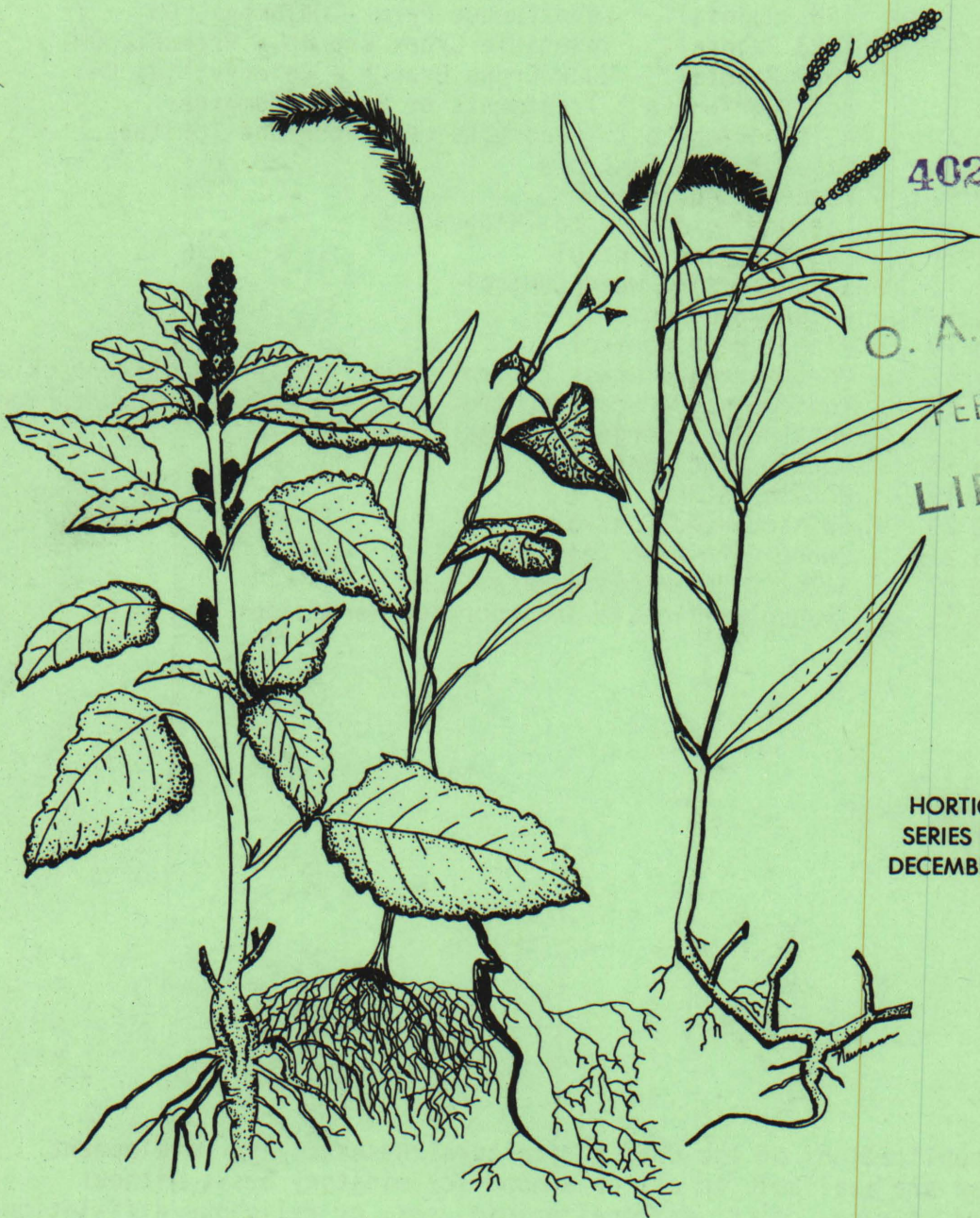


RESULTS OF WEED CONTROL STUDIES IN VEGETABLE CROPS -- 1983



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S. F. GORSKE

The Ohio State University
Ohio Agricultural Research and Development Center
Wooster, Ohio

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Results of Field Experiments
in Vegetable Weed Control - 1983

Stanley F. Gorske¹

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 CO₂ backpack type sprayer with a gpa of 42 and 30 psi. Some treatments were applied with a tractor-drawn sprayer delivering a 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).

Statistical Analysis:

Fishers LSD at the 5% level was performed on all experiments.

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

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

<u>Common Name</u>	<u>Trade Name</u>
alachlor	Lasso
benefin	Balan
bensulide	Prefar
bromoxynil	Brominal
butylate + R 25788	Sutan +
CDAA	Radox
CDEC	Vegadex
CGA 82725*	Ciga-Geigy
Chloramben	Amiben/Vegiben
Chloroxuron	Tenoran
chlorpropham	Furloe, Chloro IPC
clopropoxydim	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

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

1983 Rainfall - Lane Avenue Farm, Columbus

Day	April	May	June	July	August	September	October
1				.50	.75	.4	
2		1.80		.20			
3		.58	.05		.04		
4		.13					.8
5		.05		.30			
6			.18			.4	
7							
8							
9		.17					
10							
11							
12					.50	.2	
13						.04	
14							
15							
16		1.80	.07			.62	
17			.06				
18			.72	.7			
19		.26				.29	
20		.07	1.17			1.00	
21							
22				.11	.02		
23		1.20					
24							
25		.15		.20			
26							
27							
28							
29			.78		1.5		
30	.82						
31		.54					
TOTAL	.82	6.75	3.03	2.01	2.81	2.95	.8

1983 Rainfall - Vegetable Crops Branch, Fremont

Day	May	June	July	August	September
1	.88		.16		
2	.25				
3	.20	.26		.04	
4	.09		.41	.04	
5		.54	.04		
6		.12			1.41
7	.46				
8					
9					
10				.53	
11				.10	
12					
13					
14	.61				
15	.12	.23			
16					
17			1.42		
18			.36		
19	.16	.24			
20					
21	.42		.66	.08	
22	.26				
23			.59		
24					
25	.31				
26					
27		2.10		.19	
28		1.34			
29	.32				
30		.25	.21	.21	
31			1.12		
TOTAL	4.08	5.08	4.98	1.21	1.41

1983 Rainfall - Celeryville

Day	April	May	June	July	August	September
1					1.50	.10
2		2.15				
3		.55				
4	1.0	.60				
5		.13				
6			.70			.35
7	.20		.35			2.20
8						
9		.55				
10						
11	.80				.50	
12						
13	.20					
14	.30					
15	.40					
16		.46				.08
17						
18				.60		
19				.38		.55
20		.14	.30			
21						
22						
23		.74				
24						
25				.50		
26		.32				
27						
28	.26					
29	.37		.80		.08	
30						
31		.22			.50	
TOTAL	3.53	5.86	2.15	1.48	2.58	

Acifluorfen Post Treatments on Seeded Tomatoes

Location: Lane Avenue Farm
Cultivar: Easy Harvest
Seeded: May 13
Treated: May 13 - Napropamide 2 lbs PPI -
all treatments
June 13: Tomato 2-3 leaf (trt 2-5),
nightshade 2-4 leaf (trt 14-17)
June 23: Tomato 5-6 leaf (trt 6-9)
July 5: Tomato 8-9 leaf (trt 10-14)
second application (trt 14-17)
Ratings: Approximately 10 days after
treatment
Harvest: September 14
Soil Type: Brookston Silty Clay Loam, 2% O.M.
Plot Size: 1 row 25 ft. long, rows on 5 ft.
centers
Plot Design: Randomized Complete Block with 3
reps

Summary: Statistical analysis was conducted on the entire study and on segments of it. Segmented parts are by tomato seedling or black nightshade leaf stage. All tables are included for a more thorough understanding of this study. Young tomato plants (2-3 leaf stage) have little tolerance to treatments above 0.25 lbs. Lower treatment rates were quite injurious to the black nightshade and non injurious to the tomato seedling. Delaying treatment until the tomatoes are in the 5-6 true leaf stage increased their tolerance to acifluorfen. The 0.5 lb rate only caused minor burning (rating 9.0). At this time the black nightshade was in the 6 to 8 leaf stage. The two lowest rates tested were not adequate and did not provide acceptable nightshade control. The 0.25 and 0.50 lb rates provided acceptable control. Treatments at the tomato 8-9 leaf stage produced some conflicting results. Tomato injury ratings were lower than those of the previous growth stage. This might be a result of higher temperatures during this latest treatment period. Lower yields were recorded which are simply due to the longer period of weed competition before treatment. The black nightshade was quite large for this last treatment period. Only the higher rates provided complete kill. Lower rates badly burnt the nightshade.

Seeded Tomato Tolerance to Acifluorfen¹

All Treatments

Treatment		Lbs ai/A	Time of Application	Yield
Herbicide	Method			Fruit Wt. (lbs)
Unweeded Check	----	----		0.0
Handweeded Check	----	----		43.8
Acifluorfen	Post	0.0625	Tomato 2-3	68.4
Acifluorfen	Post	0.125	Leaf Stage	45.6
Acifluorfen	Post	0.25	↓	46.2
Acifluorfen	Post	0.50	↓	28.5
Acifluorfen	Post	0.0625	Tomato 5-6	39.2
Acifluorfen	Post	0.125	Leaf Stage	37.1
Acifluorfen	Post	0.25	↓	33.9
Acifluorfen	Post	0.50	↓	28.4
Acifluorfen	Post	0.0625	Tomato 8-9	25.2
Acifluorfen	Post	0.125	Leaf Stage	27.3
Acifluorfen	Post	0.25	↓	14.3
Acifluorfen	Post	0.50	↓	15.6
Acifluorfen + Acifluorfen	Post	0.0625	Weeds 2-4	13.4
Acifluorfen + Acifluorfen	Post	0.0625	Leaf Stage	
Acifluorfen + Acifluorfen	Post	0.125	↓	19.0
Acifluorfen + Acifluorfen	Post	0.125	↓	
Acifluorfen + Acifluorfen	Post	0.25	↓	21.3
Acifluorfen + Acifluorfen	Post	0.25	↓	
Acifluorfen + Acifluorfen	Post	0.50	↓	27.4
LSD 5%				30.24

¹All Acifluorfen treatments plus napropamide 2# PPI.

Seeded Tomato Tolerance to Acifluorfen¹

Tomato 2-3 Leaf Stage

Treatment			Number of Weeds per 1 Ft ²			Yield	
Herbicide	Method	Lb ai/A	Total Grass	Black Nightshade	Total BRDL	Phyto ²	Fruit Wt. (Lbs)
Unweeded Check	----	----	4.3	35.0	42.7	10.0	0.0
Handweeded Check	----	----	0.0	0.0	0.0	10.0	43.8
Acifluorfen	Post	0.0625	6.7	14.7	9.0	9.0	68.4
Acifluorfen	Post	0.125	2.7	1.3	6.0	7.5	45.6
Acifluorfen	Post	0.25	0.7	3.3	9.0	8.7	46.2
Acifluorfen	Post	0.50	1.0	0.0	0.7	3.7	28.5
LSD 5%			5.44	10.19	10.04	3.63	34.80

Tomato 5-6 Leaf Stage

Unweeded Check	----	----	4.3	35.0	42.7	10.0	0.0
Handweeded Check	----	----	0.0	0.0	0.0	10.0	43.8
Acifluorfen	Post	0.0625	1.7	8.7	14.7	10.0	39.2
Acifluorfen	Post	0.125	1.3	6.0	9.3	9.5	37.1
Acifluorfen	Post	0.25	2.7	2.0	3.7	9.0	33.9
Acifluorfen	Post	0.50	2.3	2.7	5.3	9.0	28.4
LSD 5%			3.39	9.72	9.19	NSD	25.27

Tomato 8-9 Leaf Stage

Unweeded Check	----	----	---	35.0	42.7	10.0	0.0
Handweeded Check	----	----	---	0.0	0.0	10.0	43.8
Acifluorfen	Post	0.0625	---	0.0	3.0	8.7	25.2
Acifluorfen	Post	0.125	---	2.7	4.3	10.0	27.3
Acifluorfen	Post	0.25	---	1.7	3.3	8.5	14.3
Acifluorfen	Post	0.50	---	1.0	3.3	8.0	15.6
LSD 5%				5.3	4.68	1.88	24.56

¹All acifluorfen treatments plus napropamide 2# PPI.

²Crop phyto 1-10 scale. 1 = complete crop kill, 10 = no crop injury.

Seeded Tomato Tolerance to Acifluorfen¹

(Weeds 2-4 Leaf Stage)

Treatment			Number of Weeds per 1 Ft ²				Yield	
Herbicide	Method	Lbs ai/A	Fall Panicum	Total Grass	Black Nightshade	Total BRDL	Phyto	Fruit Wt. (lbs)
Unweeded Check	----	----	3.0	4.3	35.0	42.7	10.0	0.0
Handweeded Check	----	----	0.0	0.0	0.0	0.0	10.0	43.8
Acifluorfen	Post	0.0625	11.7	13.0	4.3	9.0	9.3	27.4
+ Acifluorfen	Post	0.0625						
Acifluorfen	Post	0.125	1.7	2.0	13.0	16.7	9.7	21.3
+ Acifluorfen	Post	0.125						
Acifluorfen	Post	0.25	4.7	5.3	8.3	8.7	9.5	19.0
+ Acifluorfen	Post	0.25						
Acifluorfen	Post	0.50	0.0	0.0	0.0	1.3	5.5	13.4
+ Acifluorfen	Post	0.50						
LSD 5%			4.76	4.85	11.64	10.38	2.56	17.05

¹All acifluorfen treatments plus napropamide 2# PPI.

²Crop rating scale 1-10. 1 = complete crop kill
10 = no crop injury

Acifluorfen Post Treatments on Transplant Tomatoes¹

Location: Lane Avenue Farm
 Cultivar: Easy Harvest
 Transplanted: May 18
 Treated: May 13 - Napropamide 2 lbs PPI All Treatments
 June 13: Post I
 July 5: Post II
 Ratings: June 23 for Post I
 July 16 for Post II
 Harvest: September 6
 Soil Type: Brookston Silty Clay Loam
 Plot Size: 1 row 25 ft. long, rows on 5 ft. centers
 Plot Design: Randomized Complete Block with 3 reps

Summary: Tomato plants were approximately 12" tall, black nightshade in the 2 to 4 true leaf stage when treated. Transplants were actively growing and had recovered from transplanting shock. All treatment rates were quite effective at controlling black nightshade, with a single application. Only the higher rates controlled the other broadleaf weeds. The second application provided little additional control. Only the high rates caused foliar injury that might be of concern. Yields did not show any differences due to treatment.

Treatment			Number of Weeds per 1 ft ²				Yield		
Herbicide	Method ²	Lb ai/A	Total Grass	Black Nightshade	Smallflower Galinsoga	Common Purslane	Total BRDL	Crop Phyto ³	Total Wt. (Lbs)
Unweeded Check	----	----	4.3	35.0	3.3	4.3	42.7	10.0	0.0
Handweeded Check	----	----	0.0	0.0	0.0	0.0	0.0	10.0	60.6
Acifluorfen	Post I	0.0625	5.7	0.0	7.0	3.3	15.3	8.8	64.5
Acifluorfen	Post I	0.125	5.7	1.3	13.0	3.7	21.0	10.0	53.6
Acifluorfen	Post I	0.25	4.0	1.3	3.0	0.7	5.7	8.5	88.5
Acifluorfen	Post I	0.50	3.0	0.7	4.7	0.3	6.3	6.3	70.6
Acifluorfen + Acifluorfen	Post I	0.0625	4.3	0.7	12.0	4.0	20.3	10.0	63.0
Acifluorfen + Acifluorfen	Post II	0.0625							
Acifluorfen + Acifluorfen	Post I	0.125	2.7	1.7	8.0	0.0	10.7	8.7	41.6
Acifluorfen + Acifluorfen	Post II	0.125							
Acifluorfen + Acifluorfen	Post I	0.25	1.7	0.7	4.0	0.7	7.0	7.2	45.2
Acifluorfen + Acifluorfen	Post II	0.25							
Acifluorfen + Acifluorfen	Post I	0.50	1.7	0.0	4.3	0.0	5.0	9.5	62.6
Acifluorfen + Acifluorfen	Post II	0.50							
LSD 5%			NSD	5.22	8.46	2.95	13.63	1.46	42.2

¹All acifluorfen treatments plus napropamide 2.0 PPI.

²Acifluorfen treatments applied when weeds in 2-4 leaf stage.

³Crop phyto ratings on a 1-10 scale. 1 = complete crop kill
 10 = no crop injury

Cabbage Weed Control

Location: Vegetable Crops Branch
 Cultivar: Titanic
 Seeded: May 12
 Treated: PPI and Pre May 12
 Post June 16 (cabbage 4-5 true leaves)
 Anticrustant: 1 ft.³ vermiculite/600 ft. of row
 Activated Carbon: 1 lb. carbon/1 ft.³ vermiculite
 Weed Counts: None taken - poor weed stand
 Harvested: August 31
 Soil Type: Sandy Loam, 3% O.M.
 Plot Size: 1 row 30 ft. long, rows on 3 ft. centers
 Plot Design: Randomized Complete Block with 4 reps.

Summary: Weed pressure was so light that weed data was meaningless, therefore it was not included. Plant stand counts were taken shortly after germination and before the crop was blocked. Plants were then blocked to approximately 20 plants per row. Pendimethalin was the only herbicide treatment which significantly reduced cabbage germination. Plant stand from napropamide treatments was low but nonsignificant. The use of vermiculite as an anticrustant significantly improved germination of the cabbage. The addition of activated carbon to the vermiculite had no significant affect on cabbage germination, even though the plant stand was higher. Pendimethalin was the only pre-emergence treatment that significantly reduced yields. Plants were stunted at germination and never recovered. Other pre-emergence treatments produced acceptable yields with no crop injury. Considerable injury was observed with most post emergence treatments. Alachlor and metolachlor were the only treatments that were acceptable. Injury was in the form of leaf speckling. Thiobencarb produced injury that was mostly leaf curling with some burning. Acifluorfen caused severe foliar burning. CDAA caused severe burning and twisting as did oxyfluorfen. The weather conditions were very hot which may have contributed to this amount of injury. During the past few years I have not injured cabbage with Alachlor, metolachlor, CDAA or oxyfluorfen to this extent. In all cases except for acifluorfen the cabbage rapidly outgrew this injury. While yields from acifluorfen were not reduced they were quite low.

Treatment			Yield		
Herbicide	Method	Lb ai/A	Crop, Phyto ¹	Plant Stand ²	Total Wt. (lbs.)
Unweeded check	-	-	-	54.0	49.5
Handweeded check	-	-	10.0	53.0	74.4
Trifluralin	PPI	1.00	-	38.7	87.5
Napropamide	PPI	2.00	-	27.2	70.3
Pendimethalin	Pre	1.00	-	21.0	26.5
Metolachlor	Pre	2.00	-	38.2	86.0
Metolachlor + vermiculite	Pre	2.00	-	94.8	106.8
Metolachlor + carbon	Pre	2.00	-	114.5	102.8
Alachlor	Pre	2.00	-	52.2	95.8
Alachlor + vermiculite	Pre	2.00	-	88.2	93.0
Alachlor + carbon	Pre	2.00	-	107.0	111.0
Thiobencarb	Pre	2.00	-	56.8	109.2
Thiobencarb	Pre	4.00	-	50.2	103.0
DCPA + thiobencarb	Pre	8.00	-	44.8	106.0
DCPA + thiobencarb	Post	2.00	7.0	-	-
DCPA + acifluorfen	Pre	8.00	-	-	47.5
DCPA + acifluorfen	Post	0.25	1.5	-	-
DCPA + alachlor	Pre	8.00	-	-	88.3
DCPA + alachlor	Post	2.00	9.2	-	105.4
DCPA + metolachlor	Pre	8.00	-	-	-
DCPA + metolachlor	Post	2.00	7.2	-	-
CDAA + CDAA	Pre	4.00	-	-	73.0
CDAA + CDAA	Post	4.00	4.8	-	-
DCPA + oxyfluorfen E.C.	Pre	8.00	-	-	85.6
DCPA + oxyfluorfen E.C.	Post	0.12	1.8	-	-

LSD 5% 0.91 26.27 36.69

¹Crop phytotoxicity rating: 1 = complete kill.
 10 = no crop injury.
 a rating of 7 is acceptable.

²Plant stand before blocking.

Celery Weed Control

S.F. Gorske and R. Hassel

Location: Muck Crops Branch
 Cultivar: '683'
 Transplanted: May 10
 Treated: May 10
 Weed Counts: June 7
 Harvested: August 9
 Soil Type: Carlisle Muck, 75% O.M., pH 5.3
 Plot Size: 1 row 18' long with 1 guard row
 between each treatment row
 Plot Design: Randomized Complete Block with
 4 reps.

Summary: All treatments did a fair job of controlling the weeds except for ethalfluralin at 1 lb. There was no apparent rate response from the 3 treatments of thiobencarb. There was no apparent phytotoxicity from any of the treatments. Metolachlor and linuron plus prometryn were low yielding treatments. Thiobencarb looked good on celery and may be a replacement for CDEC (not tested in 1983).

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Treatment			Number of Weeds Per ft. ²						Yield/18 ft.
Herbicide	Method	Lb ai/A	Fall Panicum	Total Grass	Common Lambsquarters	Red Root Pigweed	Common Purslane	Total BRDL	Total Plant Wt. (lbs.)
Unweeded check	-	-	4.2	5.2	1.8	1.5	11.2	15.8	0.0
Handweeded check	-	-	0.0	0.0	0.0	0.0	0.0	0.0	74.8
Thiobencarb	Post	2.00	0.5	2.2	0.2	0.8	2.0	4.2	71.7
Thiobencarb	Post	4.00	0.5	1.0	0.5	1.2	0.8	3.8	70.0
Thiobencarb	Post	6.00	1.5	2.2	0.5	1.0	2.2	4.5	75.0
Metolachlor	Post	4.00	0.5	0.8	0.0	0.2	1.8	2.8	65.0
Pendimethalin	Post	2.00	0.5	1.0	0.2	0.8	3.2	5.8	72.5
Ethalfluralin	Post	1.00	1.5	1.8	0.5	0.8	6.5	9.5	74.4
Ethalfluralin	Post	2.00	0.2	0.8	0.2	1.2	2.8	5.8	74.7
CDA	Post	4.00	0.0	0.0	0.0	0.0	0.0	1.5	69.2
Linuron + Prometryn	Post Post	2.00 1.00	0.5	1.8	0.5	0.2	5.0	6.5	66.2
LSD 5%			1.91	2.51	1.40	1.33	3.10	4.12	9.84

Lettuce Tolerance to Thiobencarb

S.F. Gorske and R. Hassel

Location: Muck Crops Branch
 Seeded: May 10
 Treated: May 10
 Cultivars: Endive - Salad King
 Escrole - Florida Deep Heart
 Romain - Valmaine
 Slow Bolt - Slow Bolt
 Bibb - Summer Bibb
 Boston - Dark Green Boston
 Crop Phyto: June 7
 Harvested: July 7
 Soil Type: Carlisle Muck, 75% O.M., pH 5.3
 Plot Size: 3 rows 16" apart on 60" beds 18' long
 Plot Design: Randomized Complete Block with 4 reps

Summary: Crop injury from thiobencarb was represented by reduced germination and stunting of the crop. The 6 lb rate was injurious to most cultivars tested. The predicted use rate will be 2 to 4 lbs. These rates were only injurious to 'Slow Bolt' lettuce. Yields of most herbicide treated plants were higher than those that were handweeded only.

Herbicide	Treatment		Crop Phyto ¹						Yield-Total Wt. (Lbs)					
	Method	Lb ai/a	Endive	Escrole	Romain	Slow Bolt	Bibb	Boston	Endive	Escrole	Romain	Slow Bolt	Bibb	Boston
Handweeded Check	-	-	10.0	10.0	10.0	10.0	10.0	10.0	18.2	19.0	19.3	14.8	10.1	14.0
Thiobencarb	Pre	2.0	10.0	10.0	10.0	10.0	10.0	10.0	19.3	18.2	20.7	17.9	10.2	14.0
Thiobencarb	Pre	3.0	10.0	10.0	10.0	8.5	10.0	10.0	21.6	17.8	21.2	13.6	12.0	15.7
Thiobencarb	Pre	4.0	10.0	10.0	9.0	8.5	10.0	10.0	18.8	19.5	19.2	15.1	10.9	15.5
Thiobencarb	Pre	6.0	10.0	10.0	8.0	5.0	5.0	5.0	21.6	20.5	19.7	14.2	10.4	12.1
LSD 5%									3.11	NSD	NSD	2.60	1.78	2.64

¹Visual Injury Scale: 1 = Complete Kill
 10 = No Crop Injury

Lettuce Weed Control

S.F. Gorske and R. Hassel

Location: Muck Crops Branch
 Cultivar: Summer Bibb
 Seeded: May 10
 Treated: May 10
 Weed Counts & Crop Phyto: June 7
 Harvested: July 7
 Soil Type: Carlisle Muck, 75% o.m., pH 5.3
 Plot Size: 3 rows 16" apart on 60" bed 18' long
 Plot Design: Randomized Complete Block with 4 reps

Summary: Thiobencarb did a good job of controlling weeds early in the season (first 2 weeks). However by the time the weed counts were made, many small weeds were germinating. Prometryn, CIPC and Ethalfluralin were also only effective for the first couple of weeks. Ethalfluralin and Chloramben were very effective in controlling weeds with only minor crop stunting; however, yields were not reduced. Oryzalin also did a good job of controlling weeds but was injurious to the lettuce (stand reduction and stunting). Pronamide at 6 lbs provided acceptable weed control with no crop injury.

Treatment	Lb	Number of Weeds per 1 ft ²							Yield		
		Herbicide	Method	Fall Panicum	Large Crabgrass	Total Grass	Common Purslane	Redroot Pigweed	Pennsylvania Smartweed	Total BRDL	Crop Phyto ¹
Unweeded Check	---	----	6.0	1.8	7.8	41.5	5.8	23.0	72.8	10.0	0.0
Handweeded Check	---	----	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	13.0
Thiobencarb	Pre	2.00	4.5	2.5	7.0	23.2	2.2	7.8	33.8	10.0	13.0
Thiobencarb	Pre	4.00	5.5	2.5	8.0	30.2	2.8	9.2	42.8	9.4	12.9
Thiobencarb	Pre	6.00	1.2	1.0	2.2	10.0	0.2	5.0	16.2	7.8	13.7
Prometryn	Pre	0.50	2.8	3.0	5.8	38.2	1.0	7.5	48.0	8.1	13.3
Linuron	Pre	0.50	4.2	3.0	7.2	38.4	3.2	9.5	52.2	8.1	12.9
CIPC	Pre	4.00	2.8	1.8	4.5	22.8	1.5	0.0	24.5	10.0	14.4
Ethalfluralin	Pre	2.00	0.8	1.0	1.8	11.8	1.2	7.2	21.1	8.9	14.6
Oryzalin	Pre	2.00	1.2	0.5	1.8	7.0	0.0	7.0	15.0	1.5	10.1
Pronamide	Pre	6.00	0.2	1.5	1.8	7.2	0.5	0.0	9.2	10.0	14.0
Chloramben	Pre	1.00	0.8	0.8	1.8	1.8	2.0	6.5	10.8	8.9	13.8
Chloramben	Pre	2.00	0.8	0.5	1.5	0.8	0.8	2.8	5.0	7.2	15.2
CIPC + Chloramben	Pre	2.00	1.2	0.8	2.0	1.2	0.8	0.5	3.2	6.5	12.2
LSD 5%			4.72	1.90	5.22	11.43	2.39	8.27	13.61	1.63	2.88

¹Visual injury scale: 1 = complete crop kill
 10 = no crop injury

Non Selective Weed Control

Location: Lane Avenue Farm
 Treated: July 19
 Rating: August 2
 Plot Size: 5' x 25'
 Plot Design: Randomized Complete Block with
 4 reps

Summary: The lower GPA (10 with the addition of a non-ionic surfactant proved to be just as toxic as the higher spray volume (43) if not more so. Glyphosate appeared to respond more positively to the low GPA and addition of the non-ionic surfactant than did SC0224 with the shorter weeds (0-12"). SC0224 ratings were similar for both GPA's. Weed control ratings for both glyphosate and SC0224 were similar for the low GPA treatments. Both compounds appeared to be similar in their weed controlling ability.

Herbicide	Lbs ai/A	GPA ¹	Weeds 0-12" ² Weed Phyto ³	Weeds 12-24" ³ Weed Phyto ³
Weedy Check	-	-	10.0	10.0
Glyphosate	1.50	43	1.2	1.2
Glyphosate	1.00	43	1.9	2.3
Glyphosate	0.75	43	4.4	2.7
Glyphosate	0.50	43	4.9	2.5
SC0224	1.50	43	2.1	2.5
SC0224	1.00	43	3.0	2.3
SC0224	0.75	43	2.1	2.8
SC0224	0.50	43	3.8	1.8
Glyphosate+	1.50	10	1.6	1.0
Glyphosate+	1.00	10	2.0	2.2
Glyphosate+	0.75	10	1.5	2.0
Glyphosate+	0.50	10	2.0	2.0
SC0224	1.50	10	2.2	1.8
SC0224	1.00	10	2.0	2.3
SC0224	0.75	10	3.5	2.5
SC0224	0.50	10	2.9	4.8
LSD 5%			2.5	2.2

¹GPA = Gallons per acre spray volume. All GPA = 10 treatments also had 0.5% non-ionic surfactant (Frigate-Diamond Shamrock Co.) added to the spray solution.

²Weed height at treatment. Weed species include Fall Panicum, Large Crabgrass, Barnyardgrass, Smallflower Galinsoga, Common Purslane, Redroot Pigweed and Common Lambsquarter.

³Phytotoxicity rating was on a 1 to 10 scale. 1 = complete kill
 10 = no injury.

Onion Weed Control

S.F. Gorske and R. Hassel

Location: Muck Crops Branch
 Cultivar: Spartan Banner
 Seeded: May 10
 Treated: Pre - May 10
 Cracking - May 24
 Post I - June 22 (onion 2-3 leaf stage)
 Post II - July 6
 Weed Counts: June 7
 Harvested: September 9
 Plot Size: 3 rows 16" apart on 5' beds, 18' long

Summary: Weed data was taken for the pre and cracking treatments only. Weed pressure was too severe to allow weeds to remain for post treatments. Post emergence treatments were therefore made for crop phyto only. Propachlor alone was slightly more effective in controlling broadleaf weeds than CDAA + CIPC. Post emergence treatments of bromoxynil and oxyfluorfen significantly reduced yields. There was no apparent phytotoxicity to the onions after treatment. In 9 years of investigations with oxyfluorfen on onions I have never witnessed yield reductions until this year. This year's treatments were with the new 1.6 EC formulation.

Treatment		Lb ai/A	Number of Weeds Per 1 ft. ²					Yield/18' Row	
Herbicide	Method		Fall Pancium	Total Grass	Common Purslane	Redroot Pigweed	Total BRDL	Total Bulb No.	Total Bulb Wt, (Lbs)
Unweeded Check	----	---	3.2	5.0	10.5	1.0	14.5	0.0	0.0
Handweeded Check	----	---	0.0	0.0	0.0	0.0	0.0	146.0	32.4
Propachlor +	Pre	4.00	0.0	0.0	0.2	0.2	0.8	124.8	30.5
CDAA +	Cracking	3.00							
CIPC	Cracking	3.00							
CDAA +	Cracking	3.00	1.0	1.2	5.2	2.2	8.2	139.5	31.1
CIPC	Cracking	3.00							
Propachlor +	Pre	4.00	0.5	1.0	1.0	0.2	4.5	111.0	22.8
Bromoxynil	Post I	0.25							
Propachlor +	Pre	4.00						109.0	19.6
Bromoxynil	Post I	0.38							
Propachlor +	Pre	4.00						109.5	17.7
Bromoxynil +	Post I	0.125							
Bromoxynil	Post II	0.125							
Propachlor +	Pre	4.00						128.2	26.3
Oxyfluorfen	Post I	0.125							
Propachlor +	Pre	4.00						122.2	23.0
Oxyfluorfen									

LSD 5%

1.97

1.94

2.35

1.25

3.64

25.01

4.97

Pickle Weed Control

Location: Vegetable Crops Branch
 Cultivar: Calypso
 Seeded: June 9
 Treated: Pre & PPI - June 9
 Post - July 20
 Phyto: June 22
 Weed Counts: July 6
 Harvested: Multiple July 18-Aug 4
 Soil Type: Sandy Loam, 3% O.M.
 Plot Size: 1 row 30 ft. long, rows 3 ft.
 apart
 Plot Design: Randomized Complete Block with
 4 reps

Summary: Weed pressure was extremely light. For this reason weed results should be looked at as trends and used with other data. Thiobencarb caused stunting to the pickle plants. The degree of stunting increased with the increasing rate. Cotyledons and young leaves were burnt from the 4 and 6 lb. rate. Germination did not appear to be affected. Chloramben caused some foliar distortion. However germination and growth was not affected. DCPA produced some minor stunting. The only herbicide which reduced yield was thiobencarb. All others produced acceptable yields.

Treatment			Number of Weeds Per 1 Ft ²		Yield	
Herbicide	Method	Lb. ai/A	Total Grass	Total BRDL	Crop Phyto	Fruit Wt(Lbs)
Unweeded Check	----	----	0.2	2.5	10.0	10.5
Handweeded Check	----	----	0.0	0.0	10.0	10.6
Thiobencarb	Pre	2.00	0.0	0.5	8.5	9.0
Thiobencarb	Pre	4.00	0.0	1.2	5.0	7.0
Thiobencarb	Pre	6.00	0.2	0.8	3.0	2.5
DCPA +	PPI	7.50	0.0	0.5	9.0	9.8
DCPA	Post	6.00				
DCPA +	PPI	10.50	0.0	0.8	8.6	9.4
DCPA	Post	6.00				
Ethalfuralin	Pre	0.75	0.0	1.2	10.0	10.4
Ethalfuralin	Pre	1.12	0.0	0.8	10.0	11.6
Ethalfuralin	Pre	1.50	0.0	0.0	10.0	11.2
Ethalfuralin +	Pre	0.75	0.0	0.2	9.8	11.1
Naptalam	Pre	2.00				
Ethalfuralin +	Pre	1.12	0.0	0.5	10.0	11.6
Naptalam	Pre	2.00				
Chloramben	Pre	2.00	0.2	0.0	8.0	10.5
Bensulide +	PPI	4.00	0.0	1.2	10.0	11.4
Naptalam	PPI	2.00				
LSD 5%			NSD	0.90	1.18	3.07

Postemergence Grass Control Study

Location, cultivars, planting and harvesting dates and plot size and design are the same as earlier described in the weed control studies.

- Treatment:¹
- celery - Pre - May 10 (linuron 2 lbs)
 - Post I - June 20 (3-4 stalks, ~8-10" tall)
 - Post II - July 6 (10 stalks, 12-16" tall)
 - cabbage - Pre - May 12 (DCPA 8 lbs)
 - Post I - June 16 (cabbage 4-5 leaf)
 - Post II - July 2 (cabbage 12-16 leaf)
 - pickles - Pre - June 9 (ethalfluralin 1 lb)
 - Post I - June 30 (pickles 3-4 leaf stage)
 - Post II - July 16 (fruit set occurring)

Summary: Celery was not injured by any of the post-emergence treatments.

Cabbage injury appeared to be a speckling of raised or warted tissue on the leaf. These areas were lightly chlorotic. The crop oil may have been a factor in this injury. Cabbage rapidly outgrew this injury and it was not a factor at harvest.

Pickles were slightly injured by most of the post emergence treatments. Injury ranged from a small amount of foliar necrosis (rating of 9) to entire leaves burnt and a 50% growth reduction (rating of 2). Yield reductions occurred as a result of this injury.

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TRT	Lb Herbicide ¹ (ai/A)	Celery Yield ²			Cabbage Yield ²			Pickle Yield ²		
		Crop Phyto 1	Crop Phyto 2	Total Wt. (lbs)	Crop Phyto 1	Crop Phyto 2	Total Wt. (lbs)	Crop Phyto 1	Crop Phyto 2	Total Wt. (lbs)
Unweeded Check	---	10.00	10.00	62.48	10.00	10.00	49.50	10.00	10.00	62.90
Handweeded Check	---	10.00	10.00	74.85	10.00	10.00	74.42	10.00	10.00	63.63
Cloproposydim	0.25	10.00	10.00	71.03	9.88	10.00	77.95	9.38	9.50	66.20
Cloproposydim	0.50	10.00	10.00	69.45	9.50	9.75	91.15	9.38	9.38	59.65
Sethoxydim	0.20	10.00	10.00	72.93	9.25	10.00	92.32	9.38	8.88	59.38
Sethoxydim	0.50	10.00	10.00	72.53	9.88	10.00	87.62	9.50	9.00	55.50
Fluazifop-butyl	0.25	10.00	10.00	72.58	10.0	10.00	96.57	9.25	9.38	56.70
Fluazifop-butyl	0.50	10.00	10.00	71.68	9.75	10.00	97.77	8.00	8.88	37.10
DPX-Y6202	0.0313	10.00	10.00	70.43	9.50	10.00	79.50	9.13	9.50	51.83
DPX-Y6202	0.063	10.00	10.00	74.25	10.00	10.00	94.75	8.50	8.75	35.35
DPX-Y6202	0.125	10.00	10.00	69.45	9.63	10.00	86.87	3.50	6.38	17.98
DPX-Y6202	0.25	10.00	10.00	67.73	9.88	10.00	101.92	1.88	3.00	1.98
Crop Oil	1%(v:v)	10.00	10.00	66.70	--	--	--	--	--	--
LSD 5%		NS	NS	10.45	.67	.21	32.77	.66	.99	14.42

¹All postemergence treatments are with 1% (v:v) crop oil concentrate.

²Crop phytotoxicity ratings on a 1-10 scale. 1 = complete crop kill 10 = no crop injury

Postemergence Grass Control Study

Location, cultivar, planting and harvesting dates, plot size and design are the same as earlier described in the weed control studies.

Treatment:¹

- Lettuce - Pre - May 10 (CDEC + chlorpropham (2 lbs & 2 lbs))
- Post - June 20 (lettuce 6-8 leaves, grass 5-6 leaves)
- Spinach - Pre - May 10 (chlorpropham 2 lbs)
- Post - June 9 (spinach 3-4 leaf stage)
- Onion - Pre - May 10 (propachlor 4 lbs)
- Post I - June 20 (onions 2-3 true leaves)
- Post II - July 6 (onions 5-6 true leaves)

Summary: Lettuce injury was in the form of slight chlorosis. Some slight speckling occurred. Yields from post treated plants were statistically similar. However, these yields were lower than those in the handweeded check.

Spinach injury appeared as leaf speckling and a general reduction of growth. The speckled appearance caused us to believe that it may be due to the crop oil and high temperatures which followed. The speckling alone rendered this crop unsaleable.

Onions showed no visible phytotoxic affects from the postemergence treatments. Again all post treatments were statistically similar but different from the control.

TRT		Weeds Per 1 Ft ²		Lettuce Yield ²		Spinach Yield ²		Onion Yield ²	
Herbicide ¹	(ai/A)	Total Grass	Total BRDL	Crop Phyto	Total Wt(lbs)	Phyto	Total Wt(lbs)	Phyto	Total Wt(lbs)
Unweeded Check	--	5.50	3.25	10.0	6.65	10.00	17.38	10.00	22.70
Handweeded Check	--	0.00	0.00	10.0	12.98	10.00	18.73	10.00	32.40
Cloproposydim	0.25	0.25	6.50	9.38	9.10	9.70	16.83	10.00	24.35
Cloproposydim	0.50	0.25	8.75	9.63	10.10	9.88	14.40	10.00	22.40
Sethoxydim	0.20	0.00	10.25	9.50	9.78	9.00	15.90	10.00	23.93
Sethoxydim	0.50	0.25	9.50	9.38	9.65	8.38	15.38	10.00	21.35
Fluazifop-butyl	0.25	0.00	7.75	9.50	9.30	6.88	15.30	10.00	21.93
Fluazifop-butyl	0.50	0.00	11.75	9.38	10.50	4.50	15.30	10.00	23.68
DPX-Y6202	0.0313	2.50	8.00	9.63	9.40	8.38	15.73	10.00	24.05
DPX-Y6202	0.063	0.50	6.75	9.63	10.75	8.78	15.73	10.00	22.65
DPX-Y6202	0.125	0.25	7.25	9.13	9.80	8.25	15.30	10.00	25.03
DPX-Y6202	0.25	0.00	6.25	9.50	9.25	7.88	14.40	10.00	23.75
Crop Oil	1%(v:v)	7.00	2.50	9.38	7.73	--	--	10.00	22.88
LSD 5%		1.59	4.69	0.43	2.46	1.20	4.24	NS	3.66

¹All postemergence treatments were with 1% (v:v) crop oil concentrate.

²Crop phytotoxicity ratings on a 1-10 scale. 1 = complete crop kill 10 = no crop injury

Potato Postemergence Grass Study

Location: Lane Avenue Farm
 Cultivar: Katahadin
 Planted: May 10
 Treated: Pre - May 10¹
 Post I - July 21²
 Post III - August 31²
 Harvested: October 25
 Soil Type: Brookston Silty Clay Loam,
 2% O.M.
 Plot Size: 1 row 25 ft. long, 1 guard
 row between each treat-
 ment row, rows 3 ft.
 apart.

Summary: Some minor leaf speckling
 was observed from some of the
 herbicide treatments. This may
 have been due to the crop oil and
 hot weather. All herbicide
 treatments provided acceptable
 yields.

TRT		Yield	
Herbicide ^{1,2}	Lb (ai/A)	Phyto ³	Total Wt. (lbs)
Unweeded Check	-	-	16.55
Handweeded Check	-	-	21.88
Cloproposydim	0.25	9.63	12.65
Cloproposydim	0.50	9.88	18.83
Sethoxydim	0.20	8.88	13.20
Sethoxydim	0.30	9.50	18.25
Sethoxydim	0.50	9.88	16.90
Fluazifop-butyl	0.25	9.00	15.48
Fluazifop-butyl	0.50	9.63	20.15
DPX-Y6202	0.0313	10.00	12.20
DPX-Y6202	0.063	9.63	15.38
DPX-Y6202	0.125	9.88	19.43
DPX-Y6202	0.25	9.13	13.98
DPX-Y6202	0.50	9.38	17.23
DPX-Y6202	1.00	9.38	16.93
CGA-82725	0.125	9.63	12.25
CGA-82725	0.25	9.38	19.15
CGA-82725	0.375	9.63	19.58
CGA-82725	0.50	9.25	12.73
SC-1084	0.25	9.75	12.63
SC-1084	0.50	9.88	18.78
SC-1084	0.75	9.25	12.95
SC-1084	1.00	9.88	13.70
Crop Oil	(1% V:V)	9.88	13.90
LSD 5%		0.75	NSD

¹All treatments (except for weedy check) received Metolachlor (2 lbs) + metribuzin (0.5 lbs ai/A).

²All postemergence treatments were with 1% (V:V) crop oil concentrate.

³Crop phytotoxicity ratings on a 1-10 scale.

1 = complete crop kill

10 = no crop injury

Potato Weed Control

Location: Lane Avenue Farm
 Cultivar: Katahadin
 Planted: May 10
 Treated: May 10
 Weed Counts: June 27
 Harvested: October 25
 Soil Type: Brookston Silty Clay Loam,
 2% O.M.
 Plot Size: 1 row 25 ft. long, 1 guard
 row between each treatment
 row, rows 3 ft. apart
 Plot Design: Randomized Complete Block
 with 4 reps

Summary: Weed populations were extremely light in this field. Weed counts are therefore recorded as total grass and broadleaf. Data is available by species if needed. All herbicide treatments provided acceptable weed control without causing and visible phytotoxicity symptoms to the potatoes. Yield results show that all treatments produced similar potato yields except for 2. Metribuzin alone produced high yields and EPTC + PPG 1013 at 0.1 lb. produced low yields. These results are unexplainable.

Treatment			No. weeds per 1 ft ²		Yield (lbs)	
Herbicide	Method	ai/A	Total Grass	Total BRDL	#1	Total
Unweeded Check	---	--	1.0	5.5	7.6	10.2
Chloramben DS	Pre	2.70	0.2	1.0	19.0	22.2
Metolachlor + Chloramben G	Pre Post	2.00 3.00	0.0	0.5	12.5	17.2
Chloramben DS + Alachlor	Pre Pre	2.70 3.00	0.0	0.2	9.2	12.0
Chloramben DS + Metribuzin	Pre	2.70 0.50	0.5	0.0	11.4	17.8
R 40244	Pre	0.50	0.8	0.0	9.8	12.2
Metribuzin	Pre	0.50	0.0	0.0	28.0	34.2
EPTC + R 40244	PPI PPI	4.00 0.50	0.5	0.5	7.5	10.6
Oryzalin + Metribuzin	Pre Pre	1.00 0.38	0.2	0.2	15.8	20.4
EPTC + PPG 844	PPI Pre	3.00 0.20	0.2	1.2	13.2	18.1
EPTC + PPG 844	PPI Pre	3.00 0.30	0.0	1.5	14.9	21.2
EPTC + PPG 844	PPI Pre	3.00 0.50	0.2	0.2	10.8	14.4
EPTC + PPG 1013	PPI Pre	3.00 0.10	0.0	0.2	5.4	7.2
EPTC + PPG 1013	PPI Pre	3.00 0.20	0.0	0.0	9.6	12.8
Metolachlor + PPG 844	Pre Pre	1.50 0.20	0.0	0.8	8.8	12.6
Metolachlor + PPG 844	Pre Pre	1.50 0.40	0.0	0.0	13.2	16.6
Metolachlor + PPG 1013	Pre Pre	1.50 0.10	0.0	0.0	16.0	21.6
Metolachlor + PPG 1013	Pre Pre	1.50 0.20	0.0	0.5	11.9	15.9
Metolachlor + Metribuzin	Pre Pre	2.00 0.50	0.0	0.0	15.6	21.9
LSD 5%			0.64	1.12	10.68	12.48

Potato/MH-30

Location: Lane Avenue Farm
 Cultivar: Katahadin
 Planted: May 10
 Treated: Pre - May 10
 Post - August 3 (2 wks.
 after bloom)
 Harvested: October 25
 Soil Type: Brookston Silty Clay Loam,
 2% O.M.
 Plot Size: 1 row 25 ft. long, 1 guard
 row between each treatment
 row, rows 3 ft. apart
 Plot Design: Randomized Complete Block
 with 4 reps.

Summary: No significant differences
 existed between treatment yields.
 VBI 1526 has a numerically lower
 yield which is due to two of the
 replicates having very low yields.

Treatment			Yield (Lbs)	
Herbicide	Method	Lb ai/A	#1	Total
Check	----	----	15.6	21.9
Royal MH-30	Post	3.00	13.9	20.3
UBI 1526	Post	3.00	5.1	12.9
UBI 1579	Post	3.00	15.3	22.6
LSD 5%			NSD	NSD

¹All treatments received a Pre treatment of Metolachlor (2 lbs) +
 Metribuzin (0.5 lbs).

Spinach Weed Control

S.F. Gorske and R. Hassel

Location: Muck Crops Branch
 Cultivar: Melody
 Seeded: May 10
 Treated: Pre - May 10
 Post - June 9 (spinach 4-6 true leaves)
 Weed Count: June 7
 Harvested: June 28
 Soil Type: Carlisle Muck, 75% o.m., pH 5.3
 Plot Size: 3 rows 16" apart on 60" bed 18' long
 Plot Design: Randomised Complete Block with 4 reps

Summary: Neither thiobencarb or chlorpropham were effective in controlling weeds for a 30 day period. At the time of rating, the weeds were much smaller (younger) in the herbicide treated plots as compared to the weedy check. There was a very obvious rate response with thiobencarb. The 2 lb rate had the largest (oldest) weeds and the 6 lb rate had the fewest and smallest (youngest). The 4 lb rate with timely cultivation would probably be the optimum treatment.

Phenmedipham post emergence produced some minor burning of the spinach leaves. This injury was unacceptable for the fresh market. The phenmedipham treatments were for phyto data only and no weed counts were taken.

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Treatment			Number of Weeds per 1 ft ²								Yield
Herbicide	Method	Lb Ai/A	Fall Panicum	Large Crabgrass	Total Grass	Common Purslane	Pennsylvania Smartweed	Redroot Pigweed	Common Lambsquarters	Total BRDL	Total Wt. (lbs)
Unweeded Check	---	----	5.0	1.2	7.0	28.2	10.2	1.2	1.2	41.2	0.0
Handweeded Check	---	----	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8
Thiobencarb	Pre	2.00	4.2	1.2	6.2	20.2	8.8	0.5	1.0	32.0	14.0
Thiobencarb	Pre	4.00	5.0	1.5	6.5	7.8	10.8	1.2	0.8	22.2	12.6
Thiobencarb	Pre	6.00	0.5	0.8	1.5	6.0	7.0	1.0	1.0	15.5	14.2
Chlorpropham + Phenmedipham	Pre Post	2.00 0.50									10.0
Chlorpropham + Phenmedipham	Pre Post	2.00 0.75									14.2
Chlorpropham	Pre	2.00	4.0	1.2	6.2	18.8	4.8	2.8	2.5	29.2	
LSD 5%			4.56	1.21	4.92	15.61	8.64	1.76	2.23	16.10	5.71

Sweet Corn Weed Control

Location: Lane Avenue Farm
 Cultivar: Gold Cup
 Seeded: June 2
 Treated: PPI & Pre - June 2
 Spike Stage - June 10
 Weed Counts: July 5
 Harvested: August 11
 Soil Type: Brookston Silty Clay Loam, 2% O.M.
 Plot Size: 1 row 25' long, rows 3' apart, 1 guard
 row between each treatment row
 Plot Design: Randomized Complete Block with 3 reps

Summary: Grass pressure was non existant so it is not reported in the table. Smallflowered Galinsoga germinated early and maybe at least partly responsible for suppressing the grass germination. Alachlor was the only material which consistantly provided acceptable galinsoga control. Other broadleaf weeds were not a major problem. All herbicide treatments provided acceptable corn yields with no apparent crop phytotoxicity.

Treatment			Number of Weeds per 1 ft ²			Yield	
Herbicide	Method	Lb ai/A	Smallflower Galinsoga	Common Purslane	Total BRDL	Cob Number	Total Cob Wt. (Lbs)
Unweeded Check	-	-	75.7	4.0	76.7	28.0	13.0
Handweeded Check	-	-	0.0	0.0	0.0	38.3	17.0
Alachlor + PPG 844	Pre	2.00	9.0	0.0	9.0	38.3	17.2
Alachlor + PPG 844	Pre	0.20					
Alachlor + PPG 844	Pre	2.00	0.0	0.0	0.0	43.0	21.3
Alachlor + PPG 844	Pre	0.40					
Alachlor + PPG 1013	Pre	2.00	3.3	0.0	3.3	33.3	17.7
Alachlor + PPG 1013	Pre	0.10					
Alachlor + PPG 1013	Pre	2.00	0.0	0.0	0.0	38.0	18.5
Alachlor + PPG 1013	Pre	0.20					
Alachlor + PPG 1259	Pre	2.00	0.0	0.0	0.0	36.7	16.9
Alachlor + PPG 1259	Pre	0.10					
Alachlor	Pre	2.00	2.0	0.0	2.0	43.3	22.5
EPTC/29148	PPI	3.00	30.0	0.0	30.3	40.0	21.7
EPTC Extra	PPI	3.00	63.7	0.0	63.7	34.0	16.5
EPTC/29148	PPI	6.00	40.3	0.0	40.3	31.3	15.5
EPTC Extra	PPI	6.00	33.7	0.0	33.7	43.7	20.7
Butylate/R29148	PPI	3.00	57.3	5.3	62.7	32.7	15.6
Butylate	PPI	3.00	26.3	0.0	27.0	37.0	17.5
Butylate/R29148	PPI	6.00	58.3	2.7	61.0	33.3	14.4
Butylate	PPI	6.00	29.3	3.3	34.0	49.7	21.2
Pendimethalin	Spike Stage	1.50	27.0	0.0	27.0	34.3	18.3
Pendimethalin	Spike Stage	2.00	16.0	0.0	16.0	47.3	24.2
LSD 5%			37.38	4.62	38.54	19.20	9.63

Sweet Corn Thiocarbamate Study

Location: Lane Avenue Farm
 Seeded: June 2
 Treated: June 2
 Harvested: August 2 to 5
 Soil Type: Brookston Silty Clay Loam, 2% O.M.
 Plot Size: 1 row 25' long, rows 3' apart, 1 guard row 3' apart,
 1 guard row between each treatment row.
 Plot Design: Randomized Complete Block with 4 reps

Summary: Grass weed pressure was extremely light. Due to this grass control was not included in these results. Major broadleaf pressure was smallflower galinsoga and common purslane. Smallflower galinsoga was controlled by the tank mixture of butylate plus atrazine and metolachlor. Common purslane was not controlled by butylate. In general, sweet corn varieties did not differ in their response to the thiocarbamates tested. The only significant difference occurred in 'Seneca Star' where the tank mixture of butylate plus atrazine significantly increased yield. This treatment provided excellent weed control which may have been responsible for this yield increase.

Treatment			Number of Weeds per 1 ft ²			'Spring Gold'		'Sprite'		'Quicksilver'		'Bellringer'		'Seneca Star'	
Herbicide	Method	Lb ai/A	Smallflower Galinsoga	Common Purslane	Total BRDL	Cob No.	Total Cob Wt.(Lbs)	Cob No.	Total Cob Wt.(Lbs)	Cob No.	Total Cob Wt.(Lbs)	Cob No.	Total Cob Wt.(Lbs)	Cob No.	Total Cob Wt.(Lbs)
Unweeded Check	----	----	16.7	9.0	28.3	28.0	8.5	22.7	8.2	23.0	8.3	5.7	1.7	14.7	5.0
Handweeded Check	----	----	0.0	0.0	0.0	39.7	15.4	28.7	12.0	40.0	12.9	26.7	13.3	20.7	8.9
EPTC	PPI	4.00	18.7	1.3	20.0	42.7	18.5	29.7	14.4	38.0	14.8	15.3	8.1	20.3	8.6
EPTC	PPI	6.00	14.0	0.3	14.3	44.3	18.9	27.3	12.5	34.0	12.3	22.0	10.4	23.0	10.9
EPTC Extra	PPI	4.00	18.7	2.7	21.3	36.3	16.0	34.0	14.7	22.3	10.3	34.7	18.3	18.0	6.7
EPTC Extra	PPI	6.00	12.0	0.3	12.3	47.3	20.4	32.0	14.1	42.0	17.1	24.7	11.8	23.3	11.5
Butylate + Atrazine	PPI	3.00													
	PPI	0.70	0.3	0.0	0.3	49.7	20.9	32.0	16.0	36.0	12.9	25.0	13.6	30.0	16.3
Butylate	PPI	4.00	25.0	9.0	35.0	39.3	18.1	30.0	13.1	35.0	14.1	27.0	11.5	26.3	10.7
Metolachlor	Pre	2.00	3.0	0.0	3.7	38.0	14.0	37.7	16.8	--	--	25.0	12.3	29.3	13.8
LSD 5%			11.0	4.18	14.38	14.79	7.49	12.98	7.37	18.59	8.47	13.25	8.29	10.28	6.25

Transplant Tomato Incorporated Herbicides

Location: Vegetable Crops Branch
 Transplanted: June 1
 Treated: June 1
 Harvested: August 31 - Sept. 2
 Soil Type: Sandy Loam, 3% O.M.
 Plot Size: 1 row 30 ft. long, rows
 on 5 ft. centers
 Plot Design: Randomized Complete Block
 with 4 reps

Summary: There was no apparent phyto
 to any tomato cultivar from any
 treatment. Yield results indicate
 that all treatments are statistically
 similar.

Treatment (All PPI)		Yield (Fruit wt. in lbs.)/Cultivar			
Herbicide	Lb.-ai/A	Heinz 722	Heinz 318	Peto 95	6203
Trifluralin	1.0	153.2	133.3	138.5	155.9
Trifluralin + Metribuzin	1.0 0.5	162.3	154.4	163.0	145.8
Napropamide	2.0	167.5	141.9	138.2	168.5
Napropamide + Metribuzin	2.0 0.5	162.3	127.2	157.2	160.9
Pendimethalin	1.0	167.4	133.3	159.0	156.3
Pendimethalin + Metribuzin	1.0 0.5	162.3	178.4	146.8	167.2
LSD 5%		NSD	NSD	NSD	NSD

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