RESULTS OF WEED CONTROL STUDIES IN VEGETABLE CROPS — 1984

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Ohio Agricultural Research and Development Center
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List of Table

H707 11/84/300

Results of Field Experiments in Vegetable Weed Control - 1984

Stanley F. Gorski[1]

General Materials and Methods

Abbreviations for herbicide application methods:

- PPI - Preplant incorporated
- Pre - Preemergence to the weed and crop
- Del Pre - Delayed preemergence, just prior to crop emergence
- Post - Postemergence to the weed and crop

All rates are in pounds of active ingredient per acre.

Sprayer:

Treatments were applied with a CO_2 backpack type sprayer with a gpa of 29.2 and 30 psi. Some treatments were applied with a tractor-drawn sprayer delivering some spray pressure of 30 psi and a volume of 24 gpa.

Weed Ratings:

Weed counts were made by counting the number of weeds in a 1 square foot wire frame. Two counts were made for each replicate. Counts were made approximately 30 days after treatment. All plots were cultivated and hoed regularly after weed counts were taken (except unweeded check). Visual ratings are on a 1 to 10 scale with 1 = no weed control and 10 = complete weed control.

Injury Rating:

Visual rating was rated on a 1 to 10 scale with 1 = complete crop kill and 10 = no crop injury.

Statistical Analysis:

Fishers LSD at the 5% level was performed on all experiments.
Plot designs were a Randomized Complete Block (RCB) with 3.4 or 5 reps.

Activated Carbon:

An activated carbon/vermiculite safening system was used on some seeded crops (tomato and cabbage). 1 lb activated carbon was mixed with each cubic foot of vermiculite. This mixture was then used to fill the seed furrow. One ft^3 would cover 600 ft. of row.

Spray Additives:

Some postemergence applications were with a crop oil concentrate (C.O.C.) or a nonionic surfactant (X-77).

Appreciation is given to the following people for their assistance in conducting these research studies:

Mr. Gerald Myers - Farm Superintendent, Columbus
Mr. Richard Hassell - Branch Manager, Celeryville
Mr. Chuck Willer - Branch Manager, Fremont
Mr. Mike Ruizzo - Graduate Research Associate
Mr. Steve Reiners - Graduate Research Associate
Ms. Monica Wertz - Research Technician

The cover illustration is by Ms. Jackie TerMeer, formerly of the Department of Horticulture, The Ohio State University.

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Table 1. Chemicals Used in Experiments

Common Name	Trade Name
alachlor	Lasso
benefin	Balan
bensulide	Prefar
bromoxynil	Brominal
butylate + R 25788	Sutan +
CDAA	Randox
CDEC	Vegadex
CGA 82725*	Ciga-Geigy
Chloramben	Amiben/Vegiben
Chloroxuron	Tenoran
chlorpropham	Furloe, Chloro IPC
cloproposydim	Selectone
cyanazine	Bladex
DCPA	Dacthal
diclofop	Hoelon
dinoseb	Premerge
diphenamid	Enide
EPTC	Eptam, Genep
+ R25788	Eradicane
+ 25788 + R 33865	Eradicane Extra
ethalfluralin	Sonalin
fluazifop-butyl	Fusilade
glyphosate	Roundup
linuron	Lorox
metham	Vapam
metolachlor	Dual
metribuzin	Sencor/Lexone
Mon 097*	Monsanto
napropamide	Devrinol
naptalam	Alanap
nitrofen	Tok
oryzalin	Surflan
oxyfluorfen	Goal
pebulate	Tillam
pendimethalin	Prowl
PPG 844*	PPG Industries
PPG 1013	PPG Industries
prometryn	Caparol
pronamide	Kerb
propachlor	Ramrod
R 40344*	Stauffer Chemical Co.
sethoxydim	Poast
S-734*	Uniroyal
SC 0224*	Stauffer Chemical Co.
thiobencarb	Bolero
trifluralin	Treflan
DPX-5184*	Dupont

*Experimental compound, name of manufacturer is listed in place of trade name.

Table 2. Weeds Mentioned in Report

Common Name	Scientific Name
Barnyard Grass	*Echinochloa crugalli*
Canada Thistle	*Cirsium arvense*
Common Lambsquarter	*Chenopodium album*
Common Mallow	*Malva neglecta*
Common Purslane	*Portulaca oleracea*
Common Ragweed	*Ambrosia artemisiifolia*
Fall Panicum	*Panicum dichotomiflorum*
Field Bindweed	*Convolvulus arvensis*
Knotweed	*Polygonum aviculare*
Ladysthumb Smartweed	*Polygonum persicaria*
Large Crabgrass	*Digitaria sanguinalis*
Lovegrass	*Eragrostis cilianensis*
Mayweed	*Anthemis cotula*
Pennsylvania Smartweed	*Polygonum pensylvanicum*
Redroot Pigweed	*Amaranthus retroflexus*
Shepardspurse	*Capella bursa-pastoris*
Sida spp.	*Sida spp.*
Smallflower Galinsoga	*Galinsoga parviflora*
Velvetleaf	*Abutilon theophrasti*
Venice Mallow	*Hibiscus trionum*
Yellow Foxtail	*Setaria lutescens*
Yellow Nutsedge	*Cyperus esculentus*
Yellow Woodsorrel	*Oxalis stricta*
Witchgrass	*Panicum capillare*

1984 Rainfall - Lane Avenue Farm, Columbus

Day	April	May	June	July	August
1					
2				.22	
3					
4		1.50			
5				.58	
6				.14	.70
7		.17			
8		.38			.31
9				.22	.02
10		.17		.17	
11					
12					
13	.15				.40
14		.28	.50		
15					
16	.45				
17	.60				
18	.15				
19			.05		
20					
21		1.00			
22		.10			
23	.84	.70			1.00
24	.36				
25					
26			.30		
27				.26	
28					
29		.26			
30	.26			.05	
31					
TOTAL	2.81	4.56	.85	1.64	2.43

1984 Rainfall - Vegetable Crops Branch, Fremont

Day	May	June	July	August	September
1					
2		.29			.01
3	.26				.33
4	.04		.93	.09	.08
5		.07	.15	.18	
6			.34		
7	.23			.35	
8	.11		.02	.33	.09
9	.04	.02	.43	.69	
10	.01		.01		.14
11	.16			.14	.04
12					
13	.23	.84			
14					.29
15		.01	.01		.21
16					
17	.03				
18	.04	.26			
19	.70			.45	
20	1.11				
21	.03				
22	.73			.05	
23	.01	.36			
24			.19		.30
25	.24				.33
26			.74		.54
27	.29	.10		.08	
28	.51	.01			.16
29	.02				
30	.02			.84	
31					
TOTAL	4.81	1.96	2.82	3.20	2.52

1984 Rainfall - Celeryville

Day	May	June	July	August
1				
2				
3				
4				.20
5			1.70	
6		.25		
7	.15		.75	.20
8	.25			.21
9	.30			.10
10	.10		.33	
11				
12				
13	.60		.10	
14	.40	1.10		
15				
16				
17				
18	.08		.10	
19	.65	.05		
20				1.28
21	1.30			
22	.03			
23	.37			.17
24				
25			.03	
26				
27	.30		1.20	
28				
29	.38			.20
30				
31				.95
TOTAL	4.91	1.40	4.21	3.31

TITLE: SNAP BEAN TOLERANCE TO CHLORAMBEN

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: 'Tendercrop'
C.) Date Planted: June 6
D.) Date Harvested: July 27
E.) Plot Size: 3ft. by 25ft.
F.) Rating Date: July 5
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: June 6
B.) Type: Surface
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 80
F.) Growth Stage, Crop: Pre
Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

INCORPORATION EQUIPMENT: Roto tiller 2in. deep

COMMENTS: Acceptable weed control was achieved with all treatments. Grass pressure was light and therefore reported as total grass only. Low yields were not necessarily associated with lack of pod set but a delay in pod set. All treatments appeared to have a uniform pod set. However, some weights are low due to this delay in pod setting.

SNAP BEAN TOLERANCE TO CHLORAMBEN

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. TOTAL GRASS	COMMON PURSLANE	VENICE MALLOW	TOTAL BRDL	1 PHYTO	NUMBER PLANTS	TOTAL WT (LBS)
WEEDY				2.0	2.0	5.7	10.0	10.0	31.0	1.63
WEEDED				0.0	0.0	0.0	0.0	10.0	32.3	2.83
CHLORAMBEN	D0.75	2.25	PPI	0.3	0.7	2.3	3.3	10.0	44.7	3.87
CHLORAMBEN	D0.75	2.25	PRE	0.3	0.7	1.0	2.0	9.7	52.0	4.20
CHLORAMBEN	D0.75	2.25	PPI	0.0	0.3	0.7	1.7	10.0	47.0	3.57
METOLACHLOR	E8.00	2.00	PPI							
CHLORAMBEN	D0.75	2.25	PRE	0.0	0.0	1.0	1.0	9.7	51.0	3.93
METOLACHLOR	E8.00	2.00	PRE							
METOLACHLOR	E8.00	2.00	PPI	0.0	0.7	0.7	1.7	10.0	47.3	4.73
METOLACHLOR	E8.00	2.00	PRE	0.0	0.0	1.3	2.3	9.7	40.3	2.73
LEAST SIGNIFICANT DIFF. (.05)=				0.8	1.3	2.2	4.8	0.6	14.2	1.7
STANDARD DEVIATION =				0.4	0.7	1.3	2.7	0.3	8.1	0.9
COEFF. OF VARIABILITY =				138.8	144.5	82.6	100.7	3.5	18.8	28.7

1] Phytotoxicity scale: 1 = complete kill, 10 = no crop injury

TITLE: SEEDED CABBAGE WEED CONTROL

LOCATION: Fremont
PERSONNEL: S.F.Gorski and C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: King Cole
C.) Date Planted: June 8
D.) Date Harvested: Sept. 26
E.) Plot Size: 3ft. by 30ft.
F.) Rating Date: July 10 (pre & post 1&2) July 26 (post 3)
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 8	June 20	June 28	July 10
B.)	Type:	Pre	Post 1	Post 2	Post 3
C.)	Soil Moisture, Surf:	Moderate	Moderate	Moist	Moist
D.)	Soil Temp (3in.):				
E.)	Weather				
	Wind (MPH):	Calm	Calm	Calm	Calm
	Cloud Cover:	Clear	Part Cloud	Clear	Partly Cloudy
	Air Temp:	70	70	75	80
F.)	Growth Stage, Crop:	Pre	2 Leaf	3 Leaf	6-7 Leaf
	Weed:	Pre	2in.	3in.	5-6in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Post applications of chloramben did not control the grassey weeds. Thiobencarb also did a poor job at controlling annual grasses. This was probably due to the lack of irrigation for incorporation. Broadleaf weed pressure was extremely light. All BRDL species were therefore combined for analysis. Post 3 treatments were for crop phyto only. No weed ratings were made for these treatments. Chloramben was the only herbicide to cause significant crop injury. Plants were injured at emergence and never recovered from this injury. Activated carbon did not effectively safen chloramben. Three of the 4 reps were acceptable, one rep had a very low value.

SEEDED CABBAGE WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. CRAB-GRASS	TOTAL GRASS	TOTAL BRDL	PHYTO [1]	YIELD NUMBER OF HEADS	YIELD TOTAL WT(LBS)
WEEDY				4.5	5.0	1.0	10.0		
WEEDED				0.0	0.0	0.0	10.0	19.5	106.9
CHLORAMBEN	DO.75	2.70	PRE	1.5	1.5	0.3	8.5	15.3	101.2
CHLORAMBEN [2] CARBON	DO.75	2.70	PRE	1.8	2.0	0.0	7.8	16.3	99.6
CHLORAMBEN	GO.10	3.00	PRE	1.0	1.3	0.0	6.5	13.5	69.3
CHLORAMBEN	GO.10	3.00	POST I	4.3	6.0	0.3	8.0	14.5	63.5
CHLORAMBEN	GO.10	3.00	POST II	4.0	4.8	1.0	8.8	15.5	82.3
CHLORAMBEN	DO.75	2.70	POST II	5.0	5.5	0.8	8.5	17.3	86.8
DCPA SC 1084 C.O.C.	WO.75 E4.00 P	8.00 0.37 1.00	PRE POST III POST III	0.0	0.0	0.0	9.8	16.8	113.5
METOLACHLOR	E8.00	2.00	PRE	0.3	0.3	0.3	10.0	18.5	114.7
METOLACHLOR [2] VERMICULITE	E8.00	2.00	PRE	2.3	2.5	0.5	9.0	17.8	81.4
METOLACHLOR [2] CARBON	E8.00	2.00	PRE	1.0	1.0	0.3	8.5	17.3	107.0
ALACHLOR	E4.00	2.00	PRE	0.5	0.5	0.0	9.0	15.3	99.4
ALACHLOR [2] VERMICULITE	E4.00	2.00	PRE	1.0	1.0	0.0	9.3	19.5	122.6
ALACHLOR [2] CARBON	E4.00	2.00	PRE	1.0	1.0	0.0	8.0	17.0	108.9
THIOBENCARB	E8.00	3.00	PRE	3.3	4.3	0.3	8.3	15.0	97.6
THIOBENCARB	E8.00	4.00	PRE	3.3	4.0	0.3	8.0	15.3	117.4
DCPA CLOPROPOSYDIM	WO.50 E4.00	8.00 0.20	PRE POST III				9.5	19.3	132.9
DCPA CLOPROPOSYDIM	WO.75 E2.00	8.00 0.20	PRE POST III				9.5	17.3	111.8
DCPA CLOPROPOSYDIM C.O.C.	WO.75 E4.00 P	8.00 0.20 1.00	PRE POST III POST III				10.0	18.3	125.8
DCPA CLOPROPOSYDIM C.O.C.	WO.75 E2.00 P	8.00 0.20 1.00	PRE POST III POST III				10.0	19.0	153.2
DCPA CLOPROPOSYDIM X-77	WO.75 E4.00 P	8.00 0.20 0.25	PRE POST III POST III				9.5	17.5	112.8
DCPA CLOPROPOSYDIM X-77	WO.75 E2.00 P	8.00 0.20 0.25	PRE POST III POST III				9.8	19.3	122.7
LEAST SIGNIFICANT DIFF. (.05)	=			2.7	2.3	0.6	2.0	3.3	36.8
STANDARD DEVIATION	=			1.9	1.6	0.4	1.4	2.3	26.0
COEFF. OF VARIABILITY	=			127.6	96.00	206.8	16.41	14.36	25.7

1] Crop phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

2] See Page 1 for information on carbon and vermiculite procedures.

TITLE: WEED CONTROL IN GREENS

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% o.m.
B.) Variety:
'Vates' Collards, 'Green Wave' Mustard, 'Seven Top' Turnips
C.) Date Planted: May 16
D.) Date Harvested: June 29
E.) Plot Size: 3 rows 16in. apart on beds 5ft. by 18ft.
F.) Rating Date: June 13
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 16
B.) Type: Surface
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 70
F.) Growth Stage, Crop: Pre
Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

INCORPORATION EQUIPMENT: Irrigation

COMMENTS: Weed pressure was light which resulted in only a slight growth reduction in the weedy check. Chloramben provided acceptable weed control but was injurious to the crop. Alachlor provided acceptable weed control with acceptable crop tolerance. Thiobencarb did not provide acceptable weed control which may be due to insufficient irrigation for incorporation.

WEED CONTROL IN GREENS

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. TOTAL GRASS	COMMON PURSLANE	SMART-WEED	TOTAL BRDL	PHYTO[1] COLLARD	PHYTO[1] MUSTARD	PHYTO[1] TURNIP	YIELD (lbs.) COLLARD	YIELD (lbs.) MUSTARD	YIELD (lbs.) TURNIP
WEEDY				3.0	8.8	1.5	10.8	10.0	9.8	10.0	7.3	12.0	25.2
WEEDED				0.0	0.0	0.0	0.0	10.0	10.0	10.0	7.6	17.0	27.4
PROPACHLOR	F4.00	4.00	PRE	1.3	5.0	1.8	6.8	10.0	9.0	9.5	7.9	13.7	25.7
ALACHLOR	E4.00	4.00	PRE	0.0	0.5	0.5	1.3	9.0	6.3	7.8	6.8	10.7	23.9
MON 097	E8.00	4.00	PRE	0.0	0.0	0.0	0.0	8.3	2.8	4.5	6.9	3.3	13.1
METOLACHLOR	E8.00	4.00	PRE	0.0	2.5	1.3	3.8	8.8	10.0	10.0	4.8	12.6	26.7
THIOBENCARB	E8.00	4.00	PRE	3.0	6.5	0.8	7.3	9.8	9.8	10.0	5.2	14.8	26.4
CHLORAMBEN	D0.75	1.00	PRE	1.8	0.3	0.0	0.5	7.3	8.3	8.8	3.8	14.4	23.4
CHLORAMBEN	D0.75	2.00	PRE	1.3	0.3	0.0	0.3	3.5	4.8	7.8	1.5	7.6	20.6
CIPC	E4.00	4.00	PRE	1.8	5.0	1.5	7.0	9.3	10.0	10.0	8.1	16.0	29.9
BENSULIDE	E4.00	4.00	PRE	1.0	8.3	1.0	9.5	9.5	9.8	10.0	9.8	17.6	31.5
BENSULIDE	E4.00	6.00	PRE	0.5	4.5	2.5	7.8	9.0	9.3	9.8	6.1	15.9	27.9
LEAST SIGNIFICANT DIFF. (.05)			=	1.9	5.2	2.2	6.8	1.6	1.0	.9	4.7	6.3	8.9
STANDARD DEVIATION			=	1.3	3.6	1.5	4.7	1.1	.7	.6	3.2	4.4	6.2
COEFF. OF VARIABILITY			=	121.5	105.9	177.4	103.7	13.4	8.7	7.4	51.6	34.0	24.7

1] Phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

TITLE: LETTUCE WEED CONTROL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R. Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% o.m., pH 5.3
B.) Variety: 'Bibb'
C.) Date Planted: May 16
D.) Date Harvested: July 6
E.) Plot Size: 3 rows 16in. apart on beds 5ft. by 18ft.
F.) Rating Date: June 8
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 16
B.) Type: Surface
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 70
F.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Thiobencarb did not provide acceptable weed control. This may be due to inadequate moisture for incorporation. Chloro IPC and bensulide also did not provide acceptable weed control. Chloramben provided very good weed control. Initial phyto ratings revealed some stunting which was outgrown by harvest. The chloramben thiobencarb combination significantly reduced lettuce yield. This is due to low yields for two reps only.

LETTUCE WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. CRAB-GRASS	FALL PANICUM	TOTAL GRASS	COMMON PURSLANE	SMART-WEED	REDROOT PIGWEED	TOTAL BRDL	1 PHYTO	TOTAL WT (LBS)
WEEDY				4.3	4.0	8.3	26.8	5.8	0.8	33.3	9.3	0.0
WEEDED				0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	16.6
CHLORAMBEN	DO.75	1.00	PRE	1.0	3.5	4.5	0.8	2.8	0.3	3.8	7.0	15.2
CHLORAMBEN	DO.75	2.00	PRE	0.5	3.3	3.8	0.5	0.8	0.3	1.5	7.5	14.0
THIOBENCARB	E8.00	3.00	PRE	2.5	2.8	5.3	18.8	8.0	1.3	28.0	9.3	17.0
THIOBENCARB	E8.00	4.00	PRE	2.8	4.3	7.0	25.3	6.3	2.5	34.0	8.5	17.5
CHLORAMBEN THIOBENCARB	DO.75 E8.00	1.00 2.00	PRE PRE	0.8	4.0	4.8	2.0	0.8	1.0	3.8	7.8	16.4
CHLORAMBEN THIOBENCARB	DO.75 E8.00	1.00 3.00	PRE PRE	1.3	3.3	4.5	1.3	3.3	0.0	4.5	7.0	15.0
CHLORAMBEN THIOBENCARB	DO.75 E8.00	2.00 2.00	PRE PRE	0.3	1.5	1.8	1.3	1.0	0.0	2.3	5.5	11.8
LINURON	WO.50	0.50	PRE	1.8	5.8	7.5	23.5	8.5	1.5	33.5	8.5	14.9
PROMETRYN	F4.00	0.50	PRE	3.0	6.0	9.0	28.0	4.0	0.8	32.8	7.8	15.7
CIPC	E4.00	4.00	PRE	3.0	3.5	6.5	22.0	1.0	1.3	24.3	8.5	15.9
CIPC CHLORAMBEN	E4.00 DO.75	2.00 1.00	PRE PRE	2.5	1.3	3.8	0.0	0.8	0.3	1.0	6.0	14.3
CIPC THIOBENCARB	E4.00 E8.00	2.00 2.00	PRE PRE	5.3	2.8	8.0	10.3	2.3	1.3	13.8	8.5	16.8
PRONAMIDE THIOBENCARB	WO.50 E8.00	2.00 2.00	PRE PRE	1.5	3.3	4.8	14.0	1.3	0.8	16.0	9.0	14.3
PRONAMIDE CHLORAMBEN	WO.50 DO.75	2.00 1.00	PRE PRE	1.5	2.0	3.5	0.8	0.8	1.5	3.0	7.5	14.9
PRONAMIDE	WO.50	4.00	PRE	1.3	1.5	2.8	8.8	1.0	2.3	12.0	8.8	16.5
PRONAMIDE	WO.50	6.00	PRE	2.5	2.0	4.5	2.3	0.8	2.0	5.0	8.0	14.9
BENSULIDE	E4.00	4.00	PRE	2.3	4.0	6.3	23.0	4.8	2.0	29.8	8.8	16.0
BENSULIDE	E4.00	6.00	PRE	2.5	1.0	3.5	21.0	4.3	0.8	26.0	9.3	16.0
LEAST SIGNIFICANT DIFF. (.05)=				2.5	2.6	4.1	15.3	4.3	2.0	17.7	1.4	3.0
STANDARD DEVIATION =				1.8	1.8	2.9	10.8	3.0	1.4	12.5	1.0	2.1
COEFF. OF VARIABILITY =				90.8	63.1	59.5	94.6	106.9	144.0	81.5	12.8	14.7

1] Phytotoxicity scale: 1 = complete kill, 10 = no crop injury

TITLE: LETTUCE ZELLER FARM

LOCATION: Hartville
PERSONNEL: S.F.Gorski, M.Ruizzo, S.Reiners and M.Moore

PLOT INFORMATION

A.) Soil Type: Muck, 75% O.M., pH 6.0
B.) Variety: Waltens Green
C.) Date Planted: August 15
D.) Date Harvested: No Harvest Data
E.) Plot Size: 5ft. by 25ft.
F.) Rating Date: August 30
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: August 15
B.) Type: Preemergence

C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Partly Cloudy

Air Temp: 80
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: This study was conducted to evaluate these potential lettuce herbicides for prostrate pigweed and oakleaf goosefoot control.Further identification of the pigweed species shows it to be Livid Amaranth (Amaranthus lividus). Chloramben is effective in controlling these problem weeds but is slightly phytotoxic to the lettuce.
Other trials show that the lettuce outgrows this early injury and produces acceptable yields. Thiobencarb and CIPC did not control these problem weeds.

LETTUCE - ZELLER FARMS

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	1 PHYTO	COUNT PER 1 SQ. FT. PROSTRATE PIGWEED	OAKLEAF GOOSEFOOT	COMMON PURSLANE	TOTAL BRDL
WEEDY				10.0	13.8	2.3	5.0	23.0
CHLORAMBEN	DO.75	0.50	PRE	10.0	4.8	0.3	0.5	5.8
CHLORAMBEN	DO.75	1.00	PRE	9.5	2.3	0.0	0.3	3.0
CHLORAMBEN	DO.75	2.00	PRE	8.5	1.5	0.3	0.0	1.8
THIOBENCARB	E8.00	3.00	PRE	10.0	13.3	1.0	1.5	16.0
THIOBENCARB	E8.00	2.00	PRE	10.0	6.3	1.0	0.0	7.8
CHLORAMBEN	DO.75	0.75	PRE					
THIOBENCARB	E8.00	3.00	PRE	10.0	4.5	0.8	0.0	6.0
CHLORAMBEN	DO.75	0.75	PRE					
CIPC	E4.00	4.00	PRE	10.0	15.0	3.0	0.8	20.3
CIPC	E4.00	2.00	PRE	9.5	5.8	0.8	0.0	6.8
CHLORAMBEN	DO.75	0.75	PRE					
CIPC	E4.00	3.00	PRE	10.0	4.5	0.3	0.5	5.3
CHLORAMBEN	DO.75	0.75	PRE					
LEAST SIGNIFICANT DIFF. (.05)=				0.6	4.6	1.3	1.8	5.0
STANDARD DEVIATION =				0.4	3.2	0.8	1.2	3.4
COEFF. OF VARIABILITY =				4.5	45.2	94.5	148.1	36.3

1] Crop phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

TITLE: WEED CONTROL FOR MUSTARDS AND COLLARDS
A SINGLE REPLICATE GROWER TRIAL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski, M.Ruizzo & S.Reiners

PLOT INFORMATION

A.) Soil Type: Loam
B.) Variety:
C.) Date Planted: August 8
D.) Date Harvested: No harvest data--phyto only
E.) Plot Size: 5ft. by 50ft.
F.) Rating Date: August 22 & September 12
G.) Plot Design: Single replicate

HERBICIDE APPLICATION DATA

A.) Date: August 8
B.) Type: Pre
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Partly Cloudy

Air Temp: 85
F.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: ------ Caution ------ This is a single replicate grower trial.

MUSTARD WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	PERCENT CONTROL CRAB-GRASS	REDROOT PIGWEED	COMMON LAMBSQUARTER	COMMON PURSLANE	8/22 CROP PHYTO [1]	9/12 CROP PHYTO
WEEDY				70	80	100	100	10	10
PROPACHLOR	F4.00	2.00	PRE	100	100	100	100	9	10
ALACHLOR	E4.00	2.00	PRE	100	100	100	100	10	10
METOLACHLOR	E8.00	2.00	PRE	100	100	100	100	10	10
CHLORAMBEN	D0.75	1.00	PRE	80	100	100	100	10	10
CHLORAMBEN	D0.75	2.00	PRE	90	100	100	100	4	4
CHLORAMBEN	D0.75	3.00	PRE	90	100	100	100	4	3
ALACHLOR CHLORAMBEN	E4.00 D0.75	1.00 2.00	PRE PRE	100	100	100	100	4	3
PROPACHLOR CHLORAMBEN	F4.00 D0.75	1.00 1.00	PRE PRE	90	100	100	100	8	8
PROPACHLOR CHLORAMBEN	F4.00 D0.75	1.00 2.00	PRE PRE	80	100	100	100	7	6

1] Crop phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

COLLARDS WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	PERCENT CONTROL CRAB-GRASS	REDROOT PIGWEED	COMMON LAMBSQUARTER	COMMON PURSLANE	8/22 CROP PHYTO [1]	9/12 CROP PHYTO
WEEDY				80	100	100	100	10	10
PROPACHLOR	F4.00	2.00	PRE	90	100	100	100	10	10
ALACHLOR	E4.00	2.00	PRE	100	100	100	100	8	8
METOLACHLOR	E8.00	2.00	PRE	90	100	100	100	10	10
CHLORAMBEN	D0.75	1.00	PRE	90	100	100	100	9	10
CHLORAMBEN	D0.75	2.00	PRE	90	100	100	100	8	9
CHLORAMBEN	D0.75	3.00	PRE	90	100	100	100	7	7
ALACHLOR CHLORAMBEN	E4.00 D0.75	1.00 2.00	PRE PRE	100	100	100	100	7	7
PROPACHLOR CHLORAMBEN	F4.00 D0.75	1.00 1.00	PRE PRE	100	100	100	100	9	10
PROPACHLOR CHLORAMBEN	F4.00 D0.75	1.00 2.00	PRE PRE	100	100	100	100	6	6

1] Crop phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

TITLE: ONION MH-30 FORMULATIONS

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Variety: Spartan Banner
C.) Date Planted: May 16
D.) Date Harvested: Oct. 12
E.) Plot Size: 5ft. by 18ft.
F.) Rating Date:
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 16	Sept. 12
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Moderate
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Clear
	Air Temp:	65	80
F.)	Growth Stage, Crop:	Pre	50% top fall
	Weed:		

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

ONION MH-30 FORMULATIONS

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	TOTAL BULB WT (LBS) [1]
CONTROL				21.0
UBI 1526	G0.60	2.00	POST	19.4
UBI 1720	G0.60	2.00	POST	19.8

LEAST SIGNIFICANT DIFF. (.05)	=	10.5
STANDARD DEVIATION	=	6.0
COEFF. OF VARIABILITY	=	30.2

1] Yield / 15 ft. row.

TITLE: ONION PREEMERGENCE STUDY

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R.Hassell

PLOT INFORMATION

A.)	Soil Type:	Carlisle Muck, 75% O.M., pH 5.3
B.)	Variety:	'Spartan Banner'
C.)	Date Planted:	May 16
D.)	Date Harvested:	October 12
E.)	Plot Size:	5ft. by 18ft.
F.)	Rating Date:	June 20
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 16	May 31
B.)	Type:	Pre	Cracking
C.)	Soil Moisture, Surf:	Moderate	Moderate
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Clear
	Air Temp:	65	70
F.)	Growth Stage, Crop:	Pre	Cracking
	Weed:	Pre	1-2 in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18
Height:	18

COMMENTS: This study was flooded as the result of a major rain storm on June 14 (1.1 in.). Several days later a major muck storm hit the area. As a result of this the onions were covered with muck as the soil blew. Weed data should be viewed with this in mind. Yield data shows that the herbicides were not phytotoxic to the onions.

ONION PREEMERGENCE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. BARNYARD GRASS	FALL PANICUM	LG CRAB GRASS	TOTAL GRASS	PIG-WEED	COMMON PURSLANE	LAMBS-QUARTER	TOTAL BRDL	TOTAL BULB WT (LBS) [1]
WEEDY				0.3	0.3	3.3	3.8	2.3	11.8	0.8	14.8	0.0
WEEDED				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4
PROPACHLOR	F4.00	4.00	PRE	0.3	0.0	5.0	5.3	0.0	10.8	0.0	10.8	24.1
DS 57614	W0.80	1.60	PRE	0.5	0.3	3.3	4.0	0.8	9.8	0.3	10.8	22.8
PROPACHLOR	F4.00	4.00	PRE	0.0	0.0	1.8	1.8	0.5	8.8	0.0	9.3	18.3
CDAA	E4.00	3.00	CRAK									
CIPC	E4.00	3.00	CRAK									
FLUOROCHLORIDONE	E2.00	0.25	PRE	0.5	0.0	1.8	2.3	0.5	9.8	0.3	10.5	19.0
FLUOROCHLORIDONE	E2.00	0.50	PRE	0.8	0.8	3.0	4.5	0.3	6.5	0.5	7.3	22.7
FLUOROCHLORIDONE	E2.00	0.75	PRE	0.8	0.3	2.8	3.8	0.8	4.5	0.0	5.3	17.9
LEAST SIGNIFICANT DIFF.	(.05)	=		1.2	0.6	2.2	2.5	1.6	6.1	0.6	6.5	8.2
STANDARD DEVIATION		=		0.8	0.4	1.5	1.7	1.1	4.2	0.4	4.4	5.6
COEFF. OF VARIABILITY		=		232.7	229.0	58.8	54.5	182.2	54.4	203.3	51.8	30.6

1] Yield / 15 ft. row.

TITLE: ONION POSTEMERGENCE STUDY

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M.,pH 5.3
B.) Variety: Spartan Banner
C.) Date Planted: May 16
D.) Date Harvested: Oct. 12
E.) Plot Size: 5ft. by 18ft.
F.) Rating Date: July 10 (post 1), August 9 (post 2)
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 16	June 28	July 26
B.) Type:	Pre	Post 1	Post 2
C.) Soil Moisture, Surf:	Moderate	Moderate	Moderate
D.) Soil Temp (3in.):			
E.) Weather			
Wind (MPH):	Calm	Calm	Calm
Cloud Cover:	Clear	Clear	Cloudy
Air Temp:	65	75	75
F.) Growth Stage, Crop:	Pre	2-4 leaf	5-6 leaf
Weed:	Pre	None	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: Various,see comments
PSI: 30
Tips: Various,see comments
Nozzle Spacing: 18
Height: 18

COMMENTS: Please see comments section of onion preemergence study for weather information. Post 2 treatments were applied with a GPA of 50 and Post 1 treatments with a GPA of 29.5. Oxyfluorfen at both rates caused some minor leaf bleaching and 'lazy leaves'. Some minor tip burn was associated with DS 57614. Post 2 applications were followed 2 hours later by a rain storm which lasted into the following day.

All plots were treated with propachlor at 4 lbs.ai/A at seeding.

ONION POST EMERGENCE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	TOTAL BULB WT (LBS) [1]
WEEDY				0.0
WEEDED				14.0
BROMOXYNIL	E4.00	0.25	POST II	11.4
BROMOXYNIL	E4.00	0.50	POST II	15.2
AXF 1240	F2.08	0.25	POST II	9.2
AXF 1240	F2.08	0.50	POST II	13.9
DS 57614	WO.70	1.20	POST I	15.4
AG300834	P	0.10	POST I	
OXYFLUORFEN	E1.60	.125	POST I	19.2
OXYFLUORFEN	E1.60	0.25	POST I	16.8
PP 005	E1.00	.125	POST I	29.6
C. O. C.	P	1.00	POST I	

LEAST SIGNIFICANT DIFF. (.05)	=	8.0
STANDARD DEVIATION	=	5.5
COEFF. OF VARIABILITY	=	38.3

1] Yield / 15 ft. row.

TITLE: PARSLEY WEED CONTROL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Variety: 'Forest Green'
C.) Date Planted: May 16
D.) Date Harvested: August 1
E.) Plot Size: 3 rows 16in. apart on beds 5ft. by 18ft.
F.) Rating Date: June 8
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 16
B.) Type: Surface
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 70
F.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Ethalfluralin provided acceptable grass control and significantly reduced total broadleaves at the 1 lb. rate. Yield was also acceptable. Alachlor and metolachlor provided better weed control than propachlor without reducing yield. Mon 097 provided excellent weed control and yields. However, early injury observations showed considerable injury from Mon 097. CIPC also provided acceptable grass control with reduced broadleaf control.

PARSLEY WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. CRAB-GRASS	FALL PANICUM	TOTAL GRASS	COMMON PURSLANE	SMART-WEED	REDROOT PIGWEED	LAMBS-QUARTER	TOTAL BRDL	TOTAL WT (LBS)
WEEDY				1.5	0.8	2.3	39.5	3.8	1.0	0.8	45.0	0.00
WEEDED				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.88
LINURON	W0.50	1.25	PRE	0.3	0.5	0.8	51.0	2.3	0.3	0.3	53.8	2.45
PROMETRYN	E4.00	1.00	PRE	0.3	0.5	0.8	36.0	1.0	0.0	0.0	37.0	3.08
ETHALFLURALIN	E3.00	0.50	PRE	1.5	0.8	2.3	27.0	0.8	0.0	0.3	28.0	2.38
ETHALFLURALIN	E3.00	1.00	PRE	0.0	0.3	0.3	11.5	3.0	0.3	0.5	15.3	3.25
PROPACHLOR	E4.00	4.00	PRE	1.3	0.0	1.3	18.8	1.5	0.8	0.0	21.0	2.38
ALACHLOR	E4.00	4.00	PRE	0.3	0.0	0.3	2.5	2.5	0.3	0.5	5.8	3.55
MON 097	E8.00	4.00	PRE	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.8	3.15
METOLACHLOR	E8.00	4.00	PRE	0.0	0.0	0.0	15.0	0.8	0.0	0.3	16.0	2.73
THIOBENCARB	E8.00	3.00	PRE	0.5	1.5	2.0	26.3	1.5	0.5	0.8	29.0	3.73
CHLORPROPHAM	E4.00	4.00	PRE	1.8	0.8	2.5	15.0	0.0	0.0	0.3	15.3	2.68
PROPACHLOR	F4.00	2.00	PRE	0.3	0.3	0.5	7.3	1.8	0.0	0.0	9.0	2.32
CHLORPROPHAM	E4.00	2.00	PRE									
ALACHLOR	E4.00	2.00	PRE	0.0	0.0	0.0	9.0	0.5	0.0	0.3	9.8	2.30
CHLORPROPHAM	E4.00	2.00	PRE									
MON 097	E8.00	2.00	PRE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.85
CHLORPROPHAM	E4.00	2.00	PRE									
METOLACHLOR	E8.00	2.00	PRE	0.3	0.0	0.3	18.5	0.5	0.0	0.5	19.5	2.30
CHLORPROPHAM	E4.00	2.00	PRE									
THIOBENCARB	E8.00	3.00	PRE	1.0	1.3	2.3	17.3	0.0	0.5	1.5	19.3	2.45
CHLORPROPHAM	E4.00	2.00	PRE									
LEAST SIGNIFICANT DIFF. (.05)=				1.1	1.0	1.2	18.3	2.1	0.8	0.9	18.7	1.5
STANDARD DEVIATION =				0.7	0.7	0.9	12.9	1.4	0.5	0.6	13.2	1.1
COEFF. OF VARIABILITY =				179.6	219.2	118.3	87.7	149.0	338.0	236.7	81.5	52.6

TITLE: PEPPER TOLERANCE TO FLUAZIFOP-BUTYL

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.)	Soil Type:	Brookston Silty Clay Loam, 2% O.M.
B.)	Variety:	California Wonder
C.)	Date Planted:	June 6
D.)	Date Harvested:	August 9--September 11
E.)	Plot Size:	5ft. by 25ft.
F.)	Rating Date:	July 16 and August 1
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 6	June 29	July 16
B.)	Type:	Pre	Post I	Post II
C.)	Soil Moisture, Surf:	Moderate	Dry	Moderate
D.)	Soil Temp (3in.):			
E.)	Weather			
	Wind (MPH):	Calm	Calm	Calm
	Cloud Cover:	Clear	Cloudy	Clear
	Air Temp:	70	75	75
F.)	Growth Stage, Crop:	6in.	12-18in.	18-24in.
	Weed:			

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18in.
Height:	18in.

COMMENTS: Weed pressure was extremely light and could not be evaluated. Herbicide treatments did not cause any visible injury to the pepper plants. Yields were statistically similar.

PEPPER TOLERANCE TO FLUAZIFOP-BUTYL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD MARKETABLE NUMBER	YIELD MARKETABLE WT (LBS)	YIELD TOTAL NUMBER	YIELD TOTAL WT (LBS)
WEEDY				31.8	11.2	33.8	11.9
WEEDED				31.8	12.1	32.5	12.4
NAPROPAMIDE	W0.50	2.00	PPI	24.3	8.7	24.5	8.8
FLUAZIFOP-BUTYL	E4.00	.375	POST I				
FLUAZIFOP-BUTYL	E4.00	.375	POST II				
NAPROPAMIDE	W0.50	2.00	PPI	32.0	12.2	33.3	12.7
FLUAZIFOP-BUTYL	E4.00	0.75	POST I				
FLUAZIFOP-BUTYL	E4.00	0.75	POST II				
LEAST SIGNIFICANT DIFF. (.05)=				18.2	6.3	18.3	6.3
STANDARD DEVIATION =				11.4	3.9	11.4	3.9
COEFF. OF VARIABILITY =				38.2	35.8	37.0	34.6

TITLE: PICKLE PREEMERGENCE HERBICIDE STUDY

LOCATION: Fremont
PERSONNEL: S.F.Gorski and C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam 3% O.M.
B.) Variety: Calypso
C.) Date Planted: June 13
D.) Date Harvested: July 25--August 6
E.) Plot Size: 3ft. by 30ft.
F.) Rating Date: June 28
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: June 13
B.) Type: Preemergence Surface

C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 75
F.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: All treatments provided significantly better weed control than the weedy check. Pickles showed no phytotoxic response to any of the treatments. Chloramben did not cause any leaf injury as has been noted in previous years. DCPA and ethalfluralin did not injure the stem of the pickle plant. Yields were not reduced by any treatment.

PICKLE PREEMERGENCE HERBICIDE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT- 1 SQ.FT. TOTAL GRASS	COUNT- 1 SQ.FT. TOTAL BRDL	YIELD #1 WT. (LBS.)	YIELD #2 WT. (LBS.)	YIELD #3 WT. (LBS.)	YIELD TOTAL WT. (LBS.)
WEEDY				4.0	1.8	7.4	16.7	9.9	43.1
WEEDED				0.0	0.0	9.0	20.6	11.9	49.0
DCPA	WO.75	6.00	PRE	1.5	0.3	8.6	18.0	12.0	46.1
DCPA	WO.75	7.50	PRE	0.5	0.3	9.5	20.2	9.8	44.8
DCPA	WO.75	10.5	PRE	0.3	0.0	8.1	20.1	12.1	46.6
DCPA	WO.75	6.00	PRE	0.0	0.0	9.0	18.0	8.4	40.3
CHLORAMBEN	DO.75	0.75	PRE						
CHLORAMBEN	DO.75	2.00	PRE	0.0	0.0	8.9	20.8	12.7	46.9
NAPTALAM	E2.00	2.00	PRE	0.8	0.3	10.3	21.8	11.1	47.0
CHLORAMBEN	DO.75	2.00	PRE	0.0	0.0	10.4	20.2	9.7	45.5
NAPTALAM	E2.00	2.00	PRE						
NAPTALAM	E2.00	2.00	PRE	0.0	0.0	9.4	19.8	9.7	45.6
ETHALFLURALIN	E3.00	1.12	PRE						
LEAST SIGNIFICANT DIFF. (.05)		=		1.3	1.3	2.6	5.1	4.3	9.2
STANDARD DEVIATION		=		0.9	0.9	1.8	3.5	3.0	6.3
COEFF. OF VARIABILITY		=		136.6	366.7	19.8	18.1	28.0	13.9

TITLE: PICKLE POSTEMERGENCE HERBICIDE STUDY

LOCATION: Fremont
PERSONNEL: S.F.Gorski and C,Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: Calypso
C.) Date Planted: June 13
D.) Date Harvested: July 25 to August 6
E.) Plot Size: 3ft. by 30ft.
F.) Rating Date: July 26
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 13	July 10
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Moist
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	5 MPH
	Cloud Cover:	Clear	Cloudy
	Air Temp:	75	80
F.)	Growth Stage, Crop:	Pre	10in. 8-10 leaf
	Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Pickle injury was some minor leaf burn,curling or speckling. This injury was not severe enough to cause a yield reduction. Injury symptoms were rapidly outgrown and did not appear on the new growth.

PICKLE POSTEMERGENCE HERBICIDE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	1 PHYTO	YIELD #1 WT. (LBS.)	#2 WT. (LBS.)	#3 WT. (LBS.)	TOTAL WT. (LBS.)
WEEDY				10.0	7.4	16.7	9.9	43.1
WEEDED				10.0	9.0	20.6	11.9	49.0
ETHALFLURALIN	E3.00	1.12	PRE	9.5	10.3	19.6	10.1	43.8
SC 1084	E4.00	0.37	POST					
C.O.C.	P	1.00	POST					
NAPTALAM	E2.00	2.00	POST	9.8	9.6	19.6	11.9	47.1
SETHOXYDIM	E1.50	0.20	POST					
C.O.C.	P	0.10	POST					
NAPTALAM	E2.00	2.00	POST	9.8	9.3	20.0	11.0	46.5
SETHOXYDIM	E1.50	0.20	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	9.3	8.3	20.3	13.2	48.2
CLOPROPOSYDIM	E4.00	0.20	POST					
ETHALFLURALIN	E3.00	1.12	PRE	10.0	10.2	20.8	9.9	46.0
CLOPROPOSYDIM	E2.00	0.20	POST					
ETHALAFURALIN	E3.00	1.12	PRE	9.5	9.9	22.4	10.3	48.9
CLOPROPOSYDIM	E4.00	0.20	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	9.5	10.1	21.7	9.3	47.6
CLOPROPOSYDIM	E2.00	0.20	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	9.3	10.0	20.4	10.2	45.9
CLOPROPOSYDIM	E4.00	0.20	POST					
X-77	P	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	9.5	9.7	20.2	12.5	47.3
CLOPROPOSYDIM	E2.00	0.20	POST					
X-77	P	0.25	POST					
LEAST SIGNIFICANT DIFF. (.05)=				0.4	1.8	3.3	4.0	7.3
STANDARD DEVIATION		=		0.3	1.2	2.3	2.8	5.1
COEFF. OF VARIABILITY		=		6.2	23.2	20.2	45.0	19.0

1] Crop phytotoxicity scale: 1= complete crop kill, 10= no crop injury.

TITLE: PICKLE TOLERANCE TO DPX-Y6202

LOCATION: Fremont
PERSONNEL: S.F.Gorski, M.Ruizzo, and C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: 'Calypso'
C.) Date Planted: June 13
D.) Date Harvested: July 25 to August 6
E.) Plot Size: 3ft. by 30ft.
F.) Rating Date: July 26
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 13	July 10
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Moist
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	5 MPH
	Cloud Cover:	Clear	Cloudy
	Air Temp:	75	80
F.)	Growth Stage, Crop:	Pre	10in. 8-10 leaf
	Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: This study is a graduate student project. Therefore I will only make a few comments. For a more complete summary contact Mr.M.Ruizzo. Pickles were sensitive to high rates of DPX-Y6202. Applications without an additive were less phytotoxic than with one. There did not seem to be any differences between the use of a crop oil concentrate and X-77.

PICKLE TOLERANCE TO DPX-Y6202

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD #1 WT. (LBS.)	YIELD #2 WT. (LBS.)	YIELD #3 WT. (LBS.)	YIELD TOTAL WT. (LBS)	1 PHYTO
WEEDY				7.4	16.7	9.9	43.1	10.0
WEEDED				9.0	20.6	11.9	49.0	10.0
ETHALFLURALIN	E3.00	1.12	PRE	10.8	20.6	13.5	52.2	8.7
DPX-Y6202	E0.80	.031	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	10.9	21.4	8.8	46.7	8.2
DPX-Y6202	E0.80	.063	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	7.8	14.7	10.9	38.5	8.5
DPX-Y6202	E0.80	.125	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	7.1	12.7	5.1	28.0	6.5
DPX-Y6202	E0.80	0.25	POST					
C.O.C.	P	1.00	POST					
ETHALFLURALIN	E3.00	1.12	PRE	10.8	21.8	10.4	47.2	9.0
DPX-Y6202	E0.80	.031	POST					
X-77	P	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	9.4	19.9	12.8	48.2	8.7
DPX-Y6202	E0.80	.063	POST					
X-77	P	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	8.4	18.9	8.6	41.4	8.0
DPX-Y6202	E0.80	.125	POST					
X-77	P	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	6.5	13.0	7.2	30.4	7.1
DPX-Y6202	E0.80	0.25	POST					
X-77	P	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	11.4	23.2	9.7	48.9	8.7
DPX-Y6202	E0.80	.031	POST					
ETHALFLURALIN	E3.00	1.12	PRE	11.0	22.6	10.7	49.7	9.0
DPX-Y6202	E0.80	.063	POST					
ETHALFLURALIN	E3.00	1.12	PRE	10.2	20.8	9.6	45.8	8.7
DPX-Y6202	E0.80	.125	POST					
ETHALFLURALIN	E3.00	1.12	PRE	7.7	16.4	9.6	39.7	8.5
DPX-Y6202	E0.80	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	14.9	21.0	11.2	48.4	9.2
X-77	P	0.25	POST					
ETHALFLURALIN	E3.00	1.12	PRE	10.7	22.7	13.8	52.5	9.0
C.O.C.	P	1.00	POST					
LEAST SIGNIFICANT DIFF. (.05)		=		2.6	3.0	2.9	5.9	0.4
STANDARD DEVIATION		=		1.9	2.2	2.0	4.2	0.2
COEFF. OF VARIABILITY		=		40.9	23.6	42.0	19.7	7.0

1] Phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.
Phytotoxicity rating date: 7/25/84.

TITLE: POST EMERGENCE GRASS STUDY ON SALAD VEGETABLES

LOCATION: Celeryville
PERSONNEL: S.F.Gorski and R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Variety: Celery 'Florida 683', Lettuce 'Bibb'
C.) Date Planted: Celery May 3, Lettuce June 19
D.) Date Harvested: August 8
E.) Plot Size: 5ft. by 18ft.
F.) Rating Date: Celery June 20, Lettuce July 26
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	June 13	July 13
B.) Type:	Celery	Lettuce
C.) Soil Moisture, Surf:	Moderate	Moderate
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	Calm
Cloud Cover:	Clear	Clear
Air Temp:	75	80
F.) Growth Stage, Crop:	6-8in.	6-8 leaves
Weed:		

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: There was no visible injury to either crop from the postemergence treatments. Spinach was also included in this study. However, due to poor environmental conditions, the spinach portion was abandoned.

POSTEMERGENCE GRASS STUDY ON SALAD VEGETABLES

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	TOTAL WT. (LBS) CELERY	LETTUCE
WEEDED				57.17	14.57
SETHOXYDIM	E1.50	0.20	POST	64.90	14.73
C. O. C.	P	1.00	POST		
SETHOXYDIM	E1.50	0.30	POST	57.93	14.00
C. O. C.	P	1.00	POST		
CLOPROPOSYDIM	E4.00	0.20	POST	63.37	13.73
CLOPROPOSYDIM	E2.00	0.20	POST	66.23	15.70
CLOPROPOSYDIM	E4.00	0.20	POST	66.93	13.60
C. O. C.	P	1.00	POST		
CLOPROPOSYDIM	E2.00	0.20	POST	64.83	14.10
C. O. C.	P	1.00	POST		
CLOPROPOSYDIM	E4.00	0.20	POST	66.33	12.80
X-77	P	0.25	POST		
CLOPROPOSYDIM	E2.00	0.20	POST	51.27	13.40
X-77	P	0.25	POST		
PP 005	E1.00	.063	POST	58.93	16.03
C. O. C.	P	1.00	POST		
PP 005	E1.00	.125	POST	53.23	15.20
C. O. C.	P	1.00	POST		
PP 005	E1.00	.188	POST	59.83	13.70
C. O. C.	P	1.00	POST		
DPX-Y6202	E0.80	.031	POST	53.70	14.00
C. O. C.	P	1.00	POST		
DPX-Y6202	E0.80	.063	POST	58.40	15.23
C. O. C.	P	1.00	POST		
DPX-Y6202	E0.80	.125	POST	56.83	15.53
C. O. C.	P	1.00	POST		
DPX-Y6202	E0.80	.063	POST	53.80	13.67
X-77	P	0.25	POST		
DPX-Y6202	E0.80	.063	POST	52.07	13.97
C. O. C.	P	0.10	POST		
DPX-Y6202	E0.80	.063	POST	58.80	14.87
DPX-Y6202	E0.80	.125	POST	58.50	14.80
FLUAZIFOP-BUTYL	E4.00	.250	POST	61.03	
C.O.C.	P	1.00	POST		
LEAST SIGNIFICANT DIFF. (.05) =				12.87	2.91
STANDARD DEVIATION =				7.80	1.76
COEFF. OF VARIABILITY =				13.17	12.26

TITLE: POTATO MH-30 FORMULATIONS

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.)	Soil Type:	Brookston Silty Clay Loam, 2% O.M.
B.)	Variety:	Katahadin
C.)	Date Planted:	May 25
D.)	Date Harvested:	Oct. 10
E.)	Plot Size:	6ft. by 25ft.
F.)	Rating Date:	August 18
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 25	August 8
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Dry
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	5 MPH
	Cloud Cover:	Clear	Clear
	Air Temp:	65	85
F.)	Growth Stage, Crop:	Pre	2 weeks after bloom
	Weed:	None	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18
Height:	18

POTATO MH-30 FORMULATIONS

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD (LBS) # 1	YIELD (LBS) TOTAL
METOLACHLOR	E8.00	2.00	PRE	18.0	24.3
UBI 1526	D0.60	3.00	POST		
METOLACHLOR	E8.00	2.00	PRE	22.6	29.1
UBI 1720	D0.60	3.00	POST		
METOLACHLOR	E8.00	2.00	PRE	27.3	32.8
LEAST SIGNIFICANT DIFF. (.05)		=		3.6	4.0
STANDARD DEVIATION		=		2.5	2.9
COEFF. OF VARIABILITY		=		141.9	125.6

TITLE: POTATO WEED CONTROL

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: Katahdin
C.) Date Planted: May 25
D.) Date Harvested: October 10
E.) Plot Size: 6ft. by 25ft.
F.) Rating Date: June 19
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 25	June 12
B.)	Type:	PPI & Pre	Delayed Pre (DPRE)
C.)	Soil Moisture, Surf:	Moderate	Dry
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Clear
	Air Temp:	65	75
F.)	Growth Stage, Crop:	Pre	Emerging
	Weed:	Pre	1-2in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

INCORPORATION EQUIPMENT: Roto Tiller set to 3 inches

COMMENTS: There are several treatments that were affected by standing water and poor germination. Metolachlor and chloramben are two such treatments. Yield data from oryzalin is variable. I suspect water had a negative effect on this treatment.

POTATO WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. TOTAL GRASS	LAMBS-QUARTER	PIG-WEED	TOTAL BRDL	YIELD (LBS) # 1	TOTAL
WEEDY				2.5	8.3	6.3	15.0	1.3	2.2
FLUOROCHLORIDONE	E2.00	0.37	PRE	0.3	1.3	0.3	1.5	12.3	16.1
METOLACHLOR	E8.00	2.00	PRE						
FLUOROCHLORIDONE	E2.00	0.50	PRE	0.3	3.8	0.0	3.8	14.1	19.9
METOLACHLOR	E8.00	2.00	PRE						
FLUOROCHLORIDONE	E2.00	0.25	PRE	0.3	0.0	0.0	0.0	14.8	23.7
METRIBUZIN	D0.75	0.50	PRE						
DCPA	W0.75	6.00	PRE	0.0	3.3	0.3	3.5	27.0	37.3
ALACHLOR	E4.00	2.00	PRE						
ORYZALIN	S4.00	1.00	PRE	0.8	3.5	1.0	5.5	7.8	11.7
ORYZALIN	S4.00	1.00	PRE	0.0	0.3	0.0	0.3	19.5	27.6
METRIBUZIN	D0.75	0.50	PRE						
EPTC	E7.00	3.00	PPI	0.3	1.0	0.0	1.0	20.7	27.0
LACTOFEN	E2.00	0.20	PRE						
EPTC	E7.00	3.00	PPI	0.0	2.3	0.0	2.3	17.4	24.3
LACTOFEN	E2.00	0.25	PRE						
EPTC	E7.00	3.00	PPI	0.3	0.8	0.0	0.8	21.3	29.2
PPG-1013	E0.25	0.15	PRE						
EPTC	E7.00	3.00	PPI	0.0	0.5	0.0	0.5	10.5	13.9
PPG-1013	E0.25	0.20	PRE						
EPTC	E7.00	3.00	PPI	0.3	0.0	0.0	0.0	11.7	16.7
PPG-1013	E0.25	0.40	PRE						
EPTC	E7.00	3.00	PPI	0.5	6.3	0.0	6.8	10.8	16.1
METOLACHLOR	E8.00	2.00	PRE	0.0	0.5	0.0	0.5	15.4	20.3
LACTOFEN	E2.00	0.20	PRE						
METOLACHLOR	E8.00	2.00	PRE	0.0	2.5	0.3	2.8	15.3	19.1
LACTOFEN	E2.00	0.25	PRE						
METOLACHLOR	E8.00	2.00	PRE	0.0	1.0	0.5	1.5	26.3	33.2
PPG-1013	E0.25	0.15	PRE						
METOLACHLOR	E8.00	2.00	PRE	0.0	2.3	0.0	2.3	21.7	29.0
PPG-1013	E0.25	0.20	PRE						
METOLACHLOR	E8.00	2.00	PRE	0.0	4.5	1.0	5.8	10.7	15.1
CHLORAMBEN	D0.75	2.70	DPRE	0.5	5.5	1.0	6.5	9.5	14.4
CHLORAMBEN	D0.75	2.70	DPRE	0.5	0.0	0.0	0.0	19.2	23.4
METRIBUZIN	D0.75	0.50	DPRE						
CHLORAMBEN	D0.75	2.70	DPRE	0.3	0.0	0.0	0.0	22.0	28.5
LINURON	W0.50	1.00	DPRE						
CHLORAMBEN	D0.75	2.70	DPRE	1.0	0.0	0.0	0.0	18.1	24.2
ALACHLOR	E4.00	2.00	DPRE						
LINURON	W0.50	1.00	DPRE						
LEAST SIGNIFICANT DIFF. (.05) =				1.2	3.8	1.7	4.4	9.8	11.7
STANDARD DEVIATION =				0.9	2.7	1.2	3.1	6.9	8.2
COEFF. OF VARIABILITY =				280.6	131.5	265.3	119.7	46.1	40.2

TITLE: POTATO POSTEMERGENCE HERBICIDE STUDY

LOCATION: Cloumbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: Katahadin
C.) Date Planted: May 25
D.) Date Harvested: Oct. 10
E.) Plot Size: 6ft. by 25ft.
F.) Rating Date: July 25
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 25	July 10
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Dry
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Partly Cloudy
	Air Temp:	65	80
F.)	Growth Stage, Crop:	Pre	6-10 in.
	Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Variability between the reps is responsible for some of the low yield values. This may or may not be due to a treatment effect. The potatoes did not exhibit any visible injury symptoms from the treatments. Raw data is available upon request.

POTATO POST EMERGENCE HERBICIDE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD (LBS) # 1	YIELD (LBS) TOTAL
WEEDY				1.3	2.2
METOLACHLOR	E8.00	2.00	PRE	27.7	34.5
METOLACHLOR	E8.00	2.00	POST	24.8	32.1
METRIBUZIN	D0.75	0.50	POST		
METOLACHLOR	E8.00	2.00	PRE	32.5	39.0
DPX-Y6202	E0.80	.031	POST		
C.O.C.	P	1.00	POST		
METOLACHLOR	E8.00	2.00	PRE	20.2	27.7
DPX-Y6202	E0.80	.063	POST		
C.O.C.	P	1.00	POST		
METOLACHLOR	E8.00	2.00	PRE	26.4	32.7
DPX-Y6202	E0.80	.125	POST		
C.O.C.	P	1.00	POST		
METOLACHLOR	E8.00	2.00	PRE	27.3	36.9
METRIBUZIN	D0.75	0.25	POST		
DPX-Y6202	E0.80	.063	POST		
METOLACHLOR	E8.00	2.00	PRE	17.3	26.2
PP-005	E1.00	.125	POST		
C.O.C.	P	1.00	POST		
METOLACHLOR	E8.00	2.00	PRE	27.5	36.3
PP-005	E1.00	.188	POST		
C.O.C.	P	1.00	POST		
METOLACHLOR	E8.00	2.00	PRE	27.7	36.7
METRIBUZIN	D0.75	0.25	POST		
SETHOXYDIM	E1.50	0.20	POST		
METOLACHLOR	E8.00	2.00	PRE	28.5	33.7
METRIBUZIN	D0.75	0.25	POST		
FLUAZIFOP-BUTYL	E4.00	0.25	POST		
METOLACHLOR	E8.00	2.00	PRE	33.4	46.0
SETHOXYDIM	E1.50	0.20	POST		
C.O.C.	P	1.00	POST		
LEAST SIGNIFICANT DIFF. (.05)		=		6.8	8.0
STANDARD DEVIATION		=		4.8	5.7
COEFF. OF VARIABILITY		=		57.6	52.2

TITLE: SEEDED TOMATO TOLERANCE TO ACIFLUORFEN

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: Easy Harvest
C.) Date Planted: May 22
D.) Date Harvested: September 13
E.) Plot Size: 5ft. by 25ft.
F.) Rating Date: June 29 and July 10
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 22	June 19	June 29
B.)	Type:	Pre	Post	Post
C.)	Soil Moisture, Surf:	Moderate	Moderate	Dry
D.)	Soil Temp (3in.):			
E.)	Weather			
	Wind (MPH):	Calm	Calm	Calm
	Cloud Cover:	Clear	Clear	Cloudy
	Air Temp:	70	75	75
F.)	Growth Stage, Crop:	Pre	2 leaf	5 leaf
	Weed:	None	None	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: This study was designed to evaluate tomato tolerance to acifluorfen without the presence of weeds. Therefore the entire experimental area was kept weed free all season. Previous years studies have shown excellent black nightshade controll with these use rates. All treatment rates provided acceptable safety to the seeded tomatoes. The 0.5 lb. rate caused some minor foliar necrosis. The 9.3 rating at the 5 leaf stage for 0.063 lbs. was due to a single low replicate.

SEEDED TOMATO TOLERANCE TO ACIFLUORFEN
TWO LEAF STAGE

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	1 6/29 PHYTO	7/10 PHYTO	YIELD MARKETABLE RED WT	YIELD MARKETABLE GREEN WT	TOTAL WT (LBS)
CONTROL				10.0	10.0	59.0	72.8	134.6
ACIFLUORFEN	E2.00	.063	2 LF	10.0	10.0	46.0	38.8	87.6
ACIFLUORFEN	E2.00	.125	2 LF	10.0	10.0	69.1	53.2	126.1
ACIFLUORFEN	E2.00	0.25	2 LF	10.0	10.0	55.4	55.7	113.3
ACIFLUORFEN	E2.00	0.50	2 LF	9.0	10.0	65.6	57.5	128.6
LEAST SIGNIFICANT DIFF. (.05)=				0.0	0.0	36.0	42.2	48.6
STANDARD DEVIATION		=		0.0	0.0	19.1	22.4	25.8
COEFF. OF VARIABILITY		=		0.0	0.0	32.4	40.3	21.8

1] Phytotoxicicty scale: 1 = complete crop kill, 10 = no crop injury.

SEEDED TOMATO TOLERANCE TO ACIFLUORFEN
FIVE LEAF STAGE

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	1 7/10 PHYTO	YIELD MARKETABLE RED WT	YIELD MARKETABLE GREEN WT	TOTAL WT (LBS)
CONTROL				10.0	59.0	72.8	134.6
ACIFLUORFEN	E2.00	.063	5 LF	9.3	60.8	71.9	137.9
ACIFLUORFEN	E2.00	.125	5 LF	10.0	67.9	50.4	122.5
ACIFLUORFEN	E2.00	0.25	5 LF	10.0	61.3	77.6	141.5
ACIFLUORFEN	E2.00	0.50	5 LF	9.0	57.1	78.8	139.2
LEAST SIGNIFICANT DIFF. (.05)=				0.8	23.8	21.5	35.2
STANDARD DEVIATION		=		0.4	13.7	12.4	20.3
COEFF. OF VARIABILITY		=		8.9	40.5	31.8	27.0

1] Phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

TITLE: SEEDED TOMATO PREEMERGENCE HERBICIDE STUDY

LOCATION: Fremont
PERSONNEL: S.F.Gorski and C.Willer

PLOT INFORMATION

A.)	Soil Type:	Sandy Loam, 3% O.M.
B.)	Variety:	Easy Harvest
C.)	Date Planted:	May 17
D.)	Date Harvested:	Sept. 18
E.)	Plot Size:	5ft. by 30ft.
F.)	Rating Date:	June 20
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 17	July 26
B.)	Type:	PPI & Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Moderate
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Partly Cloudy
	Air Temp:	70	85
F.)	Growth Stage, Crop:	Pre	14-18 in.
	Weed:		

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18
Height:	18

COMMENTS: Napropamide provided poor control of annual weeds in 1984. This was probably due to improper incorporation. As a result of this weed growth yields are low for the napropamide treatment. The safening effect of activated carbon was obvious with the diphenamide and metribuzin treatments. The combination of metribuzin with napropamide was a much better treatment than the napropamide treatment alone.

SEEDED TOMATO PREEMERGENCE HERBICIDE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER SQ. FT. FALL PANICUM	COMMON RAGWEED	LADYSTHUMB SMARTWEED	TOTAL BRDL	PHYTO [1]	YIELD (LBS.) REDS	GREENS	TOTAL [2]
WEEDY				6.5	1.0	1.3	2.3	10.0	0.0	0.0	0.0
WEEDED				0.0	0.0	0.0	0.0	10.0	95.6	45.4	149.0
CHLORAMBEN [3] CARBON	DO.75	2.70	PRE	3.3	0.8	0.5	1.3	9.5	116.6	39.8	163.8
CHLORAMBEN [3] CARBON	DO.75	2.70	PRE	3.3	0.0	0.5	0.5	9.0	120.2	46.5	175.5
CHLORAMBEN	GO.10	3.00	POST								
CHLORAMBEN [3] CARBON	DO.75	4.00	PRE	2.3	0.0	0.0	0.0	7.5	123.7	46.7	179.6
NAPROPAMIDE [3]	WO.50	2.00	PPI	2.8	0.0	0.0	0.0	8.8	145.1	38.4	193.1
METRIBUZIN	DO.75	0.25	PRE								
CARBON											
NAPROPAMIDE	WO.50	2.00	PPI	4.8	0.8	1.3	2.0	8.5	76.3	50.2	132.4
NAPROPAMIDE	WO.50	1.50	PPI	2.5	0.0	1.0	1.3	7.5	78.9	65.8	149.5
DIPHENAMID	WO.90	3.00	PPI								
DIPHENAMID	WO.90	5.00	PRE	3.0	0.8	0.8	1.5	7.0	74.3	61.6	139.2
DIPHENAMID [3] CARBON	WO.90	5.00	PRE	1.5	0.3	0.8	1.3	9.8	99.9	45.6	152.4
NAPROPAMIDE	WO.50	2.00	PPI	8.5	0.5	0.8	1.3	8.5	117.7	42.4	164.1
METRIBUZIN	DO.75	0.25	PRE								
LEAST SIGNIFICANT DIFF. (.05) =				2.6	1.3	0.9	1.5	1.3	26.9	15.6	29.1
STANDARD DEVIATION =				1.8	0.9	0.6	1.0	0.9	18.6	10.8	20.1
COEFF. OF VARIABILITY =				51.9	247.8	109.3	104.9	10.9	19.5	24.6	13.8

1] Phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

2] Total fruit weight includes greens, reds and culls.

3] See Page 1 for information on carbon procedure.

TITLE: SEEDED TOMATO POSTEMERGENCE HERBICIDE STUDY

LOCATION: Fremont
PERSONNEL: S.F.Gorski and C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: Easy Harvest
C.) Date Planted: May 17
D.) Date Harvested: Sept. 18
E.) Plot Size: 5ft. by 30ft.
F.) Rating Date: July 10
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 17	June 28
B.)	Type:	PPI	Post
C.)	Soil Moisture, Surf:	Moderate	Moderate
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Partly Cloudy
	Air Temp:	70	75
F.)	Growth Stage, Crop:	Pre	Tomato 4-5 leaf
	Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Considerable stunting was associated with the cloproposydim treatments, These treatments caused a delay in fruit set as can be seen by the lower red fruit weights. Total fruit weight is not as severely affected as it contains the weight of the green fruit. The growing season would not be long enough for these fruit to mature. Several other treatments caused this delay in fruit set. Be cautious not to misinterpret the results by reading only the total weights column.

SEEDED TOMATO POSTEMERGENCE HERBICIDE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD (LBS.) 1 PHYTO	REDS	GREENS	2 TOTAL
WEEDY				10.0	0.0	0.0	0.0
WEEDED				10.0	95.6	45.4	149.0
NAPROPAMIDE	WO.50	2.00	PPI	9.5	123.1	53.0	152.3
SC 1084	E4.00	0.37	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	9.8	121.7	48.1	176.8
DPX-Y6202	EO.8 O	.031	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	POST	7.8	76.5	64.3	143.5
DPX-Y6202	EO.80	.063	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	9.0	100.4	48.2	154.0
DPX-Y6202	EO.80	.125	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	8.8	101.8	58.6	166.1
DPX-Y6202	EO.80	.063	POST				
METRIBUZIN	DO.75	0.25	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	9.0	116.2	52.6	175.2
PP 005	E1.00	.063	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	9.5	126.7	48.0	180.2
PP 005	E1.00	.125	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	8.0	87.9	46.9	140.2
PP 005	E1.00	.188	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	8.5	93.0	54.0	152.8
CLOPROPOSYDIM	E4.00	0.20	POST				
NAPROPAMIDE	WO.50	2.00	PPI	7.0	81.6	48.8	135.2
CLOPROPOSYDIM	E2.00	0.20	POST				
NAPROPAMIDE	WO.50	2.00	PPI	7.3	70.3	51.9	126.1
CLOPROPOSYDIM	E4.00	0.20	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	7.3	67.5	56.4	128.4
CLOPROPOSYDIM	E2.00	0.20	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	7.3	77.9	54.6	137.4
CLOPROPOSYDIM	E4.00	0.20	POST				
X-77	P	0.25	POST				
NAPROPAMIDE	WO.50	2.00	PPI	6.5	51.8	62.2	117.1
CLOPROPOSYDIM	E2.00	0.20	POST				
X-77	P	0.25	POST				
NAPROPAMIDE	WO.50	2.00	PPI	7.5	89.4	66.4	159.4
SETHOXYDIM	E1.50	0.20	POST				
C.O.C.	P	1.00	POST				
NAPROPAMIDE	WO.50	2.00	PPI	8.8	95.8	63.6	164.5
SETHOXYDIM	E1.50	0.20	POST				
METRIBUZIN	DO.75	0.25	POST				
C.O.C.	P	1.00	POST				
LEAST SIGNIFICANT DIFF.(.05)	=			1.9	44.4	14.4	48.3
STANDARD DEVIATION	=			1.3	31.4	10.2	34.1
COEFF. OF VARIABILITY	=			24.1	53.8	29.7	36.0

1] Crop phytotoxicity scale: 1 = complete crop kill, 10 = no crop injury.

2] Total fruit weight includes greens, reds, and culls.

TITLE: TRANSPLANT TOMATO TOLERANCE TO TRIFLURALIN

LOCATION: Fremont
PERSONNEL: S.F.Gorski and C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: H727, H2653, H722, Peto 95, OH7870
C.) Date Planted: June 1
D.) Date Harvested: Various
E.) Plot Size: 5ft. by 30ft.
F.) Rating Date: June 20
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: June 1
B.) Type: PPI
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 70
F.) Growth Stage, Crop: Pre Plant
Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: There was no visible signs of injury from any of the herbicide treatments. Harvest data also showed no signs of injury.

TRANSPLANT TOMATO TOLERANCE TO TRIFLURALIN

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	HEINZ 722 1 REDS	HEINZ 722 1 TOTAL	HEINZ 727 REDS	HEINZ 727 TOTAL	HEINZ 2653 REDS	HEINZ 2653 TOTAL	OHIO 7870 REDS	OHIO 7870 TOTAL	PETO 95 REDS	PETO 95 TOTAL
TRIFLURALIN	E4.00	1.00	PPI	173.3	204.0	135.3	158.0	159.0	189.6	167.6	205.6	151.8	181.5
TRIFLURALIN METRIBUZIN	E4.00 DO.75	1.00 0.50	PPI PPI	180.7	214.0	157.4	183.3	157.5	187.3	178.6	212.8	175.4	208.4
NAPROPAMIDE	WO.50	2.00	PPI	157.0	185.2	142.4	166.0	154.0	180.9	170.3	205.1	146.5	176.4
NAPROPAMIDE METRIBUZIN	WO.50 DO.75	2.00 0.50	PPI PPI	172.5	205.2	147.2	172.2	166.0	196.2	193.6	224.9	162.3	192.3
PENDIMETHALIN	E4.00	1.00	PPI	159.7	190.9	147.3	172.9	163.3	196.0	170.6	202.5	157.9	187.7
PENDIMETHALIN METRIBUZIN	E4.00 DO.75	1.00 0.50	PPI PPI	167.1	199.4	155.8	186.9	157.7	188.2	164.2	204.9	157.9	189.5
LEAST SIGNIFICANT DIFF. (.05)=				20.6	21.8	26.4	24.3	21.7	23.9	33.5	35.0	27.3	28.4
STANDARD DEVIATION =				13.6	14.4	17.5	16.1	14.4	15.8	22.2	23.2	18.1	18.8
COEFF. OF VARIABILITY =				8.1	7.2	11.8	9.3	9.0	8.3	12.7	11.1	11.4	9.9

1] Total fruit weight includes reds, greens, and culls.

Sethoxydim Tolerance of Several Vegetables

Location: Weed Science Greenhouse-Columbus
Seeded: March 16
Treated: April 4
Plant Size at Treatment: Tomato 6"
Bean 12"
Lettuce 4" (5-6 leaf)
Cabbage 4" (4 leaf)
Phyto evaluation: April 25
Plot Design: Single pot replicates, randomized complete block design with 4 reps.

Summary: This study was undertaken to see if the addition of a crop oil concentrate (C.O.C.) or surfactant would alter sethoxydim's tolerance to vegetable crops. No apparent injury was observed with any of the additives.

OHIO STATE UNIVERSITY:DEPT HORTICULTURE

GREENHOUSE VEGETABLE TOLERANCE TO SETHOXYDIM

Conducted at COLUMBUS by Dr. Stanley F. Gorske
Cooperator M. RUIZZO, S. REINERS, M. WERTZ

Herbicide [1]	FORM	RATE #ai/A	GROW. STAGE	PHYTO BEAN [2]	PHYTO TOMATO [2]	PHYTO CABBAGE [2]	PHYTO LETTUCE [2]	PHYTO CUCUMBER [2]
Sethoxydim	E1.50	0.20	POST	10.0	10.0	10.0	10.0	9.8
Sethoxydim	E1.50	0.40	POST	10.0	10.0	10.0	10.0	10.0
Sethoxydim	E1.50	0.20	POST	10.0	10.0	10.0	10.0	10.0
C.O.C.	P	1.00	POST					
Sethoxydim	E1.50	0.40	POST	10.0	10.0	10.0	10.0	9.8
C.O.C.	P	1.00	POST					
Sethoxydim	E1.50	0.20	POST	10.0	10.0	10.0	10.0	10.0
X-77	P	0.25	POST					
Sethoxydim	E1.50	0.40	POST	10.0	10.0	10.0	10.0	9.8
X-77	P	0.25	POST					
Sethoxydim	E1.50	0.20	POST	10.0	10.0	10.0	10.0	10.0
C.O.C.	P	0.10	POST					
Sethoxydim	E1.50	0.40	POST	10.0	10.0	10.0	10.0	10.0
C.O.C.	P	0.10	POST					
C.O.C.	P	1.00	POST	10.0	10.0	10.0	10.0	10.0
C.O.C.	P	0.10	POST	10.0	10.0	10.0	10.0	9.8
X-77	P	0.25	POST	10.0	10.0	10.0	10.0	10.0
CONTROL				10.0	10.0	10.0	10.0	10.0
LEAST SIGNIFICANT DIFF. (.05)=				0	0	0	0	.4231
STANDARD DEVIATION =				0	0	0	0	.2930
COEFF. OF VARIABILITY =				0	0	0	0	2.954

1
C.O.C. represents crop oil concentrate

2
Plant phytotoxicity rating, 1 = complete crop kill, 10 = no crop injury

TITLE: SWEET CORN TOLERANCE TO BROMOXYNIL

LOCATION: Columbus
PERSONNEL: S. F. Gorski and G. Myers

PLOT INFORMATION

A.)	Soil Type:	Brookston Silty Clay Loam, 2% O.M.
B.)	Variety:	'Gold Cup'
C.)	Date Planted:	May 25
D.)	Date Harvested:	August 7
E.)	Plot Size:	6ft. by 25ft.
F.)	Rating Date:	June 21
G.)	Plot Design:	RCB with 3 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 25	June 19
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Moderate
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Clear	Clear
	Air Temp:	80	80
F.)	Growth Stage, Crop:	Pre	6-8in.
	Weed:	Pre	2-4in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18
Height:	18

COMMENTS: Broadleaf weeds were severely burnt by the postemergence application of bromoxynil. However, they were not killed and regrew. Treatment at an earlier stage of growth would have probably been better. Sweet corn leaves were also burnt by the bromoxynil application. Approximately 5% of the leaves were injured with the 0.25lb. treatment and 20% with the 0.38lb. treatment. The plants soon outgrew this injury and yield was not affected. Low yields associated with the high treatment rate are due to poor germination in one of the reps.

SWEET CORN TOLERANCE TO BROMOXYNIL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	NO. OF PLANTS	NO. OF COBS	TOTAL COB WT. (LBS)
WEEDY				28.0	29.0	15.3
WEEDED				36.0	46.3	26.6
METOLACHLOR	E8.00	2.00	PRE	32.3	42.0	24.0
BROMOXYNIL	E2.00	0.25	POST			
METOLACHLOR	E8.00	2.00	PRE	22.5	28.5	16.0
BROMOXYNIL	E2.00	0.38	POST			
LEAST SIGNIFICANT DIFF. (.05)=				11.9	15.2	11.0
STANDARD DEVIATION			=	7.4	9.5	6.9
COEFF. OF VARIABILITY			=	25.2	26.1	33.6

TITLE: SWEET CORN TOLERANCE TO THIOCARBAMATE HERBICIDES

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: 'Sprite' and 'Spring Gold'
C.) Date Planted: May 25
D.) Date Harvested: August 3
E.) Plot Size: 6ft. by 25ft.
F.) Rating Date: June 29
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: May 25
B.) Type: PPI
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 80
F.) Growth Stage, Crop: Pre
Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

INCORPORATION EQUIPMENT: Roto Tiller - 3in. deep

COMMENTS: All herbicides provided acceptable weed control. Neither corn cultivar was injured from the herbicide treatments.

SWEET CORN TOLERANCE TO THIOCARBAMATE HERBICIDES

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. TOTAL GRASS	REDROOT PIGWEED	COMMON PURSLANE	TOTAL BRDL
WEEDY				2.5	3.3	3.5	7.0
WEEDED				0.0	0.0	0.0	0.0
BUTYLATE + R25788	E6.70	3.00	PPI	0.5	1.0	1.3	2.3
BUTYLATE + R25788	E6.70	6.00	PPI	0.5	0.8	1.3	3.0
EPTC + R25788 + R33865	E6.00	3.00	PPI	0.0	0.0	2.5	2.5
EPTC + R25788 + R33865	E6.00	6.00	PPI	0.0	0.0	0.5	0.5
CYCLOATE R-29148	E6.00	3.00	PPI	0.0	0.3	0.0	0.5
CYCLOATE R-29148	E6.00	6.00	PPI	0.3	0.0	1.3	1.3
BUTYLATE + R25788 + ATRAZINE	F6.00	3.00	PPI	0.5	0.8	1.6	2.0
LEAST SIGNIFICANT DIFF. (.05)=				0.9	1.6	2.2	3.0
STANDARD DEVIATION =				0.6	1.1	1.5	2.1
COEFF. OF VARIABILITY =				132.0	166.7	122.7	99.9

SWEET CORN TOLERANCE TO THIOCARBAMATE HERBICIDES

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	'SPRITE' NO. OF PLANTS	'SPRITE' NO. OF COBS	'SPRITE' TOTAL COB WT (LBS)	'SPRING GOLD' NO. OF PLANTS	'SPRING GOLD' NO. OF COBS	'SPRING GOLD' TOTAL COB WT (LBS)
WEEDY				41.0	32.3	16.5	46.8	30.8	16.8
WEEDED				49.0	42.5	23.5	63.0	44.8	24.5
BUTYLATE + R25788	E6.70	3.00	PPI	52.8	45.3	23.8	55.5	43.0	21.8
BUTYLATE + R25788	E6.70	6.00	PPI	55.3	47.8	23.2	75.0	58.5	32.0
EPTC + R25788 + R33865	E6.00	3.00	PPI	61.5	45.5	25.1	51.5	40.3	21.0
EPTC + R25788 + R33865	E6.00	6.00	PPI	57.0	48.8	24.1	46.5	42.8	21.6
CYCLOATE R-29148	E6.00	3.00	PPI	60.3	48.8	24.8	57.8	45.8	24.2
CYCLOATE R-29148	E6.00	6.00	PPI	41.5	35.5	18.8	67.0	52.0	28.0
BUTYLATE + R25788 + ATRAZINE	F6.00	3.00	PPI	54.3	49.0	24.7	47.8	33.5	17.6
LEAST SIGNIFICANT DIFF. (.05)=				14.4	13.6	7.3	17.8	16.2	8.1
STANDARD DEVIATION =				9.8	9.3	5.0	12.2	11.1	5.5
COEFF. OF VARIABILITY =				18.7	21.2	22.1	21.6	25.5	24.2

TITLE: SWEET CORN WEED CONTROL

LOCATION: Columbus
PERSONNEL: S.F.Gorski and G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: 'Gold Cup'
C.) Date Planted: May 25
D.) Date Harvested: August 7
E.) Plot Size: 6ft. by 25ft.
F.) Rating Date: June 21
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 25
B.) Type: Pre
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 80
F.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18
Height: 18

COMMENTS: Plant stand was spotty in areas due to poor germination. This poor germination was probably due to environmental conditions (wet/soggy soil) and not a true herbicide response. There was no injury that could be attributed to the herbicides.

SWEET CORN WEED CONTROL

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	COUNT PER 1 SQ. FT. BARNYARD-GRASS	REDROOT PIGWEED	COMMON PURSLANE	TOTAL BRDL	EMERGENCE INJURY	1 PHYTO	NO. OF PLANTS	NO. OF COBS	TOTAL COB WT(LBS)
WEEDY				1.5	2.8	4.8	7.5	6.5	9.0	28.0	29.0	15.3
WEEDED				0.0	0.0	0.0	0.0	7.8	9.8	36.0	46.3	26.6
ALACHLOR	E4.00	2.00	PRE	0.0	0.0	0.0	0.0	8.3	9.8	39.0	42.0	25.1
LACTOFEN	E2.00	0.25	PRE									
ALACHLOR	E4.00	2.00	PRE	0.0	0.0	0.0	0.0	7.5	9.5	32.8	44.3	27.2
PPG-1013	E0.25	0.20	PRE									
ALACHLOR	E4.00	2.00	PRE	0.3	0.0	0.0	0.0	8.0	9.0	36.3	46.3	27.0
PPG-1013	E0.25	0.30	PRE									
ALACHLOR	E4.00	2.00	PRE	0.0	0.0	0.0	0.0	7.5	8.0	27.8	36.0	21.7
LEAST SIGNIFICANT DIFF. (.05)=				1.0	0.7	1.5	2.1	3.4	2.3	17.6	17.4	11.1
STANDARD DEVIATION =				0.6	0.5	1.0	1.3	2.2	1.5	11.6	11.5	7.3
COEFF. OF VARIABILITY =				239.0	112.0	128.9	111.5	30.0	16.7	35.1	28.5	30.9

1] Phytotoxicity scale: 1 = complete kill, 10 = no crop injury

TITLE: THIOBENCARB WEED CONTROL STUDY

LOCATION: Fremont
PERSONNEL: R.Hassell and S.F.Gorski

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Variety: Various
C.) Date Planted: August 7
D.) Date Harvested: October 10
E.) Plot Size: 5ft. by 18ft.
F.) Rating Date: August 23
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: August 8
B.) Type: Pre
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover:
Air Temp:
F.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: Tractor Mounted
GPA: 25
PSI: 30
Tips: 8004
Nozzle Spacing: 18
Height: 18

THIOBENCARB WEED CONTROL STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD (LBS)/15 FEET LETTUCE ROMAINE	SLOW BOLT	DARK GREEN BOSTON	CHINESE CABBAGE
CHECK				19.7	18.0	13.5	36.7
THIOBENCARB	E8.00	2.00	PRE	25.0	17.4	16.7	35.6
THIOBENCARB	E8.00	4.00	PRE	18.9	17.1	12.1	36.6
THIOBENCARB	E8.00	6.00	PRE	20.8	15.5	16.0	31.0
THIOBENCARB	E8.00	8.00	PRE	25.3	18.3	11.6	34.3
LEAST SIGNIFICANT DIFF. (.05)			=	7.0	4.3	5.7	10.9
STANDARD DEVIATION			=	4.5	2.8	3.7	7.1
COEFF. OF VARIABILITY			=	20.9	16.3	26.4	20.4

TITLE: TOMATO RESIDUE PROGRAM

LOCATION: Columbus
PERSONNEL: S.F.Gorski

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.
B.) Variety: Heinz 2653
C.) Date Planted: June 6,1984
D.) Date Harvested: August 30,1984
E.) Plot Size: 5ft. by 25ft.
F.) Rating Date:
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 6	June 29	July 16
B.)	Type:	PPI	POST I	Post II
C.)	Soil Moisture, Surf:	Moderate	Moderate	Moderate
D.)	Soil Temp (3in.):			
E.)	Weather			
	Wind (MPH):	Calm	Calm	Calm
	Cloud Cover:	Clear	Cloudy	Clear
	Air Temp:	65	75	85
F.)	Growth Stage, Crop:	Pre Plant	12in.	24in.
	Weed:			

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18in.
Height: 18in.

COMMENTS: Georgia grown tomato transplants were used for this study. The experimental area was irrigated as necessary to keep an adequate soil moisture level.
Residue samples consist of ripe fruit that was frozen immediately after harvest. Freezer temperature was maintained at 0°F.

TOMATO RESIDUE STUDY

HERBICIDE NAME	FORM.	RATE #ai/A	GROWTH STAGE	YIELD MARKETABLE WT (LBS)	YIELD TOTAL WT (LBS)
WEEDED				98.60	169.63
NAPROPAMIDE	W0.50	2.00	PPI	114.38	199.00
C.O.C.	P	1.00			
PP 005	E1.00	.375	POST I		
C.O.C.	P	1.00			
PP 005	E1.00	.375	POST II		
NAPROPAMIDE	W0.50	2.00	PPI	137.88	194.65
METOLACHLOR	E8.00	2.00	POST II		
NAPROPAMIDE	W0.50	2.00	PPI	127.63	210.20
METOLACHLOR	E8.00	3.00	POST II		
LEAST SIGNIFICANT DIFF. (.05)=				23.08	34.75
STANDARD DEVIATION =				14.98	22.55
COEFF. OF VARIABILITY =				15.65	14.58

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