.7	10.0	9.7	8.0	9.7
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
2	metribuzin	75	DF	0.25	LB AI/A	PO1,2	AB	1.3	4.0	10.0	9.7	8.0	9.7
3	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2	AB	1.3	2.0	5.7	10.0	5.3	8.0
4	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2	AB	1.7	1.0	3.7	9.3	8.0	8.7
5	prometryn	4	L	0.5	LB AI/A	PO1,2	AB	1.3	2.0	9.0	8.3	3.0	7.0
6	ethofumesate	4	SC	1	LB AI/A	PO1,2	AB	1.0	6.0	4.0	4.0	3.7	2.7
7	ethofumesate	4	SC	2	LB AI/A	PO1,2	AB	1.0	2.7	6.3	7.3	3.7	4.7
8	linuron	50	DF	1	LB AI/A	PO1,2	AB	1.7	10.0	10.0	10.0	9.3	10.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
9	ethofumesate	4	SC	1	LB AI/A	PO1,2	AB	1.0	10.0	6.0	7.7	2.7	2.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
10	Select Max	0.97	EC	0.045	LB AI/A	PO1,2	AB	1.0	10.0	1.0	1.0	1.0	1.0
11	Select Max	0.97	EC	0.09	LB AI/A	PO1,2	AB	1.0	10.0	1.0	1.0	1.0	1.0
12	Intensity One	0.97	EC	0.045	LB AI/A	PO1,2	AB	1.0	10.0	1.0	1.0	1.0	1.0
13	Intensity One	0.97	EC	0.09	LB AI/A	PO1,2	AB	1.7	10.0	1.0	1.0	1.0	1.0
14	Select Max	0.97	EC	0.045	LB AI/A	PO1,2	AB	1.0	10.0	1.0	1.0	1.0	1.0
	LI 6193-11	100	SL	1	% V/V	PO1,2	AB						
15	Intensity One	0.97	EC	0.045	LB AI/A	PO1,2	AB	1.3	10.0	1.0	1.0	1.0	1.0
	LI 6193-11	100	SL	1	% V/V	PO1,2	AB						
16	Untreated							1.3	7.0	1.0	1.0	1.0	1.0
LSD (P=.05)								0.72	2.97	2.12	1.44	1.51	1.13
Standard Deviation								0.43	1.78	1.27	0.86	0.90	0.68
CV								34.64	25.37	28.45	16.65	24.67	15.54

Postemergence Weed Control in Carrot – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CARROT RATING 1-10	LACG RATING 1-10	CARROT HARVEST KG/PLOT
	Pest Name							CARROT	LACG	CARROT
	Rating Date							7/20/07	7/20/07	8/15/07
	Rating Data Type							RATING	RATING	HARVEST
	Rating Unit							1-10	1-10	KG/PLOT
1	linuron	50	DF	0.5	LB AI/A	PO1,2	AB	1.0	4.7	19.55
	NIS	100	SL	0.25	% V/V	PO1,2	AB			
2	metribuzin	75	DF	0.25	LB AI/A	PO1,2	AB	1.3	1.0	12.31
3	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2	AB	2.7	4.3	11.36
4	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2	AB	2.3	2.0	8.25
5	prometryn	4	L	0.5	LB AI/A	PO1,2	AB	2.0	4.0	14.70
6	ethofumesate	4	SC	1	LB AI/A	PO1,2	AB	2.7	4.3	11.98
7	ethofumesate	4	SC	2	LB AI/A	PO1,2	AB	2.0	4.3	13.67
8	linuron	50	DF	1	LB AI/A	PO1,2	AB	1.6	9.9	21.83
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB			
	NIS	100	SL	0.25	% V/V	PO1,2	AB			
9	ethofumesate	4	SC	1	LB AI/A	PO1,2	AB	3.0	9.3	12.24
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB			
	NIS	100	SL	0.25	% V/V	PO1,2	AB			
10	Select Max	0.97	EC	0.045	LB AI/A	PO1,2	AB	3.7	10.0	12.82
11	Select Max	0.97	EC	0.09	LB AI/A	PO1,2	AB	4.9	10.0	13.81
12	Intensity One	0.97	EC	0.045	LB AI/A	PO1,2	AB	3.0	10.0	15.71
13	Intensity One	0.97	EC	0.09	LB AI/A	PO1,2	AB	4.7	10.0	10.29
14	Select Max	0.97	EC	0.045	LB AI/A	PO1,2	AB	3.7	10.0	13.56
	LI 6193-11	100	SL	1	% V/V	PO1,2	AB			
15	Intensity One	0.97	EC	0.045	LB AI/A	PO1,2	AB	4.7	10.0	10.34
	LI 6193-11	100	SL	1	% V/V	PO1,2	AB			
16	Untreated							4.1	8.6	10.93
LSD (P=.05)								1.65	3.10	5.063
Standard Deviation								0.98	1.85	3.036
CV								33.31	26.3	22.77

Postemergence Weed Control in Carrot – Fremont

Project Code: WC 107-06-03 **Location: Fremont, Vogel Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Carrot **Variety: Sugarsnax**
Planting Method: Seed **Planting Date: 6/4/07**
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: Granby Mucky Sand **OM: 8%** **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	6/21/07	10:30 am	70/69	°F	Dry	8 SW	58	50% Cloudy	N
PO2	7/12/07	11:00 am	68/70	°F	Dry	7 W	53	20% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/21	Carrot	2-4″		
6/21	COLQ = common lambsquarters	2-4″		many
6/21	COPU = common purslane	1-3″		moderate
6/21	RRPW = redroot pigweed	2-6″		many
7/12	Carrot	4-6″		
7/12	COLQ = common lambsquarters	4-6″		many
7/12	RRPW = redroot pigweed	6-8″		many

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 10 FT of bed, 9/27/07.
5. Weeded all plots 7/19/07.

Postemergence Weed Control in Carrot – Fremont

Dept. of Horticulture, MSU

Trial ID: WC 107-07-03 Study Director: Dr. Bernard Zandstra
Location: Fremont Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CARROT 7/5/07 RATING 1-10	COLQ 7/5/07 RATING 1-10	COPU 7/5/07 RATING 1-10	RRPW 7/5/07 RATING 1-10	CARROT 7/19/07 RATING 1-10	COLQ 7/19/07 RATING 1-10
1	linuron	50	DF	0.5	LB AI/A	PO1,2	AB	2.3	9.7	9.0	6.0	1.0	9.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
2	metribuzin	75	DF	0.25	LB AI/A	PO1,2	AB	1.7	9.0	6.0	6.0	1.3	9.3
3	oxyfluorfen	2	L	0.031	LB AI/A	PO1,2	AB	1.3	4.0	4.3	4.7	2.0	6.3
4	oxyfluorfen	2	L	0.063	LB AI/A	PO1,2	AB	1.7	7.0	7.7	6.3	2.0	7.3
5	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2	AB	2.3	4.3	6.3	3.7	1.7	6.0
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2	AB	2.3	8.0	6.7	3.0	2.0	6.3
7	prometryn	4	L	0.5	LB AI/A	PO1,2	AB	1.7	9.3	4.3	5.0	1.0	10.0
8	ethofumesate	4	SC	1	LB AI/A	PO1,2	AB	1.0	6.7	3.7	3.0	2.0	9.3
9	ethofumesate	4	SC	2	LB AI/A	PO1,2	AB	2.0	9.7	6.7	4.7	2.7	9.7
10	linuron	50	DF	0.5	LB AI/A	PO1,2	AB	2.7	10.0	9.7	7.7	2.0	10.0
	ethofumesate	4	SC	0.5	LB AI/A	PO1,2	AB						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
11	Untreated							1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)								1.42	1.81	2.77	2.18	0.76	1.45
Standard Deviation								0.83	1.06	1.63	1.28	0.44	0.85
CV								45.82	14.85	27.38	27.62	26.15	11.01

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RRPW 7/19/07 RATING 1-10	CARROT 9/27/07 HARVEST KG/PLOT
1	linuron	50	DF	0.5	LB AI/A	PO1,2	AB	6.7	31.09
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB		
	NIS	100	SL	0.25	% V/V	PO1,2	AB		
2	metribuzin	75	DF	0.25	LB AI/A	PO1,2	AB	5.3	27.85
3	oxyfluorfen	2	L	0.031	LB AI/A	PO1,2	AB	5.7	27.58
4	oxyfluorfen	2	L	0.063	LB AI/A	PO1,2	AB	7.7	30.87
5	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2	AB	5.0	22.42
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2	AB	6.7	27.48
7	prometryn	4	L	0.5	LB AI/A	PO1,2	AB	4.3	26.58
8	ethofumesate	4	SC	1	LB AI/A	PO1,2	AB	6.3	23.42
9	ethofumesate	4	SC	2	LB AI/A	PO1,2	AB	6.7	25.55
10	linuron	50	DF	0.5	LB AI/A	PO1,2	AB	8.0	53.33
	ethofumesate	4	SC	0.5	LB AI/A	PO1,2	AB		
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB		
	NIS	100	SL	0.25	% V/V	PO1,2	AB		
11	Untreated							1.0	27.37
LSD (P=.05)								1.65	12.875
Standard Deviation								0.97	7.559
CV								16.81	25.7

Weed Control in Celery – Muck Farm

Project Code: WC 113-07-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Celery **Variety: Duchess**
Planting Method: Transplant **Planting Date: 5/21/07**
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	5/25/07	1:30 pm	67/73	°F	Damp	5 W	64	20% Cloudy	N
PO1	6/26/07	2:15 pm	89/73	°F	Dry	5 SW	59	20% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/25	Celery	4-6″		
6/26	Celery	10-14″		
6/26	COPU = common purslane	3-4″		moderate
6/26	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. Two rows per plot.
4. Harvested 10 ft of plot 8/16/07.

Weed Control in Celery – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 113-07-01 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CELERY 6/26/07 RATING 1-10	LACG 6/26/07 RATING 1-10	COLQ 6/26/07 RATING 1-10	COPU 6/26/07 RATING 1-10	LATH 6/26/07 RATING 1-10	MAYC 6/26/07 RATING 1-10
1	prometryn	4	L	1	LB AI/A	POT, PO1	AB	1.0	9.0	7.0	2.7	4.0	3.7
2	prometryn	4	L	1	LB AI/A	POT, PO1	AB	1.0	10.0	10.0	9.0	9.7	6.7
	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A						
3	dimethenamid-P	6	EC	0.98	LB AI/A	POT	A	2.0	10.0	7.7	8.7	7.3	3.0
	prometryn	4	L	1	LB AI/A	PO1	B						
4	prometryn	4	L	1	LB AI/A	POT	A	1.0	10.0	10.0	1.3	6.0	5.7
	linuron	50	DF	1	LB AI/A	PO1	B						
5	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A	1.0	10.0	7.7	7.0	5.7	3.7
	prometryn	4	L	1	LB AI/A	PO1	B						
6	flumioxazin	51	WDG	0.096	LB AI/A	POT	A	1.3	8.3	9.7	7.3	9.0	4.0
	prometryn	4	L	1	LB AI/A	PO1	B						
7	flumioxazin	51	WDG	0.192	LB AI/A	POT	A	1.0	10.0	7.0	8.7	10.0	4.0
	prometryn	4	L	1	LB AI/A	PO1	B						
8	sulfentrazone	4	F	0.188	LB AI/A	POT	A	1.3	4.7	10.0	4.0	5.7	2.7
	prometryn	4	L	1	LB AI/A	PO1	B						
9	KIH-485	60	WG	0.112	LB AI/A	POT	A	1.7	10.0	10.0	7.7	7.0	8.7
	prometryn	4	L	1	LB AI/A	PO1	B						
10	prometryn	4	L	1	LB AI/A	POT	A	1.3	4.3	10.0	2.3	6.0	2.3
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B						
11	prometryn	4	L	1	LB AI/A	POT	A	1.0	7.3	10.0	3.0	7.3	5.3
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B						
12	Untreated							3.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)								0.75	3.73	4.32	1.63	2.82	4.29
Standard Deviation								0.44	2.20	2.55	0.96	1.67	2.53
CV								31.75	27.9	30.65	18.38	25.42	59.95

Weed Control in Celery – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RRPW 6/26/07 RATING 1-10	CELERY 7/11/07 RATING 1-10	LACG 7/11/07 RATING 1-10	COPU 7/11/07 RATING 1-10	LATH 7/11/07 RATING 1-10	MAYC 7/11/07 RATING 1-10
1	prometryn	4	L	1	LB AI/A	POT, PO1	AB	2.7	2.3	7.3	5.3	4.7	5.0
2	prometryn	4	L	1	LB AI/A	POT, PO1	AB	10.0	1.0	10.0	7.0	10.0	7.0
	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A						
3	dimethenamid-P	6	EC	0.98	LB AI/A	POT	A	9.3	1.7	10.0	10.0	5.7	4.0
	prometryn	4	L	1	LB AI/A	PO1	B						
4	prometryn	4	L	1	LB AI/A	POT	A	3.7	1.0	9.0	9.3	8.7	9.0
	linuron	50	DF	1	LB AI/A	PO1	B						
5	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A	6.0	1.3	10.0	9.0	4.0	5.3
	prometryn	4	L	1	LB AI/A	PO1	B						
6	flumioxazin	51	WDG	0.096	LB AI/A	POT	A	9.3	1.7	8.3	9.0	9.7	5.3
	prometryn	4	L	1	LB AI/A	PO1	B						
7	flumioxazin	51	WDG	0.192	LB AI/A	POT	A	10.0	1.7	7.0	9.3	9.3	5.3
	prometryn	4	L	1	LB AI/A	PO1	B						
8	sulfentrazone	4	F	0.188	LB AI/A	POT	A	7.3	3.3	4.7	6.7	4.3	4.0
	prometryn	4	L	1	LB AI/A	PO1	B						
9	KIH-485	60	WG	0.112	LB AI/A	POT	A	9.3	2.3	10.0	9.3	3.3	8.3
	prometryn	4	L	1	LB AI/A	PO1	B						
10	prometryn	4	L	1	LB AI/A	POT	A	4.3	1.7	2.0	4.7	2.3	3.0
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B						
11	prometryn	4	L	1	LB AI/A	POT	A	4.3	2.7	7.0	8.3	5.7	4.0
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B						
12	Untreated							1.0	4.7	4.7	4.0	5.3	7.3
LSD (P=.05)								2.24	0.92	4.80	3.59	2.69	3.99
Standard Deviation								1.32	0.54	2.83	2.12	1.59	2.36
CV								20.56	25.64	37.77	27.62	26.11	41.81

Weed Control in Celery – Muck Farm

Dept. of Horticulture, MSU

Pest Name								RRPW	CELERY
Rating Date								7/11/07	8/16/07
Rating Data Type								RATING	HARVEST
Rating Unit								1-10	KG/10 FT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code		
1	prometryn	4	L	1	LB AI/A	POT, PO1	AB	5.3	32.47
2	prometryn	4	L	1	LB AI/A	POT, PO1	AB	10.0	42.81
	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A		
3	dimethenamid-P	6	EC	0.98	LB AI/A	POT	A	9.7	39.29
	prometryn	4	L	1	LB AI/A	PO1	B		
4	prometryn	4	L	1	LB AI/A	POT	A	8.7	44.01
	linuron	50	DF	1	LB AI/A	PO1	B		
5	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A	7.0	36.71
	prometryn	4	L	1	LB AI/A	PO1	B		
6	flumioxazin	51	WDG	0.096	LB AI/A	POT	A	10.0	40.36
	prometryn	4	L	1	LB AI/A	PO1	B		
7	flumioxazin	51	WDG	0.192	LB AI/A	POT	A	10.0	36.35
	prometryn	4	L	1	LB AI/A	PO1	B		
8	sulfentrazone	4	F	0.188	LB AI/A	POT	A	8.3	31.33
	prometryn	4	L	1	LB AI/A	PO1	B		
9	KIH-485	60	WG	0.112	LB AI/A	POT	A	8.0	40.12
	prometryn	4	L	1	LB AI/A	PO1	B		
10	prometryn	4	L	1	LB AI/A	POT	A	5.3	35.32
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B		
11	prometryn	4	L	1	LB AI/A	POT	A	7.7	31.35
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B		
12	Untreated							7.0	17.21
LSD (P=.05)								2.91	6.906
Standard Deviation								1.72	4.078
CV								21.24	11.45

Weed Control in Celery – Hudsonville

Project Code: WC 113-07-02 **Location: Schreur Farm, Hudsonville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Celery **Variety: Duchess**
Planting Method: Transplant **Planting Date: 5/17/07**
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: 78%** **pH: 6.8**
Sand: 7% **Silt: 14%** **Clay: 1%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
POT	5/24/07	9:30 am	80/60	°F	Dry	1 SW	41	10% Cloudy	N
PO1	7/5/07	10:00 am	81/74	°F	Damp	3 W	74	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/24	Celery			
7/5	Celery	10-14″		
7/5	YENS = yellow nutsedge	4-6″		moderate
7/5	COPU = common purslane	8-12″		moderate
7/5	CORW = common ragweed	10-20″		few
7/5	RRPW = redroot pigweed	10-20″		few

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. Plots were 2 rows wide.
4. Harvested 10 ft of plot 8/1/07.

Weed Control in Celery – Hudsonville

Dept. of Horticulture, MSU

Trial ID: 113-07-02 Study Director: Dr. Bernard Zandstra
Location: Hudsonville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CELERY 6/20/07 RATING 1-10	YENS 6/20/07 RATING 1-10	COPU 6/20/07 RATING 1-10	LATH 6/20/07 RATING 1-10	RRPW 6/20/07 RATING 1-10	CELERY 7/12/07 RATING 1-10
1	prometryn	4	L	1	LB AI/A	POT, PO1	AB	1.0	4.7	8.7	10.0	8.7	2.0
2	prometryn	4	L	1	LB AI/A	POT, PO1	AB	1.0	5.0	9.3	10.0	10.0	1.7
	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A						
3	dimethenamid-P	6	EC	0.98	LB AI/A	POT	A	1.7	5.0	9.3	9.0	9.3	2.0
	prometryn	4	L	1	LB AI/A	PO1	B						
4	prometryn	4	L	1	LB AI/A	POT	A	1.0	5.3	7.3	8.7	6.0	1.7
	linuron	50	DF	1	LB AI/A	PO1	B						
5	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A	1.0	5.3	8.7	9.0	9.0	1.7
	prometryn	4	L	1	LB AI/A	PO1	B						
6	flumioxazin	51	WDG	0.096	LB AI/A	POT	A	1.0	5.3	9.0	10.0	9.3	2.0
	prometryn	4	L	1	LB AI/A	PO1	B						
7	flumioxazin	51	WDG	0.192	LB AI/A	POT	A	2.3	5.3	10.0	10.0	9.3	2.7
	prometryn	4	L	1	LB AI/A	PO1	B						
8	sulfentrazone	4	F	0.188	LB AI/A	POT	A	1.3	5.0	9.0	9.7	8.3	2.7
	prometryn	4	L	1	LB AI/A	PO1	B						
9	KIH-485	60	WG	0.112	LB AI/A	POT	A	1.3	3.3	9.7	9.3	8.7	2.3
	prometryn	4	L	1	LB AI/A	PO1	B						
10	prometryn	4	L	1	LB AI/A	POT	A	1.7	3.7	9.0	9.0	7.0	2.0
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B						
11	Untreated							1.0	5.7	6.3	5.0	4.7	1.0
LSD (P=.05)								0.81	4.68	2.87	2.06	3.68	0.84
Standard Deviation								0.48	2.75	1.69	1.21	2.16	0.49
CV								36.59	56.34	19.24	13.38	26.28	25.0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	COPU 7/12/07 RATING 1-10	LATH 7/12/07 RATING 1-10	RRPW 7/12/07 RATING 1-10	CELERY 8/1/07 HARVEST KG/10 FT
1	prometryn	4	L	1	LB AI/A	POT, PO1	AB	8.7	7.7	8.0	56.87
2	prometryn	4	L	1	LB AI/A	POT, PO1	AB	8.7	8.0	10.0	58.55
	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A				
3	dimethenamid-P	6	EC	0.98	LB AI/A	POT	A	8.0	9.3	10.0	45.81
	prometryn	4	L	1	LB AI/A	PO1	B				
4	prometryn	4	L	1	LB AI/A	POT	A	6.7	7.3	7.3	51.38
	linuron	50	DF	1	LB AI/A	PO1	B				
5	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	A	8.3	10.0	9.3	55.54
	prometryn	4	L	1	LB AI/A	PO1	B				
6	flumioxazin	51	WDG	0.096	LB AI/A	POT	A	8.3	10.0	10.0	55.26
	prometryn	4	L	1	LB AI/A	PO1	B				
7	flumioxazin	51	WDG	0.192	LB AI/A	POT	A	10.0	10.0	10.0	46.98
	prometryn	4	L	1	LB AI/A	PO1	B				
8	sulfentrazone	4	F	0.188	LB AI/A	POT	A	9.3	9.3	10.0	46.57
	prometryn	4	L	1	LB AI/A	PO1	B				
9	KIH-485	60	WG	0.112	LB AI/A	POT	A	9.3	10.0	10.0	51.55
	prometryn	4	L	1	LB AI/A	PO1	B				
10	prometryn	4	L	1	LB AI/A	POT	A	9.0	7.0	10.0	50.23
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B				
11	Untreated							1.0	1.0	1.0	53.74
LSD (P=.05)								2.14	3.16	1.59	9.084
Standard Deviation								1.26	1.85	0.93	5.334
CV								15.86	22.75	10.74	10.25

Weed Control in Sweet Corn - HTRC

Project Code: WC 106-07-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Sweet corn **Variety: See notes**
Planting Method: Seed **Planting Date: 5/24/07**
Spacing: 8 IN **Row Spacing: 30″**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 16 ft wide x 20 ft long

Soil Type: Marlette Fine Sandy Loam **OM: 1.3%** **pH: 6.2**
Sand: 75% **Silt: 20%** **Clay: 5%** **CEC: 4.5**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/24/07	11:00 am	86/75	°F	Dry	7 SW	29	50% cloudy	N
PO1	6/14/07	2:00 pm	94/86	°F	Dry	3 W	47	20% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/14	Sweet corn	6-8″		
6/14	GRFT = green foxtail	2-4″		moderate
6/14	COLQ = common lambsquarters	3-4″		moderate
6/14	RRPW = redroot pigweed	3-4″		moderate
6/14	WIRA = wild radish	3-4″		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. Varieties utilized: BSS 0977, BSS 0966, BSS 0982, WSS 0987, BC 0805, WH 0809 1 row of each variety per plot.
4. All varieties were harvested once.
5. This experiment suffered extensive water damage soon after planting, which resulted in very erratic stands. Several plots in rep 2 were lost completely.

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 106-07-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	BSS0977 6/13/07 RATING 1-10	BSS0966 6/13/07 RATING 1-10	BSS0982 6/13/07 RATING 1-10	WSS0987 6/13/07 RATING 1-10	BC0805 6/13/07 RATING 1-10	WH0809 6/13/07 RATING 1-10	GRFT 6/13/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.6	LB AI/A	PRE	A	2.0	2.3	1.7	2.0	1.7	1.7	9.7
2	dimethenamid-P	6	EC	0.75	LB AI/A	PRE	A	4.7	4.0	3.7	3.7	3.7	3.3	7.7
3	mesotrione	4	SC	0.188	LB AI/A	PRE	A	2.7	1.7	1.7	2.0	1.7	2.7	10.0
4	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	5.3	4.7	3.7	3.7	3.7	3.7	10.0
	mesotrione	4	SC	0.094	LB AI/A	PO1	B							
5	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	2.7	2.0	1.7	3.3	3.3	3.7	10.0
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B							
	MSO	100	SL	1	% V/V	PO1	B							
	UAN	28	SL	2	% V/V	PO1	B							
6	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	4.0	2.0	2.0	3.0	2.7	2.7	10.0
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B							
	atrazine	4	F	0.5	LB AI/A	PO1	B							
	COC	100	SL	1	% V/V	PO1	B							
	UAN	28	SL	2	% V/V	PO1	B							
7	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	5.7	4.3	4.0	3.7	3.7	4.0	10.0
	tembotrione	3.5	SC	0.246	LB AI/A	PO1	B							
	MSO	100	SL	2	% V/V	PO1	B							
	UAN	28	SL	4	% V/V	PO1	B							
8	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	5.0	4.7	3.3	4.0	3.7	3.7	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B							
9	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	3.7	2.3	2.0	2.3	2.3	2.7	10.0
	glufosinate	1.67	L	0.26	LB AI/A	PO1	B							
10	Untreated					PRE	A	3.7	3.0	1.7	2.0	2.0	2.7	7.7
	dicamba	40	GR	0.125	LB AI/A	PO1	B							
	diflufenzopyr	16	GR	.05										
	NIS	100	SL	0.25	% V/V	PO1	B							
LSD (P=.05)								4.92	4.42	3.57	3.08	3.11	3.27	2.22
Standard Deviation								2.87	2.58	2.08	1.79	1.81	1.91	1.30
CV								72.95	83.15	82.07	60.44	63.97	62.22	13.63

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	COLQ	RRPW	WIRA	BSS0977	BSS0977	BSS0966
Pest Name								COLQ	RRPW	WIRA	BSS0977	BSS0977	BSS0966
Rating Date								6/13/07	6/13/07	6/13/07	8/13/07	8/13/07	8/13/07
Rating Data Type								RATING	RATING	RATING	HARVEST	HARVEST	HARVEST
Rating Unit								1-10	1-10	1-10	#/PLOT	KG/PLOT	#/PLOT
1	s-metolachlor	7.62	EC	1.6	LB AI/A	PRE	A	9.0	8.7	7.0	4.7	0.83	6.7
2	dimethenamid-P	6	EC	0.75	LB AI/A	PRE	A	9.3	9.0	7.3	12.0	2.01	9.0
3	mesotrione	4	SC	0.188	LB AI/A	PRE	A	10.0	10.0	10.0	14.7	3.59	14.3
4	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	10.0	10.0	8.3	12.3	2.37	4.7
	mesotrione	4	SC	0.094	LB AI/A	PO1	B						
5	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	9.7	10.0	8.0	4.0	0.72	6.0
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B						
	MSO	100	SL	1	% V/V	PO1	B						
	UAN	28	SL	2	% V/V	PO1	B						
6	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	10.0	10.0	7.0	16.0	2.90	8.7
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B						
	atrazine	4	F	0.5	LB AI/A	PO1	B						
	COC	100	SL	1	% V/V	PO1	B						
	UAN	28	SL	2	% V/V	PO1	B						
7	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	10.0	10.0	9.0	6.0	1.06	6.0
	tembotrione	3.5	SC	0.246	LB AI/A	PO1	B						
	MSO	100	SL	2	% V/V	PO1	B						
	UAN	28	SL	4	% V/V	PO1	B						
8	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	10.0	10.0	8.7	9.3	1.96	5.3
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B						
9	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	9.7	10.0	9.3	7.3	1.50	8.0
	glufosinate	1.67	L	0.26	LB AI/A	PO1	B						
10	Untreated					PRE	A	5.7	6.3	3.7	7.0	1.20	5.3
	dicamba	40	GR	0.125	LB AI/A	PO1	B						
	diflufenzopyr	16	GR	.05									
	NIS	100	SL	0.25	% V/V	PO1	B						
LSD (P=.05)								2.53	2.24	4.46	11.18	2.786	9.69
Standard Deviation								1.48	1.31	2.60	6.52	1.624	5.65
CV								15.81	13.9	33.22	69.81	89.46	76.32

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Pest Name							BSS0966	BSS0982	BSS0982	WSS0987	WSS0987	BC0805
Rating Date							8/13/07	8/13/07	8/13/07	8/13/07	8/13/07	8/13/07
Rating Data Type							HARVEST	HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							KG/PLOT	#/PLOT	KG/PLOT	#/PLOT	KG/PLOT	#/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	s-metolachlor	7.62	EC	1.6	LB AI/A	PRE	A	1.43	7.0	1.74	10.3	2.38	6.0
2	dimethenamid-P	6	EC	0.75	LB AI/A	PRE	A	1.98	4.0	1.10	5.3	1.25	3.7
3	mesotrione	4	SC	0.188	LB AI/A	PRE	A	3.35	7.0	1.97	8.3	2.17	10.3
4	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.14	6.7	1.57	6.3	1.63	5.3
	mesotrione	4	SC	0.094	LB AI/A	PO1	B						
5	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.43	6.0	1.36	8.7	1.86	9.7
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B						
	MSO	100	SL	1	% V/V	PO1	B						
	UAN	28	SL	2	% V/V	PO1	B						
6	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.94	8.0	1.71	8.7	1.94	7.3
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B						
	atrazine	4	F	0.5	LB AI/A	PO1	B						
	COC	100	SL	1	% V/V	PO1	B						
	UAN	28	SL	2	% V/V	PO1	B						
7	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.11	4.7	0.88	3.7	0.72	6.3
	tembotrione	3.5	SC	0.246	LB AI/A	PO1	B						
	MSO	100	SL	2	% V/V	PO1	B						
	UAN	28	SL	4	% V/V	PO1	B						
8	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.07	3.3	0.69	6.0	1.38	6.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B						
9	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.78	7.0	1.75	8.7	1.87	4.7
	glufosinate	1.67	L	0.26	LB AI/A	PO1	B						
10	Untreated					PRE	A	1.24	3.0	0.69	3.7	0.79	4.7
	dicamba	40	GR	0.125	LB AI/A	PO1	B						
	diflufenzopyr	16	GR	.05									
	NIS	100	SL	0.25	% V/V	PO1	B						
LSD (P=.05)								2.445	9.74	2.472	10.96	2.654	7.75
Standard Deviation								1.425	5.68	1.441	6.39	1.547	4.52
CV								86.54	100.15	107.0	91.67	96.74	70.6

Weed Control in Sweet Corn - HTRC

Dept. of Horticulture, MSU

Pest Name								BC0805	WH0809	WH0809
Rating Date								8/13/07	8/13/07	8/13/07
Rating Data Type								HARVEST	HARVEST	HARVEST
Rating Unit								KG/PLOT	#/PLOT	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code			
1	s-metolachlor	7.62	EC	1.6	LB AI/A	PRE	A	1.45	6.3	1.7
2	dimethenamid-P	6	EC	0.75	LB AI/A	PRE	A	1.04	4.3	1.3
3	mesotrione	4	SC	0.188	LB AI/A	PRE	A	2.94	9.0	2.6
4	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.56	4.0	1.1
	mesotrione	4	SC	0.094	LB AI/A	PO1	B			
5	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	2.41	7.0	2.0
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B			
	MSO	100	SL	1	% V/V	PO1	B			
	UAN	28	SL	2	% V/V	PO1	B			
6	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	2.05	5.0	1.6
	tembotrione	3.5	SC	0.123	LB AI/A	PO1	B			
	atrazine	4	F	0.5	LB AI/A	PO1	B			
	COC	100	SL	1	% V/V	PO1	B			
	UAN	28	SL	2	% V/V	PO1	B			
7	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.64	1.7	0.4
	tembotrione	3.5	SC	0.246	LB AI/A	PO1	B			
	MSO	100	SL	2	% V/V	PO1	B			
	UAN	28	SL	4	% V/V	PO1	B			
8	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.39	2.3	0.6
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B			
9	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.16	3.7	0.9
	glufosinate	1.67	L	0.26	LB AI/A	PO1	B			
10	Untreated					PRE	A	1.11	1.7	0.4
	dicamba	40	GR	0.125	LB AI/A	PO1	B			
	diflufenzopyr	16	GR	.05						
	NIS	100	SL	0.25	% V/V	PO1	B			
LSD (P=.05)								2.122	5.85	1.82
Standard Deviation								1.237	3.41	1.06
CV								73.87	75.79	83.84

Weed Control in Pickling Cucumber - HTRC

Project Code: WC 108-07-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Pickling cucumber **Variety: Journey**
Planting Method: Seeded **Planting Date: 5/31/07**
Spacing: 3 IN **Row Spacing: 12 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	5/31/07	11:00 am	85/72	°F	Dry	3 S	53	Hazy	N
PO1	6/20/07	9:00 am	70/67	°F	Dry	4 NW	60	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/20	CUCU = cucumber	8-10″		
6/20	GRFT = green foxtail	2-4″		few
6/20	COPU = common purslane	2-4″		few

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. Spray center 16 ft of plot with tractor; area between plots cultivated until covered with vines.

Weed Control in Pickling Cucumber - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 108-07-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CUCU 6/15/07 RATING 1-10	GRFT 6/15/07 RATING 1-10	COPU 6/15/07 RATING 1-10	CUCU 6/26/07 RATING 1-10	CUCU 7/16/07 PLANT KG/PLOT
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	1.3	10.0	10.0	1.3	26.77
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	1.3	10.0	10.0	1.3	17.78
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.3	10.0	10.0	1.7	20.49
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.7	10.0	10.0	1.7	24.36
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	2.0	10.0	10.0	2.3	15.79
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.3	10.0	10.0	2.0	24.11
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	2.0	10.0	10.0	3.0	16.37
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	4.3	10.0	10.0	4.7	11.36
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	cloransulam-methyl	84	DF	0.0031	LB AI/A	PRE	A					
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.7	9.3	10.0	1.3	29.00
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A					
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	3.3	10.0	10.0	3.0	22.75
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	imazethapyr	2	EC	0.0063	LB AI/A	PRE	A					
11	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.0	10.0	10.0	1.0	32.11
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	atrazine	4	F	0.1	LB AI/A	PRE	A					
12	Untreated					PRE	A	1.0	8.7	4.0	1.0	27.14
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
LSD (P=.05)								1.18	0.78	1.76	1.17	14.107
Standard Deviation								0.69	0.46	1.04	0.69	8.331
CV								37.32	4.68	10.96	33.98	37.3

Weed Control in Pickling Cucumber - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CUCU 7/16/07 FRUIT KG/PLOT	CUCU 7/16/07 GRADE 1 KG/PLOT	CUCU 7/16/07 GRADE 2 KG/PLOT	CUCU 7/16/07 GRADE 3 KG/PLOT	CUCU 7/16/07 GRADE OS KG/PLOT
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	32.11	1.11	3.73	20.79	6.04
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	20.76	1.29	3.71	12.88	2.55
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	24.87	1.19	4.24	16.36	2.78
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	28.91	1.63	4.93	19.07	2.88
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	17.87	1.30	4.03	10.89	1.39
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	28.37	1.49	5.65	18.91	1.95
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	16.49	1.32	4.30	9.15	1.43
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	15.31	0.61	2.41	9.75	2.29
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	cloransulam-methyl	84	DF	0.0031	LB AI/A	PRE	A					
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	36.97	1.33	5.30	23.22	6.62
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A					
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	23.69	1.87	5.02	13.94	2.35
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	imazethapyr	2	EC	0.0063	LB AI/A	PRE	A					
11	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	35.85	1.13	3.77	29.30	7.83
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	atrazine	4	F	0.1	LB AI/A	PRE	A					
12	Untreated					PRE	A	30.69	1.51	6.22	20.31	2.21
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
LSD (P=.05)								20.696	0.422	1.739	16.374	3.721
Standard Deviation								12.222	0.249	1.027	9.669	2.198
CV								47.02	18.94	23.12	56.72	65.42

Weed Control in Eggplant and Cherry Pepper - HTRC

Project Code: WC 101-07-03 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Eggplant and Cherry Pepper **Variety: Eggplant – Classic**
Cherry Pepper – Large Sweet
Planting Method: Transplant **Planting Date: 5/23/07**
Spacing: 20 IN **Row Spacing: 36″**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 8 ft wide x 30 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
PRT	5/23/07	11:00 am	86/68	°F	Dry	5 S	40	Clear	N
POT	5/23/07	12:00 pm	86/72	°F	Dry	8 SW	27	10% cloudy	N
PO1	6/12/07	10:15 am	70/67	°F	Dry	2 NE	60	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/12	Eggplant	8-10″		
6/12	Cherry Pepper	6-10″		
6/12	GRFT = green foxtail	1-2″		many
6/12	COPU = common purslane	1-3″		moderate
6/12	CORW = common ragweed	1-2″		many

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 eggplant and 1 row cherry pepper per plot.

Weed Control in Eggplant and Cherry Pepper - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 101-07-03 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	EGGPLNT 6/12/07 RATING 1-10	CH PEPP 6/12/07 RATING 1-10	GRFT 6/12/07 RATING 1-10	COPU 6/12/07 RATING 1-10	CORW 6/12/07 RATING 1-10	RRPW 6/12/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	1.7	1.3	10.0	10.0	7.0	10.0
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.0	1.7	10.0	10.0	6.7	10.0
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	2.0	1.7	9.0	10.0	10.0	10.0
4	fomesafen	2	EC	0.25	LB AI/A	PRT	A	1.0	1.0	8.0	10.0	6.7	10.0
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	3.3	1.7	10.0	10.0	9.0	10.0
	clomazone	3	ME	0.5	LB AI/A	POT	B						
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	B	4.3	4.7	10.0	10.0	9.7	10.0
	halosulfuron	75	WG	0.023	LB AI/A	POT	B						
7	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	6.0	7.7	9.0	10.0	10.0	10.0
8	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	2.3	1.3	10.0	10.0	5.3	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C						
9	pendimethalin	3.8	CS	0.71	LB AI/A	PO1	C	1.0	1.0	5.7	7.0	3.0	7.0
10	pendimethalin	3.8	CS	1.19	LB AI/A	PO1	C	1.0	1.0	1.0	1.0	1.0	4.0
11	pendimethalin	3.8	CS	2.38	LB AI/A	PO1	C	1.0	1.0	3.7	4.0	2.0	1.0
12	Untreated							1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)								1.99	2.47	3.13	3.51	3.74	3.51
Standard Deviation								1.18	1.46	1.85	2.07	2.21	2.07
CV								52.94	69.91	25.39	26.74	37.12	26.74

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	EGGPLNT 6/15/07 PLNT/PLT	CH PEPP 6/15/07 PLNT/PLT	EGGPLNT 6/26/07 RATING 1-10	CH PEPP 6/26/07 RATING 1-10	EGGPLNT 8/3/07 HARVEST NUMBER
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	18.0	17.0	1.7	1.7	1.0
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	17.0	17.0	1.3	1.3	0.3
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	17.0	17.7	2.0	2.0	0.3
4	fomesafen	2	EC	0.25	LB AI/A	PRT	A	17.3	17.3	1.3	1.0	1.3
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	17.7	18.0	2.7	1.7	0.3
	clomazone	3	ME	0.5	LB AI/A	POT	B					
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	B	16.3	13.3	2.7	4.0	1.7
	halosulfuron	75	WG	0.023	LB AI/A	POT	B					
7	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	10.7	2.0	5.3	6.0	0.0
8	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	17.3	18.0	1.0	1.0	3.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
9	pendimethalin	3.8	CS	0.71	LB AI/A	PO1	C	17.7	16.3	1.0	1.3	2.7
10	pendimethalin	3.8	CS	1.19	LB AI/A	PO1	C	17.7	16.7	1.0	1.0	3.0
11	pendimethalin	3.8	CS	2.38	LB AI/A	PO1	C	18.3	15.3	2.3	2.7	2.0
12	Untreated							16.3	14.3	1.0	1.0	2.3
LSD (P=.05)								1.83	3.42	1.93	2.36	1.99
Standard Deviation								1.08	2.02	1.14	1.39	1.18
CV								6.43	13.23	58.65	67.71	78.5

Weed Control in Eggplant and Cherry Pepper - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
Pest Name								EGGPLNT	EGGPLNT	EGGPLNT	EGGPLNT	EGGPLNT
Rating Date								8/3/07	8/9/07	8/9/07	8/16/07	8/16/07
Rating Data Type								HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit								KG/PLOT	NUMBER	KG/PLOT	NUMBER	KG/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	0.45	4.7	1.80	9.7	3.85
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	0.11	4.3	1.62	19.3	7.19
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	0.19	5.3	1.68	13.0	5.34
4	fomesafen	2	EC	0.25	LB AI/A	PRT	A	0.64	6.0	2.10	18.3	4.99
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	0.11	7.0	2.53	10.3	4.17
	clomazone	3	ME	0.5	LB AI/A	POT	B					
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	B	0.75	3.0	1.34	12.0	5.14
	halosulfuron	75	WG	0.023	LB AI/A	POT	B					
7	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	0.00	3.0	1.03	5.0	1.90
8	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	1.25	4.3	1.54	14.7	5.85
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
9	pendimethalin	3.8	CS	0.71	LB AI/A	PO1	C	1.23	5.7	2.07	12.0	5.00
10	pendimethalin	3.8	CS	1.19	LB AI/A	PO1	C	1.09	8.0	2.56	19.0	5.47
11	pendimethalin	3.8	CS	2.38	LB AI/A	PO1	C	0.81	4.3	1.81	11.7	4.49
12	Untreated							0.83	4.3	1.77	15.3	6.03
LSD (P=.05)								0.976	5.61	1.852	10.75	3.805
Standard Deviation								0.576	3.31	1.093	6.35	2.247
CV								92.7	66.26	60.08	47.5	45.37

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
Pest Name								EGGPLNT	EGGPLNT	EGGPLNT	EGGPLNT	EGGPLNT
Rating Date								8/22/07	8/22/07	8/29/07	8/29/07	9/4/07
Rating Data Type								HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit								NUMBER	KG/PLOT	NUMBER	KG/PLOT	NUMBER
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	13.3	5.79	33.0	13.33	26.7
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	14.3	5.47	22.0	9.03	15.0
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	10.3	4.26	14.3	7.36	8.7
4	fomesafen	2	EC	0.25	LB AI/A	PRT	A	8.3	3.21	32.0	13.30	17.0
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	14.7	6.37	34.3	13.49	21.7
	clomazone	3	ME	0.5	LB AI/A	POT	B					
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	B	10.3	4.21	25.7	10.14	20.3
	halosulfuron	75	WG	0.023	LB AI/A	POT	B					
7	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	2.3	0.85	14.3	5.46	5.3
8	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	13.0	4.99	22.3	8.86	27.7
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
9	pendimethalin	3.8	CS	0.71	LB AI/A	PO1	C	11.7	4.80	37.7	15.94	23.0
10	pendimethalin	3.8	CS	1.19	LB AI/A	PO1	C	11.3	4.28	23.0	9.40	26.7
11	pendimethalin	3.8	CS	2.38	LB AI/A	PO1	C	14.3	6.10	40.3	14.81	18.0
12	Untreated							10.0	4.04	19.0	8.40	24.0
LSD (P=.05)								8.20	3.213	20.24	7.390	18.31
Standard Deviation								4.84	1.898	11.95	4.364	10.81
CV								43.37	41.88	45.1	40.43	55.45

Weed Control in Eggplant and Cherry Pepper - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
Pest Name								EGGPLNT	EGGPLNT	EGGPLNT	EGGPLNT	EGGPLNT
Rating Date								9/4/07	9/11/07	9/11/07	9/17/07	9/17/07
Rating Data Type								HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit								KG/PLOT	NUMBER	KG/PLOT	NUMBER	KG/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	9.09	8.3	2.89	9.7	2.33
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	6.36	9.7	4.09	17.7	5.80
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	3.64	7.7	3.10	22.7	6.86
4	fomesafen	2	EC	0.25	LB AI/A	PRT	A	6.39	7.0	2.97	13.7	4.16
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	8.90	12.0	3.89	12.0	3.52
	clomazone	3	ME	0.5	LB AI/A	POT	B					
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	B	7.22	14.3	5.62	26.0	6.74
	halosulfuron	75	WG	0.023	LB AI/A	POT	B					
7	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	1.77	9.3	3.65	22.0	6.43
8	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	10.38	15.0	5.69	15.3	3.89
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
9	pendimethalin	3.8	CS	0.71	LB AI/A	PO1	C	7.87	5.3	1.99	14.0	3.18
10	pendimethalin	3.8	CS	1.19	LB AI/A	PO1	C	10.85	22.7	9.21	14.3	4.46
11	pendimethalin	3.8	CS	2.38	LB AI/A	PO1	C	6.04	7.0	1.60	19.0	4.99
12	Untreated							9.51	13.0	5.22	17.3	4.98
LSD (P=.05)								7.118	14.21	5.592	11.26	3.814
Standard Deviation								4.204	8.39	3.302	6.65	2.252
CV								57.31	76.65	79.37	39.19	47.14

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
Pest Name								EGGPLNT	EGGPLNT	CH PEPP	CH PEPP	CH PEPP
Rating Date										8/24/07	8/30/07	
Rating Data Type								TOTAL	TOTAL	HARVEST	HARVEST	TOTAL
Rating Unit								NUMBER	KG/PLOT	KG/PLOT	KG/PLOT	KG/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	A	106.3	39.53	3.45	3.45	6.89
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	102.7	39.67	4.45	2.61	7.06
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	A	82.3	32.43	2.49	3.85	6.34
4	fomesafen	2	EC	0.25	LB AI/A	PRT	A	103.7	37.76	4.79	4.31	9.09
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	112.3	42.99	4.87	3.42	8.29
	clomazone	3	ME	0.5	LB AI/A	POT	B					
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	B	113.3	41.17	2.19	2.15	4.33
	halosulfuron	75	WG	0.023	LB AI/A	POT	B					
7	tembotrione	3.5	SC	0.123	LB AI/A	PRT	A	61.3	21.08	0.43	0.30	0.73
8	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	B	115.3	42.46	2.51	4.91	7.42
	halosulfuron	75	WG	0.023	LB AI/A	PO1	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	C					
9	pendimethalin	3.8	CS	0.71	LB AI/A	PO1	C	112.0	42.09	1.46	5.69	7.15
10	pendimethalin	3.8	CS	1.19	LB AI/A	PO1	C	128.0	47.32	2.05	4.03	6.08
11	pendimethalin	3.8	CS	2.38	LB AI/A	PO1	C	116.7	40.65	0.71	3.27	3.99
12	Untreated							105.3	40.77	1.32	2.77	4.09
LSD (P=.05)								33.22	12.226	2.444	2.576	2.664
Standard Deviation								19.62	7.220	1.443	1.521	1.573
CV								18.7	18.52	56.37	44.8	26.41

Weed Control in Basil – Momence, IL

Project Code: WC 117-07-01 **Location:** Van Drunen Farms, Momence, IL

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Basil **Variety:** see notes
Planting Method: Seed **Planting Date:** 5/4/07
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: Sparta Loamy Fine Sand **OM:** 2.1% **pH:** 7.6
Sand: 81% **Silt:** 12% **Clay:** 7% **CEC:** 7.7

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/8/07	12:00 pm	85/70	°F	Dry	3 SW	50	10% cloudy	N
PO1	6/6/07	1:00 pm	70/71	°F	Dry	7 SE	60	Clear	N

Date	Crop or Weed Information at Time of Application	Height or Diameter	Growth Stage	Density
6/6	Basil	2″		
6/6	GRFT = green foxtail	1-3″		moderate
6/6	LACG = large crabgrass	1-2″		moderate
6/6	COPU = common purslane	1-2″		moderate
6/6	RRPW = redroot pigweed	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. Plots had four rows, one for each variety: Ceasar, Genova, Esmeralda, and Plenty
4. Basil varieties were rated separately in first rating. Second rating, and harvest varieties were combined.

Weed Control in Basil – Momence, IL

Dept. of Horticulture, MSU

Trial ID: WC 117-07-01 Study Director: Dr. Bernard Zandstra
Location: Momence, IL Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CEASAR	GENOVA	ESMERALD	PLENTY	GOGR	STGR
Crop Code													
Rating Date								6/6/07	6/6/07	6/6/07	6/6/07	6/6/07	6/6/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10	1-10
1	napropamide	50	DF	2	LB AI/A	PRE	A	1.7	1.3	1.0	1.0	10.0	10.0
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	9.7	8.7	8.3	8.0	10.0	10.0
3	sulfentrazone	4	F	0.14	LB AI/A	PRE	A	2.7	2.0	2.0	2.7	9.3	9.3
4	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	8.7	8.7	8.3	8.7	10.0	10.0
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	5.7	3.0	2.3	2.7	8.7	9.0
6	linuron	50	DF	0.25	LB AI/A	PRE	A	2.3	1.7	1.0	1.0	6.7	6.7
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	2.3	2.3	1.7	4.0	9.0	8.7
8	ethalfluralin	3	EC	0.74	LB AI/A	PRE	A	4.7	3.3	2.0	3.0	10.0	10.0
9	Untreated					PRE	A	2.7	1.3	1.0	1.0	6.3	4.3
	bentazon	4	WS	0.5	LB AI/A	PO1	B						
10	Untreated					PRE	A	1.3	1.3	1.0	1.0	6.7	4.7
	clopyralid	3	EC	0.125	LB AI/A	PO1	B						
LSD (P=.05)								2.64	1.35	1.29	1.80	3.85	3.94
Standard Deviation								1.54	0.78	0.75	1.05	2.25	2.30
CV								36.92	23.29	26.26	31.78	25.92	27.77

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	COPU	RRPW	BASIL	GOGR	STGR	CAWE
Crop Code													
Rating Date								6/6/07	6/6/07	6/29/07	6/29/07	6/29/07	6/29/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10	1-10
1	napropamide	50	DF	2	LB AI/A	PRE	A	9.3	10.0	1.0	10.0	9.7	9.7
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	9.7	10.0	7.3	10.0	10.0	6.0
3	sulfentrazone	4	F	0.14	LB AI/A	PRE	A	8.3	10.0	2.7	5.7	5.3	9.0
4	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	10.0	10.0	10.0	9.3	9.7	9.3
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	8.7	10.0	2.3	7.0	6.7	7.7
6	linuron	50	DF	0.25	LB AI/A	PRE	A	8.7	8.7	2.3	6.3	5.3	9.3
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	10.0	10.0	3.0	6.3	7.0	10.0
8	ethalfluralin	3	EC	0.74	LB AI/A	PRE	A	9.3	9.0	1.7	9.3	10.0	10.0
9	Untreated					PRE	A	1.0	1.0	2.0	7.7	3.3	9.7
	bentazon	4	WS	0.5	LB AI/A	PO1	B						
10	Untreated					PRE	A	3.7	6.7	3.0	5.7	4.7	6.7
	clopyralid	3	EC	0.125	LB AI/A	PO1	B						
LSD (P=.05)								2.81	2.77	1.06	3.02	3.65	2.89
Standard Deviation								1.64	1.61	0.62	1.76	2.13	1.69
CV								20.8	18.91	17.48	22.77	29.71	19.3

Weed Control in Basil – Momence, IL

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code		
Crop Code								COPU	BASIL
Rating Date								6/29/07	6/29/07
Rating Data Type								RATING	HARVEST
Rating Unit								1-10	KG/PLOT
1	napropamide	50	DF	2	LB AI/A	PRE	A	7.7	9.85
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	4.3	0.76
3	sulfentrazone	4	F	0.14	LB AI/A	PRE	A	6.0	6.67
4	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	8.3	0.00
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	5.0	6.35
6	linuron	50	DF	0.25	LB AI/A	PRE	A	8.0	6.91
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	10.0	7.86
8	ethalfluralin	3	EC	0.74	LB AI/A	PRE	A	8.3	8.54
9	Untreated					PRE	A	9.3	8.27
	bentazon	4	WS	0.5	LB AI/A	PO1	B		
10	Untreated					PRE	A	3.0	5.00
	clopyralid	3	EC	0.125	LB AI/A	PO1	B		
LSD (P=.05)								2.76	2.623
Standard Deviation								1.61	1.529
CV								23.02	25.4

Weed Control in Cilantro, Dill, Fennel, and Parsley – Momence, IL

Project Code: WC 117-07-02 **Location:** Van Drunen Farms, Momence, IL

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Cilantro, Dill, Fennel, Parsley **Variety:** See notes
Planting Method: Seed **Planting Date:** 5/4/07
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: Sparta Loamy Fine Sand **OM:** 2.1% **pH:** 7.6
Sand: 81% **Silt:** 12% **Clay:** 7% **CEC:** 7.7

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/8/07	12:30 pm	88/73	°F	Dry	3 SW	45	10% cloudy	N
PO1	6/6/07	12:30 pm	67/71	°F	Dry	5 SE	39	Clear	N

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/6	Cilantro	2-3″		
6/6	Dill	2-3″		
6/6	Fennel	2-3″		
6/6	Parsley	0.5-1″		
6/6	GOGR = goosegrass			
6/6	STGR = stinkgrass			
6/6	COPU common lambsquarters			
6/6	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. 1 row crop/plot, Cilantro - Slobolt, Dill - Monmouth, Fennel - Zefafino, Parsley - Green Curled

Weed Control in Cilantro, Dill, Fennel, and Parsley – Momence, IL

Dept. of Horticulture, MSU

Trial ID: WC 117-07-02 Study Director: Dr. Bernard Zandstra
Location: Van Drunen Farms Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CILANTRO 6/6/07 RATING 1-10	DILL 6/6/07 RATING 1-10	FENNEL 6/6/07 RATING 1-10	PARSLEY 6/6/07 RATING 1-10	GOGR 6/6/07 RATING 1-10	STGR 6/6/07 RATING 1-10
1	linuron	50	DF	0.5	LB AI/A	PRE	A	1.0	1.0	1.7	1.0	8.7	9.3
2	prometryn	4	L	0.5	LB AI/A	PRE	A	1.0	1.7	1.3	1.0	8.7	10.0
3	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	1.0	2.0	3.3	1.7	10.0	10.0
4	pendimethalin	3.8	CS	0.5	LB AI/A	PRE	A	1.3	1.3	2.0	1.3	9.7	10.0
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	1.3	2.0	1.0	1.0	9.7	10.0
6	trifluralin	4	EC	0.5	LB AI/A	PRE	A	1.0	1.0	2.3	1.7	10.0	10.0
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	1.3	1.0	2.0	2.0	10.0	10.0
8	Untreated					PRE	A	1.3	1.3	3.0	1.7	4.0	3.7
	linuron	50	DF	1	LB AI/A	PO1	B						
9	Untreated					PRE	A	1.3	1.3	1.3	1.7	4.0	4.0
	prometryn	4	L	1	LB AI/A	PO1	B						
10	Untreated					PRE	A	1.0	1.0	1.3	1.3	1.0	1.0
	ethofumesate	4	SC	1	LB AI/A	PO1	B						
LSD (P=.05)								0.73	0.94	1.50	0.95	3.69	3.52
Standard Deviation								0.43	0.55	0.87	0.55	2.15	2.05
CV								36.51	40.08	45.18	38.68	28.45	26.3

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	COPU 6/6/07 RATING 1-10	RRPW 6/6/07 RATING 1-10	CILANTRO 6/29/07 RATING 1-10	DILL 6/29/07 RATING 1-10	FENNEL 6/29/07 RATING 1-10	PARSLEY 6/29/07 RATING 1-10
1	linuron	50	DF	0.5	LB AI/A	PRE	A	9.3	10.0	1.0	1.3	2.7	2.3
2	prometryn	4	L	0.5	LB AI/A	PRE	A	9.0	9.3	1.0	1.0	1.7	1.7
3	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	9.7	10.0	1.0	1.0	2.0	1.3
4	pendimethalin	3.8	CS	0.5	LB AI/A	PRE	A	10.0	10.0	1.7	1.0	2.0	1.7
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	8.7	10.0	1.3	1.0	1.7	2.0
6	trifluralin	4	EC	0.5	LB AI/A	PRE	A	8.0	8.7	1.7	1.3	2.0	2.0
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	10.0	10.0	1.3	1.3	1.3	1.0
8	Untreated					PRE	A	2.7	4.0	2.0	2.3	5.3	3.0
	linuron	50	DF	1	LB AI/A	PO1	B						
9	Untreated					PRE	A	3.0	3.3	2.7	2.0	4.0	2.3
	prometryn	4	L	1	LB AI/A	PO1	B						
10	Untreated					PRE	A	1.0	1.0	1.7	1.0	1.3	2.3
	ethofumesate	4	SC	1	LB AI/A	PO1	B						
LSD (P=.05)								2.54	3.37	1.06	0.60	1.82	1.39
Standard Deviation								1.48	1.97	0.62	0.35	1.06	0.81
CV								20.74	25.75	40.48	26.22	44.14	41.05

Weed Control in Cilantro, Dill, Fennel, and Parsley – Momence, IL

Dept. of Horticulture, MSU

Pest Name								GOGR	STGR	COPU	CILANTRO	DILL	FENNEL
Rating Date								6/29/07	6/29/07	6/29/07	6/29/07	6/29/07	7/31/07
Rating Data Type								RATING	RATING	RATING	HARVEST	HARVEST	HARVEST
Rating Unit								1-10	1-10	1-10	KG/PLOT	KG/PLOT	#/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code						
1	linuron	50	DF	0.5	LB AI/A	PRE	A	7.0	4.0	5.0	3.39	4.68	40.3
2	prometryn	4	L	0.5	LB AI/A	PRE	A	8.3	7.3	5.0	3.34	4.75	56.0
3	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	9.7	10.0	4.3	3.12	4.09	48.7
4	pendimethalin	3.8	CS	0.5	LB AI/A	PRE	A	9.7	10.0	6.3	2.29	5.04	52.0
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	8.7	9.7	6.3	3.81	4.86	51.3
6	trifluralin	4	EC	0.5	LB AI/A	PRE	A	10.0	9.7	5.0	2.88	4.89	64.7
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	9.7	9.7	10.0	3.75	5.35	56.0
8	Untreated					PRE	A	7.3	4.3	10.0	1.89	3.71	35.7
	linuron	50	DF	1	LB AI/A	PO1	B						
9	Untreated					PRE	A	6.3	5.0	9.7	1.69	3.99	47.3
	prometryn	4	L	1	LB AI/A	PO1	B						
10	Untreated					PRE	A	7.0	5.7	8.3	2.64	4.68	70.3
	ethofumesate	4	SC	1	LB AI/A	PO1	B						
LSD (P=.05)								2.80	3.30	1.71	1.751	0.971	31.76
Standard Deviation								1.63	1.93	1.00	1.021	0.566	18.51
CV								19.48	25.56	14.26	35.44	12.3	35.44

Pest Name								FENNEL	PARSLEY
Rating Date								7/31/07	7/31/07
Rating Data Type								HARVEST	HARVEST
Rating Unit								KG/PLOT	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code		
1	linuron	50	DF	0.5	LB AI/A	PRE	A	2.50	1.80
2	prometryn	4	L	0.5	LB AI/A	PRE	A	4.17	2.14
3	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	3.46	2.27
4	pendimethalin	3.8	CS	0.5	LB AI/A	PRE	A	4.12	2.42
5	ethofumesate	4	SC	1	LB AI/A	PRE	A	4.19	2.10
6	trifluralin	4	EC	0.5	LB AI/A	PRE	A	3.74	1.99
7	clomazone	3	ME	0.25	LB AI/A	PRE	A	5.05	2.78
8	Untreated					PRE	A	3.11	1.79
	linuron	50	DF	1	LB AI/A	PO1	B		
9	Untreated					PRE	A	2.28	2.05
	prometryn	4	L	1	LB AI/A	PO1	B		
10	Untreated					PRE	A	4.32	1.76
	ethofumesate	4	SC	1	LB AI/A	PO1	B		
LSD (P=.05)								2.269	1.142
Standard Deviation								1.323	0.666
CV								35.81	31.54

Weed Control in Established Chive – Momence, IL

Project Code: WC 112-07-08 **Location:** Van Drunen Farms, Momence, IL

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Established Chive **Variety:** Talman
Planting Method: Seed **Planting Date:** 5/5/06
Spacing: 3 IN **Row Spacing:** 12 IN
Tillage Type: Conventional **Study Design:** RCB **Replications:** 3
Plot Size: 6 ft wide x 30 ft long

Soil Type: Hoopston Fine Sandy Loam **OM:** 3.3% **pH:** 6.9
Sand: 69% **Silt:** 18% **Clay:** 13% **CEC:** 7.7

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/8/07	1:30 pm	88/73	°F	Dry	3 SW	45	10% cloudy	N
PO1	6/6/07	3:00 pm	75/72	°F	Dry	6 SE	40	Clear	N

Date	Crop or Weed Information at Application	Height or Diameter	Growth Stage	Density
5/8	Chive	4-6″		
6/6	Chive	6-8″		
6/6	RRPW = redroot pigweed	2-8″		moderate
6/6	VELE = velvetleaf	1-6″		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. 2 row/plot
4. Harvested once: 6/29/07.

Weed Control in Established Chive – Momence, IL

Dept. of Horticulture, MSU

Trial ID: WC 112-07-08 Study Director: Dr. Bernard Zandstra
Location: Van Drunen Farms Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHIVE 6/6/07 RATING 1-10	COPU 6/6/07 RATING 1-10	RRPW 6/6/07 RATING 1-10	VELE 6/6/07 RATING 1-10	CHIVE 6/29/07 RATING 1-10	STGR 6/29/07 RATING 1-10
1	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	1.3	9.3	6.7	8.7	1.3	9.7
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	1.7	5.3	7.0	6.7	1.0	9.7
3	dimethenamid-P	6	EC	0.56	LB AI/A	PRE	A	2.3	4.7	7.0	5.7	1.3	9.0
4	ethofumesate	4	SC	1	LB AI/A	PRE	A	1.7	8.3	8.3	8.7	1.3	7.0
5	oxyfluorfen	4	SC	0.125	LB AI/A	PRE	A	2.0	10.0	10.0	9.7	1.7	8.7
6	bentazon	4	WS	0.5	LB AI/A	PO1	B	1.3	2.0	7.7	7.3	1.0	5.3
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B	1.7	5.3	7.0	7.7	1.7	8.0
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	1.3	7.0	9.3	8.7	1.0	9.0
9	flumioxazin	51	WDG	0.032	LB AI/A	PO1	B	1.3	5.7	6.0	8.0	1.3	8.0
10	Untreated							1.0	5.3	9.0	8.0	1.0	7.7
LSD (P=.05)								1.76	4.69	6.35	4.19	0.98	3.99
Standard Deviation								1.02	2.73	3.70	2.44	0.57	2.33
CV								65.35	43.38	47.48	30.88	45.33	28.39

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CAWE 6/29/07 RATING 1-10	COPU 6/29/07 RATING 1-10	RRPW 6/29/07 RATING 1-10	VELE 6/29/07 RATING 1-10	CHIVE 6/29/07 HARVEST KG/PLOT
1	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	10.0	7.3	7.0	5.3	5.58
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	6.7	7.3	6.0	5.0	4.93
3	dimethenamid-P	6	EC	0.56	LB AI/A	PRE	A	7.3	6.3	6.7	4.0	5.34
4	ethofumesate	4	SC	1	LB AI/A	PRE	A	4.0	3.0	7.7	5.3	5.90
5	oxyfluorfen	4	SC	0.125	LB AI/A	PRE	A	10.0	6.3	9.3	5.0	6.55
6	bentazon	4	WS	0.5	LB AI/A	PO1	B	3.3	7.0	8.7	7.3	6.02
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B	8.3	7.3	8.7	7.0	7.45
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	7.3	9.0	9.0	7.0	7.12
9	flumioxazin	51	WDG	0.032	LB AI/A	PO1	B	7.0	1.7	9.0	6.7	6.79
10	Untreated							7.7	1.0	8.3	7.0	8.67
LSD (P=.05)								4.89	2.33	4.57	4.38	3.518
Standard Deviation								2.85	1.36	2.67	2.55	2.050
CV								39.76	24.08	33.19	42.8	31.86

Weed Control in Lettuce – Muck Farm

Project Code: WC 116-07-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: See notes **Variety: See notes**
Planting Method: Seeded **Planting Date: 5/22/07**
Spacing: 12 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

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	5/25/07	1:30 pm	64/79	°F	Adequate	5 W	72	50 % cloudy	N
PO1	6/11/07	9:45 am	81/65	°F	Adequate	1 NE	55	Clear	N

Crop and Weed Information at Application

		Height or Diameter	Growth Stage	Density
6/11	HEAD = head lettuce	3″		
6/11	LEAF = leaf lettuce	3″		
6/11	ROMAINE = romaine lettuce	3″		
6/11	COPU = common purslane	2″		Many
6/11	RRPW = redroot pigweed	2″		Few
6/14	LACG = large crabgrass			
6/14	COLQ = common lambsquarters			
6/14	COPU = common purslane			
6/14	RRPW = redroot pigweed			
6/14	TUPW = tumble pigweed			
6/22	LACG = large crabgrass			
6/22	COLQ = common lambsquarters			
6/22	COPU = common purslane			
6/22	RRPW = redroot pigweed			
6/22	TUPW = tumble 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 (Black Seeded Simpson), Head (Great Lakes 659)
4. Lettuce that received PRE treatments were weeded on 6/18, and all treatments were weeded 7/6.
5. Intense weed pressure due to wet fields reduced effectiveness of POST treatments, which resulted in reduced yields.

Weed Control in Lettuce – Muck Farm

Dept. of Horticulture, MSU

Trial ID: 116-07-01 Study Director: Dr. Bernard Zandstra
Location: Muck Farm B20 Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	LEAF 6/14/07 RATING 1-10	HEAD 6/14/07 RATING 1-10	ROMAINE 6/14/07 RATING 1-10	LACG 6/14/07 RATING 1-10	COLQ 6/14/07 RATING 1-10	COPU 6/14/07 RATING 1-10
1	pronamide	50	WP	6	LB AI/A	PRE	A	5.0	1.7	2.0	6.3	2.3	5.0
2	sulfentrazone	4	F	0.125	LB AI/A	PRE	A	7.7	5.0	5.7	6.7	8.3	6.7
3	imazosulfuron	75	WDG	0.1	LB AI/A	PRE	A	6.0	2.0	3.0	1.7	2.7	3.7
4	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	A	5.0	4.7	5.0	4.3	2.3	4.3
5	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	3.3	2.0	2.7	6.0	4.0	4.3
6	imazamox	1	AS	0.016	LB AI/A	PO1	B	1.0	1.0	1.0	1.7	2.3	1.0
7	imazethapyr	2	EC	0.047	LB AI/A	PO1	B	2.3	1.0	1.7	1.0	1.7	1.7
8	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B	2.3	1.7	1.7	1.0	1.7	1.0
9	ethofumesate	4	SC	1	LB AI/A	PO1	B	1.7	1.0	1.3	1.0	1.3	1.7
10	Untreated							1.3	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)								3.16	2.51	2.83	4.16	2.42	3.08
Standard Deviation								1.84	1.46	1.65	2.43	1.41	1.79
CV								51.67	69.73	65.95	79.16	51.02	59.14

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RRPW 6/14/07 RATING 1-10	TUPW 6/14/07 RATING 1-10	LEAF 6/22/07 RATING 1-10	HEAD 6/22/07 RATING 1-10	ROMAINE 6/22/07 RATING 1-10	LACG 6/22/07 RATING 1-10
1	pronamide	50	WP	6	LB AI/A	PRE	A	3.0	3.3	3.7	1.3	1.7	10.0
2	sulfentrazone	4	F	0.125	LB AI/A	PRE	A	6.7	5.3	6.0	4.0	3.7	7.3
3	imazosulfuron	75	WDG	0.1	LB AI/A	PRE	A	6.7	8.3	5.3	1.0	1.7	5.3
4	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	A	6.3	5.7	6.0	4.7	5.7	10.0
5	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	5.3	7.7	2.3	1.0	3.0	5.7
6	imazamox	1	AS	0.016	LB AI/A	PO1	B	6.0	1.0	1.0	1.0	1.0	5.7
7	imazethapyr	2	EC	0.047	LB AI/A	PO1	B	7.0	1.7	1.3	1.0	1.3	6.7
8	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B	5.3	2.7	5.7	5.7	6.0	1.7
9	ethofumesate	4	SC	1	LB AI/A	PO1	B	5.7	1.7	1.0	1.0	1.7	5.7
10	Untreated							1.0	0.7	2.0	1.7	1.0	8.0
LSD (P=.05)								4.06	4.37	2.43	1.86	2.26	4.84
Standard Deviation								2.37	2.55	1.42	1.09	1.32	2.82
CV								44.65	66.98	41.23	48.59	49.32	42.78

Weed Control in Lettuce – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	COLQ 6/22/07 RATING 1-10	COPU 6/22/07 RATING 1-10	RRPW 6/22/07 RATING 1-10	TUPW 6/22/07 RATING 1-10	LEAF 7/9/07 HARVEST KG/PLOT	ROMAINE 7/18/07 HARVEST #/PLOT
1	pronamide	50	WP	6	LB AI/A	PRE	A	7.7	9.3	9.0	8.7	3.37	27.0
2	sulfentrazone	4	F	0.125	LB AI/A	PRE	A	9.3	8.3	9.3	8.3	2.27	12.0
3	imazosulfuron	75	WDG	0.1	LB AI/A	PRE	A	5.0	7.7	8.3	9.0	1.93	24.0
4	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	A	7.3	6.3	7.7	8.7	1.34	18.0
5	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	7.3	5.7	8.3	7.0	4.21	18.0
6	imazamox	1	AS	0.016	LB AI/A	PO1	B	1.7	4.3	7.0	3.3	1.35	23.3
7	imazethapyr	2	EC	0.047	LB AI/A	PO1	B	3.0	5.7	8.3	3.7	1.15	28.3
8	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B	1.7	4.3	9.0	7.0	0.58	19.0
9	ethofumesate	4	SC	1	LB AI/A	PO1	B	7.3	8.0	8.0	1.7	2.55	25.0
10	Untreated							9.3	8.0	9.3	8.7	3.80	29.3
LSD (P=.05)								4.99	3.68	2.35	3.38	1.465	8.87
Standard Deviation								2.91	2.15	1.37	1.97	0.854	5.17
CV								48.71	31.71	16.23	29.85	37.89	23.09

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ROMAINE 7/18/07 HARVEST KG/PLOT	HEAD 7/23/07 HARVEST #/PLOT	HEAD 7/23/07 HARVEST KG/PLOT
1	pronamide	50	WP	6	LB AI/A	PRE	A	13.81	15.3	9.99
2	sulfentrazone	4	F	0.125	LB AI/A	PRE	A	9.52	15.3	10.77
3	imazosulfuron	75	WDG	0.1	LB AI/A	PRE	A	15.25	23.0	14.83
4	s-metolachlor	7.62	EC	0.95	LB AI/A	PRE	A	7.31	13.7	7.69
5	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	10.54	18.3	12.34
6	imazamox	1	AS	0.016	LB AI/A	PO1	B	6.80	5.3	2.29
7	imazethapyr	2	EC	0.047	LB AI/A	PO1	B	10.67	9.3	3.81
8	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B	4.38	4.3	1.57
9	ethofumesate	4	SC	1	LB AI/A	PO1	B	9.44	11.3	5.17
10	Untreated							16.12	14.7	8.42
LSD (P=.05)								4.086	5.97	3.731
Standard Deviation								2.382	3.48	2.175
CV								22.94	26.65	28.29

Weed Control in Romaine Lettuce – Imlay City

Project Code: WC 116-07-02 **Location: Van Dyk Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Lettuce **Variety: Capistrano**
Planting Method: Seeded **Planting Date: 6/21/07**
Spacing: 12 in **Row Spacing: 24 in, 2 rows/plot**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 3.33 ft wide x 30 ft long

Soil Type: Adrian Muck **OM: 65%** **pH: 7.0**
Sand: 17% **Silt: 15%** **Clay: 3%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	6/22/07	11:30 am	67/60	°F	Damp	3 N	43	10% cloudy	N
PO1	7/3/07	11:30 am	72/62	°F	Dry	5 SE	39	30% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
7/3	Lettuce			
7/3	LACG – large crabgrass	.5-1″		few
7/3	COPU = common purslane			
7/3	RRPW = redroot pigweed	.5-1″		many
7/12	Lettuce			
7/12	COPU = common purslane	.5-1″		many
7/12	LATH = ladysthumb			
7/12	RRPW = redroot 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.

Weed Control in Romaine Lettuce – Imlay City

Dept. of Horticulture, MSU

Trial ID: WC 116-07-2 Study Director: Dr. Bernard Zandstra
Location: Imlay City Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ROMAINE 7/3/07 RATING 1-10	LACG 7/3/07 RATING 1-10	COPU 7/3/07 RATING 1-10	RRPW 7/3/07 RATING 1-10	ROMAINE 7/12/07 RATING 1-10	COPU 7/12/07 RATING 1-10
1	pronamide	50	WP	4	LB AI/A	PRE	A	1.3	9.0	8.3	4.7	1.0	8.0
2	sulfentrazone	4	F	0.1	LB AI/A	PRE	A	1.3	7.3	4.0	6.3	1.0	3.3
3	imazosulfuron	75	WDG	0.1	LB AI/A	PRE	A	1.7	9.3	4.7	7.0	1.7	1.3
4	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	4.7	10.0	8.3	3.3	5.7	6.0
5	imazamox	1	AS	0.016	LB AI/A	PO1	B	1.0	1.0	1.0	1.0	1.0	1.0
6	imazethapyr	2	EC	0.045	LB AI/A	PO1	B	1.0	1.7	1.3	1.3	1.3	2.3
7	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B	1.0	1.3	1.0	1.0	3.3	1.7
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	1.7	1.0	1.0	1.0	1.3	8.3
LSD (P=.05)								1.50	1.45	3.05	3.12	1.15	1.73
Standard Deviation								0.86	0.83	1.74	1.78	0.65	0.99
CV								50.09	16.28	46.89	55.47	32.06	24.63

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	LATH 7/12/07 RATING 1-10	RRPW 7/12/07 RATING 1-10	ROMAINE 8/13/07 HARVEST #/PLOT	ROMAINE 8/13/07 HARVEST KG/PLOT
1	pronamide	50	WP	4	LB AI/A	PRE	A	5.3	1.3	83.3	72.76
2	sulfentrazone	4	F	0.1	LB AI/A	PRE	A	3.7	4.0	68.7	59.87
3	imazosulfuron	75	WDG	0.1	LB AI/A	PRE	A	5.0	4.3	60.7	58.22
4	pendimethalin	3.8	CS	0.95	LB AI/A	PRE	A	4.3	2.7	50.3	36.95
5	imazamox	1	AS	0.016	LB AI/A	PO1	B	7.3	6.3	65.7	62.15
6	imazethapyr	2	EC	0.045	LB AI/A	PO1	B	8.3	8.3	75.7	72.24
7	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B	7.7	6.3	61.3	47.43
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	8.7	4.3	69.7	59.27
LSD (P=.05)								3.97	3.30	17.22	19.439
Standard Deviation								2.27	1.88	9.83	11.099
CV								36.07	39.97	14.69	18.94

Weed Control in Mint – St. Johns

Project Code: WC 121-07-01 **Location: Tom Irrer Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Mint **Variety: Native spearmint**
Planting Method: Seeded **Planting Date: 2005**
Spacing: Solid **Row Spacing: Meadow Mint**
Tillage Type: **Study Design: RCB** **Replications: 3**
Plot Size: 15 ft wide x 120 ft long

Soil Type: Capac Loam **OM: 3.9%** **pH: 5.5**
Sand: 50% **Silt: 30%** **Clay: 20%** **CEC: 11.5**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	3/29/07	3:00 pm	55/35	°F	Damp	10 E	20%	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
	Mint	1-2″	30% Emerged	Good

HOWE = horseweed
PRLE = prickly lettuce
VIPW = Virginia pepperweed

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 121-07-01 Study Director: Dr. Bernard Zandstra
Location: St. Johns Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	MINT	HOWE	PRLE	VIPW
Pest Name								MINT	HOWE	PRLE	VIPW
Rating Date								6/19/07	6/19/07	6/19/07	6/19/07
Rating Data Type								RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10
1	clomazone	3	ME	0.5	LB AI/A	PRE	A	2.7	9.3	9.7	5.3
2	terbacil	80	WP	0.32	LB AI/A	PRE	A	2.7	10.0	10.0	10.0
	oxyfluorfen	2	L	0.31	LB AI/A	PRE	A				
	paraquat	3	L	0.56	LB AI/A	PRE	A				
	NIS	100	SL	0.5	% V/V	PRE	A				
3	clomazone	3	ME	0.5	LB AI/A	PRE	A	2.7	10.0	10.0	9.7
	terbacil	80	WP	0.32	LB AI/A	PRE	A				
4	clomazone	3	ME	0.5	LB AI/A	PRE	A	3.3	10.0	8.7	10.0
	terbacil	80	WP	0.32	LB AI/A	PRE	A				
	oxyfluorfen	2	L	0.31	LB AI/A	PRE	A				
	paraquat	3	L	0.56	LB AI/A	PRE	A				
	NIS	100	SL	0.5	% V/V	PRE	A				
5	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	4.7	4.0	8.0	8.3
6	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	5.7	10.0	9.0	10.0
	terbacil	80	WP	0.32	LB AI/A	PRE	A				
7	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	4.3	10.0	9.7	10.0
	terbacil	80	WP	0.32	LB AI/A	PRE	A				
	oxyfluorfen	2	L	0.31	LB AI/A	PRE	A				
	paraquat	3	L	0.56	LB AI/A	PRE	A				
	NIS	100	SL	0.5	LB AI/A	PRE	A				
8	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	5.7	9.0	9.3	7.7
	clomazone	3	ME	0.5	LB AI/A	PRE	A				
9	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	4.7	10.0	10.0	9.3
	clomazone	3	ME	0.5	LB AI/A	PRE	A				
	oxyfluorfen	2	L	0.31	LB AI/A	PRE	A				
	paraquat	3	L	0.56	LB AI/A	PRE	A				
10	flumioxazin	51	WDG	0.128	LB AI/A	PRE	A	3.7	10.0	9.3	10.0
	clomazone	3	ME	0.5	LB AI/A	PRE	A				
	terbacil	80	WP	0.32	LB AI/A	PRE	A				
	oxyfluorfen	2	L	0.31	LB AI/A	PRE	A				
	paraquat	3	L	0.56	LB AI/A	PRE	A				
	NIS	100	SL	0.5	% V/V	PRE	A				
11	terbacil	80	WP	0.8	LB AI/A	PRE	A	1.3	10.0	10.0	9.3
12	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	6.0	10.0	10.0	10.0
	sulfentrazone	4	F	0.25	LB AI/A	PRE	A				
LSD (P=.05)								1.76	2.07	1.28	2.50
Standard Deviation								1.04	1.22	0.76	1.48
CV								26.36	13.07	7.99	16.15

Preemergence Weed Control in Onion – Muck Farm

Project Code: WC 112-07-01 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Nebula and Mars**
Planting Method: Seeded **Planting Date: 5/7/07**
Spacing: 0.75 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: 78%** **pH: 6.8**
Sand: 7% **Silt: 14%** **Clay: 1%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/11/07	11:30 am	80/60	°F	Dry	2 W	36	5% cloudy	N
PO2	6/8/07	9:45 am	77/70	°F	Dry	6 SE	69	90% cloudy	N
PO3	7/2/07	1:30 pm	62/58	°F	Dry	5 E	59	40% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/8	Onion		2 LS	
6/8	COLQ = common lambsquarters	4-6″		Few
6/8	RRPW = redroot pigweed	4-8″		moderate
7/2	Onion		5 LS	
7/2	YENS = yellow nutsedge	4-8″		moderate
7/2	COLQ = common lambsquarters	8-12″		moderate
7/2	RRPW = redroot pigweed	8-12″		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. Three rows were 16 inches apart on a raised bed.
4. Two rows Nebula and one row Mars/plot.
5. Harvested 16.67 ft from each plot.

Preemergence Weed Control in Onion – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-07-01 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	NEBULA RATING 1-10	MARS 6/4/07 RATING 1-10	LACG 6/4/07 RATING 1-10	COLQ 6/4/07 RATING 1-10	COPU 6/4/07 RATING 1-10	LATH 6/4/07 RATING 1-10	RRPW 6/4/07 RATING 1-10
1	pendimethalin	3.8	CS	1.9	LB AI/A	PRE,PO23	ABC	1.0	1.0	8.3	9.0	8.7	8.7	8.0
2	pendimethalin	3.3	EC	2	LB AI/A	PRE,PO23	ABC	1.0	1.0	9.0	9.3	8.7	7.7	7.3
3	pendimethalin	3.8	CS	1.9	LB AI/A	PRE, PO2	AB	1.0	1.0	8.0	9.0	8.7	7.0	7.0
	flumioxazin	51	WDG	0.032	LB AI/A	PO2	B							
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C							
4	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	8.7	9.0	8.7	8.0	8.0
	s-metolachlor	7.62	EC	1.2	LB AI/A	PO2	B							
	flumioxazin	51	WDG	0.032	LB AI/A	PO2	B							
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C							
5	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	8.7	9.3	8.7	7.3	7.0
	flumioxazin	51	WDG	0.032	LB AI/A	PO2	B							
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C							
6	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	8.7	9.3	8.7	7.7	8.0
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC							
7	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	9.0	9.0	8.7	8.0	7.7
	flumioxazin	51	WDG	0.064	LB AI/A	PO2,3	BC							
8	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	8.7	9.3	8.7	7.0	7.0
	s-metolachlor	7.62	EC	1.2	LB AI/A	PO2	B							
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C							
9	pendimethalin	3.8	CS	1.9	LB AI/A	PRE,PO23	ABC	1.0	1.0	9.0	8.7	8.7	8.0	7.7
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC							
10	pendimethalin	3.8	CS	1.9	LB AI/A	PRE,PO23	ABC	1.0	1.0	9.3	7.0	8.7	8.0	7.7
	flumioxazin	51	WDG	0.064	LB AI/A	PO2,3	BC							
11	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	8.0	9.0	8.7	8.0	7.7
	s-metolachlor	7.62	EC	1.2	LB AI/A	PO2	B							
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC							
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C							
12	Untreated							1.0	1.0	1.0	4.0	3.7	1.0	1.0
LSD (P=.05)								0.00	0.00	1.27	3.90	2.13	1.23	0.98
Standard Deviation								0.00	0.00	0.75	2.30	1.26	0.73	0.58
CV								0.0	0.0	9.31	27.11	15.25	10.1	8.25

Preemergence Weed Control in Onion – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	NEBULA 6/22/07 RATING 1-10	MARS 6/22/07 RATING 1-10	NEBULA 7/11/07 RATING 1-10	MARS 7/11/07 RATING 1-10	NEBULA 9/19/07 HARVEST KG/PLOT	MARS 9/20/07 HARVEST KG/PLOT
1	pendimethalin	3.8	CS	1.9	LB AI/A	PRE,PO23	ABC	1.3	1.3	2.0	2.0	40.22	19.64
2	pendimethalin	3.3	EC	2	LB AI/A	PRE,PO23	ABC	1.0	1.0	1.3	1.7	43.35	17.65
3	pendimethalin	3.8	CS	1.9	LB AI/A	PRE, PO2	AB	1.0	1.0	1.3	1.0	39.37	19.99
	flumioxazin	51	WDG	0.032	LB AI/A	PO2	B						
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C						
4	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	3.3	3.7	2.7	3.0	38.35	13.57
	s-metolachlor	7.62	EC	1.2	LB AI/A	PO2	B						
	flumioxazin	51	WDG	0.032	LB AI/A	PO2	B						
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C						
5	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	1.3	1.3	43.11	20.39
	flumioxazin	51	WDG	0.032	LB AI/A	PO2	B						
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C						
6	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.0	1.3	1.0	46.40	20.27
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
7	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.0	1.3	1.7	1.3	42.19	20.09
	flumioxazin	51	WDG	0.064	LB AI/A	PO2,3	BC						
8	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	1.3	1.3	1.0	1.0	42.66	18.46
	s-metolachlor	7.62	EC	1.2	LB AI/A	PO2	B						
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C						
9	pendimethalin	3.8	CS	1.9	LB AI/A	PRE,PO23	ABC	1.0	1.3	1.3	1.3	41.96	19.00
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
10	pendimethalin	3.8	CS	1.9	LB AI/A	PRE,PO23	ABC	1.0	1.0	1.0	1.0	46.19	21.25
	flumioxazin	51	WDG	0.064	LB AI/A	PO2,3	BC						
11	pendimethalin	3.8	CS	1.9	LB AI/A	PRE	A	2.3	3.0	2.3	2.3	33.08	16.19
	s-metolachlor	7.62	EC	1.2	LB AI/A	PO2	B						
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
	dimethenamid-P	6	EC	0.98	LB AI/A	PO3	C						
12	Untreated							1.3	1.3	1.7	1.3	42.49	18.58
LSD (P=.05)								0.75	0.83	0.88	1.21	10.474	4.070
Standard Deviation								0.44	0.49	0.52	0.72	6.185	2.404
CV								31.75	32.06	32.98	46.86	14.86	12.82

Postemergence Weed Control in Onion – Muck Farm

Project Code: WC 112-07-02 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Nebula, Mars**
Planting Method: Seeded **Planting Date: 5/7/07**
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: 6.8**
Sand: 7% **Silt: 14%** **Clay: 1%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/4/07	2:30 pm	78/69	°F	Moist	7 SW	57	50% cloudy	N
PO2	6/11/07	10:20 am	81/66	°F	Dry	2 NE	55	Clear	N
PO3	6/18/07	10:00 am	84/74	°F	Dry	7 S	60	5% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/4	Onion		1 leaf	
6/4	YENS = yellow nutsedge	2-6″		moderate
6/4	COLQ = common lambsquarter	1-4″		moderate
6/4	RRPW = redroot pigweed	2-4″		moderate
6/11	Onion		2 leaf	
6/11	YENS = yellow nutsedge	3-5″		many
6/11	COLQ = common lambsquarters	4-6″		many
6/11	COPU = common purslane	2″		moderate
6/11	RRPW = redroot pigweed			
6/18	Onion		4 leaf	
6/18	YENS = yellow nutsedge	6-12″		many
6/18	COLQ = common lambsquarters	4-8″		moderate
6/18	COPU = common purslane	4-6″		moderate
6/18	LATH = ladysthumb	2-4″		moderate
6/18	RRPW = redroot pigweed	2-6″		many

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. Three row groupings were 16 inches apart on a raised bed.
4. Two rows Nebula and one row Mars/plot
5. Harvested 16.67 ft from each plot.
6. The whole experiment was treated with Prowl H2O 4 lb ai/acre after seeding.

Postemergence Weed Control in Onion – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-07-02 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	NEBULA 6/26/07 RATING 1-10	MARS 6/26/07 RATING 1-10	LACG 6/26/07 RATING 1-10	YENS 6/26/07 RATING 1-10	COLQ 6/26/07 RATING 1-10	LATH 6/26/07 RATING 1-10
1	oxyfluorfen	2	L	0.031	LB AI/A	PO1,3	AC	1.3	1.3	10.0	5.7	10.0	6.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC						
2	oxyfluorfen	2	L	0.063	LB AI/A	PO1,3	AC	1.7	1.7	10.0	5.3	10.0	6.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO3	AC						
3	oxyfluorfen	2	L	0.063	LB AI/A	PO2,3	BC	1.3	1.3	10.0	4.3	10.0	9.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
4	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,3	AC	1.0	1.0	10.0	6.7	10.0	9.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC						
5	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,3	AC	1.0	1.0	10.0	4.3	10.0	8.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC						
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	2.3	2.3	10.0	4.3	10.0	8.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	2.0	2.0	10.0	4.0	10.0	9.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	NIS	100	SL	0.25	% V/V	PO2,3	BC						
8	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	3.0	3.0	10.0	4.3	10.0	9.3
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
9	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	4.7	4.7	10.0	6.7	10.0	10.0
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	NIS	100	SL	0.25	% V/V	PO2,3	BC						
10	bentazon	4	WS	0.5	LB AI/A	PO2,3	BC	2.0	2.3	9.0	4.7	9.7	8.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
11	ethofumesate	4	SC	0.5	LB AI/A	PO2,3	BC	1.3	1.3	10.0	3.3	10.0	8.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
12	oxyfluorfen	4	SC	0.063	LB AI/A	PO2	B	1.7	1.7	10.0	3.3	7.7	5.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2	B						
	fluroxypyr	1.5	L	0.063	LB AI/A	PO3	C						
13	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	1.3	1.3	10.0	6.7	8.3	8.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	Techmangam	100	SP	4	LB AI/A	PO2,3	BC						
14	bentazon	4	WS	0.5	LB AI/A	PO2,3	BC	3.0	3.3	10.0	10.0	10.0	10.0
	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	NIS	100	SL	0.25	% V/V	PO2,3	BC						
LSD (P=.05)								1.03	1.06	0.45	5.06	2.13	3.28
Standard Deviation								0.62	0.63	0.27	3.02	1.27	1.96
CV								31.16	31.15	2.69	57.32	13.11	23.81

Postemergence Weed Control in Onion – Muck Farm

Dept. of Horticulture, MSU

Pest Name								RRPW	NEBULA	MARS	LACG	COPU	LATH
Rating Date								6/26/07	7/11/07	7/11/07	7/11/07	7/11/07	7/11/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10	1-10
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code						
1	oxyfluorfen	2	L	0.031	LB AI/A	PO1,3	AC	7.3	1.3	1.3	10.0	7.3	9.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC						
2	oxyfluorfen	2	L	0.063	LB AI/A	PO1,3	AC	9.0	2.7	2.7	10.0	8.0	8.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO3	AC						
3	oxyfluorfen	2	L	0.063	LB AI/A	PO2,3	BC	8.7	1.0	1.0	9.0	8.7	9.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
4	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,3	AC	8.7	1.0	1.0	9.3	8.0	9.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC						
5	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,3	AC	9.0	1.0	1.0	10.0	9.3	9.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC						
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	9.3	2.7	2.7	7.7	7.7	9.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	9.7	1.0	1.3	10.0	9.3	9.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	NIS	100	SL	0.25	% V/V	PO2,3	BC						
8	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	10.0	1.7	1.3	10.0	10.0	9.7
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
9	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	10.0	3.0	3.0	10.0	9.7	9.7
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	NIS	100	SL	0.25	% V/V	PO2,3	BC						
10	bentazon	4	WS	0.5	LB AI/A	PO2,3	BC	7.0	2.3	2.0	9.0	6.7	9.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
11	ethofumesate	4	SC	0.5	LB AI/A	PO2,3	BC	7.0	2.0	1.7	10.0	9.0	10.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
12	oxyfluorfen	4	SC	0.063	LB AI/A	PO2	B	5.3	1.7	1.3	10.0	6.3	10.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2	B						
	fluroxypyr	1.5	L	0.063	LB AI/A	PO3	C						
13	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	8.3	3.0	3.0	9.3	8.3	9.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	Techmangam	100	SP	4	LB AI/A	PO2,3	BC						
14	bentazon	4	WS	0.5	LB AI/A	PO2,3	BC	10.0	2.0	2.0	9.3	9.3	10.0
	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC						
	NIS	100	SL	0.25	% V/V	PO2,3	BC						
LSD (P=.05)								1.98	2.48	2.46	1.80	2.77	1.42
Standard Deviation								1.18	1.48	1.47	1.07	1.65	0.85
CV								13.87	78.49	81.14	11.21	19.63	8.86

Postemergence Weed Control in Onion – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RRPW	NEBULA	MARS
Pest Name								RRPW	NEBULA	MARS
Rating Date								7/11/07	9/19/07	9/19/07
Rating Data Type								RATING	HARVEST	HARVEST
Rating Unit								1-10	KG/PLOT	KG/PLOT
1	oxyfluorfen	2	L	0.031	LB AI/A	PO1,3	AC	9.0	39.28	20.41
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC			
2	oxyfluorfen	2	L	0.063	LB AI/A	PO1,3	AC	8.3	35.09	15.06
	sethoxydim	1.53	EC	0.19	LB AI/A	PO3	AC			
3	oxyfluorfen	2	L	0.063	LB AI/A	PO2,3	BC	8.3	46.04	22.18
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
4	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,3	AC	8.3	40.41	22.08
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC			
5	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,3	AC	8.7	44.48	19.06
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,3	AC			
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	9.0	35.02	16.98
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	9.0	46.72	21.37
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
	NIS	100	SL	0.25	% V/V	PO2,3	BC			
8	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	10.0	44.21	22.14
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC			
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
9	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	10.0	34.95	16.91
	flumioxazin	51	WDG	0.032	LB AI/A	PO2,3	BC			
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
	NIS	100	SL	0.25	% V/V	PO2,3	BC			
10	bentazon	4	WS	0.5	LB AI/A	PO2,3	BC	8.0	32.72	13.03
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
11	ethofumesate	4	SC	0.5	LB AI/A	PO2,3	BC	9.3	35.70	15.51
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
12	oxyfluorfen	4	SC	0.063	LB AI/A	PO2	B	7.7	38.09	17.72
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2	B			
	fluroxypyr	1.5	L	0.063	LB AI/A	PO3	C			
13	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC	8.0	30.96	16.60
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
	Techmangam	100	SP	4	LB AI/A	PO2,3	BC			
14	bentazon	4	WS	0.5	LB AI/A	PO2,3	BC	9.0	35.04	15.11
	oxyfluorfen	4	SC	0.063	LB AI/A	PO2,3	BC			
	sethoxydim	1.53	EC	0.19	LB AI/A	PO2,3	BC			
	NIS	100	SL	0.25	% V/V	PO2,3	BC			
LSD (P=.05)								1.53	15.223	9.101
Standard Deviation								0.91	9.068	5.422
CV								10.42	23.57	29.86

Postemergence Weed Control in Onion with Basagran – Muck Farm

Project Code: WC 112-07-03 **Location: Muck Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: See notes**
Planting Method: Seeded **Planting Date: 5/7/07**
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: 6.8**
Sand: 7% **Silt: 14%** **Clay: 1%** **CEC: N/A**

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PO1	6/8/07	9:00 am	77/70	°F	Dry	6 SE	69	90% cloudy	N
PO2	6/18/07	9:15 am	81/73	°F	Dry	4 S	64	5% cloudy	N
PO3	7/2/07	9:15 am	63/63	°F	Dry	2 SE	70	Clear	N
PO4	7/11/07	3:30 pm	73/76	°F	Dry	6 W	49	20% cloudy	N
PO5	7/23/07	9:45 am	71/65	°F	Dry	2 SE	62	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/8	Onion	3-4″	2 leaves	
6/18	Onion	5-6″	3 leaves	
6/18	LACG = large crabgrass	3-5″		moderate
6/18	YENS = yellow nutsedge	6-12″		many
6/18	LATH = ladysthumb	2-6″		few
6/18	RRPW = redroot pigweed	3-6″		moderate
7/2	Onion	8-10″	5 leaves	
7/2	YENS = yellow nutsedge	10-14″		many
7/11	Onion	12-14″	6-7 leaves	
7/11	YENS = yellow nutsedge	12-16″		many
7/23	Onion	12-14″	8-9 leaves	
7/23	YENS = yellow nutsedge	14-20″		many

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. Three rows were 16 inches apart on a raised bed.
4. Varieties: 1 row per variety per plot – Nebula, Yellow Sweet Spanish, and Highlander

Postemergence Weed Control in Onion with Basagran – Muck Farm

Dept. of Horticulture, MSU

Trial ID: WC 112-07-03 Study Director: Dr. Bernard Zandstra
Location: Muck Farm Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	NEBULA 6/22/07 RATING 1-10	YSWSPN 6/22/07 RATING 1-10	HILNDR 6/22/07 RATING 1-10	YENS 6/22/07 RATING 1-10	NEBULA 7/11/07 RATING 1-10	YSWSPN 7/11/07 RATING 1-10	HILNDR 7/11/07 RATING 1-10
1	bentazon	4	WS	0.25	LB AI/A	PO1234	1.0	1.7	1.5	6.7	1.0	2.2	1.3
2	bentazon	4	WS	0.25	LB AI/A	PO2345	1.0	2.0	1.7	6.3	2.0	2.7	2.7
3	bentazon	4	WS	0.25	LB AI/A	PO2345	1.3	1.7	2.0	7.0	1.7	2.0	2.6
	COC	100	SL	1	% V/V	PO2345							
4	bentazon	4	WS	0.5	LB AI/A	PO1234	1.0	2.2	2.0	6.3	2.0	2.8	2.1
5	bentazon	4	WS	0.5	LB AI/A	PO2345	1.3	1.7	2.0	5.0	2.3	3.0	3.6
6	bentazon	4	WS	0.5	LB AI/A	PO2345	1.0	1.3	1.7	6.7	1.7	2.0	2.3
	COC	100	SL	1	% V/V	PO2345							
7	bentazon	4	WS	1	LB AI/A	PO1,3	1.7	2.5	1.5	7.3	1.7	3.0	1.3
8	bentazon	4	WS	1	LB AI/A	PO2,4	1.0	1.7	1.0	4.3	2.0	2.5	2.6
9	bentazon	4	WS	1	LB AI/A	PO2,4	1.0	2.5	2.0	6.7	1.7	3.0	2.6
	COC	100	SL	1	% V/V	PO2,4							
10	bentazon	4	WS	0.5	LB AI/A	PO2,4	1.0	1.3	1.0	6.0	1.0	1.7	1.3
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,3							
11	bentazon	4	WS	0.5	LB AI/A	PO2,4	1.7	2.3	2.0	7.0	1.0	1.8	1.3
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2,4							
	NIS	100	SL	0.25	% V/V	PO1,2,4							
12	bentazon	4	WS	0.5	LB AI/A	PO2,4	1.3	2.3	3.0	7.0	1.0	2.0	1.3
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2,4							
	NIS	100	SL	0.25	% V/V	PO1,2,4							
13	flumioxazin	51	WDG	0.032	LB AI/A	PO2,4	1.0	1.3	1.0	4.7	2.7	3.0	4.1
14	bromoxynil	4	EC	0.25	LB AI/A	PO2,4	1.0	1.3	2.0	5.7	2.3	2.7	3.7
15	Handweeded Control						1.0	1.0	1.5	9.0	1.0	1.0	1.0
LSD (P=.05)							0.55	1.17	1.08	2.78	1.45	1.53	1.43
Standard Deviation							0.33	0.70	0.63	1.66	0.86	0.91	0.84
CV							28.43	39.09	37.26	26.03	51.88	38.72	36.93

Postemergence Weed Control in Onion with Basagran – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	YENS 7/11/07 RATING 1-10	NEBULA 7/30/07 RATING 1-10	YSWSPN 7/30/07 RATING 1-10	HILNDR 7/30/07 RATING 1-10	YENS 7/30/07 RATING 1-10	NEBULA 8/27/07 RATING 1-10	YSWSPN 8/27/07 RATING 1-10
1	bentazon	4	WS	0.25	LB AI/A	PO1234	5.0	1.3	2.2	1.8	4.3	1.7	2.5
2	bentazon	4	WS	0.25	LB AI/A	PO2345	5.3	1.3	2.0	2.0	5.0	2.3	2.7
3	bentazon	4	WS	0.25	LB AI/A	PO2345	6.7	1.3	1.7	2.8	7.0	1.3	1.3
	COC	100	SL	1	% V/V	PO2345							
4	bentazon	4	WS	0.5	LB AI/A	PO1234	6.7	1.3	2.2	1.3	6.7	1.7	3.8
5	bentazon	4	WS	0.5	LB AI/A	PO2345	5.3	1.7	1.7	2.8	5.3	2.7	3.0
6	bentazon	4	WS	0.5	LB AI/A	PO2345	7.7	1.3	1.3	1.7	8.3	1.3	1.3
	COC	100	SL	1	% V/V	PO2345							
7	bentazon	4	WS	1	LB AI/A	PO1,3	8.7	1.7	2.3	1.0	8.7	1.7	1.3
8	bentazon	4	WS	1	LB AI/A	PO2,4	3.3	1.3	1.3	1.3	4.7	2.0	4.2
9	bentazon	4	WS	1	LB AI/A	PO2,4	4.3	1.3	2.2	1.8	7.0	2.0	2.7
	COC	100	SL	1	% V/V	PO2,4							
10	bentazon	4	WS	0.5	LB AI/A	PO2,4	3.3	1.0	1.3	1.0	2.7	1.7	3.0
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,3							
11	bentazon	4	WS	0.5	LB AI/A	PO2,4	4.0	1.7	1.7	1.3	5.3	2.0	2.8
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2,4							
	NIS	100	SL	0.25	% V/V	PO1,2,4							
12	bentazon	4	WS	0.5	LB AI/A	PO2,4	3.3	1.0	1.7	1.0	4.3	1.0	1.8
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2,4							
	NIS	100	SL	0.25	% V/V	PO1,2,4							
13	flumioxazin	51	WDG	0.032	LB AI/A	PO2,4	8.0	2.0	2.0	3.3	7.7	2.0	3.0
14	bromoxynil	4	EC	0.25	LB AI/A	PO2,4	8.3	1.3	2.3	3.7	7.7	2.0	2.7
15	Handweeded Control						9.7	1.3	1.2	1.0	9.0	1.0	1.2
LSD (P=.05)							3.87	0.74	0.96	0.92	3.82	1.58	2.59
Standard Deviation							2.32	0.44	0.57	0.54	2.28	0.95	1.55
CV							38.73	31.56	31.73	28.97	36.56	53.99	62.19

Postemergence Weed Control in Onion with Basagran – Muck Farm

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	HILNDR	YENS	NEBULA	YSWSPN	HILNDR
Pest Name							HILNDR	YENS	NEBULA	YSWSPN	HILNDR
Rating Date							8/27/07	8/27/07	10/4/07	10/22/07	8/29/07
Rating Data Type							RATING	RATING	HARVEST	HARVEST	HARVEST
Rating Unit							1-10	1-10	KG/PLOT	KG/PLOT	KG/PLOT
1	bentazon	4	WS	0.25	LB AI/A	PO1234	3.9	6.0	19.34	9.54	12.56
2	bentazon	4	WS	0.25	LB AI/A	PO2345	4.0	6.3	18.78	10.34	8.72
3	bentazon	4	WS	0.25	LB AI/A	PO2345	4.9	7.3	23.99	10.03	6.20
	COC	100	SL	1	% V/V	PO2345					
4	bentazon	4	WS	0.5	LB AI/A	PO1234	4.4	8.3	26.26	9.02	10.34
5	bentazon	4	WS	0.5	LB AI/A	PO2345	5.4	5.3	18.78	8.19	6.35
6	bentazon	4	WS	0.5	LB AI/A	PO2345	2.3	9.0	27.73	11.03	10.61
	COC	100	SL	1	% V/V	PO2345					
7	bentazon	4	WS	1	LB AI/A	PO1,3	1.0	8.0	22.66	8.20	19.59
8	bentazon	4	WS	1	LB AI/A	PO2,4	5.9	7.3	18.84	7.09	6.23
9	bentazon	4	WS	1	LB AI/A	PO2,4	2.9	5.7	21.97	7.43	9.84
	COC	100	SL	1	% V/V	PO2,4					
10	bentazon	4	WS	0.5	LB AI/A	PO2,4	4.0	7.3	24.18	10.51	13.66
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,3					
11	bentazon	4	WS	0.5	LB AI/A	PO2,4	2.4	7.3	25.53	10.14	12.53
	oxyfluorfen	4	SC	0.031	LB AI/A	PO1,2,4					
	NIS	100	SL	0.25	% V/V	PO1,2,4					
12	bentazon	4	WS	0.5	LB AI/A	PO2,4	2.9	6.3	24.38	8.03	9.77
	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2,4					
	NIS	100	SL	0.25	% V/V	PO1,2,4					
13	flumioxazin	51	WDG	0.032	LB AI/A	PO2,4	6.4	6.0	20.75	9.02	4.66
14	bromoxynil	4	EC	0.25	LB AI/A	PO2,4	5.3	4.0	22.07	8.29	4.99
15	Handweeded Control						1.0	7.7	26.97	14.74	22.46
LSD (P=.05)							3.89	2.79	7.696	5.158	6.523
Standard Deviation							2.28	1.67	4.602	3.085	3.786
CV							60.6	24.52	20.17	32.68	35.83

Postemergence Weed Control in Onion - Grant

Project Code: WC 112-07-04 **Location: Brink Farm**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Onion **Variety: Infinity**
Planting Method: Seeded **Planting Date: 4/24/07**
Spacing: 2 IN **Row Spacing: See notes**
Tillage Type: Conventional **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	6/6/07	11:00 am	59/55	°F	Dry	8 S	58	Clear	N
PO2	7/5/07	10:30 am	75/70	°F	Dry	5 SW	60	10% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/6	Onion		2-3 leaf	
6/6	COGR = common groundsel	2-4″		few
6/6	RRPW = redroot pigweed	3-5″		few
7/5	Onion		5-6 leaf	
7/5	COPU = common purslane	4-6″		few
7/5	RRPW = redroot pigweed	6-8″		few

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 112-07-04 Study Director: Dr. Bernard Zandstra
Location: Grant Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ONION 6/22/07 RATING 1-10	COGR 6/22/07 RATING 1-10	COPU 6/22/07 RATING 1-10	LATH 6/22/07 RATING 1-10	PAWE 6/22/07 RATING 1-10	RRPW 6/22/07 RATING 1-10
1	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2	AB	1.7	8.3	9.3	8.7	6.7	4.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
2	oxyfluorfen	4	SC	0.032	LB AI/A	PO1,2	AB	2.3	7.7	8.3	7.3	10.0	7.3
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	flumioxazin	51	WDG	0.032	LB AI/A	PO1,2	AB						
3	flumioxazin	51	WDG	0.032	LB AI/A	PO1,2	AB	2.7	7.7	9.0	9.0	8.7	8.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
4	bentazon	4	WS	0.5	LB AI/A	PO1,2	AB	2.7	8.0	9.7	9.3	10.0	8.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
5	ethofumesate	4	SC	0.5	LB AI/A	PO1,2	AB	1.3	6.3	9.3	9.3	10.0	9.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB						
	NIS	100	SL	0.25	% V/V	PO1,2	AB						
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	A	2.3	7.7	10.0	8.7	9.3	8.0
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	A						
	fluroxypyr	1.5	L	0.063	LB AI/A	PO2	B						
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	A	2.7	8.0	10.0	8.7	10.0	8.7
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	A						
	bromoxynil	4	EC	0.2	LB AI/A	PO2	B						
8	Untreated							1.0	1.0	1.0	1.0	1.0	1.0
LSD (P=.05)								1.20	1.94	1.79	1.92	2.43	2.55
Standard Deviation								0.69	1.11	1.02	1.09	1.39	1.45
CV								32.92	16.24	12.25	14.11	16.89	20.77

Postemergence Weed Control in Onion - Grant

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ONION 7/12/07 RATING 1-10	COPU 7/12/07 RATING 1-10	RRPW 7/12/07 RATING 1-10	ONION 9/13/07 HARVEST KG/20FT
1	oxyfluorfen	4	SC	0.063	LB AI/A	PO1,2	AB	1.3	9.0	8.0	66.07
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB				
	NIS	100	SL	0.25	% V/V	PO1,2	AB				
2	oxyfluorfen	4	SC	0.032	LB AI/A	PO1,2	AB	2.7	9.7	9.7	48.65
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB				
	flumioxazin	51	WDG	0.032	LB AI/A	PO1,2	AB				
3	flumioxazin	51	WDG	0.032	LB AI/A	PO1,2	AB	3.3	10.0	10.0	55.05
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB				
4	bentazon	4	WS	0.5	LB AI/A	PO1,2	AB	1.7	9.3	10.0	59.68
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB				
5	ethofumesate	4	SC	0.5	LB AI/A	PO1,2	AB	1.0	9.3	8.3	66.66
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1,2	AB				
	NIS	100	SL	0.25	% V/V	PO1,2	AB				
6	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	A	3.0	10.0	10.0	59.59
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	A				
	fluroxypyr	1.5	L	0.063	LB AI/A	PO2	B				
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	A	3.3	10.0	9.7	53.18
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	A				
	bromoxynil	4	EC	0.2	LB AI/A	PO2	B				
8	Untreated							1.0	1.0	1.0	65.24
LSD (P=.05)								0.81	1.46	1.47	7.312
Standard Deviation								0.46	0.83	0.84	4.175
CV								21.37	9.73	10.1	7.04

Weed Control in Green Onion and Seeded Chive – Momence, IL

Project Code: WC 112-07-07 **Location:** Van Drunen Farms, Momence, IL

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Chive and Green Onion **Variety:** See Below
Planting Method: Seed **Planting Date:** 5/4/07
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: Sparta Loamy Fine Sand **OM:** 2.1% **pH:** 7.6
Sand: 81% **Silt:** 12% **Clay:** 7% **CEC:** 7.7

Herbicide Application Information

Timing	Date	Time	Air/Soil	T	Soil Surf	Wind	RH	Sky	Dew
PRE	5/8/07	1:00 pm	88/73	°F	Dry	3 SW	45	10% cloudy	N
PO1	6/6/07	1:00 pm	70/71	°F	Dry	6 SE	40	Clear	N

Date	Crop or Weed Information at Application	Height or Diameter	Growth Stage	Density
6/6	GRON = green onion	1-2″		
6/6	Chive	2-3″		
6/6	STGR = stinkgrass	1-3″		moderate
6/6	GOGR = goosegrass	1-2″		moderate
6/6	COPU = common purslane	1-2″		moderate
6/6	RRPW = redroot pigweed	1-2″		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. 2 row crop/plot
4. Chive: Grande, Talman, Green Onion: Tokyo Long White Bunching
5. Chive was not harvested due to poor stand

Weed Control in Green Onion and Seeded Chive – Momence, IL

Dept. of Horticulture, MSU

Trial ID: WC 112-07-07 Study Director: Dr. Bernard Zandstra
Location: Momence, IL Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHIVE 6/6/07 RATING 1-10	GRON 6/6/07 RATING 1-10	STGR 6/6/07 RATING 1-10	GOGR 6/6/07 RATING 1-10	COPU 6/6/07 RATING 1-10	RRPW 6/6/07 RATING 1-10
1	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	2.0	2.0	10.0	6.7	10.0	9.7
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	9.0	2.7	10.0	10.0	10.0	10.0
3	dimethenamid-P	6	EC	0.56	LB AI/A	PRE	A	5.3	2.0	10.0	7.0	10.0	9.7
4	KIH-485	60	WG	0.112	LB AI/A	PRE	A	5.0	5.0	10.0	10.0	10.0	10.0
5	bentazon	4	WS	0.5	LB AI/A	PO1	B	3.7	1.3	1.0	1.0	4.0	1.0
6	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B	1.0	1.0	1.0	4.0	1.0	1.0
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B	3.7	1.0	1.0	4.0	1.0	1.0
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	6.3	1.0	3.7	4.0	1.7	3.7
9	flumioxazin	51	WDG	0.032	LB AI/A	PO1	B	5.3	3.3	4.7	9.0	3.3	4.0
10	Untreated							3.7	1.0	1.0	1.0	1.0	1.0
11	oxyfluorfen	4	SC	0.125	LB AI/A	PRE	A	5.0	2.0	10.0	10.0	10.0	10.0
LSD (P=.05)								5.20	2.52	3.22	6.17	3.50	3.37
Standard Deviation								3.05	1.48	1.89	3.62	2.05	1.98
CV								67.12	72.85	33.4	59.79	36.45	35.65

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHIVE 6/29/07 RATING 1-10	GRON 6/29/07 RATING 1-10	STGR 6/29/07 RATING 1-10	GOGR 6/29/07 RATING 1-10	COPU 6/29/07 RATING 1-10	RRPW 6/29/07 RATING 1-10
1	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	4.3	1.3	10.0	9.0	10.0	6.7
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	9.7	2.3	10.0	9.3	6.7	7.7
3	dimethenamid-P	6	EC	0.56	LB AI/A	PRE	A	7.7	1.3	9.7	10.0	7.3	8.0
4	KIH-485	60	WG	0.112	LB AI/A	PRE	A	8.7	5.3	10.0	10.0	9.7	10.0
5	bentazon	4	WS	0.5	LB AI/A	PO1	B	3.0	1.7	1.3	7.0	9.0	8.3
6	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B	1.0	1.3	3.3	7.0	6.0	7.0
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B	5.0	1.0	2.0	7.7	7.3	6.3
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	6.7	2.0	3.7	7.0	8.7	7.7
9	flumioxazin	51	WDG	0.032	LB AI/A	PO1	B	6.0	4.3	7.0	9.0	2.0	8.0
10	Untreated							4.0	1.7	5.0	7.0	2.7	5.3
11	oxyfluorfen	4	SC	0.125	LB AI/A	PRE	A	5.0	2.0	10.0	10.0	9.7	10.0
LSD (P=.05)								5.96	2.69	2.41	3.71	2.78	3.66
Standard Deviation								3.50	1.58	1.41	2.18	1.63	2.15
CV								63.11	71.35	21.59	25.75	22.75	27.84

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CAWE 6/29/07 RATING 1-10	GRON 7/31/07 HARVEST KG/PLOT
1	pendimethalin	3.8	CS	0.7	LB AI/A	PRE	A	10.0	5.71
2	s-metolachlor	7.62	EC	0.63	LB AI/A	PRE	A	7.7	3.33
3	dimethenamid-P	6	EC	0.56	LB AI/A	PRE	A	8.3	5.20
4	KIH-485	60	WG	0.112	LB AI/A	PRE	A	9.7	2.30
5	bentazon	4	WS	0.5	LB AI/A	PO1	B	1.7	3.33
6	oxyfluorfen	4	SC	0.031	LB AI/A	PO1	B	8.7	5.42
7	oxyfluorfen	4	SC	0.063	LB AI/A	PO1	B	8.3	4.71
8	ethofumesate	4	SC	1	LB AI/A	PO1	B	3.3	3.47
9	flumioxazin	51	WDG	0.032	LB AI/A	PO1	B	37.3	2.67
10	Untreated							5.7	3.09
11	oxyfluorfen	4	SC	0.125	LB AI/A	PRE	A	10.0	2.44
LSD (P=.05)								26.87	3.580
Standard Deviation								15.78	2.102
CV								156.81	55.45

Weed Control in Transplanted Pepper - HTRC

Project Code: WC 101-07-02 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Bell and Banana pepper **Variety: Bell – King Arthur, Banana - Sweet**
Planting Method: Transplant **Planting Date: 5/30/07**
Spacing: 20 IN **Row Spacing: 36″**
Tillage Type: Conventional **Study Design: RCB** **Replications: 3**
Plot Size: 8 ft wide x 30 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	5/30/07	11:00 am	85/72	°F	Dry	2 S	63	10% cloudy	N
PRT	5/30/07	11:30 am	85/72	°F	Dry	2 S	63	10% cloudy	N
POT	5/30/07	3:30 pm	90/76	°F	Dry	1 SW	42	20% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/15	Banana pepper	8-10″		
6/15	Bell pepper	6-10″		
6/15	GRFT = green foxtail			
6/15	COLQ = common lambsquarters			
6/15	COPU = common purslane			
6/15	CORW = common ragweed			

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 banana and 1 row bell peppers per plot.

Weed Control in Transplanted Pepper - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 101-07-02 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	BANANA	BELL	GRFT	COLQ	COPU	CORW
Pest Name								BANANA	BELL	GRFT	COLQ	COPU	CORW
Rating Date								6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10	1-10
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	B	1.3	2.0	9.7	10.0	10.0	8.0
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	1.3	1.0	10.0	10.0	10.0	9.0
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	B	2.0	1.7	10.0	10.0	10.0	10.0
4	fomesafen	2	EC	0.25	LB AI/A	PRT	B	1.3	1.0	9.0	10.0	10.0	10.0
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	1.3	1.3	10.0	10.0	10.0	10.0
	clomazone	3	ME	0.5	LB AI/A	POT	C						
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C	2.0	2.0	10.0	10.0	10.0	9.7
	halosulfuron	75	WG	0.023	LB AI/A	POT	C						
7	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	3.0	2.7	10.0	10.0	10.0	10.0
	halosulfuron	75	WG	0.023	LB AI/A	POT	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	POT	C						
8	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.3	1.0	5.3	9.3	8.3	4.3
9	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.7	1.7	9.3	10.0	10.0	4.7
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A						
10	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.0	1.0	9.7	10.0	10.0	5.3
	clomazone	3	ME	0.28	LB AI/A	PPI	A						
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.0	1.0	10.0	10.0	10.0	7.3
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C						
12	Untreated							1.0	1.0	3.0	7.3	5.7	3.0
LSD (P=.05)								0.95	0.86	2.45	1.12	1.34	1.88
Standard Deviation								0.56	0.51	1.45	0.66	0.79	1.11
CV								36.77	34.96	16.4	6.8	8.35	14.59

Weed Control in Transplanted Pepper - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RRPW 6/15/07 RATING 1-10	BANANA 6/15/07 PLNT/PLT	BELL 6/15/07 PLNT/PLT	BANANA 6/26/07 RATING 1-10	BELL 6/26/07 RATING 1-10	BANANA 8/9/07 HARVEST KG/PLOT
								7	8	9	10	11	12
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	B	10.0	18.3	17.0	1.3	1.3	3.49
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	10.0	17.7	17.0	1.3	1.3	2.33
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	B	10.0	17.3	16.7	2.3	2.0	2.06
4	fomesafen	2	EC	0.25	LB AI/A	PRT	B	10.0	17.0	17.7	1.3	1.0	2.56
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	10.0	17.3	17.0	1.3	1.3	2.46
	clomazone	3	ME	0.5	LB AI/A	POT	C						
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C	10.0	16.3	18.0	4.0	2.3	0.94
	halosulfuron	75	WG	0.023	LB AI/A	POT	C						
7	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	10.0	17.0	16.3	2.7	3.0	2.05
	halosulfuron	75	WG	0.023	LB AI/A	POT	C						
	sethoxydim	1.53	EC	0.19	LB AI/A	POT	C						
8	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	9.3	16.7	17.3	1.3	1.0	1.84
9	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	9.3	17.0	16.7	1.3	1.3	1.89
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A						
10	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	9.3	17.0	17.3	1.0	1.0	3.26
	clomazone	3	ME	0.28	LB AI/A	PPI	A						
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	10.0	17.0	16.0	1.0	1.0	3.11
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C						
12	Untreated							8.0	16.7	16.7	1.0	1.0	1.91
LSD (P=.05)								0.83	1.56	1.72	1.15	0.72	1.837
Standard Deviation								0.49	0.92	1.01	0.68	0.42	1.085
CV								5.09	5.38	5.97	40.79	28.76	46.68

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	BANANA 8/22/07 HARVEST KG/PLOT	BANANA 9/5/07 HARVEST KG/PLOT	BANANA TOTAL KG/PLOT	BELL 8/9/07 HARVEST NUMBER	BELL 8/9/07 HARVEST KG/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	B	4.89	3.12	11.50	10.0	1.69
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	4.75	3.50	10.58	12.7	2.29
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	B	6.31	3.45	11.82	18.7	3.35
4	fomesafen	2	EC	0.25	LB AI/A	PRT	B	4.87	3.81	11.24	12.7	2.11
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	6.17	5.42	14.05	13.0	2.34
	clomazone	3	ME	0.5	LB AI/A	POT	C					
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C	3.39	1.84	6.16	12.3	2.19
	halosulfuron	75	WG	0.023	LB AI/A	POT	C					
7	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C	4.25	2.85	9.15	6.3	1.04
	halosulfuron	75	WG	0.023	LB AI/A	POT	C					
	sethoxydim	1.53	EC	0.19	LB AI/A	POT	C					
8	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	4.30	3.09	9.23	9.7	1.51
9	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	4.13	5.48	11.50	12.7	2.02
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A					
10	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	6.32	3.78	13.36	14.3	2.33
	clomazone	3	ME	0.28	LB AI/A	PPI	A					
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	6.12	3.94	13.17	9.3	1.55
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C					
12	Untreated							4.94	3.10	9.96	8.7	1.39
LSD (P=.05)								2.414	1.391	3.805	6.85	1.181
Standard Deviation								1.426	0.821	2.247	4.04	0.698
CV								28.31	22.71	20.47	34.59	35.17

Weed Control in Transplanted Pepper - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Pest Name	Rating Date	Rating Data Type	Rating Unit	BELL	BELL	BELL	BELL	BELL
												8/22/07	8/22/07	9/4/07	9/4/07	9/17/07
												HARVEST	HARVEST	HARVEST	HARVEST	HARVEST
												NUMBER	KG/PLOT	NUMBER	KG/PLOT	#/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	B					39.3	7.94	24.0	5.27	7.0
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C					43.3	8.62	22.3	4.39	9.0
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	B					47.0	9.75	22.0	4.30	11.0
4	fomesafen	2	EC	0.25	LB AI/A	PRT	B					43.7	8.58	26.7	4.77	7.7
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C					49.7	10.07	31.0	6.21	13.0
	clomazone	3	ME	0.5	LB AI/A	POT	C									
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C					42.0	8.25	29.0	5.72	12.3
	halosulfuron	75	WG	0.023	LB AI/A	POT	C									
7	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C					22.7	5.33	22.3	4.47	10.0
	halosulfuron	75	WG	0.023	LB AI/A	POT	C									
	sethoxydim	1.53	EC	0.19	LB AI/A	POT	C									
8	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					36.3	6.84	24.3	4.69	16.3
9	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					36.7	7.40	28.7	5.45	17.7
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A									
10	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					52.7	10.17	18.7	3.69	12.0
	clomazone	3	ME	0.28	LB AI/A	PPI	A									
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					58.7	10.96	22.7	4.72	8.3
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C									
12	Untreated											30.3	5.13	20.0	3.81	8.3
LSD (P=.05)												17.29	3.203	16.50	3.665	9.44
Standard Deviation												10.21	1.891	9.74	2.164	5.57
CV												24.39	22.91	40.09	45.17	50.42

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Pest Name	Rating Date	Rating Data Type	Rating Unit	BELL	BELL	BELL
												9/17/07		
												HARVEST	TOTAL	TOTAL
												KG/PLOT	NUMBER	KG/PLOT
1	s-metolachlor	7.62	EC	1.3	LB AI/A	PRT	B					0.91	80.3	15.82
2	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C					1.31	87.3	16.62
3	flumioxazin	51	WDG	0.064	LB AI/A	PRT	B					1.54	98.7	18.94
4	fomesafen	2	EC	0.25	LB AI/A	PRT	B					1.46	90.7	16.91
5	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C					1.68	106.7	20.31
	clomazone	3	ME	0.5	LB AI/A	POT	C							
6	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C					1.64	95.7	17.81
	halosulfuron	75	WG	0.023	LB AI/A	POT	C							
7	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C					1.09	61.3	11.94
	halosulfuron	75	WG	0.023	LB AI/A	POT	C							
	sethoxydim	1.53	EC	0.19	LB AI/A	POT	C							
8	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					2.09	86.7	15.12
9	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					2.33	95.7	17.20
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A							
10	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					1.62	97.7	17.80
	clomazone	3	ME	0.28	LB AI/A	PPI	A							
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A					1.15	99.0	18.38
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C							
12	Untreated											1.12	67.3	11.46
LSD (P=.05)												1.324	18.01	3.895
Standard Deviation												0.782	10.63	2.300
CV												52.29	11.96	13.92

Weed Control in Pumpkin and Squash - HTRC

Project Code: WC 108-07-02 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Pumpkin and Squash **Variety: See notes**
Planting Method: Seeded **Planting Date: 5/31/07**
Spacing: 3 IN **Row Spacing: 18 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	5/31/07	2:30 pm	87/75	°F	Dry	4 SW	46	Hazy	N
PO1	6/20/07	9:30 am	70/66	°F	Dry	2 NW	62	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/20	Pumpkin	4-6″		
6/20	Golden Hubbard	3-6″		
6/20	Waltham Butternut	3-6″		
6/20	COLQ = common lambsquarters	2-4″		moderate
6/20	RRPW = redroot pigweed	3-6″		moderate
6/20	WIRA = wild radish	2-4″		moderate
6/20	EBNS = eastern black nightshade	6-8″		many

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. Spray center 16 ft of plot with tractor; area between plots cultivated until covered with vines.
4. Pumpkin – Howden, Squash – Golden Hubbard and Waltham Butternut
5. This experiment suffered serious water damage twice during the season. Half of rep 1 was drowned out. Hot, dry weather later reduced total yields.

Weed Control in Pumpkin and Squash - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 108-07-02 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	HUBBARD	PUMPKIN	BUTTERNUT	GRFT	COLQ
Pest Name								HUBBARD	PUMPKIN	BUTTERNUT	GRFT	COLQ
Rating Date								6/20/07	6/20/07	6/20/07	6/20/07	6/20/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	2.3	2.3	3.3	9.3	8.7
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	1.7	2.3	3.0	10.0	10.0
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.7	3.7	4.7	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	5.0	5.3	6.7	10.0	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.7	3.7	4.7	8.7	8.3
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.3	1.3	3.0	8.7	8.3
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B					
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	2.0	2.3	4.0	9.7	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.0	1.3	3.0	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	sulfentrazone	4	F	0.09	LB AI/A	PRE	A					
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	1.7	2.7	3.0	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	sulfentrazone	4	F	0.09	LB AI/A	PO1	B					
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	2.7	4.0	4.0	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A					
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.3	1.3	1.3	10.0	6.3
12	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	1.0	1.0	1.0	10.0	6.7
LSD (P=.05)								2.30	3.45	4.75	0.92	1.49
Standard Deviation								1.36	2.04	2.81	0.54	0.88
CV								69.73	78.01	80.79	5.58	9.72

Weed Control in Pumpkin and Squash - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	EBNS	RRPW	WIRA	HUBBARD	PUMPKIN
Pest Name								EBNS	RRPW	WIRA	HUBBARD	PUMPKIN
Rating Date								6/20/07	6/20/07	6/20/07	7/2/07	7/2/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	6.0	9.7	8.0	2.7	2.7
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	7.7	10.0	8.3	1.7	1.7
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	8.7	9.7	7.0	2.7	3.7
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	7.0	10.0	10.0	3.7	3.7
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	4.9	9.3	2.7	2.3	5.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	4.0	9.0	6.3	1.0	1.0
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B					
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	3.0	10.0	10.0	2.7	2.0
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	10.0	10.0	5.0	1.3	1.3
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	sulfentrazone	4	F	0.09	LB AI/A	PRE	A					
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	10.0	10.0	6.3	2.7	3.7
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	sulfentrazone	4	F	0.09	LB AI/A	PO1	B					
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	10.0	10.0	9.7	5.0	4.3
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A					
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	10.0	10.0	5.3	1.0	1.0
12	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	10.0	10.0	5.0	1.3	1.0
LSD (P=.05)								4.53	0.83	4.07	2.52	3.28
Standard Deviation								2.67	0.49	2.40	1.49	1.94
CV								35.09	5.0	34.45	63.85	75.04

Weed Control in Pumpkin and Squash - HTRC

Dept. of Horticulture, MSU

Pest Name							BUTTERNUT	GRFT	COLQ	EBNS	LATH	RRPW
Rating Date							7/2/07	7/2/07	7/2/07	7/2/07	7/2/07	7/2/07
Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit							1-10	1-10	1-10	1-10	1-10	1-10
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	3.0	8.0	7.7	1.7	7.0	8.7
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	2.3	9.0	9.0	4.3	9.3	7.7
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	6.0	8.7	9.3	4.7	8.7	8.3
	clomazone	3	ME	0.25	LB AI/A	PRE	A						
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	6.0	8.0	10.0	3.7	9.7	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A						
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	3.7	6.3	6.3	4.0	8.0	9.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B						
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	3.3	8.0	6.3	1.3	9.0	8.3
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B						
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	3.7	9.0	9.7	4.3	10.0	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A						
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B						
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	2.0	9.3	10.0	10.0	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A						
	sulfentrazone	4	F	0.09	LB AI/A	PRE	A						
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	4.3	10.0	10.0	10.0	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A						
	sulfentrazone	4	F	0.09	LB AI/A	PO1	B						
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	4.7	8.3	10.0	6.7	10.0	10.0
	clomazone	3	ME	0.25	LB AI/A	PRE	A						
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A						
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	1.0	10.0	3.3	10.0	9.3	10.0
12	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	1.0	10.0	4.0	10.0	10.0	9.7
LSD (P=.05)								3.68	2.87	2.01	3.57	2.34	1.79
Standard Deviation								2.17	1.70	1.19	2.11	1.38	1.06
CV								63.58	19.44	14.88	35.83	14.97	11.37

Weed Control in Pumpkin and Squash - HTRC

Dept. of Horticulture, MSU

Pest Name							WIRA	HUBBARD	HUBBARD	BUTTERNUT	BUTTERNUT
Rating Date							7/2/07	9/25/07	9/25/07	9/25/07	9/25/07
Rating Data Type							RATING	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							1-10	NUMBER	KG/PLOT	NUMBER	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code				
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	5.7	28.3	29.23	17.0	17.84
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	5.7	32.3	41.36	23.7	23.85
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	6.7	26.0	34.36	14.0	15.81
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	10.0	23.3	23.70	11.7	12.77
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	9.7	31.3	39.70	16.0	19.31
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	9.3	22.0	18.02	9.7	11.40
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B					
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	10.0	33.3	33.89	14.0	14.93
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A					
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B					
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B					
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	5.0	42.0	61.73	20.7	23.77
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	sulfentrazone	4	F	0.09	LB AI/A	PRE	A					
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	5.7	32.7	45.09	20.0	22.33
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	sulfentrazone	4	F	0.09	LB AI/A	PO1	B					
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	10.0	27.3	32.27	15.3	18.54
	clomazone	3	ME	0.25	LB AI/A	PRE	A					
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A					
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	3.0	34.7	39.19	27.7	27.65
12	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	4.0	40.7	45.45	18.7	18.74
LSD (P=.05)								4.31	17.62	20.515	19.42	20.676
Standard Deviation								2.55	10.40	12.115	11.47	12.210
CV								36.09	33.38	32.74	66.05	64.56

Weed Control in Pumpkin and Squash - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	OR. PUMP 9/25/07 HARVEST NUMBER	OR. PUMP 9/25/07 HARVEST KG/PLOT	GR. PUMP 9/25/07 HARVEST NUMBER	GR. PUMP 9/25/07 HARVEST KG/PLOT
1	ethalfluralin	3	EC	1.13	LB AI/A	PRE	A	16.0	78.92	1.7	7.82
2	Strategy	2.1	SE	1.05	LB AI/A	PRE	A	17.3	80.81	2.7	14.17
3	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	12.0	64.47	1.3	6.65
	clomazone	3	ME	0.25	LB AI/A	PRE	A				
4	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	11.7	57.71	1.3	9.04
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A				
5	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	14.0	67.19	2.3	12.33
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B				
6	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	17.3	70.83	0.3	1.03
	imazosulfuron	75	WDG	0.1	LB AI/A	PO1	B				
7	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	27.7	116.72	6.3	29.93
	halosulfuron	75	WG	0.023	LB AI/A	PRE	A				
	halosulfuron	75	WG	0.023	LB AI/A	PO1	B				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	B				
8	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	26.0	133.13	6.7	37.81
	clomazone	3	ME	0.25	LB AI/A	PRE	A				
	sulfentrazone	4	F	0.09	LB AI/A	PRE	A				
9	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	18.3	102.53	3.7	18.67
	clomazone	3	ME	0.25	LB AI/A	PRE	A				
	sulfentrazone	4	F	0.09	LB AI/A	PO1	B				
10	ethalfluralin	3	EC	0.75	LB AI/A	PRE	A	18.7	114.07	2.7	14.22
	clomazone	3	ME	0.25	LB AI/A	PRE	A				
	flumetsulam	80	WDG	0.0057	LB AI/A	PRE	A				
11	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	27.0	116.74	3.0	18.75
12	s-metolachlor	7.62	EC	1.9	LB AI/A	PRE	A	30.3	153.54	5.7	24.89
LSD (P=.05)								11.57	51.807	3.42	19.373
Standard Deviation								6.83	30.593	2.02	11.440
CV								34.68	31.74	64.3	70.28

Weed Control in Rhubarb - CHES

Project Code: WC 102-07-01 **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	3/27/07	12:30 am	74/55	°F	Damp	4 W	66	30% Cloudy	N
PO1	4/20/07	10:00 am	54/49	°F	Damp	3 NE	58	Clear	Y
PO2	6/15/07	11:15 am	84/73	°F	Damp	4 W	45	5% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
3/27	Rhubarb		dormant	
3/27	DOBR = downy borme	3-4″		moderate
3/27	QUGR = quackgrass	2-4″		moderate
3/27	WHCA = white campion	1-2″		many
4/20	Rhubarb	3-5″		
4/20	DOBR = downy brome	6-10″		many
4/20	QUGR = quackgrass	6-8″		moderate
4/20	WHCA = white campion	4-8″		moderate
6/15	Rhubarb		harvested	
6/15	DOBR = downy brome	12-18″		moderate
6/15	WHCA = white campion	8-14″		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. Rhubarb plants were very irregular in this experiment, so yields were not taken.

Weed Control in Rhubarb - CHES

Dept. of Horticulture, MSU

Trial ID: WC 102-07-01 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RHUB 5/15/07 RATING 1-10	DOBR 5/15/07 RATING 1-10	COCW 5/15/07 RATING 1-10	DAND 5/15/07 RATING 1-10	WHCA 5/15/07 RATING 1-10
1	pronamide	50	WP	2	LB AI/A	PRE	A	2.0	10.0	9.0	4.0	8.0
2	mesotrione	4	SC	0.094	LB AI/A	PRE	A	5.3	3.7	9.0	3.7	8.3
3	mesotrione	4	SC	0.188	LB AI/A	PRE	A	3.0	7.0	10.0	8.0	8.7
4	mesotrione	4	SC	0.376	LB AI/A	PRE	A	3.3	9.0	10.0	9.7	7.0
5	mesotrione	4	SC	0.094	LB AI/A	PRE	A	2.7	2.7	9.3	6.7	6.3
	mesotrione	4	SC	0.094	LB AI/A	PO1	B					
	NIS	100	SL	0.25	% V/V	PO1	B					
6	Untreated					PRE, PO1	AB	4.3	6.3	3.3	4.0	4.7
	mesotrione	4	SC	0.094	LB AI/A	PO2	C					
	NIS	100	SL	0.25	% V/V	PO2	C					
7	halosulfuron	75	WG	0.094	LB AI/A	PRE	A	4.0	4.3	7.3	3.7	8.7
8	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	2.3	7.0	6.7	2.7	7.3
9	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	3.7	6.0	4.0	3.7	7.3
	mesotrione	4	SC	0.094	LB AI/A	PO2	C					
	NIS	100	SL	0.25	% V/V	PO2	C					
10	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	3.7	9.0	10.0	7.7	7.0
	mesotrione	4	SC	0.188	LB AI/A	PRE	A					
LSD (P=.05)								3.62	4.85	2.69	4.17	4.59
Standard Deviation								2.11	2.83	1.57	2.43	2.67
CV								61.48	43.49	19.92	45.35	36.45

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RHUB 5/29/07 RATING 1-10
1	pronamide	50	WP	2	LB AI/A	PRE	A	3.0
2	mesotrione	4	SC	0.094	LB AI/A	PRE	A	5.0
3	mesotrione	4	SC	0.188	LB AI/A	PRE	A	3.7
4	mesotrione	4	SC	0.376	LB AI/A	PRE	A	3.3
5	mesotrione	4	SC	0.094	LB AI/A	PRE	A	4.3
	mesotrione	4	SC	0.094	LB AI/A	PO1	B	
	NIS	100	SL	0.25	% V/V	PO1	B	
6	Untreated					PRE, PO1	AB	5.3
	mesotrione	4	SC	0.094	LB AI/A	PO2	C	
	NIS	100	SL	0.25	% V/V	PO2	C	
7	halosulfuron	75	WG	0.094	LB AI/A	PRE	A	4.3
8	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	3.0
9	s-metolachlor	7.62	EC	1.26	LB AI/A	PRE	A	3.7
	mesotrione	4	SC	0.094	LB AI/A	PO2	C	
	NIS	100	SL	0.25	% V/V	PO2	C	
10	s-metolachlor	7.62	EC	1.3	LB AI/A	PRE	A	5.0
	mesotrione	4	SC	0.188	LB AI/A	PRE	A	
LSD (P=.05)								3.35
Standard Deviation								1.95
CV								47.98

Weed Control in Transplanted Tomato - HTRC

Project Code: WC 101-07-01 **Location: HTRC**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Roma and Round Tomato Variety: Roma VF, Round - Sunbrite
Planting Method: Transplant Planting Date: 5/23/07
Spacing: 20 IN Row Spacing: 36″
Tillage Type: Conventional Study Design: RCB Replications: 3
Plot Size: 8 ft wide x 30 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	5/23/07	10:30 am	81/63	°F	Dry	6 S	44	Clear	N
PRT	5/23/07	11:00 am	83/64	°F	Dry	5 S	42	Clear	N
POT	5/23/07	12:00 pm	86/75	°F	Dry	5 S	40	Clear	N
PO1	6/12/07	10:15 am	70/67	°F	Dry	2 NE	60	Clear	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
6/12	Roma tomato	8-10″		
6/12	Round tomato	6-10″		
6/12	GRFT = green foxtail	1-2″		many
6/12	COPU = common purslane	1-3″		moderate
6/12	CORW = common ragweed	1-2″		many

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 Roma, 1 row round per plot.**

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trial ID: WC 101-07-01 Study Director: Dr. Bernard Zandstra
Location: HTRC Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ROMA 6/12/07 RATING 1-10	ROUND 6/12/07 RATING 1-10	GRFT 6/12/07 RATING 1-10	COLQ 6/12/07 RATING 1-10	COPU 6/12/07 RATING 1-10	LATH 6/12/07 RATING 1-10	EBNS 6/12/07 RATING 1-10
1	s-metolachlor	7.62	EC	1.9	LB AI/A	PRT	B	2.7	2.7	10.0	10.0	10.0	10.0	10.0
2	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	2.7	2.3	10.0	10.0	10.0	10.0	10.0
3	flumioxazin	51	WDG	0.096	LB AI/A	PRT	B	4.0	4.7	10.0	10.0	10.0	10.0	10.0
4	metribuzin	75	DF	0.5	LB AI/A	POT	C	2.0	2.0	10.0	10.0	10.0	10.0	10.0
5	halosulfuron	75	WG	0.023	LB AI/A	POT	C	2.7	2.7	10.0	10.0	10.0	10.0	10.0
	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C							
6	fomesafen	2	EC	0.25	LB AI/A	PRT	B	1.3	1.7	9.7	10.0	10.0	10.0	10.0
7	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	3.3	3.3	10.0	10.0	10.0	10.0	10.0
	metribuzin	75	DF	0.25	LB AI/A	PO1	D							
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D							
	NIS	100	SL	0.25	% V/V	PO1	D							
8	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	2.7	3.7	10.0	10.0	10.0	10.0	10.0
	halosulfuron	75	WG	0.023	LB AI/A	PO1	D							
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D							
	NIS	100	SL	0.25	% V/V	PO1	D							
9	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	2.7	3.0	10.0	10.0	10.0	10.0	10.0
	rimsulfuron	25	DF	0.031	LB AI/A	PO1	D							
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D							
	NIS	100	SL	0.25	% V/V	PO1	D							
10	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	2.0	3.0	10.0	10.0	10.0	10.0	10.0
	thifensulfuron	75	DF	0.006	LB AI/A	PO1	D							
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D							
	NIS	100	SL	0.25	% V/V	PO1	D							
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.0	1.0	9.7	9.3	9.0	8.3	10.0
12	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.0	1.3	8.7	10.0	9.3	10.0	10.0
	metribuzin	75	DF	0.188	LB AI/A	PPI	A							
13	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.0	1.0	9.3	10.0	9.0	9.7	10.0
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A							
14	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.0	1.0	9.3	10.0	9.3	10.0	10.0
	metribuzin	75	DF	0.188	LB AI/A	PPI	A							
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A							
15	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	1.7	2.0	10.0	10.0	10.0	10.0	10.0
	metribuzin	75	DF	0.188	LB AI/A	PPI	A							
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C							
16	Untreated					PRE	A	1.0	1.0	1.7	1.0	1.0	1.0	4.0
	metribuzin	75	DF	0.25	LB AI/A	PO1	D							
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D							
LSD (P=.05)								1.40	1.62	1.02	0.24	0.33	0.89	2.17
Standard Deviation								0.84	0.97	0.61	0.14	0.20	0.53	1.30
CV								41.26	42.76	6.59	1.54	2.14	5.7	13.5

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code						
Pest Name								CORW	ROMA	ROUND	ROMA	ROUND	ROMA
Rating Date								6/12/07	6/15/07	6/15/07	6/26/07	6/26/07	8/31/07
Rating Data Type								RATING	PLNT/PLT	PLNT/PLT	RATING	RATING	HARVEST
Rating Unit								1-10			1-10	1-10	KG/PLOT
1	s-metolachlor	7.62	EC	1.9	LB AI/A	PRT	B	9.7	16.7	16.0	2.3	3.0	10.19
2	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	9.3	15.0	17.3	2.3	2.0	11.79
3	flumioxazin	51	WDG	0.096	LB AI/A	PRT	B	10.0	10.0	11.3	4.0	3.3	4.61
4	metribuzin	75	DF	0.5	LB AI/A	POT	C	10.0	13.0	14.0	1.7	1.7	17.70
5	halosulfuron	75	WG	0.023	LB AI/A	POT	C	10.0	15.0	16.3	2.0	1.7	17.25
	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C						
6	fomesafen	2	EC	0.25	LB AI/A	PRT	B	10.0	16.7	16.7	1.3	1.3	31.92
7	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	9.0	13.3	15.7	2.7	1.7	10.57
	metribuzin	75	DF	0.25	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
8	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	8.7	15.7	14.3	2.7	2.3	11.29
	halosulfuron	75	WG	0.023	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
9	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	8.7	14.7	16.3	2.3	1.7	12.71
	rimsulfuron	25	DF	0.031	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
10	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	8.7	15.7	16.3	2.3	2.3	10.45
	thifensulfuron	75	DF	0.006	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	5.3	16.3	16.3	1.0	1.0	23.04
12	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	8.3	17.3	17.0	1.3	1.3	25.47
	metribuzin	75	DF	0.188	LB AI/A	PPI	A						
13	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	5.7	17.3	17.3	1.3	1.0	23.47
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A						
14	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	8.0	17.3	16.7	1.0	1.0	30.12
	metribuzin	75	DF	0.188	LB AI/A	PPI	A						
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A						
15	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	9.3	16.7	15.3	1.0	1.3	20.33
	metribuzin	75	DF	0.188	LB AI/A	PPI	A						
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C						
16	Untreated					PRE	A	1.0	17.0	16.3	1.0	1.0	23.83
	metribuzin	75	DF	0.25	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
LSD (P=.05)								2.00	2.89	2.25	1.60	1.51	14.339
Standard Deviation								1.20	1.73	1.35	0.96	0.91	8.600
CV								14.58	11.21	8.52	50.62	52.4	48.33

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Pest Name							ROMA	ROMA	ROUND	ROUND	ROUND	ROUND
Rating Date							9/17/07		8/16/07	8/23/07	8/30/07	9/6/07
Rating Data Type							HARVEST	TOTAL	HARVEST	HARVEST	HARVEST	HARVEST
Rating Unit							KG/PLOT	KG/PLOT	KG/PLOT	KG/PLOT	KG/PLOT	KG/PLOT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	s-metolachlor	7.62	EC	1.9	LB AI/A	PRT	B	39.27	49.46	1.60	3.51	8.31	14.03
2	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	42.19	53.98	2.89	8.45	11.83	22.56
3	flumioxazin	51	WDG	0.096	LB AI/A	PRT	B	26.93	31.55	1.36	6.07	8.93	13.12
4	metribuzin	75	DF	0.5	LB AI/A	POT	C	44.39	62.09	2.49	4.31	10.60	19.44
5	halosulfuron	75	WG	0.023	LB AI/A	POT	C	48.49	65.75	2.77	6.07	11.76	21.15
	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C						
6	fomesafen	2	EC	0.25	LB AI/A	PRT	B	56.57	88.49	4.98	8.77	9.05	25.51
7	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	43.12	53.69	1.39	6.50	14.07	23.88
	metribuzin	75	DF	0.25	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
8	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	49.35	60.64	0.77	3.33	10.53	20.85
	halosulfuron	75	WG	0.023	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
9	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	39.61	52.32	2.89	8.28	13.48	26.16
	rimsulfuron	25	DF	0.031	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
10	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	44.34	54.79	1.78	4.45	14.87	25.73
	thifensulfuron	75	DF	0.006	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
	NIS	100	SL	0.25	% V/V	PO1	D						
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	42.92	65.96	7.10	12.57	12.05	23.35
12	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	45.98	71.45	6.54	8.34	15.40	22.15
	metribuzin	75	DF	0.188	LB AI/A	PPI	A						
13	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	42.43	65.90	4.41	8.57	17.16	21.66
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A						
14	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	45.57	75.69	11.01	8.83	14.53	31.04
	metribuzin	75	DF	0.188	LB AI/A	PPI	A						
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A						
15	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	39.94	60.27	2.96	7.56	11.72	19.89
	metribuzin	75	DF	0.188	LB AI/A	PPI	A						
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C						
16	Untreated					PRE	A	42.24	66.07	4.65	6.93	9.07	18.38
	metribuzin	75	DF	0.25	LB AI/A	PO1	D						
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D						
LSD (P=.05)								18.858	28.707	4.167	7.947	7.162	16.169
Standard Deviation								11.311	17.218	2.499	4.767	4.295	9.698
CV								26.1	28.17	67.1	67.77	35.55	44.47

Weed Control in Transplanted Tomato - HTRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ROUND 9/12/07 HARVEST KG/PLOT	ROUND 9/21/07 HARVEST KG/PLOT	ROUND 10/3/07 HARVEST KG/PLOT	ROUND TOTAL KG/PLOT
1	s-metolachlor	7.62	EC	1.9	LB AI/A	PRT	B	13.49	5.41	9.76	56.11
2	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	10.36	3.07	6.99	66.13
3	flumioxazin	51	WDG	0.096	LB AI/A	PRT	B	8.98	4.99	14.51	57.96
4	metribuzin	75	DF	0.5	LB AI/A	POT	C	11.35	6.33	9.70	64.22
5	halosulfuron	75	WG	0.023	LB AI/A	POT	C	11.61	5.33	10.25	68.93
	s-metolachlor	7.62	EC	1.3	LB AI/A	POT	C				
6	fomesafen	2	EC	0.25	LB AI/A	PRT	B	10.23	9.33	12.66	80.53
7	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	11.16	7.21	11.62	75.84
	metribuzin	75	DF	0.25	LB AI/A	PO1	D				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D				
	NIS	100	SL	0.25	% V/V	PO1	D				
8	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	16.02	5.44	10.15	67.10
	halosulfuron	75	WG	0.023	LB AI/A	PO1	D				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D				
	NIS	100	SL	0.25	% V/V	PO1	D				
9	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	15.61	3.29	8.34	78.06
	rimsulfuron	25	DF	0.031	LB AI/A	PO1	D				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D				
	NIS	100	SL	0.25	% V/V	PO1	D				
10	s-metolachlor	7.62	EC	1.9	LB AI/A	POT	C	10.79	4.53	8.68	70.83
	thifensulfuron	75	DF	0.006	LB AI/A	PO1	D				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D				
	NIS	100	SL	0.25	% V/V	PO1	D				
11	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	8.43	3.97	5.09	72.56
12	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	8.79	4.06	6.66	71.93
	metribuzin	75	DF	0.188	LB AI/A	PPI	A				
13	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	9.86	3.15	10.23	75.05
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A				
14	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	10.69	4.49	6.03	86.63
	metribuzin	75	DF	0.188	LB AI/A	PPI	A				
	s-metolachlor	7.62	EC	0.95	LB AI/A	PPI	A				
15	pendimethalin	3.8	CS	0.71	LB AI/A	PPI	A	9.44	3.67	6.49	61.74
	metribuzin	75	DF	0.188	LB AI/A	PPI	A				
	s-metolachlor	7.62	EC	0.95	LB AI/A	POT	C				
16	Untreated					PRE	A	8.01	4.57	4.00	55.60
	metribuzin	75	DF	0.25	LB AI/A	PO1	D				
	sethoxydim	1.53	EC	0.19	LB AI/A	PO1	D				
LSD (P=.05)								6.985	3.974	7.073	29.41
Standard Deviation								4.189	2.383	4.242	17.64
CV								38.34	48.36	48.08	25.45

Weed Control in Apple - CHES

Project Code: WC 128-07-01 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Apple **Variety: Liberty, Empire, Ida Red**
Planting Method: Transplant **Planting Date: 4/15/97**
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	5/3/07	9:30 am	50/50	°F	Moist	5 NE	70	Clear	Y
LPOST	6/19/07	1:30 pm	81/80	°F	Moist	2 W	50	15% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/3	Apple		Bloom	
5/3	ANBG = annual bluegrass	4-6 in		moderate
5/3	BHPL = buckhorn plantain	5-8 in		few
5/3	COCW = common chickweed	4-6 in		moderate
5/3	DAND = dandelion	3-5 in		moderate
5/3	RSFI = redstem filaree	3-6 in		moderate
5/19	BHPL			
6/19	Apple		0.5″ fruit	
6/19	ANBG = annual bluegrass	3-10 in		moderate
6/19	BHPL = buckhorn plantain	6-12 in		many
6/19	DAND = dandelion	4-6 in		moderate
6/19	HOWE = horseweed (marestail)	6-10 in		few
6/19	REFE = red fescue			
7/13	Apple			
7/13	LACG = large crabgrass			
7/13	BHPL = buckhorn plantain			
7/13	HOWE = horseweed			
7/13	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. **5/7/07: The circumference of 2 branches were measured on all trees (8-9). The number of blossom clusters was counted on the same branches.**

Weed Control in Apple - CHES

Dept. of Horticulture, MSU

Trial ID: WC 128-07-01 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	APPLE 5/29/07 RATING 1-10	REFE 5/29/07 RATING 1-10	BHPL 5/29/07 RATING 1-10	RSFI 5/29/07 RATING 1-10	APPLE 6/19/07 RATING 1-10	LACG 6/19/07 RATING 1-10
1	diuron	80	WP	3	LB AI/A	LPRE	A	1.0	9.3	6.0	10.0	1.0	10.0
	glufosinate	1	L	1	LB AI/A	LPRE	A						
	glufosinate	1	L	1	LB AI/A	LPOST	B						
2	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A	1.0	8.0	9.3	10.0	1.0	10.0
	glufosinate	1	L	1	LB AI/A	LPRE	A						
	glufosinate	1	L	1	LB AI/A	LPOST	B						
3	diuron	80	WP	3	LB AI/A	LPRE	A	1.0	7.7	8.7	10.0	1.3	10.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPOST	B						
4	pendimethalin	3.8	CS	1.9	LB AI/A	LPRE	A	1.3	7.7	8.0	9.3	1.3	9.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
5	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	1.3	9.7	9.7	8.7	1.3	10.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
6	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	1.0	9.0	10.0	10.0	1.0	10.0
	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
7	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	1.3	8.3	10.0	9.0	1.7	10.0
	diuron	80	WP	3	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
8	dichlobenil	1.4	CS	4	LB AI/A	LPRE	A	1.7	10.0	10.0	8.7	1.0	8.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
9	halosulfuron	75	WG	0.047	LB AI/A	12	AB	1.3	8.7	3.7	7.7	1.3	2.7
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
10	halosulfuron	75	WG	0.094	LB AI/A	12	AB	1.0	9.7	6.0	9.3	1.3	3.7
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
11	halosulfuron	75	WG	0.188	LB AI/A	12	AB	1.0	9.7	3.3	9.7	1.0	5.0
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
12	Untreated							1.0	1.0	1.0	1.0	1.7	7.0
LSD (P=.05)								0.64	1.41	2.29	1.67	0.77	3.17
Standard Deviation								0.38	0.83	1.35	0.98	0.45	1.87
CV								32.52	10.14	18.95	11.42	36.18	23.3

Weed Control in Apple - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	REFE	YEFT	BHPL	RSFI	APPLE	LACG
Pest Name								REFE	YEFT	BHPL	RSFI	APPLE	LACG
Rating Date								6/19/07	6/19/07	6/19/07	6/19/07	7/13/07	7/13/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10	1-10
1	diuron	80	WP	3	LB AI/A	LPRE	A	8.7	10.0	5.7	10.0	1.0	9.3
	glufosinate	1	L	1	LB AI/A	LPRE	A						
	glufosinate	1	L	1	LB AI/A	LPOST	B						
2	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A	7.7	10.0	6.3	10.0	1.3	10.0
	glufosinate	1	L	1	LB AI/A	LPRE	A						
	glufosinate	1	L	1	LB AI/A	LPOST	B						
3	diuron	80	WP	3	LB AI/A	LPRE	A	8.0	10.0	7.3	10.0	1.7	8.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPOST	B						
4	pendimethalin	3.8	CS	1.9	LB AI/A	LPRE	A	7.3	9.7	9.3	8.3	1.7	8.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
5	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	10.0	10.0	9.3	7.0	1.3	10.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
6	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	9.3	10.0	10.0	10.0	1.3	10.0
	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
7	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	8.7	10.0	10.0	9.0	1.7	10.0
	diuron	80	WP	3	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
8	dichlobenil	1.4	CS	4	LB AI/A	LPRE	A	9.7	9.0	10.0	8.0	1.3	7.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
9	halosulfuron	75	WG	0.047	LB AI/A	12	AB	9.0	2.7	2.3	9.3	1.3	1.0
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
10	halosulfuron	75	WG	0.094	LB AI/A	12	AB	8.7	3.3	3.3	10.0	1.3	3.3
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
11	halosulfuron	75	WG	0.188	LB AI/A	12	AB	9.3	5.7	1.7	9.3	1.3	7.0
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
12	Untreated							1.0	10.0	9.7	10.0	1.7	9.7
LSD (P=.05)								1.65	1.46	3.41	2.52	1.09	3.18
Standard Deviation								0.98	0.86	2.02	1.49	0.65	1.88
CV								12.03	10.34	28.45	16.11	45.56	23.92

Weed Control in Apple - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	BHPL	HOWE	RSFI	APPLE	ANBG	LACG
	Pest Name							BHPL	HOWE	RSFI	APPLE	ANBG	LACG
	Rating Date							7/13/07	7/13/07	7/13/07	10/5/07	10/5/07	10/5/07
	Rating Data Type							RATING	RATING	RATING	RATING	RATING	RATING
	Rating Unit							1-10	1-10	1-10	1-10	1-10	1-10
1	diuron	80	WP	3	LB AI/A	LPRE	A	7.7	10.0	10.0	1.0	5.0	6.0
	glufosinate	1	L	1	LB AI/A	LPRE	A						
	glufosinate	1	L	1	LB AI/A	LPOST	B						
2	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A	8.0	10.0	10.0	1.0	7.3	6.7
	glufosinate	1	L	1	LB AI/A	LPRE	A						
	glufosinate	1	L	1	LB AI/A	LPOST	B						
3	diuron	80	WP	3	LB AI/A	LPRE	A	10.0	10.0	10.0	2.0	7.0	4.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPOST	B						
4	pendimethalin	3.8	CS	1.9	LB AI/A	LPRE	A	6.3	8.7	6.7	1.3	8.3	6.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
5	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	10.0	5.3	7.3	2.0	5.3	8.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
6	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	10.0	9.0	10.0	1.3	3.3	9.3
	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
7	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	10.0	9.3	9.0	2.0	7.7	6.3
	diuron	80	WP	3	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
8	dichlobenil	1.4	CS	4	LB AI/A	LPRE	A	10.0	6.7	6.7	1.7	9.0	4.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
9	halosulfuron	75	WG	0.047	LB AI/A	12	AB	5.7	10.0	9.7	1.3	10.0	1.0
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
10	halosulfuron	75	WG	0.094	LB AI/A	12	AB	7.3	10.0	10.0	1.3	10.0	1.0
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
11	halosulfuron	75	WG	0.188	LB AI/A	12	AB	5.7	10.0	10.0	1.0	9.3	2.3
	paraquat	3	L	1	LB AI/A	12	AB						
	NIS	100	SL	0.25	% V/V	12	AB						
12	Untreated							4.3	10.0	10.0	1.0	7.0	9.0
	LSD (P=.05)							2.35	2.62	3.38	1.09	4.58	2.60
	Standard Deviation							1.39	1.55	2.00	0.65	2.71	1.53
	CV							17.56	17.03	21.92	45.56	36.37	28.62

Weed Control in Apple - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	REFE	BHPL	HOWE	RRPW	RSFI
	Pest Name							REFE	BHPL	HOWE	RRPW	RSFI
	Rating Date							10/5/07	10/5/07	10/5/07	10/5/07	10/5/07
	Rating Data Type							RATING	RATING	RATING	RATING	RATING
	Rating Unit							1-10	1-10	1-10	1-10	1-10
1	diuron	80	WP	3	LB AI/A	LPRE	A	8.7	4.7	10.0	4.7	6.7
	glufosinate	1	L	1	LB AI/A	LPRE	A					
	glufosinate	1	L	1	LB AI/A	LPOST	B					
2	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A	6.3	8.3	10.0	9.3	6.7
	glufosinate	1	L	1	LB AI/A	LPRE	A					
	glufosinate	1	L	1	LB AI/A	LPOST	B					
3	diuron	80	WP	3	LB AI/A	LPRE	A	8.0	9.0	10.0	4.7	2.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A					
	glyphosate	4.17	SL	1	LB AI/A	LPOST	B					
4	pendimethalin	3.8	CS	1.9	LB AI/A	LPRE	A	5.3	7.3	6.7	5.7	4.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A					
5	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	9.0	8.3	6.7	4.0	8.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A					
6	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	9.0	10.0	9.3	9.0	7.7
	flumioxazin	51	WDG	0.383	LB AI/A	LPRE	A					
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A					
7	pendimethalin	3.8	CS	2.9	LB AI/A	LPRE	A	8.3	10.0	4.7	6.3	4.0
	diuron	80	WP	3	LB AI/A	LPRE	A					
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A					
8	dichlobenil	1.4	CS	4	LB AI/A	LPRE	A	9.7	10.0	4.0	9.7	6.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A					
9	halosulfuron	75	WG	0.047	LB AI/A	12	AB	9.0	2.7	10.0	10.0	8.7
	paraquat	3	L	1	LB AI/A	12	AB					
	NIS	100	SL	0.25	% V/V	12	AB					
10	halosulfuron	75	WG	0.094	LB AI/A	12	AB	9.3	4.7	10.0	10.0	9.3
	paraquat	3	L	1	LB AI/A	12	AB					
	NIS	100	SL	0.25	% V/V	12	AB					
11	halosulfuron	75	WG	0.188	LB AI/A	12	AB	9.7	1.3	9.7	10.0	7.7
	paraquat	3	L	1	LB AI/A	12	AB					
	NIS	100	SL	0.25	% V/V	12	AB					
12	Untreated							1.0	8.0	9.7	10.0	7.7
LSD (P=.05)								2.00	3.09	3.40	3.17	4.55
Standard Deviation								1.18	1.82	2.01	1.87	2.69
CV								15.17	25.94	23.97	24.04	40.81

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CIRCUMF.	BLOS/BRH
	Pest Code							CIRCUMF.	BLOS/BRH
	Rating Date							5/7/07	5/7/07
	Rating Unit							CM	NUMBER
9	halosulfuron	75	WG	0.047	LB AI/A	12	AB	5.6	16.5
	paraquat	3	L	1	LB AI/A	12	AB		
	NIS	100	SL	0.25	% V/V	12	AB		
10	halosulfuron	75	WG	0.094	LB AI/A	12	AB	5.6	17.5
	paraquat	3	L	1	LB AI/A	12	AB		
	NIS	100	SL	0.25	% V/V	12	AB		
11	halosulfuron	75	WG	0.188	LB AI/A	12	AB	5.9	13.8
	paraquat	3	L	1	LB AI/A	12	AB		
	NIS	100	SL	0.25	% V/V	12	AB		
12	Untreated							5.9	16.2
LSD (P=.05)								0.78	4.75
Standard Deviation								0.39	2.38
CV								6.74	14.87

Weed Control in Blueberry - TNRC

Project Code: WC 127-07-01 **Location: Fennville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Blueberry **Variety: Jersey**
Planting Method: Transplant **Planting Date:**
Spacing: 5 FT **Row Spacing: 10 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	4/24/07	11:00 am	70/52	°F	Damp	1 NE	42	Clear	N
LPRE	5/7/07	12:30 pm	76/58	°F	Damp	4 SE	35	10% Cloudy	N
EPOST	6/6/07	9:00 am	62/56	°F	Dry	3 SW	68	Clear	Y
LPOST	7/5/07	9:30 am	77/71	°F	Dry	2 W	81	10% Cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/24	Blueberry		100 % Bud swell	
4/24	QUGR = quackgrass	1-4″		many
5/7	Blueberry		20% leaves out	
5/7	QUGR = quackgrass	5-6″		many
5/7	VICR = Virginia creeper			
6/6	Blueberry			
6/6	ORGR = orchardgrass	10-12″		moderate
6/6	QUGR = quackgrass	6-12″		many
6/6	VICR = Virginia creeper	2-4′		moderate
7/7	Blueberry			
7/7	ORGR = orchardgrass	12-24″		moderate
7/7	QUGR = quackgrass	12-18″		many
7/7	VICR = Virginia creeper	3-6′		moderate

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 127-07-01 Study Director: Dr. Bernard Zandstra
Location: TNRC (Felker) Investigator: Eric Ott

Pest Name								BLBE	ORGR	QUGR	POIV	VICR
Rating Date								6/20/07	6/20/07	6/20/07	6/20/07	6/20/07
Rating Data Type								RATING	RATING	RATING	RATING	RATING
Rating Unit								1-10	1-10	1-10	1-10	1-10
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	mesotrione	4	SC	0.094	LB AI/A	PRE	A	1.0	5.0	4.7	9.3	3.7
2	mesotrione	4	SC	0.188	LB AI/A	PRE	A	1.0	7.7	8.3	9.0	5.0
3	mesotrione	4	SC	0.094	LB AI/A	PRE	A	1.7	6.3	7.3	10.0	5.7
	mesotrione	4	SC	0.094	LB AI/A	EPOST	C					
	NIS	100	SL	0.25	% V/V	EPOST	C					
4	mesotrione	4	SC	0.094	LB AI/A	EPOST	C	1.7	5.0	5.3	6.0	6.0
	NIS	100	SL	0.25	% V/V	EPOST	C					
5	diuron	80	WP	3	LB AI/A	LPRE	B	2.0	6.7	8.0	4.7	6.3
	glufosinate	1	L	1	LB AI/A	LPRE	B					
	glufosinate	1	L	1	LB AI/A	LPOST	D					
6	halosulfuron	75	WG	0.094	LB AI/A	PRE	A	1.0	7.3	5.3	9.0	5.0
	glyphosate	4.17	SL	1	LB AI/A	PRE	A					
7	simazine	90	WDG	3	LB AI/A	LPRE	B	1.3	6.7	7.3	8.7	6.0
	glufosinate	1	L	1	LB AI/A	LPRE	B					
	glufosinate	1	L	1	LB AI/A	LPOST	D					
8	simazine	90	WDG	3	LB AI/A	LPRE	B	1.0	7.3	8.7	10.0	4.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	B					
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D					
9	flumioxazin	51	WDG	0.383	LB AI/A	PRE	A	1.3	7.3	6.3	10.0	4.7
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D					
10	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	1.0	7.0	4.7	9.7	3.0
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D					
11	diuron	80	WP	2	LB AI/A	PRE	A	1.0	6.3	6.3	7.3	4.7
	terbacil	80	WP	1	LB AI/A	PRE	A					
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D					
12	hexazinone	75	DF	1	LB AI/A	PRE	A	1.0	5.7	8.0	10.0	5.3
13	dichlobenil	1.4	CS	4	LB AI/A	PRE	A	1.3	8.0	8.0	9.3	6.0
14	Untreated							1.3	7.0	3.7	2.7	5.0
LSD (P=.05)								1.12	5.35	3.98	3.90	5.41
Standard Deviation								0.67	3.19	2.37	2.32	3.22
CV								53.08	47.82	36.1	28.13	64.14

Weed Control in Blueberry - TNRC

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	BLBE	ORGR	QUGR	VICR
	Pest Name							BLBE	ORGR	QUGR	VICR
	Rating Date							7/25/07	7/25/07	7/25/07	7/25/07
	Rating Data Type							RATING	RATING	RATING	RATING
	Rating Unit							1-10	1-10	1-10	1-10
1	mesotrione	4	SC	0.094	LB AI/A	PRE	A	1.0	4.0	4.7	5.7
2	mesotrione	4	SC	0.188	LB AI/A	PRE	A	1.0	8.7	8.3	4.0
3	mesotrione	4	SC	0.094	LB AI/A	PRE	A	1.7	7.7	7.0	7.7
	mesotrione	4	SC	0.094	LB AI/A	EPOST	C				
	NIS	100	SL	0.25	% V/V	EPOST	C				
4	mesotrione	4	SC	0.094	LB AI/A	EPOST	C	1.3	6.0	3.3	6.7
	NIS	100	SL	0.25	% V/V	EPOST	C				
5	diuron	80	WP	3	LB AI/A	LPRE	B	2.3	9.3	9.3	7.0
	glufosinate	1	L	1	LB AI/A	LPRE	B				
	glufosinate	1	L	1	LB AI/A	LPOST	D				
6	halosulfuron	75	WG	0.094	LB AI/A	PRE	A	1.0	4.7	4.3	2.7
	glyphosate	4.17	SL	1	LB AI/A	PRE	A				
7	simazine	90	WDG	3	LB AI/A	LPRE	B	1.0	9.0	8.7	6.7
	glufosinate	1	L	1	LB AI/A	LPRE	B				
	glufosinate	1	L	1	LB AI/A	LPOST	D				
8	simazine	90	WDG	3	LB AI/A	LPRE	B	1.3	9.0	9.3	6.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	B				
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D				
9	flumioxazin	51	WDG	0.383	LB AI/A	PRE	A	1.3	9.3	9.7	6.7
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D				
10	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	1.3	8.3	7.0	6.0
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D				
11	diuron	80	WP	2	LB AI/A	PRE	A	1.7	9.3	9.0	4.7
	terbacil	80	WP	1	LB AI/A	PRE	A				
	glyphosate	4.17	SL	1	LB AI/A	LPOST	D				
12	hexazinone	75	DF	1	LB AI/A	PRE	A	1.3	7.0	7.0	6.3
13	dichlobenil	1.4	CS	4	LB AI/A	PRE	A	1.7	5.3	7.0	6.0
14	Untreated							1.7	5.0	4.0	2.7
	LSD (P=.05)							1.01	3.79	4.40	4.72
	Standard Deviation							0.60	2.26	2.62	2.81
	CV							42.98	30.78	37.16	50.09

Weed Control in Cherry - CHES

Project Code: WC 128-07-02 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Cherry **Variety: Ulster, Heidlefingen**
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
LPRE	5/3/07	11:00 am	61/53	°F	Damp	4 E	59	clear	N

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
5/3	Cherry		end of bloom	
5/3	ABGR = annual bluegrass	1-3″		moderate
5/3	DOBR = downy brome	6-8″		moderate
5/3	QUGR = quackgrass	4-6″		moderate
5/3	RSFI = redstem filaree	3-5″		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 boom pass on each side of row.**

Weed Control in Cherry - CHES

Dept. of Horticulture, MSU

Trial ID: WC 128-07-02 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHERRY 5/29/07 RATING 1-10	DOBR 5/29/07 RATING 1-10	WHCL 5/29/07 RATING 1-10	CHERRY 6/13/07 RATING 1-10	DOBR 6/13/07 RATING 1-10	WHCL 6/13/07 RATING 1-10
1	rimsulfuron	25	DF	0.0625	LB AI/A	LPRE	A	1.0	9.3	10.0	1.0	9.0	9.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	NIS	100	SL	0.25	% V/V	LPRE	A						
2	rimsulfuron	25	DF	0.125	LB AI/A	LPRE	A	1.0	9.7	9.0	1.0	9.0	9.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	NIS	100	SL	0.25	% V/V	LPRE	A						
3	rimsulfuron	25	DF	0.0625	LB AI/A	LPRE	A	1.0	9.7	10.0	1.0	10.0	10.0
	diuron	80	WP	2.4	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	NIS	100	SL	0.25	% V/V	LPRE	A						
4	rimsulfuron	25	DF	0.0625	LB AI/A	LPRE	A	1.0	9.3	8.7	1.0	9.3	9.3
	simazine	90	WDG	3.6	LB AI/A	LPRE	A						
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	NIS	100	SL	0.25	% V/V	LPRE	A						
5	simazine	90	WDG	3.6	LB AI/A	LPRE	A	1.0	8.0	9.0	1.0	9.3	9.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	NIS	100	SL	0.25	% V/V	LPRE	A						
6	glyphosate	4.17	SL	1	LB AI/A	LPRE	A	1.0	8.0	9.3	1.0	8.3	10.0
	NIS	100	SL	0.25	% V/V	LPRE	A						
7	flumioxazin	51	WDG	0.25	LB AI/A	LPRE	A	1.0	9.3	9.3	1.0	9.7	7.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
	NIS	100	SL	0.25	% V/V	LPRE	A						
8	dichlobenil	1.4	CS	2	LB AI/A	LPRE	A	1.0	9.7	9.0	1.0	9.0	9.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
9	dichlobenil	1.4	CS	2.8	LB AI/A	LPRE	A	1.0	10.0	9.0	1.0	9.7	9.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
10	dichlobenil	1.4	CS	4	LB AI/A	LPRE	A	1.0	9.7	7.7	1.0	10.0	7.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
11	flumioxazin	51	WDG	4	LB AI/A	LPRE	A	1.0	9.7	9.3	1.0	9.0	10.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A						
12	Untreated							1.0	3.7	2.7	1.0	3.7	4.0
LSD (P=.05)								0.00	2.92	3.08	0.00	2.08	3.33
Standard Deviation								0.00	1.72	1.82	0.00	1.23	1.97
CV								0.0	19.51	21.2	0.0	13.93	22.41

Weed Control in Cherry - CHES

Dept. of Horticulture, MSU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	CHERRY 8/17/07 RATING 1-10	HOWE 8/17/07 RATING 1-10	REFE 8/17/07 RATING 1-10
1	rimsulfuron	25	DF	0.0625	LB AI/A	LPRE	A	1.0	9.3	7.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
	NIS	100	SL	0.25	% V/V	LPRE	A			
2	rimsulfuron	25	DF	0.125	LB AI/A	LPRE	A	1.0	8.7	7.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
	NIS	100	SL	0.25	% V/V	LPRE	A			
3	rimsulfuron	25	DF	0.0625	LB AI/A	LPRE	A	1.0	10.0	9.3
	diuron	80	WP	2.4	LB AI/A	LPRE	A			
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
	NIS	100	SL	0.25	% V/V	LPRE	A			
4	rimsulfuron	25	DF	0.0625	LB AI/A	LPRE	A	1.0	10.0	8.7
	simazine	90	WDG	3.6	LB AI/A	LPRE	A			
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
	NIS	100	SL	0.25	% V/V	LPRE	A			
5	simazine	90	WDG	3.6	LB AI/A	LPRE	A	1.0	10.0	8.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
	NIS	100	SL	0.25	% V/V	LPRE	A			
6	glyphosate	4.17	SL	1	LB AI/A	LPRE	A	1.0	9.3	3.7
	NIS	100	SL	0.25	% V/V	LPRE	A			
7	flumioxazin	51	WDG	0.25	LB AI/A	LPRE	A	1.0	8.7	7.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
	NIS	100	SL	0.25	% V/V	LPRE	A			
8	dichlobenil	1.4	CS	2	LB AI/A	LPRE	A	1.0	9.3	8.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
9	dichlobenil	1.4	CS	2.8	LB AI/A	LPRE	A	1.0	10.0	6.7
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
10	dichlobenil	1.4	CS	4	LB AI/A	LPRE	A	1.0	10.0	6.0
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
11	flumioxazin	51	WDG	4	LB AI/A	LPRE	A	1.0	7.0	6.3
	glyphosate	4.17	SL	1	LB AI/A	LPRE	A			
12	Untreated							1.0	4.0	1.0
LSD (P=.05)								0.00	3.80	2.59
Standard Deviation								0.00	2.24	1.53
CV								0.0	25.3	22.91

Weed Control in Raspberry - CHES

Project Code: WC 131-07-01 **Location: Clarksville**

Personnel: Bernard H. Zandstra, Eric Ott
Crop: Raspberry **Variety: Heritage**
Planting Method: Transplant **Planting Date: 5/3/02**
Spacing: **Row Spacing: 8 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	4/20/07	10:00 am	54/49	°F	Damp	3 NE	58	Clear	Y
PO1	6/15/07	1:30 pm	81/80	°F	Damp	9 W	50	15% cloudy	N

Crop and Weed Information at Application

Date	Crop or Weed	Height or Diameter	Growth Stage	Density
4/20	Raspberry		Dormant	
4/20	DOBR = downy brome	4-6″		moderate
4/20	QUGR = quackgrass	3-6″		moderate
6/15	Raspberry	18-24″		
6/15	DOBR = downy brome	12-18″		moderate
6/15	QUGR = quackgrass	10-16″		moderate
6/15	ANFB = annual fleabane	12-18″		moderate
6/15	WHCA = white campion	10-18″		moderate

Notes and Comments

1. **PRE was 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. **PO1 application was made with 2 nozzle boom FF11002, 20 gpa, 30 psi, 3.2 mph CO_2 backpack sprayer on each side of the row.**

Weed Control in Raspberry - CHES

Dept. of Horticulture, MSU

Trial ID: WC 131-07-01 Study Director: Dr. Bernard Zandstra
Location: Clarksville Investigator: Eric Ott

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	RASP 5/29/07 RATING 1-10	QUGR 5/29/07 RATING 1-10	DOBR 5/29/07 RATING 1-10	WHCA 5/29/07 RATING 1-10	RASP 6/13/07 RATING 1-10	DOBR 6/13/07 RATING 1-10
1	mesotrione	4	SC	0.094	LB AI/A	PRE	A	1.3	7.3	7.7	6.3	1.3	7.7
2	mesotrione	4	SC	0.188	LB AI/A	PRE	A	2.3	8.7	9.3	6.7	2.3	8.3
3	flumioxazin	51	WDG	0.192	LB AI/A	PRE	A	2.3	5.7	6.0	4.7	2.7	7.0
4	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	2.7	6.3	6.3	7.3	2.7	7.0
5	diuron	80	WP	3	LB AI/A	PRE	A	2.3	6.7	8.3	6.7	2.3	8.7
	clopyralid	3	EC	0.188	LB AI/A	PO1	B						
6	Untreated							3.0	6.0	7.7	6.3	3.3	6.0
LSD (P=.05)								2.51	4.87	5.12	7.68	2.65	4.20
Standard Deviation								1.38	2.67	2.81	4.22	1.46	2.31
CV								59.07	39.47	37.25	66.62	59.6	30.99

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	ANFB 6/13/07 RATING 1-10	WHCA 6/13/07 RATING 1-10	RASP 7/13/07 RATING 1-10	ANFB 7/13/07 RATING 1-10
1	mesotrione	4	SC	0.094	LB AI/A	PRE	A	9.7	6.3	1.7	9.0
2	mesotrione	4	SC	0.188	LB AI/A	PRE	A	10.0	6.7	2.3	9.3
3	flumioxazin	51	WDG	0.192	LB AI/A	PRE	A	3.0	8.0	2.7	3.0
4	sulfentrazone	4	F	0.375	LB AI/A	PRE	A	7.7	7.0	2.3	9.0
5	diuron	80	WP	3	LB AI/A	PRE	A	8.3	7.7	1.7	9.3
	clopyralid	3	EC	0.188	LB AI/A	PO1	B				
6	Untreated							6.0	6.0	2.3	6.7
LSD (P=.05)								4.27	7.44	1.79	4.04
Standard Deviation								2.35	4.09	0.98	2.22
CV								31.57	58.89	45.38	28.73