

Weed Research in Vegetable Crops



Cornell University
2016

WEED RESEARCH IN VEGETABLE CROPS CORNELL UNIVERSITY 2016

Weed control research for vegetable crops at Cornell was conducted by Dr. Darcy Telenko, CCE Cornell Vegetable Program, at the Homer C. Thompson Vegetable Research Farm, Freeville, NY.

MEMBERS OF THE 2016 WEED CREW:

Zvonko Jacimovski (Technician)

Vinay Bhaskar (Graduate Student)

Peter Putriment (Technician)

Special thanks go to Dr. Julie Kikkert and Amy Celentano for their support in the field and with data collection and entry.

FINANCIAL SUPPORT:

Basic funding from State and Federal sources has been decreasing which makes financial support from private industry more valuable and important. Without company support, our weed research program would be seriously curtailed. We wish to thank and acknowledge support and/or contributions of product from the Syngenta Company in 2016.

Sincere appreciation is also extended to the following companies for their contributions of seed:

Farm Fresh First

Hemdale Farms

Ed Hanson Farms

PROJECT FUNDING THROUGH STATE AND FEDERAL SOURCES:

NY Vegetable Research Council and Association

NYS Dry Bean Association

NYS Cabbage Research Board

NY Farm Viability Institute

WEED CONTROL RESEARCH – 2016 **PAGE**

Herbicide Chemical and Trade Name List	4
Weather Data, Freeville	6
Farm and Field Maps	12

Crop **TRIAL NAME** **BLOCK** **PAGE**

BEANS – DRY	Herbicide Evaluation Trial for Dry Beans	N-3	16
BEANS – SNAP	Herbicide Evaluation Trial for Snap Beans	N-3	26
BEANS – LIMA	Herbicide Evaluation Trial for Lima Beans	N-3	35
BEETS	Herbicide Evaluation Trial for Beets	N-3	46
	Evaluation of Ethofumasate Rates for Beets	N-3	59
CABBAGE	Evaluation of Herbicide Programs for Cabbage	N-2	68
CARROT	Herbicide Evaluation Trial for Carrots	N-3	79
	New Herbicide Evaluation for Carrots, Christensen’s Farm		88
MULTICROP	New Herbicide Evaluation for Rhubarb, Bell Pepper and Broccoli	N-2	99
PEAS	Herbicide Evaluation Trial for Peas	N-3	108
ROSEMARY	New Herbicide Evaluation Trial for Rosemary	N-2	114
SWEET CORN	Herbicide Evaluation Trial for Sweet Corn	N-1	123

2016 Herbicide Chemical and Trade Name List

Common Name	Product Name	Formulation	Company
acetochlor	Warrant	3 CS	Monsanto
A16003	bicyclopyrone	1.67 L	Syngenta
acetochlor	Surpass NXT	7 EC	Dow Agro
acetochlor	Harness	7 EC	Monsanto
acifluorfen	Ultra Blazer	2 L	UPI
atrazine	Atrazine 4L	4 L	Monsanto
azimsulfuron	Gulliver	50 DF	DuPont
bentazon	Basagran	4 L	BASF
carfentrazone	Aim	2EC	FMC
clethodim	Select Max	0.97EC	Valent
clomazone	Command	3 ME	FMC
Cloransulam-methyl	First Rate	85 WG	Dow Agro
clove oil	Matratec EXP	-	Brandt
dimethenamid -p	Outlook	6 EC	BASF
diquat	Diquat	2 L	Nufarm
ethalfluralin + clomazone	Strategy	3 EC	Loveland
ethofumesate	Nortron	4 SC	Bayer
flazasulfuron	Mission	25 WDG	ISK
flufenacet	Define	60 DF	Bayer
flumioxazin	Chateau	51 WG	Valent
fluthiacet-m	Cadet	0.91 L	FMC
fomesafen	Reflex	2 L	Syngenta
glufosinate	Rely 280	2.34 SL	Bayer
halosulfuron	Sandea	75 DF	Gowan
imazamox	Raptor	1 AS	BASF
imazethapyr	Pursuit	70DG	BASF
indaziflam	Alion	1.7 SC	Bayer
isoxaben	Gallery	75 DF	Dow Agro
linuron	Lorox	50 WP	DuPont

2016 Herbicide Chemical and Trade Name List

Common Name	Product Name	Formulation	Company
mesotrione	Callisto	4 SC	Syngenta
napropamide	Devrinol 50	50 DF	UPI
napropamide	Devrinol DF-XT	50 DF	UPI
oxyfluorfen	Goal Tender	4 F	Dow Agro
paraquat	Gramoxone	2 SL	Syngenta
pelagronic acid	Scythe	60 L	Gowan
pendimethalin	Prowl H2O	3.8 CS	BASF
penoxsulam	Grasp	2 SC	Dow Agro
penoxsulam + oxyfluorfen	Pindar GT	4 SC	Dow Agro
phenmedipham	Spin-Aid	1.3 EC	Bayer
prometryn	caparol	4 L	BASF
pyroxyasulfone	Zidua	85 WDG	Valent
pyroxyasulfone + flumioxazin	Fierce	61.5 WG	Valent
rimsulfuron	Matrix FNV	25 DF	Cheminova
saflufenacil	OpTill	68 WG	BASF
Saflufenacil	Sharpen	2.8 SC	BASF
simazine	Princep/Caliber 90	90 DG	Syngenta
s-metolachlor	Dual Magnum	7.62 EC	Syngenta
s-metolachlor II	Dual II Magnum	7.64 EC	Syngenta
Carfentrazone-ethyl+ sulfentrazone	Spartan Charge	3.5 F	FMC
sulfentrazone	Spartan	4 F	FMC
tembotrione + thien carbazonem	Capreno	3.45 SC	Bayer
terbacil	Sinbar	80 WP	DuPont
topramezone	Impact	2.8 SC	Amvac
trifluralin	Treflan HFP	4 L	Dow Agro
triflusulfuron	UpBeet	50 WG	DuPont
Pyroxasulfone+def Fluthiacet-methyl	Anthem Maxx	4.3SC	FMC
S-Metolachlor, Atrazine, Mesotrione, Bicyclopyrone	Acuron	3.44L	Syngenta

Weather Data, Freeville, NY – April 2016

APRIL	Temperature (°F)				Rain (in)	GDD at 50°F	
	Air		Soil @ 4 Inch Depth			Daily	Accum.
Day	High	Low	Max	Min	Total		
1	64	45	45	43	0.25	4.5	17.0
2	62	37	50	45	0.04	0.0	17.0
3	47	19	46	43	0.58	0.0	17.0
4	27	19	43	43	0.08	0.0	17.0
5	28	-4	43	41	0.13	0.0	17.0
6	26	5	43	39	0.00	0.0	17.0
7	45	22	39	39	0.00	0.0	17.0
8	48	29	41	39	0.37	0.0	17.0
9	33	21	41	39	T	0.0	17.0
10	33	21	41	39	T	0.0	17.0
11	42	22	43	39	0.00	0.0	17.0
12	50	32	41	39	0.40	0.0	17.0
13	42	22	41	39	0.00	0.0	17.0
14	45	24	45	39	0.00	0.0	17.0
15	54	26	48	41	0.00	0.0	17.0
16	64	32	50	43	0.00	0.0	17.0
17	68	31	54	45	0.00	0.0	17.0
18	70	30	54	45	0.00	0.0	17.0
19	70	40	54	46	0.00	5.0	22.0
20	54	24	50	45	0.00	0.0	22.0
21	62	32	52	46	0.00	0.0	22.0
22	74	48	54	48	0.13	11.0	33.0
23	62	39	54	48	0.22	0.5	33.5
24	51	24	52	48	0.00	0.0	33.5
25	55	33	52	48	0.00	0.0	33.5
26	58	44	54	50	0.11	1.0	34.5
27	46	25	52	46	0.47	0.0	34.5
28	52	27	52	46	0.00	0.0	34.5
29	55	34	52	48	0.00	0.0	34.5
30	54	40	52	48	0.04	0.0	34.5
Monthly Summary	High	Low	Max	Min	Total	Total	Total
	74	-4	54	39	2.82	22	34.5

Weather Data, Freeville, NY – May 2016

MAY	Temperature (°F)				Rain (in)	GDD at 50°F	
	Air		Soil @ 4 Inch Depth			Daily	Accum.
Day	High	Low	Max	Min	Total		
1	59	44	54	48	0.00	1.5	36.0
2	48	44	52	50	0.37	0.0	36.0
3	50	38	50	50	0.39	0.0	36.0
4	53	40	52	50	0.00	0.0	36.0
5	58	40	52	52	0.30	0.0	36.0
6	55	45	52	52	0.00	0.0	36.0
7	59	40	52	52	0.15	0.0	36.0
8	63	42	54	52	0.05	2.5	38.5
9	54	36	54	52	0.06	0.0	38.5
10	56	29	55	50	0.00	0.0	38.5
11	62	32	55	50	0.00	0.0	38.5
12	72	38	57	52	0.00	5.0	43.5
13	78	51	59	54	0.04	14.5	58.0
14	68	42	59	52	0.15	5.0	63.0
15	64	39	57	50	0.10	1.5	64.5
16	45	32	52	50	0.00	0.0	64.5
17	59	37	54	50	0.00	0.0	64.5
18	57	32	54	50	0.00	0.0	64.5
19	61	30	55	52	0.00	0.0	64.5
20	63	33	55	52	0.00	0.0	64.5
21	72	41	59	52	0.00	6.5	71.0
22	65	49	59	54	0.05	7.0	78.0
23	68	43	59	54	0.00	5.5	83.5
24	76	39	61	55	0.00	7.5	91.0
25	77	40	63	57	0.00	8.5	99.5
26	82	51	63	57	0.00	16.5	116.0
27	82	58	64	59	0.00	20.0	136.0
28	85	59	68	63	0.05	22.0	158.0
29	89	66	73	64	0.00	27.5	185.5
30	85	64	73	64	0.32	24.5	210.0
31	80	51	72	63	0.00	15.5	225.5
Monthly Summary	High	Low	Max	Min	Total	Total	Total
	89	29	73	48	2.03	191.0	225.5

Weather Data, Freeville, NY – June 2016

JUNE	Temperature (°F)				Rain (in)	GDD at 50°F	
	Air		Soil @ 4 Inch Depth			Daily	Accum.
Day	High	Low	Max	Min	Total		
1	77	44	73	66	0.00	10.5	236.0
2	80	53	73	66	0.00	16.5	252.5
3	72	61	70	68	0.12	16.5	269.0
4	81	53	75	70	0.00	17.0	286.0
5	82	61	75	70	0.20	21.5	307.5
6	73	57	73	68	0.58	15.0	322.5
7	76	53	73	68	0.03	14.5	337.0
8	71	44	70	66	0.19	7.5	344.5
9	56	43	66	61	0.00	0.0	344.5
10	63	36	64	59	0.00	0.0	344.5
11	68	43	64	59	0.00	5.5	350.0
12	82	60	66	61	T	21.0	371.0
13	63	49	64	59	T	6.0	377.0
14	60	37	63	59	0.00	0.0	377.0
15	70	40	68	59	0.00	5.0	382.0
16	80	52	72	61	T	16.0	398.0
17	79	52	72	66	0.00	15.5	413.5
18	80	49	73	66	0.00	14.5	428.0
19	83	49	75	68	0.00	16.0	444.0
20	86	56	75	68	0.00	21.0	465.0
21	86	55	75	68	0.00	20.5	485.5
22	76	49	75	68	0.00	12.5	498.0
23	72	46	73	66	0.00	9.0	507.0
24	77	41	73	66	0.00	9.0	516.0
25	82	52	75	64	0.00	17.0	533.0
26	85	57	77	68	0.00	21.0	554.0
27	86	69	77	70	0.00	27.5	581.5
28	81	61	75	72	0.03	21.0	602.5
29	82	53	77	70	0.00	17.5	620.0
30	73	46	73	68	0.00	9.5	629.5
Monthly Summary	High	Low	Max	Min	Total	Total	Total
	86	36	77	59	1.15	404.0	629.5

Weather Data, Freeville, NY – July 2016

July	Temperature (°F)				Rain (in)	GDD at 50°F	
	Air		Soil @ 4 Inch Depth			Daily	Accum.
Day	High	Low	Max	Min	Total		
1	79	51	77	68	0.00	15.0	644.5
2	74	56	75	66	T	15.0	659.5
3	74	46	75	66	0.00	10.0	669.5
4	78	49	75	68	0.00	13.5	683.0
5	83	58	77	72	0.00	20.5	703.5
6	86	57	81	72	0.00	21.5	725.0
7	90	64	81	72	0.00	27.0	752.0
8	87	61	81	75	0.00	24.0	776.0
9	86	67	81	75	0.00	26.5	802.5
10	83	63	81	75	0.00	23.0	825.5
11	70	50	75	68	0.20	10.0	835.5
12	80	54	79	68	0.00	17.0	852.5
13	87	64	79	70	0.00	25.5	878.0
14	89	70	81	73	0.05	29.5	907.5
15	87	60	81	75	0.00	23.5	931.0
16	86	55	81	73	0.00	20.5	951.5
17	80	57	81	73	0.00	18.5	970.0
18	84	60	81	73	0.00	22.0	992.0
19	81	55	77	72	0.25	18.0	1010.0
20	75	55	77	68	0.00	15.0	1025.0
21	86	47	81	68	0.00	16.5	1041.5
22	89	59	82	70	0.00	24.0	1065.5
23	90	62	84	75	0.00	26.0	1091.5
24	86	55	82	75	0.00	20.5	1112.0
25	87	61	84	75	0.00	24.0	1136.0
26	81	60	81	73	0.43	20.5	1156.5
27	80	54	81	72	0.00	17.0	1173.5
28	85	59	84	72	0.00	22.0	1195.5
29	84	59	82	75	0.00	21.5	1217.0
30	85	59	82	75	0.30	22.0	1239.0
31	71	61	81	73	0.00	16.0	1255.0
Monthly Summary	High	Low	Max	Min	Total	Total	Total
	87	44	81	66	1.23	625.5	1255.0

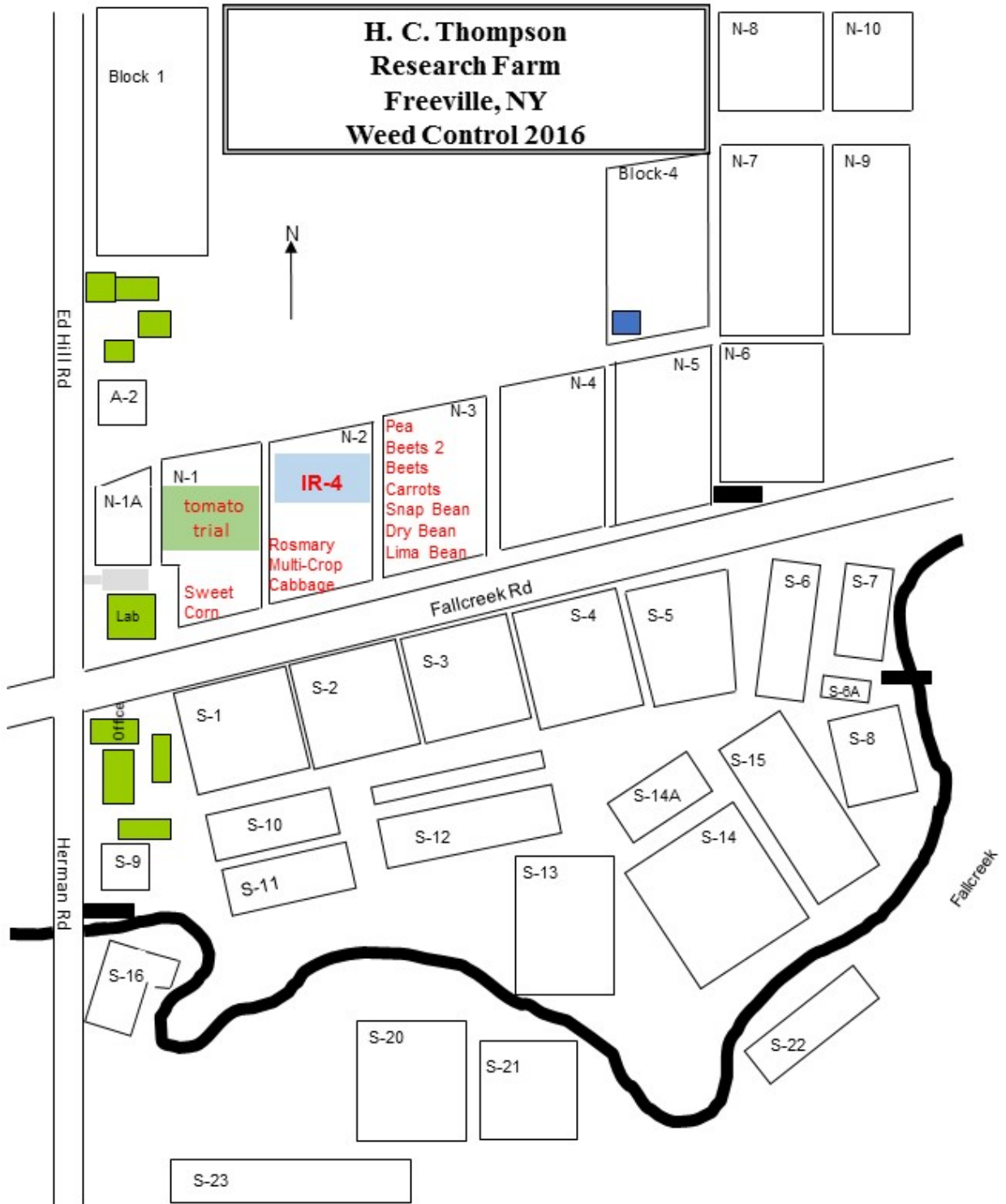
Weather Data, Freeville, NY – August 2016

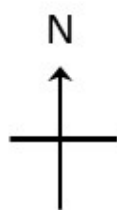
August	Temperature (°F)				Rain (in)	GDD at 50°F	
	Air		Soil @ 4 Inch Depth			Daily	Accum.
Day	High	Low	Max	Min	Total		
1	76	65	81	73	0.21	20.5	1275.5
2	79	61	81	73	0.16	20.0	1295.5
3	80	60	81	73	0.00	20.0	1315.5
4	78	63	79	73	0.00	20.5	1336.0
5	83	66	82	73	0.00	24.5	1360.5
6	84	70	82	73	0.20	27.0	1387.5
7	80	53	82	72	0.00	16.5	1404.0
8	80	49	82	72	0.00	14.5	1418.5
9	81	50	82	72	0.00	15.5	1434.0
10	85	58	81	72	1.83	21.5	1455.5
11	88	67	82	73	0.00	27.5	1483.0
12	89	71	84	77	0.00	30.0	1513.0
13	89	70	84	77	0.00	29.5	1542.5
14	91	70	84	77	0.32	30.5	1573.0
15	80	65	82	77	0.04	22.5	1595.5
16	75	66	79	77	0.00	20.5	1616.0
17	84	64	81	75	0.71	24.0	1640.0
18	78	59	81	75	0.00	18.5	1658.5
19	80	56	79	73	0.00	18.0	1676.5
20	84	59	81	73	0.00	21.5	1698.0
21	84	66	82	73	0.00	25.0	1723.0
22	74	58	79	73	0.77	16.0	1739.0
23	68	46	75	68	0.00	7.0	1746.0
24	78	52	77	68	0.00	15.0	1761.0
25	81	57	77	70	0.00	19.0	1780.0
26	82	67	77	72	0.32	24.5	1804.5
27	81	58	79	73	0.00	19.5	1824.0
28	84	61	81	73	0.00	22.5	1846.5
29	86	66	81	73	0.13	26.0	1872.5
30	77	48	79	72	0.00	12.5	1885.0
31	79	53	79	73	0.00	16.0	1901.0
Monthly Summary	High	Low	Max	Min	Total	Total	Total
	91	46	84	68	4.69	646.0	1901.0

Weather Data, Freeville, NY – September 2016

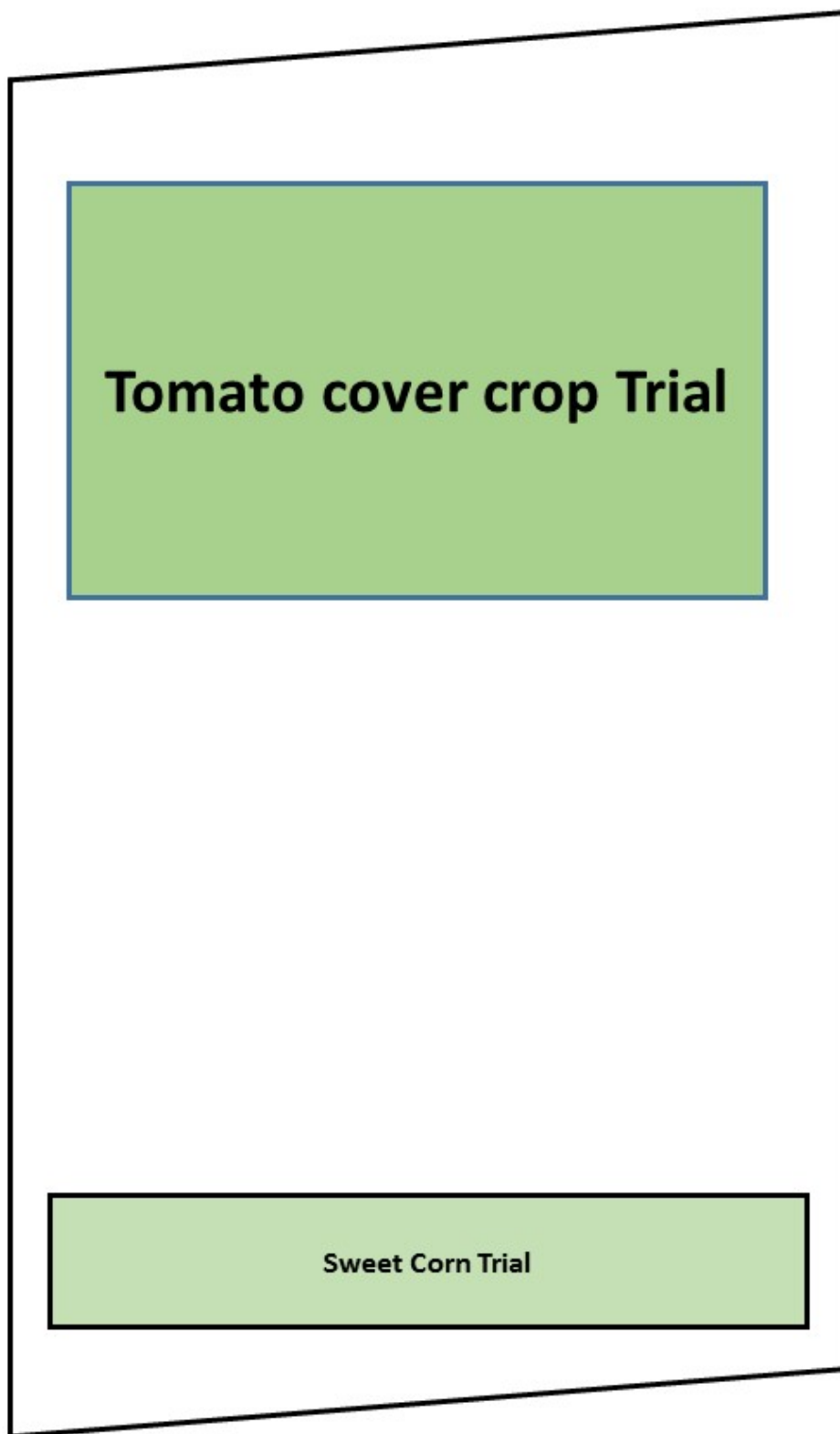
September	Temperature (°F)				Rain (in)	GDD at 50°F	
	Air		Soil @ 4 Inch Depth			Daily	Accum.
Day	High	Low	Max	Min	Total		
1	75	58	75	72	0.13	16.5	1917.5
2	71	49	75	70	0.00	10.0	1927.5
3	73	43	75	68	0.00	8.0	1935.5
4	74	46	75	68	0.00	10.0	1945.5
5	79	47	77	68	0.00	13.0	1958.5
6	83	48	77	68	0.00	15.5	1974.0
7	81	51	77	68	0.00	16.0	1990.0
8	87	56	81	68	0.19	21.5	2011.5
9	87	67	81	73	0.72	27.0	2038.5
10	78	65	79	70	0.00	21.5	2060.0
11	84	60	79	72	0.24	22.0	2082.0
12	69	45	77	68	0.04	7.0	2089.0
13	74	47	75	66	0.00	10.5	2099.5
14	82	54	75	66	0.00	18.0	2117.5
15	70	40	70	64	0.00	5.0	2122.5
16	68	40	72	64	0.00	4.0	2126.5
17	75	46	72	64	0.00	10.5	2137.0
18	72	58	70	68	1.40	15.0	2152.0
19	78	62	72	70	0.08	20.0	2172.0
20	76	52	73	70	0.00	14.0	2186.0
21	83	47	75	68	0.00	15.0	2201.0
22	77	49	73	68	0.00	13.0	2214.0
23	81	52	72	68	0.00	16.5	2230.5
24	75	40	72	64	0.00	7.5	2238.0
25	62	33	68	61	0.00	0.0	2238.0
26	64	38	68	61	0.00	1.0	2239.0
27	66	44	63	61	0.09	5.0	2244.0
28	70	41	66	61	0.00	5.5	2249.5
29	70	45	64	61	0.11	7.5	2257.0
30	58	50	63	61	0.02	4.0	2261.0
Monthly	High	Low	Max	Min	Total	Total	Total
Summary	87	33	81	61	3.02	360.0	2261.0

2016 Field and Trial Maps: Freeville, NY



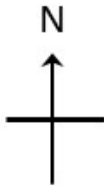


FIELD: N-1

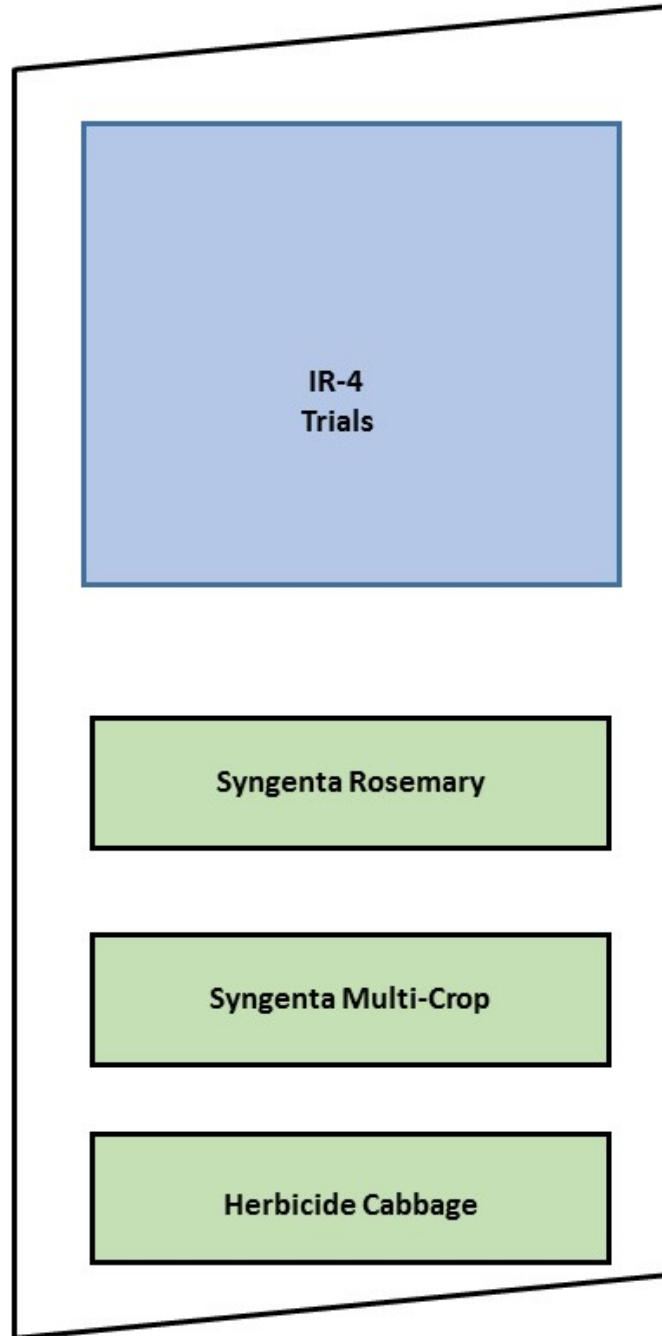


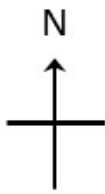
Tomato cover crop Trial

Sweet Corn Trial

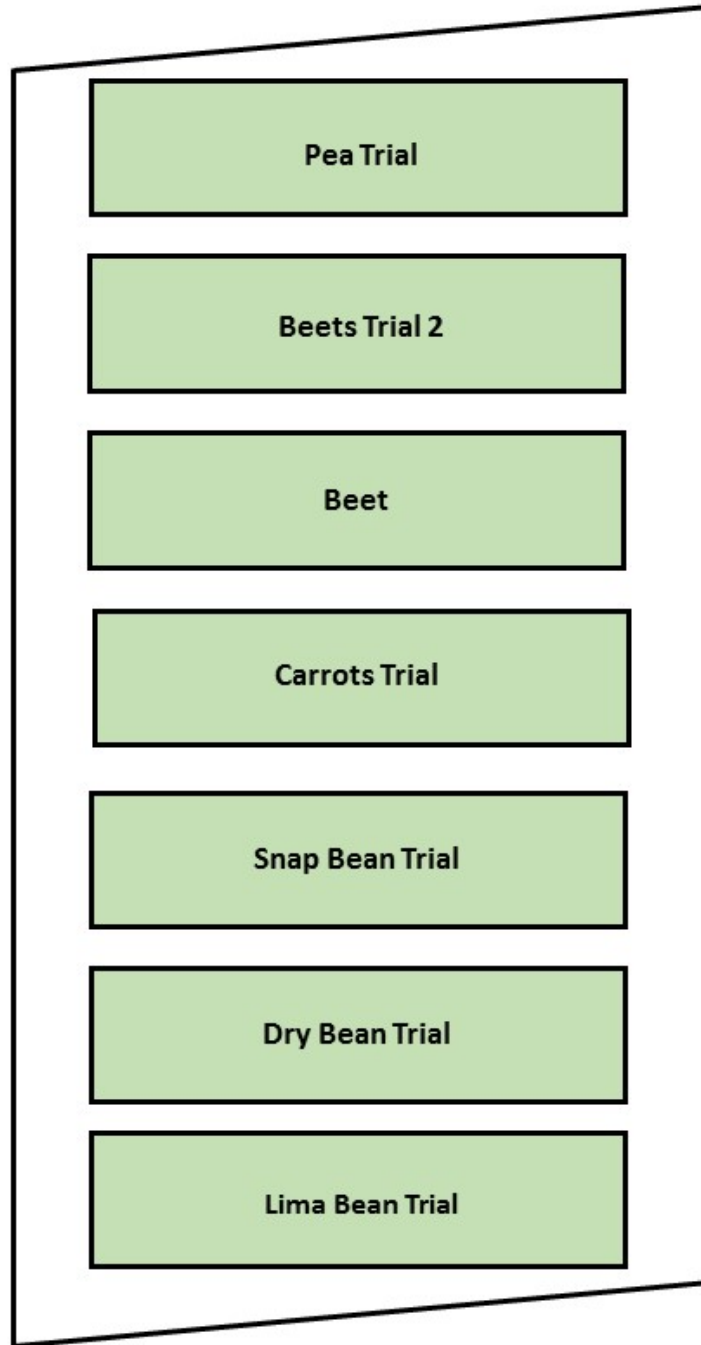


FIELD: N-2





FIELD: N-3



Herbicides for Dry Beans

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Kidney Bean 'Cal Early'	Plot Width	6 FT
Planting Date	May 24, 2016	Plot Length	20 FT
Between-Row Spacing	30 IN	Replications	3
In-Row Spacing	2.75 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	May 13	Harrowed	May 23
Disced		Cultipacked	NA
Fertilized	May 9, 13-13-13	Irrigated	weekly June 6- Aug 5, season total 3 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	47.2
pH	6.3	% Silt	41.4
% Organic Matter	2.9	% Clay	11.4

Harvest Information

Harvest Date	Aug 12, 2016	% Average Moisture	35.8%
Harvest Width	1.52 M	% Standard Moisture	18%
Harvest Length	2 M		

Applications

Timing	PRE
Crop Size at Application	NA
Date	May 25, 2016
Time of Day	4:00 PM
Method	CO ₂ Backpack
Placement	Broadcast
Spray Volume	34 GAL/A
Spray Pressure	34 PSI
Air Temperature	79°F
Soil Temperature	70°F
Soil Tilth	Friable
Soil Surface Moisture	Dry
Relative Humidity	Low
Wind Speed	4 MPH
Wind Direction	WNW
Percent Cloud Cover	80

Weeds Present at application

PRE: None

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Jun-20-2016 - all beans are yellowed- nutrient issue?

Herbicides for Dry Beans

Trial ID: Dry Beans 2016
Location: Freeville, NY; N3
Investigator: Dr. Darcy Telenko

Plots: 6 by 20 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Handweeded Check							101	208	305
2	S-metolachlor Fomesafen	7.62	EC	0.96	lb ai/a	PRE	1.315 ml/mx	102	212	302
		2	L	0.25	lb ai/a	PRE	1.305 ml/mx			
3	Pyroxasulfone	85	WG	0.06	lb ai/a	PRE	.08829 g/mx	103	211	313
4	Pyroxasulfone	85	WG	0.12	lb ai/a	PRE	0.1766 g/mx	104	202	314
5	Acetochlor	7	EC	0.4	lb ai/a	PRE	0.5964 ml/mx	105	213	303
6	Acetochlor	7	EC	0.8	lb ai/a	PRE	1.193 ml/mx	106	201	312
7	Prometryn	4	L	0.75	lb ai/a	PRE	1.957 ml/mx	107	205	301
8	Prometryn	4	L	1.0	lb ai/a	PRE	2.609 ml/mx	108	210	308
9	Sulfentrazone	4	F	0.16	lb ai/a	PRE	0.4175 ml/mx	109	207	310
10	Spartan Charge	3.5	F	0.1	lb ai/a	PRE	0.2982 ml/mx	110	206	311
11	Spartan Charge	3.5	F	0.12	lb ai/a	PRE	0.3578 ml/mx	111	209	306
12	Cloransulam-m	84	WG	0.03	lb ai/a	PRE	.04467 g/mx	112	214	304
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	PRE	0.3252 ml/mx	113	203	309
14	Clomazone	3	ME	0.25	lb ai/a	PRE	0.8697 ml/mx	114	204	307

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

t=Mean descriptions are reported in transformed data units, and are not de-transformed.

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Pest Name									
Crop Name					Kidney bean	Kidney bean	Kidney bean		
Crop Variety					Cal Early	Cal Early	Cal Early		
Rating Date					Jun-20-2016	Jun-20-2016	Jul-8-2016		
Rating Type					DAMAGE	CONTROL	CONTROL		
Rating Unit					%	%	%		
Days After First/Last Applic.					26 26	26 26	44 44		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					0.0 a	100.0 a	100.0 a	
2	S-metolachlor	7.62	EC	0.96	lb ai/a	0.0 a	95.0 b-e	92.4 bcd	
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	0.0 a	94.0 c-f	92.8 bcd	
4	Pyroxasulfone	85	WG	0.12	lb ai/a	0.0 a	97.0 abc	96.8 bc	
5	Acetochlor	7	EC	0.4	lb ai/a	0.0 a	90.3 ef	67.9 f	
6	Acetochlor	7	EC	0.8	lb ai/a	0.0 a	91.7 def	80.2 ef	
7	Prometryn	4	L	0.75	lb ai/a	0.0 a	98.0 abc	87.4 de	
8	Prometryn	4	L	1.0	lb ai/a	0.0 a	98.3 abc	93.5 bcd	
9	Sulfentrazone	4	F	0.16	lb ai/a	0.0 a	98.0 abc	88.4 cde	
10	Spartan Charge	3.5	F	0.1	lb ai/a	0.0 a	90.0 f	80.2 ef	
11	Spartan Charge	3.5	F	0.12	lb ai/a	0.0 a	97.0 abc	83.4 de	
12	Cloransulam-m	84	WG	0.03	lb ai/a	0.0 a	96.3 a-d	88.4 cde	
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	0.0 a	98.3 abc	97.4 ab	
14	Clomazone	3	ME	0.25	lb ai/a	0.0 a	99.0 ab	92.2 bcd	
LSD P=.05						.	4.92	2.83	
Standard Deviation						0.00	2.93	5.77	
CV						0.0	3.06	8.03	

Pest Name	Field bindweed	Annual smartweed	Redroot pigweed
Crop Name	Kidney bean	Kidney bean	Kidney bean
Crop Variety	Cal Early	Cal Early	Cal Early
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Field	Annual	Redroot
1	Handweeded Check					100.0 a	100.0 a	100.0 a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	92.4 a	92.4 bc	99.2 ab
	Fomesafen	2	L	0.25	lb ai/a			
3	Pyroxasulfone	85	WG	0.06	lb ai/a	96.2 a	98.9 ab	96.7 ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	98.2 a	100.0 a	100.0 a
5	Acetochlor	7	EC	0.4	lb ai/a	67.9 a	100.0 a	67.9 d
6	Acetochlor	7	EC	0.8	lb ai/a	85.9 a	100.0 a	80.2 cd
7	Prometryn	4	L	0.75	lb ai/a	95.7 a	100.0 a	94.8 abc
8	Prometryn	4	L	1.0	lb ai/a	98.9 a	97.8 abc	99.4 ab
9	Sulfentrazone	4	F	0.16	lb ai/a	98.9 a	88.4 c	100.0 a
10	Spartan Charge	3.5	F	0.1	lb ai/a	98.3 a	90.9 bc	97.6 ab
11	Spartan Charge	3.5	F	0.12	lb ai/a	98.3 a	92.0 bc	100.0 a
12	Cloransulam-m	84	WG	0.03	lb ai/a	94.4 a	100.0 a	95.5 abc
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	98.7 a	97.4 abc	100.0 a
14	Clomazone	3	ME	0.25	lb ai/a	100.0 a	100.0 a	92.2 bc
LSD P=.05						10.20	4.29	6.84
Standard Deviation						11.10	7.12	9.03
CV						14.02	8.55	11.2

Pest Name	Common lambsquarters	Large crabgrass	Hairy galinsoga
Crop Name	Kidney bean	Kidney bean	Kidney bean
Crop Variety	Cal Early	Cal Early	Cal Early
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	95.2	ab	100.0	a	100.0	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	97.3	a	99.4	abc	100.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	98.5	a	99.4	abc	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	67.9	c	67.9	f	100.0	a
6	Acetochlor	7	EC	0.8	lb ai/a	80.2	bc	97.0	a-d	100.0	a
7	Prometryn	4	L	0.75	lb ai/a	95.7	a	87.4	de	100.0	a
8	Prometryn	4	L	1.0	lb ai/a	100.0	a	93.5	b-e	96.7	a
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0	a	88.4	de	88.3	b
10	Spartan Charge	3.5	F	0.1	lb ai/a	100.0	a	80.2	ef	88.3	b
11	Spartan Charge	3.5	F	0.12	lb ai/a	100.0	a	83.4	ef	88.3	b
12	Cloransulam-m	84	WG	0.03	lb ai/a	94.4	ab	88.4	de	100.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	99.7	a	99.7	ab	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	97.8	a	92.2	cde	100.0	a
LSD P=.05						5.96		4.52		7.37	
Standard Deviation						8.42		7.31		4.39	
CV						10.41		9.64		4.51	

Pest Name	Common purslane	Ladysthumb	Overall weed
Crop Name	Kidney bean	Kidney bean	Kidney bean
Crop Variety	Cal Early	Cal Early	Cal Early
Rating Date	Jul-8-2016	Jul-8-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	58 58

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a	83.3	ab
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	100.0	a	100.0	a	86.7	ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	100.0	a	95.3	a
5	Acetochlor	7	EC	0.4	lb ai/a	71.7	c	100.0	a	38.3	d
6	Acetochlor	7	EC	0.8	lb ai/a	80.0	bc	100.0	a	61.7	bcd
7	Prometryn	4	L	0.75	lb ai/a	95.0	ab	95.0	a	78.3	ab
8	Prometryn	4	L	1.0	lb ai/a	100.0	a	100.0	a	90.0	ab
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0	a	100.0	a	81.7	ab
10	Spartan Charge	3.5	F	0.1	lb ai/a	100.0	a	100.0	a	63.3	bcd
11	Spartan Charge	3.5	F	0.12	lb ai/a	100.0	a	100.0	a	46.7	cd
12	Cloransulam-m	84	WG	0.03	lb ai/a	100.0	a	100.0	a	72.7	abc
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	100.0	a	100.0	a	94.3	a
14	Clomazone	3	ME	0.25	lb ai/a	100.0	a	100.0	a	83.3	ab
LSD P=.05						15.63		3.88		29.84	
Standard Deviation						9.31		2.31		17.78	
CV						9.68		2.32		23.14	

Pest Name	Field bindweed	annual smartweed	Redroot pigweed	Common lambsquarters
Crop Name	Kidney bean	Kidney bean	Kidney bean	Kidney bean
Crop Variety	Cal Early	Cal Early	Cal Early	Cal Early
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%
Days After First/Last Applic.	58 58	58 58	58 58	58 58

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit					
1	Handweeded Check					100.0 a		100.0 a	100.0 a	
2	S-metolachlor	7.62	EC	0.96	lb ai/a	98.9 a		92.0 a	96.7 a	
	Fomesafen	2	L	0.25	lb ai/a					
3	Pyroxasulfone	85	WG	0.06	lb ai/a	98.9 a		98.3 a	95.0 a	
4	Pyroxasulfone	85	WG	0.12	lb ai/a	98.9 a		100.0 a	100.0 a	
5	Acetochlor	7	EC	0.4	lb ai/a	75.0 a		91.5 a	46.7 c	
6	Acetochlor	7	EC	0.8	lb ai/a	88.3 a		100.0 a	61.7 bc	
7	Prometryn	4	L	0.75	lb ai/a	92.3 a		100.0 a	90.0 ab	
8	Prometryn	4	L	1.0	lb ai/a	100.0 a		100.0 a	97.3 a	
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0 a		100.0 a	100.0 a	
10	Spartan Charge	3.5	F	0.1	lb ai/a	97.6 a		97.6 a	100.0 a	
11	Spartan Charge	3.5	F	0.12	lb ai/a	97.0 a		100.0 a	100.0 a	
12	Cloransulam-m	84	WG	0.03	lb ai/a	93.3 a		100.0 a	96.0 a	
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	97.0 a		99.4 a	100.0 a	
14	Clomazone	3	ME	0.25	lb ai/a	93.3 a		100.0 a	83.3 ab	
LSD P=.05						31.81		9.54	28.87	14.74
Standard Deviation						20.46		10.72	17.20	13.45
CV						25.18		12.45	19.01	17.54

Pest Name	Large crabgrass	Hairy galinsoga	Common purslane	Ladysthumb
Crop Name	Kidney bean	Kidney bean	Kidney bean	Kidney bean
Crop Variety	Cal Early	Cal Early	Cal Early	Cal Early
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%
Days After First/Last Applic.	58 58	58 58	58 58	58 58

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a	100.0	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	98.3	ab	100.0	a	100.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	98.9	a	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	29.8	e	100.0	a	100.0	a
6	Acetochlor	7	EC	0.8	lb ai/a	63.4	cde	100.0	a	100.0	a
7	Prometryn	4	L	0.75	lb ai/a	79.1	bc	97.0	ab	100.0	a
8	Prometryn	4	L	1.0	lb ai/a	90.1	abc	98.9	a	100.0	a
9	Sulfentrazone	4	F	0.16	lb ai/a	82.1	bc	82.1	bc	100.0	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	64.0	cde	64.0	cd	100.0	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	37.8	de	37.8	d	100.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	74.1	bcd	100.0	a	100.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	100.0	a	100.0	a	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	92.0	abc	100.0	a	100.0	a
LSD P=.05						15.5		10.04		.	1.67
Standard Deviation						13.82		11.01		0.00	1.00
CV						20.33		13.71		0.0	1.0

Pest Name	Common lambsquarters	Redroot pigweed	Hairy galinsoga	Large crabgrass
Crop Name	Kidney bean	Kidney bean	Kidney bean	Kidney bean
Crop Variety	Cal Early	Cal Early	Cal Early	Cal Early
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%
Days After First/Last Applic.	71 71	71 71	71 71	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit					
1	Handweeded Check					100.0 a	100.0 a	100.0 a	100.0 a	
2	S-metolachlor	7.62	EC	0.96	lb ai/a	92.0 bcd	98.9 abc	99.8 a	100.0 a	
	Fomesafen	2	L	0.25	lb ai/a					
3	Pyroxasulfone	85	WG	0.06	lb ai/a	85.2 cd	94.4 bcd	99.1 a	92.5 ab	
4	Pyroxasulfone	85	WG	0.12	lb ai/a	95.0 abc	100.0 a	99.8 a	100.0 a	
5	Acetochlor	7	EC	0.4	lb ai/a	59.2 e	85.3 de	91.8 ab	69.2 cde	
6	Acetochlor	7	EC	0.8	lb ai/a	78.3 de	90.4 cde	97.6 a	80.2 bc	
7	Prometryn	4	L	0.75	lb ai/a	94.8 abc	98.5 abc	98.9 a	48.0 ef	
8	Prometryn	4	L	1.0	lb ai/a	97.1 abc	98.5 abc	98.9 a	79.0 bcd	
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0 a	100.0 a	69.3 bc	70.3 cde	
10	Spartan Charge	3.5	F	0.1	lb ai/a	100.0 a	99.4 ab	77.9 bc	23.6 f	
11	Spartan Charge	3.5	F	0.12	lb ai/a	99.8 ab	99.8 ab	54.7 c	46.6 ef	
12	Cloransulam-m	84	WG	0.03	lb ai/a	88.3 cd	96.7 a-d	99.8 a	51.7 def	
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	96.7 abc	100.0 a	100.0 a	99.1 a	
14	Clomazone	3	ME	0.25	lb ai/a	93.3 bcd	77.2 e	99.1 a	74.4 b-e	
LSD P=.05						6.28	4.64	10.55	8.67	
Standard Deviation						8.65	7.41	11.30	10.20	
CV						11.32	9.10	14.39	16.06	

Pest Name	Annual smartweed					
Crop Name	Kidney bean		Kidney bean		Kidney bean	
Crop Variety	Cal Early		Cal Early		Cal Early	
Rating Date	Aug-4-2016		Aug-12-2016		Aug-12-2016	
Rating Type	CONTROL		YIELD		YIELD	
Rating Unit	%		kg/2m		LB/A	
Days After First/Last Applic.	71	71	79	79	79	79

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	0.713	a	1634.8	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	95.2	a	0.733	a	1680.6	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	97.0	a	0.567	a	1298.6	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	0.367	a	840.3	a
5	Acetochlor	7	EC	0.4	lb ai/a	98.9	a	0.633	a	1451.4	a
6	Acetochlor	7	EC	0.8	lb ai/a	100.0	a	0.387	a	886.1	a
7	Prometryn	4	L	0.75	lb ai/a	100.0	a	0.547	a	1252.8	a
8	Prometryn	4	L	1.0	lb ai/a	100.0	a	0.560	a	1283.4	a
9	Sulfentrazone	4	F	0.16	lb ai/a	97.6	a	0.507	a	1161.1	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	100.0	a	0.353	a	809.7	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	93.3	a	0.613	a	1405.6	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	100.0	a	0.580	a	1329.2	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	99.8	a	0.500	a	1145.9	a
14	Clomazone	3	ME	0.25	lb ai/a	100.0	a	0.747	a	1711.2	a
LSD P=.05						8.86		0.2987		684.56	
Standard Deviation						10.32		0.1780		407.88	
CV						11.99		31.92		31.92	

Herbicides for Snap Beans

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Snap bean 'Slender pack'	Plot Width	6 FT
Planting Date	May 24, 2016	Plot Length	20 FT
Between-Row Spacing	30 IN	Replications	3
In-Row Spacing	1.75 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	May 23
Disced		Cultipacked	NA
Fertilized	May 9, 13-13-13	Irrigated	weekly June 6-July 27, season total 3 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	47.2
pH	6.3	% Silt	41.4
% Organic Matter	2.9	% Clay	11.4

Harvest Information

Harvest Date	Aug 5, 2016
Harvest Width	1.52 M
Harvest Length	2 M

Applications

Timing	PRE
Crop Size at Application	NA
Date	May 25, 2016
Time of Day	3:00 PM
Method	CO ₂ Backpack
Placement	Broadcast
Spray Volume	34 GAL/A
Spray Pressure	34 PSI
Air Temperature	78°F
Soil Temperature	70°F
Soil Tilth	Friable
Soil Surface Moisture	Dry
Relative Humidity	Low
Wind Speed	5 MPH
Wind Direction	WNW
Percent Cloud Cover	80

Weeds Present at application

PRE: None

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Leafhopper burn noted across trial just before harvest

Herbicides for Snap Beans

Trial ID: Snap Beans 2016
Location: Freeville, NY; N3
Investigator: Dr. Darcy Telenko

Plots: 6 by 20 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Handweeded Check							101	214	302
2	S-metolachlor Fomesafen	7.62	EC	0.96	lb ai/a	PRE	1.315 ml/mx	102	213	305
		2	L	0.25	lb ai/a	PRE	1.305 ml/mx			
3	Pyroxasulfone	85	WG	0.06	lb ai/a	PRE	.08829 g/mx	103	205	312
4	Pyroxasulfone	85	WG	0.12	lb ai/a	PRE	0.1766 g/mx	104	202	311
5	Acetochlor	7	EC	0.4	lb ai/a	PRE	0.5964 ml/mx	105	207	306
6	Acetochlor	7	EC	0.8	lb ai/a	PRE	1.193 ml/mx	106	210	304
7	Prometryn	4	L	0.75	lb ai/a	PRE	1.957 ml/mx	107	212	310
8	Prometryn	4	L	1.0	lb ai/a	PRE	2.609 ml/mx	108	204	308
9	Sulfentrazone	4	F	0.16	lb ai/a	PRE	0.4175 ml/mx	109	208	314
10	Spartan Charge	3.5	F	0.1	lb ai/a	PRE	0.2982 ml/mx	110	201	303
11	Spartan Charge	3.5	F	0.12	lb ai/a	PRE	0.3578 ml/mx	111	209	301
12	Cloransulam-m	84	WG	0.03	lb ai/a	PRE	.04467 g/mx	112	211	313
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	PRE	0.3252 ml/mx	113	203	309
14	Clomazone	3	ME	0.25	lb ai/a	PRE	0.8697 ml/mx	114	206	307

Pest Name						Overall weed	Overall weed
Crop Name					Garden bean	Garden bean	Garden bean
Crop Variety					Slender pack	Slender pack	Slender pack
Rating Date					Jun-20-2016	Jun-20-2016	Jul-8-2016
Rating Type					DAMAGE	CONTROL	CONTROL
Rating Unit					%	%	%
Days After First/Last Applic.					26 26	26 26	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					0.0 a	100.0 a	100.0 a	
2	S-metolachlor	7.62	EC	0.96	lb ai/a	0.0 a	99.3 a	89.3 abc	
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	0.0 a	88.7 a	79.3 a-d	
4	Pyroxasulfone	85	WG	0.12	lb ai/a	0.0 a	97.0 a	95.0 ab	
5	Acetochlor	7	EC	0.4	lb ai/a	0.0 a	61.7 b	28.3 e	
6	Acetochlor	7	EC	0.8	lb ai/a	0.0 a	60.0 b	70.0 cd	
7	Prometryn	4	L	0.75	lb ai/a	0.0 a	94.3 a	84.3 a-d	
8	Prometryn	4	L	1.0	lb ai/a	0.0 a	98.3 a	94.0 abc	
9	Sulfentrazone	4	F	0.16	lb ai/a	0.0 a	97.0 a	86.7 a-d	
10	Spartan Charge	3.5	F	0.1	lb ai/a	0.0 a	84.7 a	65.0 d	
11	Spartan Charge	3.5	F	0.12	lb ai/a	0.0 a	92.3 a	73.3 bcd	
12	Cloransulam-m	84	WG	0.03	lb ai/a	0.0 a	95.7 a	80.0 a-d	
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	0.0 a	97.3 a	94.3 ab	
14	Clomazone	3	ME	0.25	lb ai/a	0.0 a	93.3 a	80.0 a-d	
LSD P=.05						.	21.83	24.26	
Standard Deviation						0.00	13.00	14.45	
CV						0.0	14.45	18.07	

Pest Name	Field bindweed	Redroot pigweed	Common lambsquarters
Crop Name	Garden bean	Garden bean	Garden bean
Crop Variety	Slender pack	Slender pack	Slender pack
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	90.6	abc	99.3	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	80.7	bc	86.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	95.0	abc	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	14.5	d	33.3	b
6	Acetochlor	7	EC	0.8	lb ai/a	70.0	c	90.0	a
7	Prometryn	4	L	0.75	lb ai/a	84.9	abc	100.0	a
8	Prometryn	4	L	1.0	lb ai/a	99.4	ab	97.3	a
9	Sulfentrazone	4	F	0.16	lb ai/a	94.4	abc	100.0	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	87.1	abc	100.0	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	73.8	c	100.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	97.0	abc	86.7	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	94.8	abc	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	96.3	abc	80.0	a
LSD P=.05						16.06		28.56	
Standard Deviation						14.07		17.02	
CV						20.2		18.72	

Pest Name	Large crabgrass	Hairy galinsoga	Annual smartweed
Crop Name	Garden bean	Garden bean	Garden bean
Crop Variety	Slender pack	Slender pack	Slender pack
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	93.3	ab	100.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	98.3	ab	99.4	a
5	Acetochlor	7	EC	0.4	lb ai/a	28.3	d	25.0	b
6	Acetochlor	7	EC	0.8	lb ai/a	80.0	abc	100.0	a
7	Prometryn	4	L	0.75	lb ai/a	84.3	abc	100.0	a
8	Prometryn	4	L	1.0	lb ai/a	94.0	ab	100.0	a
9	Sulfentrazone	4	F	0.16	lb ai/a	86.7	abc	93.1	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	65.0	c	96.3	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	73.3	bc	100.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	80.0	abc	100.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	100.0	a	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	80.0	abc	100.0	a
LSD P=.05						25.75		17.48	
Standard Deviation						15.34		14.73	
CV						18.46		17.63	

Pest Name	Overall weed	Large crabgrass	Redroot pigweed
Crop Name	Garden bean	Garden bean	Garden bean
Crop Variety	Slender pack	Slender pack	Slender pack
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	58 58	58 58	58 58

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	61.7	b-e	100.0	a	97.7	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	61.0	b-e	92.9	ab	85.7	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	83.0	a-d	99.8	a	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	25.0	f	47.6	cde	38.3	b
6	Acetochlor	7	EC	0.8	lb ai/a	55.0	c-f	75.0	bcd	96.0	a
7	Prometryn	4	L	0.75	lb ai/a	66.7	a-e	67.6	bcd	96.0	a
8	Prometryn	4	L	1.0	lb ai/a	85.0	abc	85.0	abc	95.0	a
9	Sulfentrazone	4	F	0.16	lb ai/a	66.7	a-e	67.6	bcd	99.3	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	26.7	f	19.4	e	99.3	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	50.0	def	34.3	de	99.3	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	56.7	c-f	57.0	b-e	96.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	91.0	ab	99.8	a	99.3	a
14	Clomazone	3	ME	0.25	lb ai/a	45.0	ef	88.7	ab	33.3	b
LSD P=.05						33.60		19.35		28.08	
Standard Deviation						20.02		15.55		16.73	
CV						32.09		24.41		18.96	

Pest Name	Common lambsquarters	Field bindweed	Common lambsquarters
Crop Name	Garden bean	Garden bean	Garden bean
Crop Variety	Slender pack	Slender pack	Slender pack
Rating Date	Jul-22-2016	Jul-22-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	58 58	58 58	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	92.2	a	32.8	c	94.1	abc
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	94.3	a	34.5	c	94.8	abc
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	84.8	ab	99.1	ab
5	Acetochlor	7	EC	0.4	lb ai/a	44.4	b	11.7	c	61.5	d
6	Acetochlor	7	EC	0.8	lb ai/a	94.3	a	42.7	bc	85.6	bcd
7	Prometryn	4	L	0.75	lb ai/a	98.9	a	87.2	ab	99.1	ab
8	Prometryn	4	L	1.0	lb ai/a	100.0	a	95.7	a	98.9	ab
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0	a	90.7	a	100.0	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	100.0	a	93.9	a	100.0	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	100.0	a	93.1	a	100.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	99.8	a	99.1	a	96.1	abc
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	98.3	a	89.3	a	96.3	abc
14	Clomazone	3	ME	0.25	lb ai/a	94.9	a	94.8	a	76.9	cd
LSD P=.05						13.18		24.37		9.70	
Standard Deviation						12.69		17.62		10.81	
CV						15.6		27.69		13.71	

Pest Name	Common ragweed	Hairy galinsoga	Large crabgrass
Crop Name	Garden bean	Garden bean	Garden bean
Crop Variety	Slender pack	Slender pack	Slender pack
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	71	71	71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	97.6	a	99.8	a	99.3	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	89.6	a	100.0	a	95.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	99.8	a	99.8	a	99.3	a
5	Acetochlor	7	EC	0.4	lb ai/a	53.1	b	98.5	a	56.7	cd
6	Acetochlor	7	EC	0.8	lb ai/a	96.0	a	100.0	a	71.7	bc
7	Prometryn	4	L	0.75	lb ai/a	91.8	a	99.8	a	65.0	bc
8	Prometryn	4	L	1.0	lb ai/a	90.9	a	99.4	a	80.0	ab
9	Sulfentrazone	4	F	0.16	lb ai/a	97.6	a	87.0	b	55.0	cde
10	Spartan Charge	3.5	F	0.1	lb ai/a	98.9	a	97.6	a	26.7	f
11	Spartan Charge	3.5	F	0.12	lb ai/a	100.0	a	98.3	a	33.3	ef
12	Cloransulam-m	84	WG	0.03	lb ai/a	96.0	a	100.0	a	36.7	def
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	99.1	a	100.0	a	99.3	a
14	Clomazone	3	ME	0.25	lb ai/a	50.0	b	100.0	a	66.7	bc
LSD P=.05						16.15		3.64		22.88	
Standard Deviation						14.12		6.55		13.63	
CV						18.59		7.63		19.38	

Pest Name				
Crop Name		Garden bean	Garden bean	
Crop Variety		Slender pack	Slender pack	
Rating Date		Aug-5-2016	Aug-5-2016	
Rating Type		YIELD	YIELD	
Rating Unit		kg/2m	LB	
Days After First/Last Applic.		72 72	72 72	

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit		
1	Handweeded Check					0.31 a	917 a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	0.39 a	1151 a
	Fomesafen	2	L	0.25	lb ai/a		
3	Pyroxasulfone	85	WG	0.06	lb ai/a	0.29 a	859 a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	0.37 a	1093 a
5	Acetochlor	7	EC	0.4	lb ai/a	0.30 a	878 a
6	Acetochlor	7	EC	0.8	lb ai/a	0.25 a	722 a
7	Prometryn	4	L	0.75	lb ai/a	0.45 a	1307 a
8	Prometryn	4	L	1.0	lb ai/a	0.45 a	1327 a
9	Sulfentrazone	4	F	0.16	lb ai/a	0.48 a	1405 a
10	Spartan Charge	3.5	F	0.1	lb ai/a	0.29 a	839 a
11	Spartan Charge	3.5	F	0.12	lb ai/a	0.29 a	859 a
12	Cloransulam-m	84	WG	0.03	lb ai/a	0.34 a	995 a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	0.35 a	1015 a
14	Clomazone	3	ME	0.25	lb ai/a	0.37 a	1093 a
LSD P=.05						0.1757	514.29
Standard Deviation						0.1047	306.43
CV						29.67	29.67

Herbicides for Lima Beans

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Lima bean 'Kingston Baby'	Plot Width	6 FT
Planting Date	May 25, 2016	Plot Length	20 FT
Between-Row Spacing	30 IN	Replications	3
In-Row Spacing	3.75 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	May 23
Disced		Cultipacked	NA
Fertilized	May 9, 13-13-13	Irrigated	weekly June 6-August 5, season total 3 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	47.2
pH	6.3	% Silt	41.4
% Organic Matter	2.9	% Clay	11.4

Harvest Information

Harvest Date	Sep 1, 2016
Harvest Width	1.52 M
Harvest Length	2 M

Applications

Timing	PRE
Crop Size at Application	NA
Date	May 25, 2016
Time of Day	3:00 PM
Method	CO ₂ Backpack
Placement	Broadcast
Spray Volume	34 GAL/A
Spray Pressure	34 PSI
Air Temperature	78°F
Soil Temperature	70°F
Soil Tilth	Friable
Soil Surface Moisture	Dry
Relative Humidity	Low
Wind Speed	4 MPH
Wind Direction	WNW
Percent Cloud Cover	80

Weeds Present at application

PRE: None

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Herbicides for Lima Beans

Trial ID: Lima Beans 2016
Location: Freeville, NY; N3
Investigator: Dr. Darcy Telenko

Plots: 6 by 20 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Handweeded Check							101	214	308
2	S-metolachlor Fomesafen	7.62	EC	0.96	lb ai/a	PRE	1.315 ml/mx	102	212	301
		2	L	0.25	lb ai/a	PRE	1.305 ml/mx			
3	Pyroxasulfone	85	WG	0.06	lb ai/a	PRE	.08829 g/mx	103	209	303
4	Pyroxasulfone	85	WG	0.12	lb ai/a	PRE	0.1766 g/mx	104	211	313
5	Acetochlor	7	EC	0.4	lb ai/a	PRE	0.5964 ml/mx	105	210	311
6	Acetochlor	7	EC	0.8	lb ai/a	PRE	1.193 ml/mx	106	204	312
7	Prometryn	4	L	0.75	lb ai/a	PRE	1.957 ml/mx	107	202	304
8	Prometryn	4	L	1.0	lb ai/a	PRE	2.609 ml/mx	108	201	305
9	Sulfentrazone	4	F	0.16	lb ai/a	PRE	0.4175 ml/mx	109	206	307
10	Spartan Charge	3.5	F	0.1	lb ai/a	PRE	0.2982 ml/mx	110	213	310
11	Spartan Charge	3.5	F	0.12	lb ai/a	PRE	0.3578 ml/mx	111	203	302
12	Cloransulam-m	84	WG	0.03	lb ai/a	PRE	.04467 g/mx	112	208	314
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	PRE	0.3252 ml/mx	113	207	309
14	Clomazone	3	ME	0.25	lb ai/a	PRE	0.8697 ml/mx	114	205	306

Pest Name		Overall weed	Overall weed
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Jun-6-2016	Jun-6-2016	Jul-8-2016
Rating Type	DAMAGE	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	12 12	12 12	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					0.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	0.0	a	99.0	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	0.0	a	78.3	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	0.0	a	81.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	0.0	a	66.7	a
6	Acetochlor	7	EC	0.8	lb ai/a	0.0	a	82.7	a
7	Prometryn	4	L	0.75	lb ai/a	0.0	a	95.7	a
8	Prometryn	4	L	1.0	lb ai/a	0.0	a	96.7	a
9	Sulfentrazone	4	F	0.16	lb ai/a	0.0	a	79.7	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	0.0	a	74.3	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	0.0	a	87.7	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	0.0	a	95.7	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	0.0	a	97.7	a
14	Clomazone	3	ME	0.25	lb ai/a	0.0	a	96.7	a
LSD P=.05						.		23.71	
Standard Deviation						0.00		14.12	
CV						0.0		16.05	

Pest Name	Common lambsquarters	Redroot pigweed	Common purslane
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	88.3	ab	95.7	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	65.3	b	60.7	bc
4	Pyroxasulfone	85	WG	0.12	lb ai/a	97.7	ab	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	26.7	c	32.3	c
6	Acetochlor	7	EC	0.8	lb ai/a	86.0	ab	92.3	ab
7	Prometryn	4	L	0.75	lb ai/a	99.3	a	96.7	a
8	Prometryn	4	L	1.0	lb ai/a	100.0	a	97.0	a
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0	a	91.7	ab
10	Spartan Charge	3.5	F	0.1	lb ai/a	98.3	a	97.7	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	99.3	a	96.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	92.7	ab	97.7	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	97.7	ab	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	98.3	a	91.0	ab
LSD P=.05						32.44		34.10	
Standard Deviation						19.33		20.32	
CV						21.65		22.78	

Pest Name	Annual smartweed	Hairy galinsoga	Large crabgrass
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	44 44	44 44	44 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	99.3	a	100.0	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	63.7	ab	66.7	ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	98.7	a	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	32.7	b	33.3	b
6	Acetochlor	7	EC	0.8	lb ai/a	95.3	a	97.7	a
7	Prometryn	4	L	0.75	lb ai/a	96.0	a	98.3	a
8	Prometryn	4	L	1.0	lb ai/a	98.3	a	100.0	a
9	Sulfentrazone	4	F	0.16	lb ai/a	96.0	a	98.3	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	96.0	a	80.0	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	75.0	a	91.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	100.0	a	100.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	99.3	a	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	96.7	a	99.3	a
LSD P=.05						37.10		37.95	
Standard Deviation						22.11		22.61	
CV						24.82		25.03	

Pest Name	Field bindweed				Common lambsquarters	
Crop Name	Lima bean		Lima bean		Lima bean	
Crop Variety	Kingston Baby		Kingston Baby		Kingston Baby	
Rating Date	Jul-8-2016		Jul-22-2016		Jul-22-2016	
Rating Type	CONTROL		CONTROL		CONTROL	
Rating Unit	%		%		%	
Days After First/Last Applic.	44	44	58	58	58	58

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Field bindweed		Common lambsquarters	
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	70.2	c-f	56.7	c-g
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	39.4	efg	43.3	e-h
4	Pyroxasulfone	85	WG	0.12	lb ai/a	77.7	b-e	80.0	a-d
5	Acetochlor	7	EC	0.4	lb ai/a	8.5	g	23.3	h
6	Acetochlor	7	EC	0.8	lb ai/a	78.6	b-e	48.3	d-h
7	Prometryn	4	L	0.75	lb ai/a	78.4	b-e	65.0	b-f
8	Prometryn	4	L	1.0	lb ai/a	93.9	a-d	73.3	a-e
9	Sulfentrazone	4	F	0.16	lb ai/a	90.7	a-d	53.3	c-h
10	Spartan Charge	3.5	F	0.1	lb ai/a	68.2	def	26.7	gh
11	Spartan Charge	3.5	F	0.12	lb ai/a	32.8	fg	40.0	fgh
12	Cloransulam-m	84	WG	0.03	lb ai/a	100.0	a	75.0	a-e
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	97.8	abc	91.0	ab
14	Clomazone	3	ME	0.25	lb ai/a	99.4	ab	83.3	abc
LSD P=.05						17.60		33.04	
Standard Deviation						14.78		19.69	
CV						23.38		32.07	

Pest Name	Redroot pigweed	Common purslane	Large crabgrass
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	58 58	58 58	58 58

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	96.1	a	99.3	a	100.0	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	93.3	a	66.0	a	98.9	ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	99.1	a	100.0	a	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	84.2	a	93.3	a	83.5	abc
6	Acetochlor	7	EC	0.8	lb ai/a	92.3	a	90.0	a	51.2	c
7	Prometryn	4	L	0.75	lb ai/a	89.8	a	96.7	a	61.5	bc
8	Prometryn	4	L	1.0	lb ai/a	94.8	a	96.7	a	73.6	abc
9	Sulfentrazone	4	F	0.16	lb ai/a	94.3	a	100.0	a	49.3	c
10	Spartan Charge	3.5	F	0.1	lb ai/a	96.7	a	97.7	a	57.9	c
11	Spartan Charge	3.5	F	0.12	lb ai/a	97.1	a	100.0	a	43.6	c
12	Cloransulam-m	84	WG	0.03	lb ai/a	93.3	a	100.0	a	77.6	abc
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	100.0	a	100.0	a	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	83.8	a	100.0	a	93.1	abc
LSD P=.05						7.86		27.04		31.28	
Standard Deviation						9.70		16.11		20.26	
CV						12.52		16.84		30.23	

Pest Name	Hairy galinsoga	Annual smartweed	Field bindweed
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	58 58	58 58	58 58

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a	43.3	a
	Fomesafen	2	L	0.25	lb ai/a						
3	Pyroxasulfone	85	WG	0.06	lb ai/a	100.0	a	70.8	a	33.3	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	98.3	a	63.3	a
5	Acetochlor	7	EC	0.4	lb ai/a	66.7	ab	100.0	a	56.7	a
6	Acetochlor	7	EC	0.8	lb ai/a	100.0	a	96.3	a	76.7	a
7	Prometryn	4	L	0.75	lb ai/a	96.7	a	95.6	a	76.7	a
8	Prometryn	4	L	1.0	lb ai/a	100.0	a	98.3	a	68.3	a
9	Sulfentrazone	4	F	0.16	lb ai/a	88.3	a	98.3	a	100.0	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	28.3	bc	76.6	a	76.7	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	25.0	c	75.0	a	100.0	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	100.0	a	100.0	a	100.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	100.0	a	99.8	a	90.0	a
14	Clomazone	3	ME	0.25	lb ai/a	98.3	a	100.0	a	95.0	a
LSD P=.05						40.28		40.61		52.07	
Standard Deviation						24.00		23.59		31.02	
CV						27.92		29.49		40.22	

Pest Name	Common lambsquarters	Ragweed	Large crabgrass
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	71 71	71 71	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	69.3	cd	96.0	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	55.3	d	89.3	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	78.2	bcd	96.7	a
5	Acetochlor	7	EC	0.4	lb ai/a	16.7	e	56.7	a
6	Acetochlor	7	EC	0.8	lb ai/a	54.0	d	86.7	a
7	Prometryn	4	L	0.75	lb ai/a	63.8	d	63.3	a
8	Prometryn	4	L	1.0	lb ai/a	94.9	abc	71.7	a
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0	a	88.3	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	99.4	a	89.3	a
11	Spartan Charge	3.5	F	0.12	lb ai/a	100.0	a	92.7	a
12	Cloransulam-m	84	WG	0.03	lb ai/a	66.8	cd	97.7	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	87.3	a-d	98.3	a
14	Clomazone	3	ME	0.25	lb ai/a	98.5	ab	46.7	a
LSD P=.05						14.25		35.85	
Standard Deviation						13.21		21.36	
CV						19.88		25.49	

Pest Name	Common purslane	Hairy galinsoga	Annual smartweed
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	71 71	71 71	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	99.8	ab	100.0	a
	Fomesafen	2	L	0.25	lb ai/a				
3	Pyroxasulfone	85	WG	0.06	lb ai/a	98.0	ab	98.7	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	100.0	a
5	Acetochlor	7	EC	0.4	lb ai/a	89.3	c	95.0	a
6	Acetochlor	7	EC	0.8	lb ai/a	97.1	b	96.7	a
7	Prometryn	4	L	0.75	lb ai/a	98.9	ab	90.0	a
8	Prometryn	4	L	1.0	lb ai/a	98.5	ab	99.3	a
9	Sulfentrazone	4	F	0.16	lb ai/a	100.0	a	73.3	a
10	Spartan Charge	3.5	F	0.1	lb ai/a	99.8	ab	33.3	b
11	Spartan Charge	3.5	F	0.12	lb ai/a	99.8	ab	20.0	b
12	Cloransulam-m	84	WG	0.03	lb ai/a	98.0	ab	100.0	a
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	100.0	a	100.0	a
14	Clomazone	3	ME	0.25	lb ai/a	99.8	ab	98.3	a
LSD P=.05						2.55		33.70	
Standard Deviation						5.48		20.08	
CV						6.44		23.34	

Pest Name			
Crop Name	Lima bean	Lima bean	Lima bean
Crop Variety	Kingston Baby	Kingston Baby	Kingston Baby
Rating Date	Sep-1-2016	Sep-1-2016	Sep-1-2016
Rating Type	YIELD	COUNT	YIELD
Rating Unit	kg/2m	#/2m	LB/Acre
Days After First/Last Applic.	99 99	99 99	99 99

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit					
1	Handweeded Check					0.833	bcd	16.3	a	2439.3 bcd
2	S-metolachlor	7.62	EC	0.96	lb ai/a	0.813	bcd	17.7	a	2380.7 bcd
	Fomesafen	2	L	0.25	lb ai/a					
3	Pyroxasulfone	85	WG	0.06	lb ai/a	0.820	bcd	14.7	a	2400.2 bcd
4	Pyroxasulfone	85	WG	0.12	lb ai/a	0.893	a-d	16.3	a	2614.9 a-d
5	Acetochlor	7	EC	0.4	lb ai/a	0.500	d	17.3	a	1463.6 d
6	Acetochlor	7	EC	0.8	lb ai/a	0.627	bcd	16.3	a	1834.3 bcd
7	Prometryn	4	L	0.75	lb ai/a	0.727	bcd	17.7	a	2127.0 bcd
8	Prometryn	4	L	1.0	lb ai/a	0.860	bcd	21.0	a	2517.3 bcd
9	Sulfentrazone	4	F	0.16	lb ai/a	0.507	d	16.3	a	1483.1 d
10	Spartan Charge	3.5	F	0.1	lb ai/a	0.570	cd	18.0	a	1668.5 cd
11	Spartan Charge	3.5	F	0.12	lb ai/a	0.627	bcd	18.0	a	1834.3 bcd
12	Cloransulam-m	84	WG	0.03	lb ai/a	1.020	abc	18.7	a	2985.7 abc
13	Anthem Maxx	4.3	SC	0.134	lb ai/a	1.333	a	17.3	a	3902.8 a
14	Clomazone	3	ME	0.25	lb ai/a	1.047	ab	20.7	a	3063.7 ab
LSD P=.05						0.4527		3.62		1325.17
Standard Deviation						0.2697		2.16		789.58
CV						33.79		12.25		33.79

Herbicides for Beet

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Red Beet 'Red Ace'	Plot Width	6 FT
Planting Date	May 11, 2016	Plot Length	20 FT
Between-Row Spacing	15 IN	Replications	3
In-Row Spacing	0.5 IN	Randomized Complete Block	
Field Preparations and Maintenance			
Plowed	April 13, 2016	Harrowed	May 9, 2016
Disced		Cultipacked	NA
Fertilized	May 9, 2016 13-13-13	Irrigated	weekly May 25-August 5, season total 4 IN
Soil Description			
Soil Type	Howard Gravel Loam	% Sand	44
pH	5.9	% Silt	41
% Organic Matter	2.7	% Clay	15
Harvest Information			
Harvest Date	August 17, 2016	% Average Moisture	
Harvest Width		% Standard Moisture	
Harvest Length	2 M		
Applications			
Timing		PRE	
Crop Size at Application		NA	
Date		May 12, 2016	
Time of Day		5:00 PM	
Method		CO ₂ Backpack	
Placement		Broadcast	
Spray Volume		34 GAL/A	
Spray Pressure		34 PSI	
Air Temperature		78°F	
Soil Temperature		64°F	
Soil Tilth		Friable	
Soil Surface Moisture		Dry	
Relative Humidity		Low	
Wind Speed		6 MPH	
Wind Direction		S	
Percent Cloud Cover		60	
<u>Weeds Present at application</u>			
PRE: None			
<u>Spray Equipment</u>			
Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom			
Nozzle Height: 18 IN	Carrier: Water	Speed: 2.5 MPH	
<u>Notes</u>			

Herbicides for Beet

Trial ID: Beet 2016

Plots: 6 by 20 feet

Location: Freeville, NY; N3

Investigator: Dr. Darcy Telenko

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Untreated Check							101	207	304
2	Handweeded Check							102	204	305
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	PRE	0.8629 ml/mx	103	214	307
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	PRE	1.315 ml/mx	104	203	312
5	Pyroxasulfone	85	WG	0.033	lb ai/a	PRE	.04856 g/mx	105	202	310
6	Pyroxasulfone	85	WG	0.066	lb ai/a	PRE	.09711 g/mx	106	205	308
7	Pyroxasulfone	85	WG	0.132	lb ai/a	PRE	0.1942 g/mx	107	206	313
8	Acetochlor	7	EC	0.25	lb ai/a	PRE	0.3727 ml/mx	108	209	301
9	Acetochlor	7	EC	0.50	lb ai/a	PRE	0.7455 ml/mx	109	211	306
10	Acetochlor	7	EC	0.75	lb ai/a	PRE	1.118 ml/mx	110	208	302
11	Ethofumesate	4	SC	1.0	lb ai/a	PRE	2.609 ml/mx	111	213	309
12	Clomazone	3	ME	0.3	lb ai/a	PRE	1.044 ml/mx	112	201	314
13	Clomazone	3	ME	0.6	lb ai/a	PRE	2.087 ml/mx	113	212	311
14	Pendimethalin	3.8	CS	0.75	lb ai/a	PRE	2.06 ml/mx	114	210	303

Pest Name							
Crop Name					Red beet	Red beet	Red beet
Crop Variety					Red Ace	Red Ace	Red Ace
Rating Date					Jun-1-2016	Jun-1-2016	Jun-1-2016
Rating Type					Chlorosis	Stand reduc.	Stunted
Rating Unit					%	%	%
Days After First/Last Applic.					20 20	20 20	20 20

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0 c	0.0 b	0.0 e
2	Handweeded Check					0.0 c	0.0 b	0.0 e
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	0.0 c	0.0 b	0.2 de
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	0.0 c	0.0 b	5.1 cde
5	Pyroxasulfone	85	WG	0.033	lb ai/a	0.0 c	0.8 b	1.1 de
6	Pyroxasulfone	85	WG	0.066	lb ai/a	0.0 c	1.2 b	4.4 cde
7	Pyroxasulfone	85	WG	0.132	lb ai/a	0.0 c	26.2 a	69.0 a
8	Acetochlor	7	EC	0.25	lb ai/a	0.0 c	11.0 a	14.4 bc
9	Acetochlor	7	EC	0.50	lb ai/a	0.0 c	17.8 a	71.9 a
10	Acetochlor	7	EC	0.75	lb ai/a	0.0 c	31.3 a	88.4 a
11	Ethofumesate	4	SC	1.0	lb ai/a	0.0 c	0.0 b	0.0 e
12	Clomazone	3	ME	0.3	lb ai/a	33.3 b	0.8 b	1.1 de
13	Clomazone	3	ME	0.6	lb ai/a	48.3 a	0.8 b	8.9 cd
14	Pendimethalin	3.8	CS	0.75	lb ai/a	0.0 c	0.8 b	34.8 b
LSD P=.05						6.55	5.02	9.47
Standard Deviation						3.90	0.34	9.20
CV						66.94	71.80	42.80

Pest Name					Overall Weed						
Crop Name					Red beet		Red beet		Red beet		
Crop Variety					Red Ace		Red Ace		Red Ace		
Rating Date					Jun-1-2016		Jun-20-2016		Jun-20-2016		
Rating Type					CONTROL		Stand reduc.		Necrosis		
Rating Unit					%		%		%		
Days After First/Last Applic.					20		39		39		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit						
1	Untreated Check					0.0	c	0.0	d	0.0	c
2	Handweeded Check					100.0	a	0.0	d	0.0	c
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	99.8	ab	0.0	d	0.0	c
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	99.9	ab	0.3	d	0.6	c
5	Pyroxasulfone	85	WG	0.033	lb ai/a	99.7	ab	0.0	d	0.4	c
6	Pyroxasulfone	85	WG	0.066	lb ai/a	99.1	b	0.0	d	0.0	c
7	Pyroxasulfone	85	WG	0.132	lb ai/a	99.8	ab	7.8	b	2.6	bc
8	Acetochlor	7	EC	0.25	lb ai/a	99.8	ab	0.4	d	0.4	c
9	Acetochlor	7	EC	0.50	lb ai/a	99.9	ab	0.8	cd	2.3	bc
10	Acetochlor	7	EC	0.75	lb ai/a	99.9	ab	4.8	bc	1.1	bc
11	Ethofumesate	4	SC	1.0	lb ai/a	100.0	a	0.0	d	0.8	bc
12	Clomazone	3	ME	0.3	lb ai/a	99.9	ab	0.8	cd	6.0	b
13	Clomazone	3	ME	0.6	lb ai/a	99.9	ab	1.6	bcd	43.8	a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	100.0	a	28.9	a	49.5	a
LSD P=.05						0.81		2.99		4.22	
Standard Deviation						3.08		0.31		0.35	
CV						3.77		100.57		77.74	

Pest Name						Field
Crop Name					Overall weed	bindweed
Crop Variety					Red beet	Red beet
Rating Date					Red Ace	Red Ace
Rating Type					Jun-20-2016	Jun-20-2016
Rating Unit					CONTROL	CONTROL
Days After First/Last Applic.					%	%
					39	39
					39	39

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit		
1	Untreated Check					0.0 h	0.0 g
2	Handweeded Check					100.0 a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	81.8 g	92.5 c-f
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	91.8 d-g	91.8 c-f
5	Pyroxasulfone	85	WG	0.033	lb ai/a	85.2 fg	82.4 f
6	Pyroxasulfone	85	WG	0.066	lb ai/a	89.2 efg	85.3 ef
7	Pyroxasulfone	85	WG	0.132	lb ai/a	93.9 b-f	86.6 def
8	Acetochlor	7	EC	0.25	lb ai/a	93.5 c-f	90.4 c-f
9	Acetochlor	7	EC	0.50	lb ai/a	96.1 b-e	94.2 cde
10	Acetochlor	7	EC	0.75	lb ai/a	98.5 abc	94.8 bcd
11	Ethofumesate	4	SC	1.0	lb ai/a	94.4 b-f	91.8 c-f
12	Clomazone	3	ME	0.3	lb ai/a	97.6 a-d	99.4 ab
13	Clomazone	3	ME	0.6	lb ai/a	99.9 a	100.0 a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	99.1 ab	97.1 bc
LSD P=.05						2.56	2.48
Standard Deviation						5.49	5.40
CV						7.62	7.62

Pest Name	Redroot pigweed	Common lambsquarters	Annual smartweed
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jun-20-2016	Jun-20-2016	Jun-20-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	39 39	39 39	39 39

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0	b	0.0 b
2	Handweeded Check					100.0	a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	100.0	a	89.0 c
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	88.3 c
5	Pyroxasulfone	85	WG	0.033	lb ai/a	100.0	a	90.0 bc
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0	a	91.7 abc
7	Pyroxasulfone	85	WG	0.132	lb ai/a	100.0	a	93.3 abc
8	Acetochlor	7	EC	0.25	lb ai/a	100.0	a	94.3 abc
9	Acetochlor	7	EC	0.50	lb ai/a	100.0	a	98.7 a
10	Acetochlor	7	EC	0.75	lb ai/a	100.0	a	98.3 ab
11	Ethofumesate	4	SC	1.0	lb ai/a	100.0	a	94.3 abc
12	Clomazone	3	ME	0.3	lb ai/a	100.0	a	91.7 abc
13	Clomazone	3	ME	0.6	lb ai/a	100.0	a	98.7 a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	100.0	a	99.3 a
LSD P=.05						.		8.45
Standard Deviation						0.00		5.03
CV						0.00		5.74
								4.97
								7.67
								9.57

Pest Name	Shepherd's	Overall weed	Common
Crop Name	purse	Red beet	lambsquarters
Crop Variety	Red beet	Red beet	Red beet
Rating Date	Red Ace	Red Ace	Red Ace
Rating Type	Jun-20-2016	Jul-8-2016	Jul-8-2016
Rating Unit	CONTROL	CONTROL	CONTROL
Days After First/Last Applic.	%	%	%
	39 39	57 57	57 57

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Shepherd's	Overall weed	Common
1	Untreated Check					0.0 b	0.0	0.0 d
2	Handweeded Check					100.0 a	100.0 a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	100.0 a	86.1 cd	86.1 bc
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	100.0 a	85.0 d	85.0 c
5	Pyroxasulfone	85	WG	0.033	lb ai/a	100.0 a	87.2 cd	87.2 bc
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0 a	90.2 bcd	90.2 bc
7	Pyroxasulfone	85	WG	0.132	lb ai/a	100.0 a	86.8 cd	86.8 bc
8	Acetochlor	7	EC	0.25	lb ai/a	100.0 a	93.6 bcd	95.7 abc
9	Acetochlor	7	EC	0.50	lb ai/a	100.0 a	98.5 ab	98.5 ab
10	Acetochlor	7	EC	0.75	lb ai/a	100.0 a	92.5 bcd	97.6 abc
11	Ethofumesate	4	SC	1.0	lb ai/a	100.0 a	91.8 bcd	95.5 abc
12	Clomazone	3	ME	0.3	lb ai/a	100.0 a	94.8 bcd	98.5 ab
13	Clomazone	3	ME	0.6	lb ai/a	100.0 a	97.6 abc	98.5 ab
14	Pendimethalin	3.8	CS	0.75	lb ai/a	100.0 a	93.6 bcd	95.7 abc
LSD P=.05						.	5.12	6.83
Standard Deviation						0.00	7.76	9.03
CV						0.00	10.36	12.65

Pest Name	Field bindweed	Annual smartweed	Hairy galinsoga
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	57 57	57 57	57 57

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Field	Annual	Hairy
1	Untreated Check					0.0 d	0.0 c	0.0 b
2	Handweeded Check					100.0 a	100.0 a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	98.3 abc	100.0 a	100.0 a
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	100.0 a	98.3 ab	100.0 a
5	Pyroxasulfone	85	WG	0.033	lb ai/a	95.6 abc	100.0 a	100.0 a
6	Pyroxasulfone	85	WG	0.066	lb ai/a	90.2 bc	100.0 a	100.0 a
7	Pyroxasulfone	85	WG	0.132	lb ai/a	86.8 c	93.1 b	100.0 a
8	Acetochlor	7	EC	0.25	lb ai/a	98.5 abc	100.0 a	100.0 a
9	Acetochlor	7	EC	0.50	lb ai/a	99.4 ab	100.0 a	100.0 a
10	Acetochlor	7	EC	0.75	lb ai/a	98.5 abc	100.0 a	100.0 a
11	Ethofumesate	4	SC	1.0	lb ai/a	91.8 bc	100.0 a	100.0 a
12	Clomazone	3	ME	0.3	lb ai/a	99.8 ab	98.9 ab	100.0 a
13	Clomazone	3	ME	0.6	lb ai/a	99.4 ab	100.0 a	100.0 a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	93.6 abc	98.3 ab	100.0 a
LSD P=.05						7.32	4.05	.
Standard Deviation						9.35	6.92	0.00
CV						12.42	8.54	0.00

Pest Name	Redroot pigweed	Overall weed	Common lambsquarters
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-8-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	57 57	71 71	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Redroot pigweed	Overall weed	Common lambsquarters
1	Untreated Check					0.0 c	0.0	0.0 e
2	Handweeded Check					100.0 a	100.0 a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	100.0 a	78.6 cd	78.3 c
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	100.0 a	86.8 bc	86.7 abc
5	Pyroxasulfone	85	WG	0.033	lb ai/a	100.0 a	63.9 d	63.3 d
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0 a	83.5 bc	82.7 bc
7	Pyroxasulfone	85	WG	0.132	lb ai/a	100.0 a	85.8 bc	89.0 abc
8	Acetochlor	7	EC	0.25	lb ai/a	100.0 a	82.5 bc	81.0 bc
9	Acetochlor	7	EC	0.50	lb ai/a	100.0 a	90.2 bc	89.3 abc
10	Acetochlor	7	EC	0.75	lb ai/a	100.0 a	92.2 b	92.0 ab
11	Ethofumesate	4	SC	1.0	lb ai/a	100.0 a	79.0 cd	78.3 c
12	Clomazone	3	ME	0.3	lb ai/a	100.0 a	86.7 bc	85.0 bc
13	Clomazone	3	ME	0.6	lb ai/a	99.7 b	91.8 b	93.3 ab
14	Pendimethalin	3.8	CS	0.75	lb ai/a	100.0 a	81.9 bc	81.7 bc
LSD P=.05						0.26	3.07	13.60
Standard Deviation						0.15	5.98	8.10
CV						0.17	8.76	10.30

Pest Name	Field bindweed	Annual smartweed	Hairy galinsoga
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	71 71	71 71	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Field	Annual	Hairy
1	Untreated Check					0.0 d	0.0 c	0.0 c
2	Handweeded Check					100.0 a	100.0 a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	78.3 c	100.0 a	100.0 a
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	95.0 a	100.0 a	100.0 a
5	Pyroxasulfone	85	WG	0.033	lb ai/a	81.7 bc	95.6 b	100.0 a
6	Pyroxasulfone	85	WG	0.066	lb ai/a	93.3 ab	100.0 a	100.0 a
7	Pyroxasulfone	85	WG	0.132	lb ai/a	90.7 abc	98.9 ab	100.0 a
8	Acetochlor	7	EC	0.25	lb ai/a	91.7 ab	100.0 a	100.0 a
9	Acetochlor	7	EC	0.50	lb ai/a	91.0 abc	100.0 a	100.0 a
10	Acetochlor	7	EC	0.75	lb ai/a	93.7 ab	98.6 ab	100.0 a
11	Ethofumesate	4	SC	1.0	lb ai/a	78.3 c	100.0 a	100.0 a
12	Clomazone	3	ME	0.3	lb ai/a	100.0 a	100.0 a	100.0 a
13	Clomazone	3	ME	0.6	lb ai/a	100.0 a	100.0 a	100.0 a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	81.7 bc	100.0 a	95.0 b
LSD P=.05						12.76	4.13	3.88
Standard Deviation						7.61	6.98	2.31
CV						9.06	8.54	2.50

Pest Name	Redroot pigweed	Crownvetch coronilla	Shepherd's purse
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	71 71	71 71	71 71

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0	c	0.0 c
2	Handweeded Check					100.0	a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	100.0	a	100.0 a
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0 a
5	Pyroxasulfone	85	WG	0.033	lb ai/a	100.0	a	100.0 a
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0	a	100.0 a
7	Pyroxasulfone	85	WG	0.132	lb ai/a	100.0	a	100.0 a
8	Acetochlor	7	EC	0.25	lb ai/a	100.0	a	100.0 a
9	Acetochlor	7	EC	0.50	lb ai/a	100.0	a	100.0 a
10	Acetochlor	7	EC	0.75	lb ai/a	100.0	a	100.0 a
11	Ethofumesate	4	SC	1.0	lb ai/a	100.0	a	100.0 a
12	Clomazone	3	ME	0.3	lb ai/a	100.0	a	99.3 b
13	Clomazone	3	ME	0.6	lb ai/a	98.3	a	100.0 a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	91.7	b	100.0 a
LSD P=.05						6.65		0.52
Standard Deviation						3.96		0.31
CV						4.30		0.33

Pest Name	Common lambsquarters	Redroot pigweed	Field bindweed
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	84 84	84 84	84 84

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit			
1	Untreated Check			0.0	f	0.0	c	0.0 e
2	Handweeded Check			100.0	a	100.0	a	100.0 a
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	68.3	de	99.3 ab 90.7 bcd
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	76.7	bcd	98.3 ab 95.5 abc
5	Pyroxasulfone	85	WG	0.033	lb ai/a	51.7	e	93.3 b 87.8 bcd
6	Pyroxasulfone	85	WG	0.066	lb ai/a	75.0	bcd	100.0 a 92.0 bcd
7	Pyroxasulfone	85	WG	0.132	lb ai/a	90.0	abc	100.0 a 78.1 d
8	Acetochlor	7	EC	0.25	lb ai/a	71.7	cd	97.7 ab 87.0 bcd
9	Acetochlor	7	EC	0.50	lb ai/a	86.7	a-d	100.0 a 90.4 bcd
10	Acetochlor	7	EC	0.75	lb ai/a	91.7	ab	100.0 a 95.5 abc
11	Ethofumesate	4	SC	1.0	lb ai/a	75.0	bcd	100.0 a 97.6 abc
12	Clomazone	3	ME	0.3	lb ai/a	81.0	a-d	100.0 a 98.5 ab
13	Clomazone	3	ME	0.6	lb ai/a	90.0	abc	96.0 ab 100.0 a
14	Pendimethalin	3.8	CS	0.75	lb ai/a	88.3	abc	96.7 ab 83.8 cd
LSD P=.05						19.06		6.21 7.21
Standard Deviation						11.35		3.70 9.28
CV						15.20		4.04 13.21

Pest Name		Large crabgrass		Red beet				
Crop Name		Red beet		Red beet				
Crop Variety		Red Ace		Red Ace				
Rating Date		Aug-4-2016		Aug-17-2016				
Rating Type		CONTROL		YIELD				
Rating Unit		%		kg/2m				
Days After First/Last Applic.		84		97				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0	c	2.847 ab
2	Handweeded Check					100.0	a	3.327 ab
3	S-Metolachlor	7.62	EC	0.63	lb ai/a	97.6	ab	2.640 ab
4	S-Metolachlor	7.62	EC	0.96	lb ai/a	91.8	b	3.273 ab
5	Pyroxasulfone	85	WG	0.033	lb ai/a	87.0	b	2.960 ab
6	Pyroxasulfone	85	WG	0.066	lb ai/a	96.7	ab	2.873 ab
7	Pyroxasulfone	85	WG	0.132	lb ai/a	92.2	b	3.200 ab
8	Acetochlor	7	EC	0.25	lb ai/a	97.6	ab	2.833 ab
9	Acetochlor	7	EC	0.50	lb ai/a	94.8	ab	2.993 ab
10	Acetochlor	7	EC	0.75	lb ai/a	97.6	ab	3.347 ab
11	Ethofumesate	4	SC	1.0	lb ai/a	98.9	ab	3.453 ab
12	Clomazone	3	ME	0.3	lb ai/a	100.0	a	3.533 a
13	Clomazone	3	ME	0.6	lb ai/a	100.0	a	3.453 ab
14	Pendimethalin	3.8	CS	0.75	lb ai/a	98.9	ab	2.377 b
LSD P=.05						7.69		1.123
Standard Deviation						9.59		0.669
CV						12.75		21.73

Herbicides for Beets – Ethofumasate Rates

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Red beet 'Red Ace'	Plot Width	6 FT
Planting Date	May 11, 2016	Plot Length	20 FT
Between-Row Spacing	15 IN	Replications	3
In-Row Spacing	0.5 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	May 9
Disced		Cultipacked	NA
Fertilized	May 19, 13-13-13	Irrigated	weekly May 25-August 5, season total 4"

Soil Description

Soil Type	Howard Gravel Loam	% Sand	44
pH	5.9	% Silt	41
% Organic Matter	2.7	% Clay	15

Harvest Information

Harvest Date	Aug 17, 2016	% Average Moisture	
Harvest Width		% Standard Moisture	
Harvest Length	2 M		

Applications

Timing	PRE	POST
Crop Size at Application	NA	2 leaf stage
Date	May 12, 2016	June 21, 2016
Time of Day	5:00 PM	2:00 pm
Method	CO ₂ Backpack	CO ₂ Backpack
Placement	Broadcast Soil	Broadcast
Spray Volume	34 GAL/A	34 GAL/A
Spray Pressure	34 PSI	34 PSI
Air Temperature	78°F	74°F
Soil Temperature	64°F	70°F
Soil Tilth	Friable	Friable
Soil Surface Moisture	Dry	Normal
Relative Humidity	Low	Low
Wind Speed	6 MPH	5 MPH
Wind Direction	S	WNW
Percent Cloud Cover	60	20

Weeds Present at application

PRE: None

2 leaf stage: lambsquarters

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Stand loss caused by planting depth and dry conditions, not treatment.

Herbicides for Beets – Ethofumasate Rates

Trial ID: Beets - Ethofumasate Rates 2016

Plots: 6 by 20 feet

Location: Freeville, NY; N3

Investigator: Dr. Darcy Telenko and Dr. Julie Kikkert

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Untreated							101	207	306
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	102	205	307
3	Dual Magnum Nortron (1x)	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	103	210	312
		4	SC	1.9	lb ai/a	PRE	4.957 ml/mx			
4	Dual Magnum Nortron (3/4x)	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	104	211	313
		4	SC	1.4	lb ai/a	PRE	3.653 ml/mx			
5	Dual Magnum Nortron (1/2x)	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	105	202	308
		4	SC	0.94	lb ai/a	PRE	2.453 ml/mx			
6	Dual Magnum Nortron	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	106	209	311
		4	SC	0.78	lb ai/a	PRE	2.035 ml/mx			
7	Dual Magnum Nortron	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	107	214	310
		4	SC	0.625	lb ai/a	PRE	1.631 ml/mx			
8	Dual Magnum Nortron	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	108	204	302
		4	SC	0.47	lb ai/a	PRE	1.226 ml/mx			
9	Dual Magnum Nortron Nortron	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	109	208	303
		4	SC	0.95	lb ai/a	PRE	2.479 ml/mx			
		4	SC	0.16	lb ai/a	POST	0.4175 ml/mx			
10	Dual Magnum Nortron Spin-Aid	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	110	201	314
		4	SC	0.95	lb ai/a	PRE	2.479 ml/mx			
		1.3	SC	0.24	lb ai/a	POST	1.927 ml/mx			
11	Dual Magnum Nortron UpBeet COC	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	111	203	309
		4	SC	0.95	lb ai/a	PRE	2.479 ml/mx			
		50	WG	0.0156	lb ai/a	POST	.03902 g/mx			
		100	SL	0.25	% v/v	POST	0.8871 ml/mx			
12	Dual Magnum Nortron Stinger	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	112	206	305
		4	SC	0.95	lb ai/a	PRE	2.479 ml/mx			
		3	SC	0.1875	lb ai/a	POST	0.6523 ml/mx			
13	Dual Magnum Nortron Nortron Spin-Aid	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	113	212	301
		4	SC	0.95	lb ai/a	PRE	2.479 ml/mx			
		4	SC	0.164	lb ai/a	POST	0.4279 ml/mx			
		1.3	SC	0.24	lb ai/a	POST	1.927 ml/mx			
14	Dual Magnum Nortron Nortron Spin-Aid UpBeet Stinger	7.64	EC	0.64	lb ai/a	PRE	0.8743 ml/mx	114	213	304
		4	SC	0.95	lb ai/a	PRE	2.479 ml/mx			
		4	SC	0.164	lb ai/a	POST	0.4279 ml/mx			
		1.3	SC	0.24	lb ai/a	POST	1.927 ml/mx			
		50	WG	0.0156	lb ai/a	POST	.03902 g/mx			
		3	SC	0.188	lb ai/a	POST	0.654 ml/mx			

Pest Name									
Crop Name							Red beet	Red beet	Red beet
Crop Variety							Red Ace	Red Ace	Red Ace
Rating Date							Jun-1-2016	Jun-1-2016	Jun-1-2016
Rating Type							CHLOROSIS	STUNTING	STD REDUC.
Rating Unit							%	%	%
Days After First/Last Applic.							20 20	20 20	20 20

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Appl Code			
1	Untreated						0.0 a	0.0 a	1.3 a
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	0.8 a	1.3 a
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	3.0 a	2.8 a
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE			
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	6.0 a	2.8 a
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE			
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	3.0 a	3.6 a
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE			
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	3.0 a	1.0 a
	Nortron	4	SC	0.78	lb ai/a	PRE			
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	0.4 a	2.8 a
	Nortron	4	SC	0.625	lb ai/a	PRE			
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	1.9 a	2.3 a
	Nortron	4	SC	0.47	lb ai/a	PRE			
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	0.7 a	0.8 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Nortron	4	SC	0.16	lb ai/a	POST			
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	0.8 a	2.6 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST			
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	1.5 a	4.7 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	UpBeet	50	WG	0.0156	lb ai/a	POST			
	COC	100	SL	0.25	% v/v	POST			
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	0.0 a	1.5 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Stinger	3	SC	0.1875	lb ai/a	POST			
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	1.8 a	3.8 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Nortron	4	SC	0.164	lb ai/a	POST			
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST			
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 a	2.4 a	4.0 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Nortron	4	SC	0.164	lb ai/a	POST			
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST			
	UpBeet	50	WG	0.0156	lb ai/a	POST			
	Stinger	3	SC	0.188	lb ai/a	POST			

LSD P=.05	.	5.48	4.06
Standard Deviation	0.00	0.41	0.32
CV	0.0	105.25	61.07

Pest Name	Overall weed	Overall weed
Crop Name	Red beet	Red beet
Crop Variety	Red Ace	Red Ace
Rating Date	Jun-1-2016	Jun-20-2016
Rating Type	CONTROL	DAMAGE
Rating Unit	%	%
Days After First/Last Applic.	20 20	39 39

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Appl Code						
1	Untreated						0.0	c	0.0	a	0.0	e
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.3	b	0.0	a	91.7	d
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	99.0	a
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE						
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	98.0	abc
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE						
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	97.3	abc
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE						
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	95.7	bc
	Nortron	4	SC	0.78	lb ai/a	PRE						
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	96.7	abc
	Nortron	4	SC	0.625	lb ai/a	PRE						
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	96.3	abc
	Nortron	4	SC	0.47	lb ai/a	PRE						
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	97.3	abc
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.16	lb ai/a	POST						
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	97.7	abc
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	98.7	ab
	Nortron	4	SC	0.95	lb ai/a	PRE						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	COC	100	SL	0.25	% v/v	POST						
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	96.3	abc
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Stinger	3	SC	0.1875	lb ai/a	POST						
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	95.3	c
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	0.0	a	95.3	c
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	Stinger	3	SC	0.188	lb ai/a	POST						

LSD P=.05	0.26	.	3.18
Standard Deviation	0.15	0.00	1.89
CV	0.17	0.0	2.11

Pest Name	Overall weed				Field bindweed	
Crop Name	Red beet		Red beet		Red beet	
Crop Variety	Red Ace		Red Ace		Red Ace	
Rating Date	Jul-8-2016		Jul-8-2016		Jul-8-2016	
Rating Type	Dead plant		CONTROL		CONTROL	
Rating Unit	%		%		%	
Days After First/Last Applic.	57	17	57	17	57	17

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	Overall weed		Field bindweed	
1	Untreated						0.0 b	0.0 d	0.0 d	
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	75.0 c	88.4 c	
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	1.2 b	99.0 a	97.6 abc	
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE				
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	98.0 a	96.0 abc	
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE				
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	96.5 a	100.0 a	
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE				
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	95.0 a	98.9 ab	
	Nortron	4	SC	0.78	lb ai/a	PRE				
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	98.0 a	99.8 ab	
	Nortron	4	SC	0.625	lb ai/a	PRE				
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	87.5 b	94.4 bc	
	Nortron	4	SC	0.47	lb ai/a	PRE				
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	96.0 a	99.7 ab	
	Nortron	4	SC	0.95	lb ai/a	PRE				
	Nortron	4	SC	0.16	lb ai/a	POST				
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	14.3 a	94.0 ab	99.8 ab	
	Nortron	4	SC	0.95	lb ai/a	PRE				
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST				
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	1.2 b	96.5 a	97.8 abc	
	Nortron	4	SC	0.95	lb ai/a	PRE				
	UpBeet	50	WG	0.0156	lb ai/a	POST				
	COC	100	SL	0.25	% v/v	POST				
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	96.5 a	98.5 abc	
	Nortron	4	SC	0.95	lb ai/a	PRE				
	Stinger	3	SC	0.1875	lb ai/a	POST				
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	96.0 a	98.2 abc	
	Nortron	4	SC	0.95	lb ai/a	PRE				
	Nortron	4	SC	0.164	lb ai/a	POST				
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST				
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	0.0 b	98.0 a	99.1 ab	
	Nortron	4	SC	0.95	lb ai/a	PRE				
	Nortron	4	SC	0.164	lb ai/a	POST				
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST				
	UpBeet	50	WG	0.0156	lb ai/a	POST				
	Stinger	3	SC	0.188	lb ai/a	POST				

LSD P=.05	4.76	6.99	5.19
Standard Deviation	0.30	3.23	7.85
CV	220.62	3.69	10.24

Pest Name	Annual smartweed	Common lambsquarters	Overall weed
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-8-2016	Jul-8-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	57 17	57 17	71 31

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Appl Code			
1	Untreated						0.0 c	0.0 b	0.0 e
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	88.4 b	97.6 a	80.0 d
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0 a	100.0 a	94.0 a-d
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE			
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0 a	100.0 a	91.5 a-d
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE			
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.4 a	100.0 a	90.0 a-d
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE			
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0 a	100.0 a	92.5 a-d
	Nortron	4	SC	0.78	lb ai/a	PRE			
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.8 a	100.0 a	81.5 cd
	Nortron	4	SC	0.625	lb ai/a	PRE			
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	89.8 b	98.3 a	82.5 bcd
	Nortron	4	SC	0.47	lb ai/a	PRE			
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.4 a	99.4 a	95.0 abc
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Nortron	4	SC	0.16	lb ai/a	POST			
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	96.7 b	100.0 a	95.5 abc
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST			
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.8 a	100.0 a	96.5 abc
	Nortron	4	SC	0.95	lb ai/a	PRE			
	UpBeet	50	WG	0.0156	lb ai/a	POST			
	COC	100	SL	0.25	% v/v	POST			
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.4 a	100.0 a	98.0 a
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Stinger	3	SC	0.1875	lb ai/a	POST			
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0 a	100.0 a	96.5 abc
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Nortron	4	SC	0.164	lb ai/a	POST			
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST			
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0 a	100.0 a	97.5 ab
	Nortron	4	SC	0.95	lb ai/a	PRE			
	Nortron	4	SC	0.164	lb ai/a	POST			
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST			
	UpBeet	50	WG	0.0156	lb ai/a	POST			
	Stinger	3	SC	0.188	lb ai/a	POST			

LSD P=.05	5.72	2.73	15.49
Standard Deviation	8.25	5.66	7.17
CV	10.47	6.90	8.43

Pest Name	Field bindweed	Annual smartweed	Common lambsquarters
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	71 31	71 31	71 31

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code						
1	Untreated						0.0	c	0.0	d	0.0	c
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	92.0	b	92.0	c	98.3	ab
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	99.8	ab	100.0	a
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE						
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	99.8	ab	100.0	a
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE						
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.4	a	100.0	a	100.0	a
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE						
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	99.4	ab	100.0	a
	Nortron	4	SC	0.78	lb ai/a	PRE						
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	98.5	ab	99.4	ab	99.4	a
	Nortron	4	SC	0.625	lb ai/a	PRE						
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	97.6	ab	94.8	bc	92.0	b
	Nortron	4	SC	0.47	lb ai/a	PRE						
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.4	a	99.4	ab	99.4	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.16	lb ai/a	POST						
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	95.2	bc	99.2	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.8	a	100.0	a	99.4	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	COC	100	SL	0.25	% v/v	POST						
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	100.0	a	100.0	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Stinger	3	SC	0.1875	lb ai/a	POST						
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.7	a	99.4	ab	99.7	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	99.8	ab	100.0	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	Stinger	3	SC	0.188	lb ai/a	POST						

LSD P=.05	3.27	3.63	4.08
Standard Deviation	6.21	6.55	6.94
CV	7.74	8.31	8.64

Pest Name	Redroot pigweed	Common lambsquarters	Redroot pigweed
Crop Name	Red beet	Red beet	Red beet
Crop Variety	Red Ace	Red Ace	Red Ace
Rating Date	Jul-22-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit			
Days After First/Last Applic.	71 31	84 44	84 44

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Appl Code						
1	Untreated						0.0	c	0.0	c	0.0	c
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	89.3	b	100.0	a
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	99.3	a	99.3	ab
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE						
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	96.7	a	98.3	ab
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE						
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	96.0	a	99.3	ab
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE						
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	97.7	a	100.0	a
	Nortron	4	SC	0.78	lb ai/a	PRE						
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	97.7	a	97.7	b
	Nortron	4	SC	0.625	lb ai/a	PRE						
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	93.7	ab	100.0	a
	Nortron	4	SC	0.47	lb ai/a	PRE						
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	97.7	a	100.0	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.16	lb ai/a	POST						
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	97.7	b	100.0	a	100.0	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	99.3	ab	98.3	a	100.0	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	COC	100	SL	0.25	% v/v	POST						
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	100.0	a	100.0	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Stinger	3	SC	0.1875	lb ai/a	POST						
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	98.3	a	99.3	ab
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	100.0	a	100.0	a	99.3	ab
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	Stinger	3	SC	0.188	lb ai/a	POST						

LSD P=.05	1.85	6.38	2.07
Standard Deviation	1.10	3.80	1.23
CV	1.19	4.21	1.33

Pest Name	Annual smartweed		Field bindweed		Red beet	
Crop Name	Red beet		Red beet		Red beet	
Crop Variety	Red Ace		Red Ace		Red Ace	
Rating Date	Aug-4-2016		Aug-4-2016		Aug-17-2016	
Rating Type	CONTROL		CONTROL		YIELD	
Rating Unit					kg/2M	
Days After First/Last Applic.	84	44	84	44	97	57

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Appl Code						
1	Untreated						0.0	d	0.0	c	2.127	a
2	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	80.0	c	78.3	b	2.353	a
3	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	96.7	a	93.3	a	2.867	a
	Nortron (1x)	4	SC	1.9	lb ai/a	PRE						
4	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	95.0	a	91.7	ab	2.933	a
	Nortron (3/4x)	4	SC	1.4	lb ai/a	PRE						
5	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	89.3	abc	93.3	a	3.013	a
	Nortron (1/2x)	4	SC	0.94	lb ai/a	PRE						
6	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	88.3	abc	88.3	ab	3.027	a
	Nortron	4	SC	0.78	lb ai/a	PRE						
7	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	91.0	ab	86.7	ab	2.813	a
	Nortron	4	SC	0.625	lb ai/a	PRE						
8	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	81.7	bc	90.0	ab	3.033	a
	Nortron	4	SC	0.47	lb ai/a	PRE						
9	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	90.0	abc	92.7	a	2.747	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.16	lb ai/a	POST						
10	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	88.3	abc	91.7	ab	3.213	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
11	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	91.7	ab	96.7	a	3.073	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	COC	100	SL	0.25	% v/v	POST						
12	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	96.7	a	100.0	a	3.227	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Stinger	3	SC	0.1875	lb ai/a	POST						
13	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	91.7	ab	96.7	a	2.933	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
14	Dual Magnum	7.64	EC	0.64	lb ai/a	PRE	93.3	a	94.3	a	3.113	a
	Nortron	4	SC	0.95	lb ai/a	PRE						
	Nortron	4	SC	0.164	lb ai/a	POST						
	Spin-Aid	1.3	SC	0.24	lb ai/a	POST						
	UpBeet	50	WG	0.0156	lb ai/a	POST						
	Stinger	3	SC	0.188	lb ai/a	POST						

LSD P=,05	10.05	13.93	0.7350
Standard Deviation	5.99	8.30	0.4380
CV	7.14	9.73	15.15

Herbicides for Cabbage

Field: N2

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Head cabbage 'Padoc'	Plot Width	6 FT
Planting Date	June 7, 2016	Plot Length	20 FT
Between-Row Spacing	30 IN	Replications	3
In-Row Spacing	18 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	June 6
Disced		Cultipacked	NA
Fertilized	May 27, 13-13-13	Irrigated	weekly June 16-August 5, season total 4 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	44.9
pH	6.6	% Silt	40.1
% Organic Matter	2.6	% Clay	14.4

Harvest Information

Harvest Date	Aug 9 and 15, 2016
Harvest Width	6 FT
Harvest Length	20 FT

Applications

Timing	PREPLIN	POSTTR	POSTA	POSTB
Crop Size at Application				
Date	June 7, 2016	June 17, 2016	July 8, 2016	July 15, 2016
Time of Day	10:00 AM	12:00 PM	12:00 PM	9:30 AM
Method	CO ₂ Backpack	CO ₂ Backpack	CO ₂ Backpack	CO ₂ Backpack
Placement	Broadcast Soil	Broadcast Soil	Broadcast Soil	Broadcast Soil
Spray Volume	34 GAL/A	34 GAL/A	34 GAL/A	34 GAL/A
Spray Pressure	34 PSI	34 PSI	34 PSI	34 PSI
Air Temperature	66°F	77°F	81°F	76°F
Soil Temperature	62°F	70°F	72°F	71°F
Soil Tilth	Friable	Friable	Friable	Friable
Soil Surface Moisture	Normal	Dry	Dry	Normal
Relative Humidity	Low	Low	Low	Low
Wind Speed	6 MPH	6 MPH	3 MPH	1 MPH
Wind Direction	W	SE	SW	WSW
Percent Cloud Cover	70	5	0	0

Weeds Present at application

PRE: None

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Herbicides for Cabbage

Trial ID: Cabbage 2016

Plots: 6 by 20 feet

Location: Freeville, NY; N2

Investigator: Dr. Darcy Telenko and Christine Hoepting

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Untreated Check							101	202	313
2	Handweeded Check							102	215	308
3	Treflan	4	EC	1	lb ai/a	PRPLIN	2.609 ml/mx	103	209	315
4	Devrinol 50	50	DF	1	lb ai/a	PRPLIN	2.501 g/mx	104	205	316
5	Devrinol DF-XT	50	DF	1	lb ai/a	PRPLIN	2.501 g/mx	105	208	303
6	S-metolachlor	7.62	EC	0.96	lb ai/a	POSTTR	1.315 ml/mx	106	210	304
7	S-metolachlor Oxyfluorfen	7.62 4	EC L	0.96 0.25	lb ai/a lb ai/a	POSTTR POSTTR	1.315 ml/mx 0.6523 ml/mx	107	213	312
8	Devrinol DF-XT Oxyfluorfen	50 4	DF L	1 0.25	lb ai/a lb ai/a	PRPLIN POSTTR	2.501 g/mx 0.6523 ml/mx	108	207	314
9	Treflan Oxyfluorfen	4 4	EC L	1 0.25	lb ai/a lb ai/a	PRPLIN POSTTR	2.609 ml/mx 0.6523 ml/mx	109	216	307
10	Devrinol DF-XT Sulfentrazone	50 4	DF F	1 0.188	lb ai/a lb ai/a	PRPLIN POSTTR	2.501 g/mx 0.4905 ml/mx	110	203	301
11	Devrinol DF-XT Sulfentrazone Oxyfluorfen	50 4 4	DF F L	1 0.094 0.125	lb ai/a lb ai/a lb ai/a	PRPLIN POSTTR POSTTR	2.501 g/mx 0.2453 ml/mx 0.3261 ml/mx	111	201	306
12	Acetochlor	7	EC	0.5	lb ai/a	POSTTR	0.7455 ml/mx	112	206	310
13	Acetochlor Oxyfluorfen	7 4	EC L	0.5 0.25	lb ai/a lb ai/a	POSTTR POSTTR	0.7455 ml/mx 0.6523 ml/mx	113	214	311
14	Flumioxazin	51	WG	0.032	lb ai/a	POSTTR	.07848 g/mx	114	212	305
15	Flumioxazin	51	WG	0.064	lb ai/a	POSTTR	0.157 g/mx	115	204	302
16	Flumioxazin Flumioxazin	51 51	WG WG	0.064 0.032	lb ai/a lb ai/a	POSTA POSTB	0.157 g/mx .07848 g/mx	116	211	309

Pest Name		Overall	weed	Common
Crop Name	Head	Head	Head	Head
Crop Variety	cabbage	cabbage	cabbage	cabbage
Rating Date	Padoc	Padoc	Padoc	Padoc
Rating Type	Jun-22-2016	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Unit	INJURY	CONTROL	CONTROL	CONTROL
Days After First/Last Applic.	%	%	%	%
	15 5	31 21	31 21	31 21

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	d	0.0	e d
2	Handweeded Check					5.7	abc	100.0	a a
3	Treflan	4	EC	1	lb ai/a	5.0	abc	98.9	abc a
4	Devrinol 50	50	DF	1	lb ai/a	3.3	bcd	96.4	bcd b
5	Devrinol DF-XT	50	DF	1	lb ai/a	6.0	abc	99.4	abc a
6	S-metolachlor	7.62	EC	0.96	lb ai/a	0.0	d	90.2	d c
7	S-metolachlor	7.62	EC	0.96	lb ai/a	8.3	a	99.8	ab a
	Oxyfluorfen	4	L	0.25	lb ai/a				
8	Devrinol DF-XT	50	DF	1	lb ai/a	5.0	abc	99.7	ab a
	Oxyfluorfen	4	L	0.25	lb ai/a				
9	Treflan	4	EC	1	lb ai/a	1.7	cd	100.0	a a
	Oxyfluorfen	4	L	0.25	lb ai/a				
10	Devrinol DF-XT	50	DF	1	lb ai/a	2.7	cd	100.0	a a
	Sulfentrazone	4	F	0.188	lb ai/a				
11	Devrinol DF-XT	50	DF	1	lb ai/a	6.0	abc	99.8	ab a
	Sulfentrazone	4	F	0.094	lb ai/a				
	Oxyfluorfen	4	L	0.125	lb ai/a				
12	Acetochlor	7	EC	0.5	lb ai/a	4.0	a-d	93.6	cd a
13	Acetochlor	7	EC	0.5	lb ai/a	8.0	ab	98.9	abc a
	Oxyfluorfen	4	L	0.25	lb ai/a				
14	Flumioxazin	51	WG	0.032	lb ai/a	0.0	d	97.1	a-d a
15	Flumioxazin	51	WG	0.064	lb ai/a	5.0	abc	99.7	ab a
16	Flumioxazin	51	WG	0.064	lb ai/a	3.7	a-d	.	.
	Flumioxazin	51	WG	0.032	lb ai/a				
LSD P=.05						4.88		3.36	0.27
Standard Deviation						2.93		6.32	1.77
CV						72.82		8.05	2.15

Pest Name	Common lambsquarters	Redroot pigweed	Hairy galinsoga
Crop Name	Head cabbage	Head cabbage	Head cabbage
Crop Variety	Padoc	Padoc	Padoc
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	31 21	31 21	31 21

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	e	0.0 b	0.0 c
2	Handweeded Check					100.0	a	100.0 a	100.0 a
3	Treflan	4	EC	1	lb ai/a	100.0	a	100.0 a	97.6 b
4	Devrinol 50	50	DF	1	lb ai/a	96.8	bcd	99.3 a	99.8 a
5	Devrinol DF-XT	50	DF	1	lb ai/a	99.8	ab	100.0 a	99.4 ab
6	S-metolachlor	7.62	EC	0.96	lb ai/a	91.0	d	99.3 a	100.0 a
7	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0 a	100.0 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
8	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0 a	99.8 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
9	Treflan	4	EC	1	lb ai/a	100.0	a	100.0 a	100.0 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
10	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0 a	100.0 a
	Sulfentrazone	4	F	0.188	lb ai/a				
11	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0 a	100.0 a
	Sulfentrazone	4	F	0.094	lb ai/a				
	Oxyfluorfen	4	L	0.125	lb ai/a				
12	Acetochlor	7	EC	0.5	lb ai/a	95.7	cd	100.0 a	100.0 a
13	Acetochlor	7	EC	0.5	lb ai/a	98.9	abc	100.0 a	100.0 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
14	Flumioxazin	51	WG	0.032	lb ai/a	97.1	bcd	100.0 a	100.0 a
15	Flumioxazin	51	WG	0.064	lb ai/a	99.8	ab	99.3 a	100.0 a
16	Flumioxazin	51	WG	0.064	lb ai/a
	Flumioxazin	51	WG	0.032	lb ai/a				
LSD P=.05						2.11		0.86	0.78
Standard Deviation						4.99		0.52	3.02
CV						6.24		0.55	3.65

Pest Name	Large crabgrass		Common lambsquarters	
Crop Name	Head cabbage		Head cabbage	
Crop Variety	Padoc		Padoc	
Rating Date	Jul-8-2016		Jul-22-2016	
Rating Type	CONTROL		CONTROL	
Rating Unit	%		%	
Days After First/Last Applic.	31	21	45	7

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0	c	0.0	g	0.0	f
2	Handweeded Check					100.0	a	100.0	a	100.0	a
3	Treflan	4	EC	1	lb ai/a	100.0	a	88.2	def	100.0	a
4	Devrinol 50	50	DF	1	lb ai/a	99.3	ab	87.2	def	90.2	cd
5	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	97.1	a-d	98.5	abc
6	S-metolachlor	7.62	EC	0.96	lb ai/a	99.3	ab	79.3	ef	81.8	de
7	S-metolachlor	7.62	EC	0.96	lb ai/a	99.3	ab	99.8	ab	100.0	a
	Oxyfluorfen	4	L	0.25	lb ai/a						
8	Devrinol DF-XT	50	DF	1	lb ai/a	99.0	ab	99.7	ab	99.8	ab
	Oxyfluorfen	4	L	0.25	lb ai/a						
9	Treflan	4	EC	1	lb ai/a	100.0	a	100.0	a	100.0	a
	Oxyfluorfen	4	L	0.25	lb ai/a						
10	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	99.4	abc	100.0	a
	Sulfentrazone	4	F	0.188	lb ai/a						
11	Devrinol DF-XT	50	DF	1	lb ai/a	99.3	ab	99.8	ab	100.0	a
	Sulfentrazone	4	F	0.094	lb ai/a						
	Oxyfluorfen	4	L	0.125	lb ai/a						
12	Acetochlor	7	EC	0.5	lb ai/a	99.3	ab	89.8	cde	89.8	cd
13	Acetochlor	7	EC	0.5	lb ai/a	100.0	a	99.7	ab	99.7	ab
	Oxyfluorfen	4	L	0.25	lb ai/a						
14	Flumioxazin	51	WG	0.032	lb ai/a	99.3	ab	92.0	b-e	94.4	bcd
15	Flumioxazin	51	WG	0.064	lb ai/a	98.3	b	95.0	a-e	99.4	ab
16	Flumioxazin	51	WG	0.064	lb ai/a	.		70.2	f	70.2	e
	Flumioxazin	51	WG	0.032	lb ai/a						
LSD P=.05						1.54		6.16		5.27	
Standard Deviation						0.92		8.62		7.96	
CV						0.99		11.74		10.4	

Pest Name	Hairy galinsoga	Large crabgrass	Common purslane
Crop Name	Head cabbage	Head cabbage	Head cabbage
Crop Variety	Padoc	Padoc	Padoc
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit			
Days After First/Last Applic.	45 7	45 7	45 7

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check			0.0	c	0.0	e	0.0	d
2	Handweeded Check			100.0	a	100.0	a	100.0	a
3	Treflan	4	EC	1	lb ai/a	72.7	b	100.0	a
4	Devrinol 50	50	DF	1	lb ai/a	98.3	a	99.8	ab
5	Devrinol DF-XT	50	DF	1	lb ai/a	98.7	a	100.0	a
6	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	99.8	ab
7	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	99.8	ab
	Oxyfluorfen	4	L	0.25	lb ai/a				
8	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	99.7	ab
	Oxyfluorfen	4	L	0.25	lb ai/a				
9	Treflan	4	EC	1	lb ai/a	100.0	a	100.0	a
	Oxyfluorfen	4	L	0.25	lb ai/a				
10	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a
	Sulfentrazone	4	F	0.188	lb ai/a			98.3	a b
11	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	99.8	ab
	Sulfentrazone	4	F	0.094	lb ai/a				
	Oxyfluorfen	4	L	0.125	lb ai/a				
12	Acetochlor	7	EC	0.5	lb ai/a	99.3	a	100.0	a
	Oxyfluorfen	4	L	0.25	lb ai/a			97.7	a b
13	Acetochlor	7	EC	0.5	lb ai/a	100.0	a	100.0	a
	Oxyfluorfen	4	L	0.25	lb ai/a			99.3	a
14	Flumioxazin	51	WG	0.032	lb ai/a	100.0	a	98.0	bc
15	Flumioxazin	51	WG	0.064	lb ai/a	100.0	a	96.1	cd
16	Flumioxazin	51	WG	0.064	lb ai/a	100.0	a	93.6	d
	Flumioxazin	51	WG	0.032	lb ai/a			100.0	a
LSD P=.05						18.99		0.98	3.42
Standard Deviation						11.39		3.40	2.05
CV						12.4		4.18	2.22

Pest Name	Redroot pigweed	Shepherd's purse	Common lambsquarters
Crop Name	Head cabbage	Head cabbage	Head cabbage
Crop Variety	Padoc	Padoc	Padoc
Rating Date	Jul-22-2016	Jul-22-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	45 7	45 7	58 20

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0	c	0.0	c	0.0	f
2	Handweeded Check					100.0	a	100.0	a	100.0	a
3	Treflan	4	EC	1	lb ai/a	100.0	a	98.7	ab	99.8	ab
4	Devrinol 50	50	DF	1	lb ai/a	100.0	a	98.3	b	84.0	bc
5	Devrinol DF-XT	50	DF	1	lb ai/a	99.8	ab	98.0	b	98.0	abc
6	S-metolachlor	7.62	EC	0.96	lb ai/a	97.6	b	97.7	b	74.5	d
7	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a	99.8	ab
	Oxyfluorfen	4	L	0.25	lb ai/a						
8	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a	99.1	abc
	Oxyfluorfen	4	L	0.25	lb ai/a						
9	Treflan	4	EC	1	lb ai/a	100.0	a	100.0	a	100.0	a
	Oxyfluorfen	4	L	0.25	lb ai/a						
10	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a	100.0	a
	Sulfentrazone	4	F	0.188	lb ai/a						
11	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a	100.0	a
	Sulfentrazone	4	F	0.094	lb ai/a						
	Oxyfluorfen	4	L	0.125	lb ai/a						
12	Acetochlor	7	EC	0.5	lb ai/a	99.1	ab	97.7	b	84.6	cd
13	Acetochlor	7	EC	0.5	lb ai/a	100.0	a	100.0	a	97.6	abc
	Oxyfluorfen	4	L	0.25	lb ai/a						
14	Flumioxazin	51	WG	0.032	lb ai/a	99.8	ab	100.0	a	87.2	bcd
15	Flumioxazin	51	WG	0.064	lb ai/a	99.8	ab	100.0	a	99.4	abc
16	Flumioxazin	51	WG	0.064	lb ai/a	99.4	ab	100.0	a	39.4	e
	Flumioxazin	51	WG	0.032	lb ai/a						
LSD P=.05						2.01		1.56		11.98	
Standard Deviation						4.89		0.94		12.14	
CV						5.91		1.01		16.62	

Pest Name	Common purslane	Large crabgrass	Hairy galinsoga
Crop Name	Head cabbage	Head cabbage	Head cabbage
Crop Variety	Padoc	Padoc	Padoc
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	58 20	58 20	58 20

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0	c	0.0 d
2	Handweeded Check					100.0	a	100.0 a
3	Treflan	4	EC	1	lb ai/a	98.3	a	60.0 c
4	Devrinol 50	50	DF	1	lb ai/a	94.3	a	98.3 ab
5	Devrinol DF-XT	50	DF	1	lb ai/a	98.3	a	97.0 ab
6	S-metolachlor	7.62	EC	0.96	lb ai/a	84.3	ab	98.3 a
7	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	99.3 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
8	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	97.7 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
9	Treflan	4	EC	1	lb ai/a	100.0	a	100.0 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
10	Devrinol DF-XT	50	DF	1	lb ai/a	99.3	a	99.3 a
	Sulfentrazone	4	F	0.188	lb ai/a			
11	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	99.3 a
	Sulfentrazone	4	F	0.094	lb ai/a			
	Oxyfluorfen	4	L	0.125	lb ai/a			
12	Acetochlor	7	EC	0.5	lb ai/a	96.0	a	99.3 a
13	Acetochlor	7	EC	0.5	lb ai/a	99.3	a	98.3 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
14	Flumioxazin	51	WG	0.032	lb ai/a	98.7	a	96.0 a
15	Flumioxazin	51	WG	0.064	lb ai/a	100.0	a	96.0 a
16	Flumioxazin	51	WG	0.064	lb ai/a	66.0	b	61.7 b
	Flumioxazin	51	WG	0.032	lb ai/a			66.0 bc
LSD P=.05						24.17		22.58
Standard Deviation						14.49		13.54
CV						16.16		15.00

Pest Name	Shepherd's purse	Redroot pigweed	
Crop Name	Head cabbage	Head cabbage	Head cabbage
Crop Variety	Padoc	Padoc	Padoc
Rating Date	Aug-4-2016	Aug-4-2016	Aug-9-2016
Rating Type	CONTROL	CONTROL	YIELD
Rating Unit	%	%	kg/plot
Days After First/Last Applic.	58 20	58 20	63 25

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	c	0.0	c 6.47 a
2	Handweeded Check					100.0	a	100.0	a 6.88 a
3	Treflan	4	EC	1	lb ai/a	99.0	a	100.0	a 7.96 a
4	Devrinol 50	50	DF	1	lb ai/a	97.7	a	100.0	a 5.05 a
5	Devrinol DF-XT	50	DF	1	lb ai/a	98.7	a	99.3	a 11.38 a
6	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a 9.70 a
7	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0	a 1.42 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
8	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a 7.40 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
9	Treflan	4	EC	1	lb ai/a	100.0	a	100.0	a 10.22 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
10	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a 12.94 a
	Sulfentrazone	4	F	0.188	lb ai/a				
11	Devrinol DF-XT	50	DF	1	lb ai/a	100.0	a	100.0	a 6.24 a
	Sulfentrazone	4	F	0.094	lb ai/a				
	Oxyfluorfen	4	L	0.125	lb ai/a				
12	Acetochlor	7	EC	0.5	lb ai/a	100.0	a	100.0	a 7.29 a
13	Acetochlor	7	EC	0.5	lb ai/a	100.0	a	100.0	a 6.73 a
	Oxyfluorfen	4	L	0.25	lb ai/a				
14	Flumioxazin	51	WG	0.032	lb ai/a	100.0	a	99.3	a 10.03 a
15	Flumioxazin	51	WG	0.064	lb ai/a	100.0	a	99.3	a 13.43 a
16	Flumioxazin	51	WG	0.064	lb ai/a	66.7	b	66.7	b 10.00 a
	Flumioxazin	51	WG	0.032	lb ai/a				
LSD P=.05						24.10		24.08	10.31
Standard Deviation						14.45		14.44	6.18
CV						15.82		15.78	74.34

Pest Name								
Crop Name					Head cabbage		Head cabbage	Head cabbage
Crop Variety					Padoc		Padoc	Padoc
Rating Date					Aug-9-2016		Aug-15-2016	Aug-15-2016
Rating Type					YIELD		YIELD	YIELD
Rating Unit					NUMBER		kg	NUMBER
Days After First/Last Applic.					63 25		69 31	69 31

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					6.3	a	19.72 a
2	Handweeded Check					6.0	a	23.59 a
3	Treflan	4	EC	1	lb ai/a	6.3	a	21.20 a
4	Devrinol 50	50	DF	1	lb ai/a	5.0	a	16.77 a
5	Devrinol DF-XT	50	DF	1	lb ai/a	8.0	a	21.96 a
6	S-metolachlor	7.62	EC	0.96	lb ai/a	8.3	a	17.83 a
7	S-metolachlor	7.62	EC	0.96	lb ai/a	1.3	a	24.45 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
8	Devrinol DF-XT	50	DF	1	lb ai/a	5.3	a	18.77 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
9	Treflan	4	EC	1	lb ai/a	9.7	a	24.92 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
10	Devrinol DF-XT	50	DF	1	lb ai/a	11.3	a	20.51 a
	Sulfentrazone	4	F	0.188	lb ai/a			
11	Devrinol DF-XT	50	DF	1	lb ai/a	6.7	a	26.22 a
	Sulfentrazone	4	F	0.094	lb ai/a			
	Oxyfluorfen	4	L	0.125	lb ai/a			
12	Acetochlor	7	EC	0.5	lb ai/a	7.3	a	23.26 a
13	Acetochlor	7	EC	0.5	lb ai/a	5.3	a	22.21 a
	Oxyfluorfen	4	L	0.25	lb ai/a			
14	Flumioxazin	51	WG	0.032	lb ai/a	5.7	a	22.75 a
15	Flumioxazin	51	WG	0.064	lb ai/a	11.0	a	21.69 a
16	Flumioxazin	51	WG	0.064	lb ai/a	9.3	a	19.02 a
	Flumioxazin	51	WG	0.032	lb ai/a			
LSD P=.05						8.27		8.71
Standard Deviation						4.96		5.22
CV						70.19		24.24
								7.28
								4.36
								19.57

Pest Name						
Crop Name					Head cabbage	Head cabbage
Crop Variety					Padoc	Padoc
Rating Date					Total	Total
Rating Type					YIELD	YIELD
Rating Unit					kg/plot	NUMBER
Days After First/Last Applic.						

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit		
1	Untreated Check					26.19 a	29.0 a
2	Handweeded Check					30.47 a	27.7 a
3	Treflan	4	EC	1	lb ai/a	29.16 a	30.3 a
4	Devrinol 50	50	DF	1	lb ai/a	21.82 a	29.7 a
5	Devrinol DF-XT	50	DF	1	lb ai/a	33.34 a	28.7 a
6	S-metolachlor	7.62	EC	0.96	lb ai/a	27.53 a	28.7 a
7	S-metolachlor	7.62	EC	0.96	lb ai/a	25.87 a	30.0 a
	Oxyfluorfen	4	L	0.25	lb ai/a		
8	Devrinol DF-XT	50	DF	1	lb ai/a	26.17 a	28.7 a
	Oxyfluorfen	4	L	0.25	lb ai/a		
9	Treflan	4	EC	1	lb ai/a	35.14 a	30.0 a
	Oxyfluorfen	4	L	0.25	lb ai/a		
10	Devrinol DF-XT	50	DF	1	lb ai/a	33.45 a	31.3 a
	Sulfentrazone	4	F	0.188	lb ai/a		
11	Devrinol DF-XT	50	DF	1	lb ai/a	32.46 a	30.0 a
	Sulfentrazone	4	F	0.094	lb ai/a		
	Oxyfluorfen	4	L	0.125	lb ai/a		
12	Acetochlor	7	EC	0.5	lb ai/a	30.55 a	31.3 a
13	Acetochlor	7	EC	0.5	lb ai/a	28.93 a	26.3 a
	Oxyfluorfen	4	L	0.25	lb ai/a		
14	Flumioxazin	51	WG	0.032	lb ai/a	32.79 a	28.3 a
15	Flumioxazin	51	WG	0.064	lb ai/a	35.12 a	29.3 a
16	Flumioxazin	51	WG	0.064	lb ai/a	29.02 a	30.3 a
	Flumioxazin	51	WG	0.032	lb ai/a		
LSD P=.05						10.12	4.16
Standard Deviation						6.07	2.49
CV						20.32	8.49

Herbicides for Carrot

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Carrot 'Moonraker'	Plot Width	6 FT
Planting Date	May 17, 2016	Plot Length	20 FT
Between-Row Spacing	15 IN	Replications	3
In-Row Spacing	0.75 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13, 2016	Harrowed	May 17, 2016
Disced		Cultipacked	NA
Fertilized	May 9, 2016 13-13-13	Irrigated	weekly May 26 -August 5, season total 4 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	47.2
pH	6.3	% Silt	41.4
% Organic Matter	2.9	% Clay	11.4

Harvest Information

Harvest Date	August 19, 2016
Harvest Width	
Harvest Length	2 M

Applications

Timing	PRE	POST
Crop Size at Application	NA	
Date	May 19, 2016	June 23, 2016
Time of Day	2:00 PM	2:30 PM
Method	CO ₂ Backpack	CO ₂ Backpack
Placement	Broadcast	Broadcast
Spray Volume	34 GAL/A	34 GAL/A
Spray Pressure	34 PSI	34 PSI
Air Temperature	63°F	77°F
Soil Temperature	61°F	79°F
Soil Tilth	Friable	Friable
Soil Surface Moisture	Normal	Normal
Relative Humidity	Low	Low
Wind Speed	7 MPH	3 MPH
Wind Direction	NW	WSW
Percent Cloud Cover	75	80

Weeds Present at application

PRE: None

POST: lambsquarters

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Herbicides for Carrot

Trial ID: Carrot 2016

Plots: 6 by 20 feet

Location: Freeville, NY; N3

Investigator: Dr. Darcy Telenko

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Untreated Check							101	209	314
2	Handweeded Check							102	205	313
3	Linuron	50	DF	0.5	lb ai/a	PRE	1.251 g/mx	103	213	301
4	S-metolachlor	7.62	EC	0.96	lb ai/a	PRE	1.315 ml/mx	104	212	311
5	Pyroxasulfone	85	WG	0.033	lb ai/a	PRE	.04856 g/mx	105	204	305
6	Pyroxasulfone	85	WG	0.066	lb ai/a	PRE	.09711 g/mx	106	207	302
7	Acetochlor	7	EC	0.33	lb ai/a	PRE	0.492 ml/mx	107	202	312
8	Acetochlor	7	EC	0.66	lb ai/a	PRE	0.984 ml/mx	108	210	306
9	Prometryn	4	L	1.0	lb ai/a	PRE	2.609 ml/mx	109	211	307
10	Prometryn	4	L	2.0	lb ai/a	PRE	5.218 ml/mx	110	203	310
11	Linuron	50	DF	0.25	lb ai/a	PRE	0.6254 g/mx	111	206	309
	Prometryn	4	L	2.0	lb ai/a	PST	5.218 ml/mx			
12	Linuron	50	DF	0.25	lb ai/a	PRE	0.6254 g/mx	112	214	308
	Prometryn	4	L	1.0	lb ai/a	PST	2.609 ml/mx			
	NIS	100	SL	0.25	% v/v	PST	0.8871 ml/mx			
13	Linuron	50	DF	0.25	lb ai/a	PRE	0.6254 g/mx	113	208	304
	Acifluofen	2	L	0.015	lb ai/a	PST	.07827 ml/mx			
	NIS	100	SL	0.25	% v/v	PST	0.8871 ml/mx			
14	Linuron	50	DF	0.25	lb ai/a	PRE	0.6254 g/mx	114	201	303
	Acifluofen	2	L	0.03	lb ai/a	PST	0.1565 ml/mx			
	NIS	100	SL	0.25	% v/v	PST	0.8871 ml/mx			

Pest Name	Common lambsquarters							
Crop Name	Garden carrot		Garden carrot		Garden carrot			
Crop Variety	Moonraker		Moonraker		Moonraker			
Rating Date	Jun-1-2016		Jun-1-2016		Jun-20-2016			
Rating Type	DAMAGE		CONTROL		DAMAGE			
Rating Unit	%		%		%			
Days After First/Last Applic.	13	13	13	13	32	32		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0 a	0.0 c	0.0 a
2	Handweeded Check					0.0 a	100.0 a	0.0 a
3	Linuron	50	DF	0.5	lb ai/a	0.0 a	100.0 a	0.0 a
4	S-metolachlor	7.62	EC	0.96	lb ai/a	0.0 a	98.3 b	0.8 a
5	Pyroxasulfone	85	WG	0.033	lb ai/a	0.0 a	100.0 a	3.0 a
6	Pyroxasulfone	85	WG	0.066	lb ai/a	0.0 a	100.0 a	1.5 a
7	Acetochlor	7	EC	0.33	lb ai/a	0.0 a	99.0 ab	0.8 a
8	Acetochlor	7	EC	0.66	lb ai/a	0.0 a	99.3 ab	3.8 a
9	Prometryn	4	L	1.0	lb ai/a	0.0 a	100.0 a	1.6 a
10	Prometryn	4	L	2.0	lb ai/a	0.0 a	100.0 a	3.8 a
11	Linuron	50	DF	0.25	lb ai/a	0.0 a	99.7 ab	3.0 a
	Prometryn	4	L	2.0	lb ai/a			
12	Linuron	50	DF	0.25	lb ai/a	0.0 a	100.0 a	1.1 a
	Prometryn	4	L	1.0	lb ai/a			
	NIS	100	SL	0.25	% v/v			
13	Linuron	50	DF	0.25	lb ai/a	0.0 a	100.0 a	3.8 a
	Aciflurofen	2	L	0.015	lb ai/a			
	NIS	100	SL	0.25	% v/v			
14	Linuron	50	DF	0.25	lb ai/a	0.0 a	100.0 a	1.1 a
	Aciflurofen	2	L	0.03	lb ai/a			
	NIS	100	SL	0.25	% v/v			
LSD P=.05						.	1.38	3.81
Standard Deviation						0.00	0.82	0.42
CV						0.0	0.89	111.9

					Overall weed		Overall weed		Common		
					Garden carrot		Garden carrot		lambsquarers		
					Moonraker		Moonraker		Moonraker		
					Jun-20-2016		Jul-8-2016		Jul-8-2016		
					CONTROL		CONTROL		CONTROL		
					%		%		%		
Days After First/Last Applic.					32 32		50 15		50 15		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0 d	0.0 e	0.0 d			
2	Handweeded Check					100.0 a	100.0 a	100.0 a			
3	Linuron	50	DF	0.5	lb ai/a	92.7 a	75.0 bc	96.7 a			
4	S-metolachlor	7.62	EC	0.96	lb ai/a	93.3 a	83.3 abc	86.7 ab			
5	Pyroxasulfone	85	WG	0.033	lb ai/a	92.7 a	70.0 c	70.0 b			
6	Pyroxasulfone	85	WG	0.066	lb ai/a	92.0 ab	83.3 abc	90.0 ab			
7	Acetochlor	7	EC	0.33	lb ai/a	40.0 c	21.7 de	21.7 cd			
8	Acetochlor	7	EC	0.66	lb ai/a	66.7 b	38.3 d	38.3 c			
9	Prometryn	4	L	1.0	lb ai/a	98.7 a	92.3 abc	100.0 a			
10	Prometryn	4	L	2.0	lb ai/a	100.0 a	100.0 a	100.0 a			
11	Linuron	50	DF	0.25	lb ai/a	91.0 ab	94.3 ab	100.0 a			
	Prometryn	4	L	2.0	lb ai/a						
12	Linuron	50	DF	0.25	lb ai/a	89.3 ab	85.0 abc	100.0 a			
	Prometryn	4	L	1.0	lb ai/a						
	NIS	100	SL	0.25	% v/v						
13	Linuron	50	DF	0.25	lb ai/a	81.7 ab	70.0 c	80.0 ab			
	Aciflurofen	2	L	0.015	lb ai/a						
	NIS	100	SL	0.25	% v/v						
14	Linuron	50	DF	0.25	lb ai/a	78.3 ab	78.3 abc	95.0 a			
	Aciflurofen	2	L	0.03	lb ai/a						
	NIS	100	SL	0.25	% v/v						
LSD P=.05						25.64	23.33	21.94			
Standard Deviation						15.28	13.90	13.07			
CV						19.16	19.62	16.97			

Pest Name	Redroot pigweed	Large crabgrass	Field bindweed
Crop Name	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Moonraker	Moonraker	Moonraker
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	50 15	50 15	50 15

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	c	0.0 e	0.0 d
2	Handweeded Check					100.0	a	100.0 a	100.0 a
3	Linuron	50	DF	0.5	lb ai/a	78.3	ab	76.9 bc	80.0 a
4	S-metolachlor	7.62	EC	0.96	lb ai/a	93.3	ab	97.6 ab	83.3 a
5	Pyroxasulfone	85	WG	0.033	lb ai/a	80.0	ab	100.0 a	70.0 ab
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0	a	97.6 ab	83.3 a
7	Acetochlor	7	EC	0.33	lb ai/a	21.7	c	15.1 d	40.0 bc
8	Acetochlor	7	EC	0.66	lb ai/a	71.7	b	79.7 bc	38.3 c
9	Prometryn	4	L	1.0	lb ai/a	100.0	a	95.9 ab	92.3 a
10	Prometryn	4	L	2.0	lb ai/a	100.0	a	100.0 a	100.0 a
11	Linuron	50	DF	0.25	lb ai/a	100.0	a	94.4 abc	97.7 a
	Prometryn	4	L	2.0	lb ai/a				
12	Linuron	50	DF	0.25	lb ai/a	93.3	ab	85.2 bc	90.0 a
	Prometryn	4	L	1.0	lb ai/a				
	NIS	100	SL	0.25	% v/v				
13	Linuron	50	DF	0.25	lb ai/a	70.0	b	70.3 c	93.3 a
	Aciflurofen	2	L	0.015	lb ai/a				
	NIS	100	SL	0.25	% v/v				
14	Linuron	50	DF	0.25	lb ai/a	78.3	ab	78.6 bc	83.3 a
	Aciflurofen	2	L	0.03	lb ai/a				
	NIS	100	SL	0.25	% v/v				
LSD P=.05						24.56		12.35	31.30
Standard Deviation						14.63		12.26	18.65
CV						18.85		18.63	24.82

Pest Name	Common purslane	Hairy galinsoga	Overall weed
Crop Name	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Moonraker	Moonraker	Moonraker
Rating Date	Jul-8-2016	Jul-8-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	50 15	50 15	64 29

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	b	0.0 c	0.0 f
2	Handweeded Check					100.0	a	100.0 a	100.0 a
3	Linuron	50	DF	0.5	lb ai/a	100.0	a	100.0 a	68.3 cd
4	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	100.0 a	78.3 abc
5	Pyroxasulfone	85	WG	0.033	lb ai/a	90.0	a	100.0 a	75.0 bcd
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0	a	100.0 a	71.7 cd
7	Acetochlor	7	EC	0.33	lb ai/a	81.7	a	100.0 a	38.3 e
8	Acetochlor	7	EC	0.66	lb ai/a	66.7	a	66.7 b	28.3 e
9	Prometryn	4	L	1.0	lb ai/a	100.0	a	100.0 a	83.3 abc
10	Prometryn	4	L	2.0	lb ai/a	100.0	a	100.0 a	97.7 ab
11	Linuron	50	DF	0.25	lb ai/a	100.0	a	100.0 a	85.0 abc
	Prometryn	4	L	2.0	lb ai/a				
12	Linuron	50	DF	0.25	lb ai/a	100.0	a	100.0 a	68.3 cd
	Prometryn	4	L	1.0	lb ai/a				
	NIS	100	SL	0.25	% v/v				
13	Linuron	50	DF	0.25	lb ai/a	86.7	a	100.0 a	30.0 e
	Aciflurofen	2	L	0.015	lb ai/a				
	NIS	100	SL	0.25	% v/v				
14	Linuron	50	DF	0.25	lb ai/a	100.0	a	100.0 a	51.7 de
	Aciflurofen	2	L	0.03	lb ai/a				
	NIS	100	SL	0.25	% v/v				
LSD P=.05						33.36		25.90	24.10
Standard Deviation						19.88		15.43	14.36
CV						22.72		17.05	22.94

Pest Name	Common lambsquarters	Redroot pigweed	Large crabgrass
Crop Name	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Moonraker	Moonraker	Moonraker
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	64 29	64 29	64 29

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	f	0.0 d	0.0 g
2	Handweeded Check					100.0	a	100.0 a	100.0 a
3	Linuron	50	DF	0.5	lb ai/a	99.8	ab	92.3 abc	70.7 de
4	S-metolachlor	7.62	EC	0.96	lb ai/a	86.8	bcd	88.4 abc	98.0 ab
5	Pyroxasulfone	85	WG	0.033	lb ai/a	81.0	d	92.0 abc	96.0 abc
6	Pyroxasulfone	85	WG	0.066	lb ai/a	93.6	a-d	99.1 ab	98.9 ab
7	Acetochlor	7	EC	0.33	lb ai/a	46.1	e	75.5 c	78.6 cde
8	Acetochlor	7	EC	0.66	lb ai/a	35.3	e	81.5 bc	69.2 de
9	Prometryn	4	L	1.0	lb ai/a	100.0	a	99.1 ab	85.2 bcd
10	Prometryn	4	L	2.0	lb ai/a	99.4	abc	100.0 a	98.5 ab
11	Linuron	50	DF	0.25	lb ai/a	100.0	a	100.0 a	85.0 bcd
	Prometryn	4	L	2.0	lb ai/a				
12	Linuron	50	DF	0.25	lb ai/a	100.0	a	98.9 ab	65.0 de
	Prometryn	4	L	1.0	lb ai/a				
	NIS	100	SL	0.25	% v/v				
13	Linuron	50	DF	0.25	lb ai/a	83.5	cd	82.6 bc	20.8 f
	Aciflurofen	2	L	0.015	lb ai/a				
	NIS	100	SL	0.25	% v/v				
14	Linuron	50	DF	0.25	lb ai/a	95.7	a-d	83.0 bc	51.7 e
	Aciflurofen	2	L	0.03	lb ai/a				
	NIS	100	SL	0.25	% v/v				
LSD P=.05						12.51		13.28	9.55
Standard Deviation						12.34		12.73	10.73
CV						17.91		17.89	17.57

Pest Name	Hairy galinsoga	Field bindweed	Common lambsquarters
Crop Name	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Moonraker	Moonraker	Moonraker
Rating Date	Jul-22-2016	Jul-22-2016	Aug-4-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	64 29	64 29	77 42

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0	b	0.0	f f
2	Handweeded Check					100.0	a	100.0	a a
3	Linuron	50	DF	0.5	lb ai/a	100.0	a	99.4	ab ab
4	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0	a	74.9	de cd
5	Pyroxasulfone	85	WG	0.033	lb ai/a	100.0	a	71.9	de cd
6	Pyroxasulfone	85	WG	0.066	lb ai/a	100.0	a	50.1	e abc
7	Acetochlor	7	EC	0.33	lb ai/a	100.0	a	94.8	abc e
8	Acetochlor	7	EC	0.66	lb ai/a	100.0	a	78.1	cd de
9	Prometryn	4	L	1.0	lb ai/a	100.0	a	85.6	cd a
10	Prometryn	4	L	2.0	lb ai/a	100.0	a	100.0	a ab
11	Linuron	50	DF	0.25	lb ai/a	100.0	a	100.0	a a
	Prometryn	4	L	2.0	lb ai/a				
12	Linuron	50	DF	0.25	lb ai/a	100.0	a	99.8	ab a
	Prometryn	4	L	1.0	lb ai/a				
	NIS	100	SL	0.25	% v/v				
13	Linuron	50	DF	0.25	lb ai/a	100.0	a	75.3	de bc
	Acifluofen	2	L	0.015	lb ai/a				
	NIS	100	SL	0.25	% v/v				
14	Linuron	50	DF	0.25	lb ai/a	100.0	a	92.0	bcd bc
	Acifluofen	2	L	0.03	lb ai/a				
	NIS	100	SL	0.25	% v/v				
LSD P=.05						.		7.69	7.04
Standard Deviation						0.00		9.59	9.17
CV						0.0		14.19	13.18

Pest Name	Redroot pigweed	Hairy galinsoga	Large crabgrass	
Crop Name	Garden carrot	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Moonraker	Moonraker	Moonraker	Moonraker
Rating Date	Aug-4-2016	Aug-4-2016	Aug-4-2016	Aug-19-2016
Rating Type	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	%	%	%	kg/2m
Days After First/Last Applic.	77 42	77 42	77 42	92 57

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit								
1	Untreated Check					0.0	f	0.0	b	0.0	e	1.46	e
2	Handweeded Check					100.0	a	100.0	a	100.0	a	2.35	bc
3	Linuron	50	DF	0.5	lb ai/a	92.3	a-e	100.0	a	55.0	d	2.55	bc
4	S-metolachlor	7.62	EC	0.96	lb ai/a	94.4	a-d	100.0	a	97.0	a	2.30	bcd
5	Pyroxasulfone	85	WG	0.03 ₃	lb ai/a	89.8	a-e	100.0	a	93.3	a	2.17	cde
6	Pyroxasulfone	85	WG	0.06 ₆	lb ai/a	98.5	abc	99.3	a	94.3	a	2.38	bc
7	Acetochlor	7	EC	0.33	lb ai/a	65.2	e	100.0	a	60.0	cd	1.50	e
8	Acetochlor	7	EC	0.66	lb ai/a	75.3	de	100.0	a	78.3	b	1.61	de
9	Prometryn	4	L	1.0	lb ai/a	94.9	a-d	100.0	a	78.3	b	2.91	ab
10	Prometryn	4	L	2.0	lb ai/a	99.8	ab	100.0	a	96.0	a	3.52	a
11	Linuron	50	DF	0.25	lb ai/a	100.0	a	99.3	a	68.3	bc	2.26	bcd
	Prometryn	4	L	2.0	lb ai/a								
12	Linuron	50	DF	0.25	lb ai/a	99.8	ab	100.0	a	56.7	cd	2.57	bc
	Prometryn	4	L	1.0	lb ai/a								
	NIS	100	SL	0.25	% v/v								
13	Linuron	50	DF	0.25	lb ai/a	83.6	b-e	100.0	a	50.0	d	2.11	cde
	Acifluofen	2	L	0.01 ₅	lb ai/a								
	NIS	100	SL	0.25	% v/v								
14	Linuron	50	DF	0.25	lb ai/a	81.6	cde	100.0	a	48.3	d	2.35	bc
	Acifluofen	2	L	0.03	lb ai/a								
	NIS	100	SL	0.25	% v/v								
LSD P=.05						13.90		0.70		11.78		0.729	
Standard Deviation						13.04		0.42		7.02		0.434	
CV						18.61		0.45		10.07		18.97	

New Herbicide Evaluation for Carrots, Christensen's Farm

Field: L Art Christensen Farm , County Road 5, Ontario County NY

Location: Stanley, NY

Crop Information

Crop Information

Type/Variety	Carrot 'Bergen'
Planting Date	May 9, 2016
Between-Row Spacing	15 IN
In-Row Spacing	0.75 IN

Trial Design

Plot Width	6 FT
Plot Length	20 FT
Replications	3
Randomized Complete Block	

Soil Description

Soil Type	Carlisle Muck
pH	6.5
% Organic Matter	49.0

Harvest Information

Harvest Date	Crop destruct
--------------	---------------

Applications

Timing

	PRE	POST
Crop Size at Application	NA	2-leaf stage
Date	May 10, 2016	June 9, 2016
Time of Day	12:00 PM	11:00 AM

Method	CO ₂ Backpack	CO ₂ Backpack
Placement	Broadcast	Broadcast
Spray Volume	34 GAL/A	34 GAL/A
Spray Pressure	34 PSI	34 PSI

Air Temperature	63°F	60°F
Soil Temperature	50°F	60°F
Soil Tilth	Friable	Friable
Soil Surface Moisture	Normal	Normal
Relative Humidity	Low	Low
Wind Speed	5 MPH	10 MPH
Wind Direction	SE	NE
Percent Cloud Cover	75	60

Weeds Present at application

PRE: None

POST: crabgrass, pigweed, common ragweed, lady's thumb, wild buckwheat, lambsquarters

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN Carrier: Water Speed: 2.5 MPH

Notes

Pre treatment data – zero phytotoxicity and zero weed control in all treatments

New Herbicide Evaluation for Carrots, Christensen's Farm

Trial ID: Potter Muck Carrot 2016

Plots: 6 by 20 feet

Location: Stanley, NY

Investigator: Dr. Darcy Telenko and Dr. Julie Kikkert

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Handweeded Check							101	203	304
2	Untreated Check							102	209	307
3	A16003	1.66667	SL	0.0334	lb ai/a	PREPRE	0.2091 ml/mx	103	201	303
4	A16003	1.66667	SL	0.0446	lb ai/a	PREPRE	0.2793 ml/mx	104	207	302
5	A16003	1.66667	SL	0.089	lb ai/a	PREPRE	0.5573 ml/mx	105	210	306
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	PREPRE	2.588 ml/mx	106	202	305
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	PREPRE	2.588 ml/mx	107	205	309
	A16003	1.66667	SL	0.0334	lb ai/a	POSPOS	0.2091 ml/mx			
	NIS	100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	PREPRE	2.588 ml/mx	108	206	310
	A16003	1.66667	SL	0.0446	lb ai/a	POSPOS	0.2793 ml/mx			
	NIS	100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	PREPRE	2.588 ml/mx	109	204	301
	A16003	1.66667	SL	0.089	lb ai/a	POSPOS	0.5573 ml/mx			
	NIS	100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	PREPRE	2.588 ml/mx	110	208	308
	Lorox	50	DF	0.125	lb ai/a	POSPOS	0.3127 g/mx			
	NIS		SL	0.25	% v/v	POSPOS	0.8871 ml/mx			

Pest Name					Overall weed			
Crop Name					Garden			
Crop Variety					carrot			
Rating Date					Bergen			
Rating Type					Jun-17-2016			
Rating Unit					PHYNEC			
Days After First/Last Applic.					%			
					38 8			
					38 8			
					38 8			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Handweeded Check					0.0 c	0.0 d	20.0 d
2	Untreated Check					0.0 c	0.0 d	0.0 e
3	A16003	1.66667	SL	0.0334	lb ai/a			
4	A16003	1.66667	SL	0.0446	lb ai/a			
5	A16003	1.66667	SL	0.089	lb ai/a			
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a			
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	53.7 b	36.7 c	46.7 bc
	A16003	1.66667	SL	0.0334	lb ai/a			
	NIS	100	SL	0.25	% v/v			
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	61.0 ab	53.3 b	56.7 ab
	A16003	1.66667	SL	0.0446	lb ai/a			
	NIS	100	SL	0.25	% v/v			
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	66.0 a	63.3 a	66.7 a
	A16003	1.66667	SL	0.089	lb ai/a			
	NIS	100	SL	0.25	% v/v			
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	2.3 c	0.0 d	36.7 c
	Lorox	50	DF	0.125	lb ai/a			
	NIS		SL	0.25	% v/v			
LSD P=.05						9.19	8.58	15.81
Standard Deviation						5.05	4.71	8.69
CV						16.56	18.45	23.01

Pest Name	Large crabgrass	Powell amaranth	Common ragweed
Crop Name	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Bergen	Bergen	Bergen
Rating Date	Jun-17-2016	Jun-17-2016	Jun-17-2016
Rating Type	NECROTIC/CH	NECROTIC/CH	NECROTIC/CH
Rating Unit	%	%	%
Days After First/Last Applic.	38 8	38 8	38 8

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Handweeded Check							
2	Untreated Check					0.0 c	0.0 b	0.0 c
3	A16003	1.66667	SL	0.0334	lb ai/a			
4	A16003	1.66667	SL	0.0446	lb ai/a			
5	A16003	1.66667	SL	0.089	lb ai/a			
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a			
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	53.3 b	100.0 a	96.7 a
	A16003	1.66667	SL	0.0334	lb ai/a			
	NIS	100	SL	0.25	% v/v			
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	83.3 a	100.0 a	100.0 a
	A16003	1.66667	SL	0.0446	lb ai/a			
	NIS	100	SL	0.25	% v/v			
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	85.0 a	100.0 a	100.0 a
	A16003	1.66667	SL	0.089	lb ai/a			
	NIS	100	SL	0.25	% v/v			
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	8.3 c	73.3 a	36.7 b
	Lorox	50	DF	0.125	lb ai/a			
	NIS		SL	0.25	% v/v			
LSD P=.05						25.00	31.88	11.91
Standard Deviation						13.28	16.93	6.32
CV						28.86	22.68	9.49

Pest Name	Ladysthumb	Wild buckwheat	Common lambsquarters
Crop Name	Garden carrot	Garden carrot	Garden carrot
Crop Variety	Bergen	Bergen	Bergen
Rating Date	Jun-17-2016	Jun-17-2016	Jun-17-2016
Rating Type	NECROTIC/CH	NECROTIC/CH	NECROTIC/CH
Rating Unit	%	%	
Days After First/Last Applic.	38 8	38 8	38 8

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Handweeded Check							0.0 d
2	Untreated Check					0.0 c	0.0 d	0.0 d
3	A16003	1.66667	SL	0.0334	lb ai/a			
4	A16003	1.66667	SL	0.0446	lb ai/a			
5	A16003	1.66667	SL	0.089	lb ai/a			
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a			
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	80.0 a	50.0 b	90.0 b
	A16003	1.66667	SL	0.0334	lb ai/a			
	NIS	100	SL	0.25	% v/v			
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	86.7 a	80.0 a	100.0 a
	A16003	1.66667	SL	0.0446	lb ai/a			
	NIS	100	SL	0.25	% v/v			
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	96.7 a	90.0 a	96.7 a
	A16003	1.66667	SL	0.089	lb ai/a			
	NIS	100	SL	0.25	% v/v			
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	30.0 b	23.3 c	30.0 c
	Lorox	50	DF	0.125	lb ai/a			
	NIS		SL	0.25	% v/v			
LSD P=.05						24.19	19.45	6.08
Standard Deviation						12.85	10.33	3.04
CV						21.9	21.22	5.77

Pest Name	Garden carrot Bergen		Garden carrot Bergen		Overall weed Garden carrot Bergen			
Crop Name	Jun-24-2016		Jun-24-2016		Jun-24-2016			
Crop Variety	PHYNEC		STUNTING		CONTROL			
Rating Date	%		%		%			
Rating Type	45		15		45			
Rating Unit	15		15		15			
Days After First/Last Applic.								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Handweeded Check					0.0 c	0.0 d	98.7 a
2	Untreated Check					0.0 c	0.0 d	0.0 e
3	A16003	1.66667	SL	0.0334	lb ai/a			
4	A16003	1.66667	SL	0.0446	lb ai/a			
5	A16003	1.66667	SL	0.089	lb ai/a			
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a			
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	53.0 b	43.3 c	71.7 c
	A16003	1.66667	SL	0.0334	lb ai/a			
	NIS	100	SL	0.25	% v/v			
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	60.3 b	56.7 b	81.7 bc
	A16003	1.66667	SL	0.0446	lb ai/a			
	NIS	100	SL	0.25	% v/v			
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	72.7 a	80.0 a	93.3 ab
	A16003	1.66667	SL	0.089	lb ai/a			
	NIS	100	SL	0.25	% v/v			
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	0.0 c	0.0 d	53.3 d
	Lorox	50	DF	0.125	lb ai/a			
	NIS		SL	0.25	% v/v			
LSD P=.05						8.40	8.79	16.43
Standard Deviation						4.62	4.83	9.03
CV						14.89	16.1	13.59

Pest Name	Large crabgrass	Powell amaranth	Common ragweed					
Crop Name	Garden carrot	Garden carrot	Garden carrot					
Crop Variety	Bergen	Bergen	Bergen					
Rating Date	Jun-24-2016	Jun-24-2016	Jun-24-2016					
Rating Type	CONTROL	CONTROL	CONTROL					
Rating Unit	%	%	%					
Days After First/Last Applic.	45 15	45 15	45 15					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Handweeded Check					99.0 a	97.3 a	99.3 a
2	Untreated Check					0.0 d	0.0 d	0.0 d
3	A16003	1.66667	SL	0.0334	lb ai/a			
4	A16003	1.66667	SL	0.0446	lb ai/a			
5	A16003	1.66667	SL	0.089	lb ai/a			
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a			
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	26.7 cd	80.0 b	86.7 b
	A16003	1.66667	SL	0.0334	lb ai/a			
	NIS	100	SL	0.25	% v/v			
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	40.0 bc	80.0 b	91.0 ab
	A16003	1.66667	SL	0.0446	lb ai/a			
	NIS	100	SL	0.25	% v/v			
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	63.3 b	93.3 ab	98.3 a
	A16003	1.66667	SL	0.089	lb ai/a			
	NIS	100	SL	0.25	% v/v			
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	0.0 d	30.0 c	20.0 c
	Lorox	50	DF	0.125	lb ai/a			
	NIS		SL	0.25	% v/v			
LSD P=.05						27.79	14.97	10.40
Standard Deviation						15.28	8.23	5.71
CV						40.02	12.97	8.67

Pest Name	Ladysthumb		Wild buckwheat		Common lambsquarters	
Crop Name	Garden carrot		Garden carrot		Garden carrot	
Crop Variety	Bergen		Bergen		Bergen	
Rating Date	Jun-24-2016		Jun-24-2016		Jun-24-2016	
Rating Type	CONTROL		CONTROL		CONTROL	
Rating Unit	%		%		%	
Days After First/Last Applic.	45 15		45 15		45 15	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	
1	Handweeded Check					99.7 a
2	Untreated Check					0.0 c
3	A16003	1.66667	SL	0.0334	lb ai/a	
4	A16003	1.66667	SL	0.0446	lb ai/a	
5	A16003	1.66667	SL	0.089	lb ai/a	
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	56.7 b
	A16003	1.66667	SL	0.0334	lb ai/a	30.0 c
	NIS	100	SL	0.25	% v/v	46.7 b
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	83.3 ab
	A16003	1.66667	SL	0.0446	lb ai/a	63.3 b
	NIS	100	SL	0.25	% v/v	66.7 ab
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	93.0 ab
	A16003	1.66667	SL	0.089	lb ai/a	69.3 ab
	NIS	100	SL	0.25	% v/v	76.7 ab
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	56.7 b
	Lorox	50	DF	0.125	lb ai/a	16.7 c
	NIS		SL	0.25	% v/v	56.7 b
LSD P=.05						37.82
Standard Deviation						20.79
CV						32.04
						32.54
						17.89
						38.47
						39.67
						21.80
						37.85

Pest Name					Overall weed				large crabgrass	
Crop Name					Garden carrot	Garden carrot		Garden carrot		
Crop Variety					Bergen	Bergen		Bergen		
Rating Date					Jul-8-2016	Jul-8-2016		Jul-8-2016		
Rating Type					STUNTING	CONTROL		CONTROL		
Rating Unit					%	%		%		
Days After First/Last Applic.					59	29	59	29	59	29
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit					
1	Handweeded Check					0.0 b	98.3 a	98.0 a		
2	Untreated Check					0.0 b	0.0 e	0.0 d		
3	A16003	1.66667	SL	0.0334	lb ai/a					
4	A16003	1.66667	SL	0.0446	lb ai/a					
5	A16003	1.66667	SL	0.089	lb ai/a					
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a					
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	40.0 a	56.7 c	26.7 c		
	A16003	1.66667	SL	0.0334	lb ai/a					
	NIS	100	SL	0.25	% v/v					
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	41.7 a	65.0 bc	40.0 c		
	A16003	1.66667	SL	0.0446	lb ai/a					
	NIS	100	SL	0.25	% v/v					
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	43.3 a	80.0 ab	63.3 b		
	A16003	1.66667	SL	0.089	lb ai/a					
	NIS	100	SL	0.25	% v/v					
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	0.0 b	26.7 d	0.0 d		
	Lorox	50	DF	0.125	lb ai/a					
	NIS		SL	0.25	% v/v					
LSD P=.05						14.76	19.29	22.28		
Standard Deviation						8.11	10.60	12.25		
CV						38.95	19.47	32.23		

Pest Name	Powell amaranth	Common ragweed	Ladysthumb							
Crop Name	Garden carrot	Garden carrot	Garden carrot							
Crop Variety	Bergen	Bergen	Bergen							
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016							
Rating Type	CONTROL	CONTROL	CONTROL							
Rating Unit	%	%	%							
Days After First/Last Applic.	59 29	59 29	59 29							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit					
1	Handweeded Check			98.0	a	99.3	a	99.0	a	
2	Untreated Check			0.0	d	0.0	c	0.0	d	
3	A16003	1.66667	SL	0.0334	lb ai/a					
4	A16003	1.66667	SL	0.0446	lb ai/a					
5	A16003	1.66667	SL	0.089	lb ai/a					
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a					
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	53.3	c	97.7	a	
	A16003	1.66667	SL	0.0334	lb ai/a					
	NIS	100	SL	0.25	% v/v					
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	70.0	bc	97.3	a	
	A16003	1.66667	SL	0.0446	lb ai/a					
	NIS	100	SL	0.25	% v/v					
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	83.3	ab	99.0	a	
	A16003	1.66667	SL	0.089	lb ai/a					
	NIS	100	SL	0.25	% v/v					
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	15.0	d	20.0	b	
	Lorox	50	DF	0.125	lb ai/a					
	NIS		SL	0.25	% v/v					
LSD P=.05						22.26		19.49		42.04
Standard Deviation						12.24		10.71		23.11
CV						22.97		15.55		41.31

Pest Name	Wild buckwheat	Common lambsquarters
Crop Name	Garden carrot	Garden carrot
Crop Variety	Bergen	Bergen
Rating Date	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL
Rating Unit	%	%
Days After First/Last Applic.	29 59	59 29

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit		
1	Handweeded Check					99.0 a	99.0 a
2	Untreated Check					0.0 c	0.0 c
3	A16003	1.66667	SL	0.0334	lb ai/a		
4	A16003	1.66667	SL	0.0446	lb ai/a		
5	A16003	1.66667	SL	0.089	lb ai/a		
6	Prowl H20 3.8	3.79	CS	0.94	lb ai/a		
7	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	30.0 bc	43.3 bc
	A16003	1.66667	SL	0.0334	lb ai/a		
	NIS	100	SL	0.25	% v/v		
8	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	43.3 b	56.7 ab
	A16003	1.66667	SL	0.0446	lb ai/a		
	NIS	100	SL	0.25	% v/v		
9	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	50.0 b	1.7 c
	A16003	1.66667	SL	0.089	lb ai/a		
	NIS	100	SL	0.25	% v/v		
10	Prowl H20 3.8	3.79	CS	0.94	lb ai/a	8.3 c	30.0 bc
	Lorox	50	DF	0.125	lb ai/a		
	NIS		SL	0.25	% v/v		
LSD P=.05						34.97	49.19
Standard Deviation						19.22	26.63
CV						49.99	69.27

New Herbicide Evaluation for Rhubarb, Bell Pepper and Broccoli

Field: N2

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Rhubarb 'Victoria' Broccoli 'Green Magic' Bell Pepper 'Intruder'	Plot Width	6 FT
Planting Date	June 1, 2016	Plot Length	20 FT
Between-Row Spacing	18 IN	Replications	3
In-Row Spacing	18 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	May 31
Disced		Cultipacked	NA
Fertilized	May 27, 13-13-13	Irrigated	weekly June 16-August 5, season total 4 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	44.9
pH	6.6	% Silt	40.1
% Organic Matter	2.6	% Clay	14.4

Harvest Information

Harvest Date	Crop destruct
--------------	---------------

Applications

Timing	PRE	POST	POST
Crop Size at Application			
Date	June 1, 2016	June 22, 2016	June 22, 2016
Time of Day	12:00 PM	10:30 AM	10:30 AM
Method	CO ₂ Backpack	CO ₂ Backpack	CO ₂ Backpack
Placement	Broadcast Soil	Broadcast foliar	Broadcast Direct
Spray Volume	34 GAL/A	34 GAL/A	34 GAL/A
Spray Pressure	34 PSI	34 PSI	34 PSI
Air Temperature	65°F	67°F	67°F
Soil Temperature	71°F	65°F	65°F
Soil Tilth	Friable	Friable	Friable
Soil Surface Moisture	Normal	Wet	Wet
Relative Humidity	Low	Low	Low
Wind Speed	2 MPH	6 MPH	6 MPH
Wind Direction	WSW	WNW	WNW
Percent Cloud Cover	20	90	90

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom or 1 nozzle for direct application

Nozzle Height: 18 IN/7 IN Carrier: Water Speed: 2.5 MPH

Notes

New Herbicide Evaluation for Rhubarb, Bell Pepper and Broccoli

Trial ID: MultiCrop 2016
 Location: Freeville, NY; N2
 Investigator: Dr. Darcy Telenko

Plots: 6 by 20 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Untreated Check							101	206	302
2	A16003	1.67	SL	0.0334	lb ai/a	PREPRE	0.2087 ml/mx	102	209	308
3	A16003	1.67	SL	0.0446	lb ai/a	PREPRE	0.2787 ml/mx	103	208	306
4	A16003 NIS	1.67	SL	0.0334	lb ai/a	POSPOS	0.2087 ml/mx	104	201	307
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
5	A16003 NIS	1.67	SL	0.0446	lb ai/a	POSPOS	0.2787 ml/mx	105	203	304
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
6	A16003 NIS	1.67	SL	0.0334	lb ai/a	POSPOS	0.2087 ml/mx	106	202	309
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
7	A16003 NIS	1.67	SL	0.0446	lb ai/a	POSPOS	0.2787 ml/mx	107	204	303
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	PREPRE	2.568 ml/mx	108	207	305
9	AIM NIS	2	EC	0.0156	lb ai/a	POSPOS	.08141 ml/mx	109	205	301
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			

Pest Name								
Crop Name					Rhubarb	Bell pepper		Broccoli
Crop Variety					Victoria	Intruder		Green Magic
Rating Date					Jun-20-2016	Jun-20-2016		Jun-20-2016
Rating Type					DAMAGE	DAMAGE		DAMAGE
Rating Unit					%	%		%
Days After First/Last Applic.					19	19	19	19

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0 e	0.0 b	0.0 b
2	A16003	1.67	SL	0.0334	lb ai/a	9.6 bc	71.7 a	20.0 b
3	A16003	1.67	SL	0.0446	lb ai/a	13.2 ab	80.0 a	56.7 a
4	A16003	1.67	SL	0.0334	lb ai/a	1.5 de	1.7 b	0.0 b
	NIS	100	SL	0.25	% v/v			
5	A16003	1.67	SL	0.0446	lb ai/a	3.3 cd	6.7 b	0.0 b
	NIS	100	SL	0.25	% v/v			
6	A16003	1.67	SL	0.0334	lb ai/a	0.9 de	1.7 b	0.0 b
	NIS	100	SL	0.25	% v/v			
7	A16003	1.67	SL	0.0446	lb ai/a	0.6 de	0.0 b	0.0 b
	NIS	100	SL	0.25	% v/v			
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	21.6 a	8.3 b	0.0 b
9	AIM	2	EC	0.0156	lb ai/a	0.0 e	0.0 b	0.0 b
	NIS	100	SL	0.25	% v/v			
LSD P=.05						4.73	13.53	25.69
Standard Deviation						5.19	7.82	14.84
CV						49.57	41.39	174.27

Pest Name						Overall weed		Overall weed		Redroot pigweed	
Crop Name						Jun-20-2016		Jul-8-2016		Jul-8-2016	
Rating Date						CONTROL		CONTROL		CONTROL	
Rating Type						%		%		%	
Rating Unit						19 19		37 37		37 37	
Days After First/Last Applic.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0	d	0.0	c	0.0	b
2	A16003	1.67	SL	0.0334	lb ai/a	100.0	a	94.3	a	99.3	a
3	A16003	1.67	SL	0.0446	lb ai/a	100.0	a	95.0	a	98.3	a
4	A16003	1.67	SL	0.0334	lb ai/a	80.0	ab	83.3	b	99.3	a
	NIS	100	SL	0.25	% v/v						
5	A16003	1.67	SL	0.0446	lb ai/a	50.0	bc	85.0	b	97.7	a
	NIS	100	SL	0.25	% v/v						
6	A16003	1.67	SL	0.0334	lb ai/a	25.0	cd	85.0	b	99.0	a
	NIS	100	SL	0.25	% v/v						
7	A16003	1.67	SL	0.0446	lb ai/a	0.0	d	80.0	b	97.7	a
	NIS	100	SL	0.25	% v/v						
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	100.0	a	97.0	a	100.0	a
9	AIM	2	EC	0.0156	lb ai/a	0.0	d	83.3	b	100.0	a
	NIS	100	SL	0.25	% v/v						
LSD P=.05						37.92		8.32		3.16	
Standard Deviation						21.91		4.81		1.82	
CV						43.33		6.16		2.08	

Pest Name	Lambs- quarters	Hairy galinsoga	Common purslane	Large crabgrass
Crop Name				
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%
Days After First/Last Applic.	37 37	37 37	37 37	37 37

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Lambs- quarters		Hairy galinsoga		Common purslane		Large crabgrass	
1	Untreated Check					0.0	c	0.0	c	0.0	f	0.0	d
2	A16003	1.67	SL	0.0334	lb ai/a	98.3	a	100.0	a	93.6	bc	96.7	ab
3	A16003	1.67	SL	0.0446	lb ai/a	97.7	a	100.0	a	95.7	b	98.3	ab
4	A16003	1.67	SL	0.0334	lb ai/a	88.3	b	100.0	a	83.4	cde	90.0	c
	NIS	100	SL	0.25	% v/v								
5	A16003	1.67	SL	0.0446	lb ai/a	91.7	b	100.0	a	87.0	bcd	88.3	c
	NIS	100	SL	0.25	% v/v								
6	A16003	1.67	SL	0.0334	lb ai/a	90.0	b	100.0	a	75.0	de	95.0	b
	NIS	100	SL	0.25	% v/v								
7	A16003	1.67	SL	0.0446	lb ai/a	86.7	b	100.0	a	70.8	e	98.7	ab
	NIS	100	SL	0.25	% v/v								
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	97.0	a	100.0	a	100.0	a	100.0	a
9	AIM	2	EC	0.0156	lb ai/a	100.0	a	91.0	b	100.0	a	0.0	d
	NIS	100	SL	0.25	% v/v								
LSD P=.05						5.15		5.56		4.01		4.19	
Standard Deviation						2.98		3.21		6.67		2.42	
CV						3.57		3.66		10.26		3.27	

Pest Name								
Crop Name					Rhubarb	Bell pepper		Broccoli
Crop Variety					Victoria	Intruder		Green Magic
Rating Date					Jul-8-2016	Jul-8-2016		Jul-8-2016
Rating Type					DAMAGE	DAMAGE		DAMAGE
Rating Unit					%	%		%
Days After First/Last Applic.					37	37	37	37

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
1	Untreated Check					0.0 c	0.0 c	0.0 c
2	A16003	1.67	SL	0.0334	lb ai/a	8.3 c	70.0 b	11.7 c
3	A16003	1.67	SL	0.0446	lb ai/a	21.7 bc	95.0 a	45.0 b
4	A16003	1.67	SL	0.0334	lb ai/a	51.7 a	50.0 b	68.3 ab
	NIS	100	SL	0.25	% v/v			
5	A16003	1.67	SL	0.0446	lb ai/a	46.7 ab	61.7 b	75.0 a
	NIS	100	SL	0.25	% v/v			
6	A16003	1.67	SL	0.0334	lb ai/a	1.7 c	0.0 c	0.0 c
	NIS	100	SL	0.25	% v/v			
7	A16003	1.67	SL	0.0446	lb ai/a	11.7 c	3.3 c	0.0 c
	NIS	100	SL	0.25	% v/v			
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	0.0 c	0.0 c	0.0 c
9	AIM	2	EC	0.0156	lb ai/a	53.3 a	100.0 a	50.0 ab
	NIS	100	SL	0.25	% v/v			
LSD P=.05						25.52	23.03	25.82
Standard Deviation						14.74	13.31	14.92
CV						68.05	31.52	53.71

Pest Name						Overall weed		Redroot pigweed		Lambs-quarters	
Crop Name						Jul-22-2016		Jul-22-2016		Jul-22-2016	
Rating Date						CONTROL		CONTROL		CONTROL	
Rating Type						%		%		%	
Rating Unit						51		51		51	
Days After First/Last Applic.						51		51		51	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0	c	0.0	d	0.0	c
2	A16003	1.67	SL	0.0334	lb ai/a	75.0	a	92.3	ab	76.2	a
3	A16003	1.67	SL	0.0446	lb ai/a	76.7	a	85.2	ab	96.1	a
4	A16003	1.67	SL	0.0334	lb ai/a	6.7	bc	2.4	cd	2.4	bc
	NIS	100	SL	0.25	% v/v						
5	A16003	1.67	SL	0.0446	lb ai/a	23.3	bc	16.7	cd	16.7	bc
	NIS	100	SL	0.25	% v/v						
6	A16003	1.67	SL	0.0334	lb ai/a	36.7	b	38.1	bc	28.7	b
	NIS	100	SL	0.25	% v/v						
7	A16003	1.67	SL	0.0446	lb ai/a	28.3	bc	36.1	bcd	20.3	bc
	NIS	100	SL	0.25	% v/v						
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	89.0	a	98.5	a	95.1	a
9	AIM	2	EC	0.0156	lb ai/a	0.0	c	99.0	a	99.0	a
	NIS	100	SL	0.25	% v/v						
LSD P=.05						32.26		46.76		29.99	
Standard Deviation						18.64		21.94		16.23	
CV						49.98		47.42		37.17	

Pest Name	Hairy galinsoga	Common purslane	Large crabgrass
Crop Name			
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	51 51	51 51	51 51

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Hairy galinsoga		Common purslane		Large crabgrass	
1	Untreated Check					0.0	c	0.0	e	0.0	d
2	A16003	1.67	SL	0.0334	lb ai/a	88.0	ab	76.2	abc	90.4	ab
3	A16003	1.67	SL	0.0446	lb ai/a	94.3	a	91.4	ab	96.1	a
4	A16003	1.67	SL	0.0334	lb ai/a	6.7	c	2.4	de	2.4	cd
	NIS	100	SL	0.25	% v/v						
5	A16003	1.67	SL	0.0446	lb ai/a	23.3	c	16.7	de	16.7	cd
	NIS	100	SL	0.25	% v/v						
6	A16003	1.67	SL	0.0334	lb ai/a	41.3	bc	38.1	bcd	38.1	bc
	NIS	100	SL	0.25	% v/v						
7	A16003	1.67	SL	0.0446	lb ai/a	39.7	bc	36.1	cd	20.3	cd
	NIS	100	SL	0.25	% v/v						
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	98.3	a	98.5	a	95.1	a
9	AIM	2	EC	0.0156	lb ai/a	33.0	c	99.0	a	0.0	d
	NIS	100	SL	0.25	% v/v						
LSD P=.05						50.02		43.06		44.68	
Standard Deviation						28.90		20.71		19.91	
CV						61.25		45.6		55.03	

Pest Name								
Crop Name					Rhubarb	Bell pepper		Broccoli
Crop Variety					Victoria	Intruder		Green Magic
Rating Date					Jul-22-2016	Jul-22-2016		Jul-22-2016
Rating Type					DAMAGE	DAMAGE		DAMAGE
Rating Unit					%	%		%
Days After First/Last Applic.					51	51	51	51

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0	b	0.0	c	0.0	a
2	A16003	1.67	SL	0.0334	lb ai/a	6.7	b	39.7	b	6.7	a
3	A16003	1.67	SL	0.0446	lb ai/a	11.7	ab	53.4	b	16.7	a
4	A16003	1.67	SL	0.0334	lb ai/a	0.0	b	14.8	bc	10.0	a
	NIS	100	SL	0.25	% v/v						
5	A16003	1.67	SL	0.0446	lb ai/a	6.7	b	27.7	b	20.0	a
	NIS	100	SL	0.25	% v/v						
6	A16003	1.67	SL	0.0334	lb ai/a	0.0	b	0.0	c	11.7	a
	NIS	100	SL	0.25	% v/v						
7	A16003	1.67	SL	0.0446	lb ai/a	0.0	b	0.0	c	5.0	a
	NIS	100	SL	0.25	% v/v						
8	Dual II Magnum	7.6	EC	1.87	lb ai/a	0.0	b	0.0	c	6.7	a
9	AIM	2	EC	0.0156	lb ai/a	21.7	a	93.3	a	23.3	a
	NIS	100	SL	0.25	% v/v						
LSD P=.05						12.05		38.24		19.65	
Standard Deviation						6.96		15.66		11.35	
CV						134.3		65.43		102.15	

Herbicides for Peas

Field: N3

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Pea 'Sweet Savor'	Plot Width	6 FT
Planting Date	May 9, 2016	Plot Length	20 FT
Between-Row Spacing	8 IN	Replications	3
In-Row Spacing	180 lbs/A	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	May 9
Disced		Cultipacked	NA
Fertilized	May 9, 13-13-13	Irrigated	weekly May 25-July 5, season total 2 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	47.2
pH	6.3	% Silt	41.4
% Organic Matter	2.9	% Clay	11.4

Harvest Information

Harvest Date	July 11, 2016
Harvest Width	2 rows
Harvest Length	3 ft (20 plants total)

Applications

Timing	PRE
Crop Size at Application	Pre
Date	May 11, 2016
Time of Day	12:00 pm
Method	CO ₂ Backpack
Placement	Broadcast
Spray Volume	34 GAL/A
Spray Pressure	34 PSI
Air Temperature	70°F
Soil Temperature	60°F
Soil Tilth	Friable
Soil Surface Moisture	Normal
Relative Humidity	Low
Wind Speed	3 MPH
Wind Direction	ENE
Percent Cloud Cover	70

Weeds Present at application

PRE: None

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Herbicides for Peas

Trial ID: Peas 2016

Plots: 6 by 20 feet

Location: Freeville, NY; N3

Investigator: Dr. Darcy Telenko

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Handweeded Check							101	205	302
2	S-metolachlor formesafen	7.62 2	EC L	0.96 0.25	lb ai/a lb ai/a	PRE PRE	1.315 ml/mx 1.305 ml/mx	102	201	314
3	Saflufenacil	2.8	SC	0.0167	lb ai/a	PRE	.06225 ml/mx	103	210	306
4	Optill	68	WG	0.066	lb ai/a	PRE	0.1214 g/mx	104	214	301
5	Pyroxasulfone	85	WDG	0.06	lb ai/a	PRE	.08829 g/mx	105	208	312
6	Pyroxasulfone	85	WDG	0.12	lb ai/a	PRE	0.1766 g/mx	106	207	310
7	Acetochlor	7	EC	0.5	lb ai/a	PRE	0.7455 ml/mx	107	202	307
8	Acetochlor	7	EC	1.0	lb ai/a	PRE	1.491 ml/mx	108	213	308
9	A-16003	1.67	L	0.033	lb ai/a	PRE	0.2062 ml/mx	109	203	313
10	A-16003	1.67	L	0.045	lb ai/a	PRE	0.2812 ml/mx	110	209	311
11	Prometryn	4	L	1.0	lb ai/a	PRE	2.609 ml/mx	111	206	304
12	Sulfentrazone	4	F	0.16	lb ai/a	PRE	0.4175 ml/mx	112	204	309
13	SpartanCharge	3.5	F	0.18	lb ai/a	PRE	0.5367 ml/mx	113	212	303
14	Cloransulam-m	84	WG	0.03	lb ai/a	PRE	.04467 g/mx	114	211	305

Pest Name								
Crop Name					Pea		Pea	Pea
Crop Variety					Sweet Savor		Sweet Savor	Sweet Savor
Rating Date					Jun-1-2016		Jun-1-2016	Jun-1-2016
Rating Type					Stand reduction		Chlorosis	CONTROL
Rating Unit					%		%	%
Days After First/Last Applic.					21	21	21	21

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					19.3	a	0.0	b	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	20.0	a	0.0	b	100.0	a
	formesafen	2	L	0.25	lb ai/a						
3	Saflufenacil	2.8	SC	0.0167	lb ai/a	29.3	a	0.0	b	100.0	a
4	Optill	68	WG	0.066	lb ai/a	10.3	a	0.0	b	100.0	a
5	Pyroxasulfone	85	WDG	0.06	lb ai/a	11.7	a	0.0	b	100.0	a
6	Pyroxasulfone	85	WDG	0.12	lb ai/a	22.3	a	0.0	b	100.0	a
7	Acetochlor	7	EC	0.5	lb ai/a	21.7	a	0.0	b	100.0	a
8	Acetochlor	7	EC	1.0	lb ai/a	23.3	a	0.0	b	100.0	a
9	A-16003	1.67	L	0.033	lb ai/a	33.3	a	28.3	a	99.7	a
10	A-16003	1.67	L	0.045	lb ai/a	28.7	a	45.0	a	99.3	a
11	Prometryn	4	L	1.0	lb ai/a	19.0	a	0.0	b	100.0	a
12	Sulfentrazone	4	F	0.16	lb ai/a	25.7	a	10.0	b	100.0	a
13	SpartanCharge	3.5	F	0.18	lb ai/a	17.7	a	0.0	b	100.0	a
14	Cloransulam-m	84	WG	0.03	lb ai/a	25.0	a	0.0	b	100.0	a
LSD P=.05						19.02		17.66		0.56	
Standard Deviation						11.33		10.52		0.33	
CV						51.63		176.81		0.33	

Pest Name						Overall weed				Field bindweed	
Crop Name						Pea		Pea		Pea	
Crop Variety						Sweet Savor		Sweet Savor		Sweet Savor	
Rating Date						Jun-20-2016		Jun-20-2016		Jul-8-2016	
Rating Type						Stand reduction		CONTROL		CONTROL	
Rating Unit						%		%		%	
Days After First/Last Applic.						40		40		58	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Handweeded Check					20.0	cde	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	27.3	cde	91.2	a	98.3	abc
	formesafen	2	L	0.25	lb ai/a						
3	Saflufenacil	2.8	SC	0.0167	lb ai/a	33.3	bcd	96.1	a	100.0	a
4	Optill	68	WG	0.066	lb ai/a	15.0	de	99.4	a	100.0	a
5	Pyroxasulfone	85	WDG	0.06	lb ai/a	5.7	e	96.7	a	100.0	a
6	Pyroxasulfone	85	WDG	0.12	lb ai/a	25.0	cde	95.5	a	95.7	a-d
7	Acetochlor	7	EC	0.5	lb ai/a	38.3	bc	93.3	a	86.8	cd
8	Acetochlor	7	EC	1.0	lb ai/a	31.0	cd	94.8	a	98.9	abc
9	A-16003	1.67	L	0.033	lb ai/a	34.0	bcd	90.9	a	76.5	d
10	A-16003	1.67	L	0.045	lb ai/a	66.7	a	98.9	a	88.7	bcd
11	Prometryn	4	L	1.0	lb ai/a	28.3	cd	95.0	a	98.9	abc
12	Sulfentrazone	4	F	0.16	lb ai/a	30.0	cd	93.3	a	98.3	abc
13	SpartanCharge	3.5	F	0.18	lb ai/a	33.3	bcd	90.0	a	97.6	abc
14	Cloransulam-m	84	WG	0.03	lb ai/a	55.0	ab	99.8	a	99.8	ab
LSD P=.05						22.65		4.09		9.37	
Standard Deviation						13.50		6.96		10.62	
CV						42.65		8.83		13.05	

Pest Name		Large crabgrass		Ladysthumb		Common lambsquarters			
Crop Name		Pea		Pea		Pea			
Crop Variety		Sweet Savor		Sweet Savor		Sweet Savor			
Rating Date		Jul-8-2016		Jul-8-2016		Jul-8-2016			
Rating Type		CONTROL		CONTROL		CONTROL			
Rating Unit									
Days After First/Last Applic.		58 58		58 58		58 58			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0 a	100.0 a	100.0 a	
2	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0 a	100.0 a	100.0 a	
	formesafen	2	L	0.25	lb ai/a				
3	Saflufenacil	2.8	SC	0.0167	lb ai/a	99.3 a	100.0 a	100.0 a	
4	Optill	68	WG	0.066	lb ai/a	100.0 a	98.3 a	100.0 a	
5	Pyroxasulfone	85	WDG	0.06	lb ai/a	100.0 a	100.0 a	98.5 a	
6	Pyroxasulfone	85	WDG	0.12	lb ai/a	100.0 a	100.0 a	100.0 a	
7	Acetochlor	7	EC	0.5	lb ai/a	100.0 a	100.0 a	98.3 a	
8	Acetochlor	7	EC	1.0	lb ai/a	100.0 a	100.0 a	100.0 a	
9	A-16003	1.67	L	0.033	lb ai/a	100.0 a	100.0 a	88.7 a	
10	A-16003	1.67	L	0.045	lb ai/a	100.0 a	100.0 a	95.6 a	
11	Prometryn	4	L	1.0	lb ai/a	100.0 a	100.0 a	100.0 a	
12	Sulfentrazone	4	F	0.16	lb ai/a	100.0 a	100.0 a	100.0 a	
13	SpartanCharge	3.5	F	0.18	lb ai/a	100.0 a	100.0 a	100.0 a	
14	Cloransulam-m	84	WG	0.03	lb ai/a	98.3 a	100.0 a	100.0 a	
LSD P=.05						1.41	1.29	7.98	
Standard Deviation						0.84	0.77	9.78	
CV						0.84	0.77	11.28	

Pest Name	Redroot pigweed		Pennsylvania smartweed		Common purslane		Pea		
Crop Name	Pea		Pea		Pea		Pea		
Crop Variety	Sweet Savor		Sweet Savor		Sweet Savor		Sweet Savor		
Rating Date	Jul-8-2016		Jul-8-2016		Jul-8-2016		Jul-11-2016		
Rating Type	CONTROL		CONTROL		CONTROL		YIELD		
Rating Unit							kg/20		
Days After First/Last Applic.	58	58	58	58	58	58	61	61	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Handweeded Check					100.0 a	100.0 a	100.0 a	0.253 a
2	S-metolachlor	7.62	EC	0.96	lb ai/a	100.0 a	98.9 a	100.0 a	0.273 a
	formesafen	2	L	0.25	lb ai/a				
3	Saflufenacil	2.8	SC	0.0167	lb ai/a	100.0 a	96.7 a	100.0 a	0.307 a
4	Optill	68	WG	0.066	lb ai/a	100.0 a	99.8 a	100.0 a	0.273 a
5	Pyroxasulfone	85	WDG	0.06	lb ai/a	100.0 a	99.4 a	100.0 a	0.247 a
6	Pyroxasulfone	85	WDG	0.12	lb ai/a	95.0 a	98.5 a	100.0 a	0.240 a
7	Acetochlor	7	EC	0.5	lb ai/a	100.0 a	93.1 a	100.0 a	0.247 a
8	Acetochlor	7	EC	1.0	lb ai/a	100.0 a	92.3 a	100.0 a	0.247 a
9	A-16003	1.67	L	0.033	lb ai/a	67.7 b	76.5 a	100.0 a	0.253 a
10	A-16003	1.67	L	0.045	lb ai/a	88.3 a	87.2 a	98.3 a	0.273 a
11	Prometryn	4	L	1.0	lb ai/a	98.3 a	93.5 a	100.0 a	0.287 a
12	Sulfentrazone	4	F	0.16	lb ai/a	100.0 a	92.0 a	99.8 a	0.267 a
13	SpartanCharge	3.5	F	0.18	lb ai/a	100.0 a	85.9 a	100.0 a	0.333 a
14	Cloransulam-m	84	WG	0.03	lb ai/a	100.0 a	98.9 a	99.4 a	0.207 a
LSD P=.05						14.62	11.56	1.57	0.0857
Standard Deviation						8.71	11.84	4.29	0.0511
CV						9.04	15.23	4.82	19.29

Herbicides for Rosemary

Field: N2

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Rosemary	Plot Width	6 FT
Planting Date	June 1, 2016	Plot Length	20 FT
Between-Row Spacing	30 IN	Replications	3
In-Row Spacing	12 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 13	Harrowed	May 31
Disced		Cultipacked	NA
Fertilized	May 27, 13-13-13	Irrigated	weekly June 16-August 5, season total 4 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	44.9
pH	6.6	% Silt	40.1
% Organic Matter	2.6	% Clay	14.4

Harvest Information

Harvest Date	Crop destruct
--------------	---------------

Applications

Timing	PRETRA	POSTTR	POSTA
Crop Size at Application			
Date	May 31, 2016	June 3, 2016	June 21, 2016
Time of Day	12:00 PM	10:30 AM	11:30 AM
Method			
Method	CO ₂ Backpack	CO ₂ Backpack	CO ₂ Backpack
Placement	Broadcast Soil	Broadcast Soil	Broadcast Soil
Spray Volume	34 GAL/A	34 GAL/A	34 GAL/A
Spray Pressure	34 PSI	34 PSI	34 PSI
Air Temperature			
Air Temperature	75°F	75°F	75°F
Soil Temperature			
Soil Temperature	79°F	72°F	70°F
Soil Tilth			
Soil Tilth	Friable	Friable	Friable
Soil Surface Moisture			
Soil Surface Moisture	Normal	Dry	Dry
Relative Humidity			
Relative Humidity	Low	Low	Low
Wind Speed			
Wind Speed	5 MPH	2 MPH	6 MPH
Wind Direction			
Wind Direction	WNW	SSW	SW
Percent Cloud Cover			
Percent Cloud Cover	30	10	2

Weeds Present at application

PRETRA: None

POSTTR: None

POSTA: lambsquarters, galinsoga, large crabgrass

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

Herbicides for Rosemary

Trial ID: Rosemary 2016

Plots: 6 by 20 feet

Location: Freeville, NY; N2

Investigator: Dr. Darcy Telenko

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	Untreated Check							101	209	310
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	PRETRA	0.2787 ml/mx	102	210	302
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	PRETRA	0.5562 ml/mx	103	202	308
4	Treflan	4	EC	4.0	lb ai/a	PRETRA	10.44 ml/mx	104	206	303
5	A16003- bicyclopyrone NIS	1.67	SL	0.0446	lb ai/a	POSTTR	0.2787 ml/mx	105	205	304
		100	SL	0.25	% v/v	POSTTR	0.8871 ml/mx			
6	A16003- bicyclopyrone NIS	1.67	SL	0.089	lb ai/a	POSTTR	0.5562 ml/mx	106	201	305
		100	SL	0.25	% v/v	POSTTR	0.8871 ml/mx			
7	Treflan	4	EC	4.0	lb ai/a	POSTTR	10.44 ml/mx	107	207	309
8	A16003- bicyclopyrone NIS	1.67	SL	0.0446	lb ai/a	POSPOS	0.2787 ml/mx	108	208	307
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
9	A16003- bicyclopyrone NIS	1.67	SL	0.089	lb ai/a	POSPOS	0.5562 ml/mx	109	203	306
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			
10	AIM NIS	2	EC	0.0313	lb ai/a	POSPOS	0.1633 ml/mx	110	204	301
		100	SL	0.25	% v/v	POSPOS	0.8871 ml/mx			

Pest Name						Overall Weed					
Crop Name						Garden		Garden		Garden	
Rating Date						rosemary		rosemary		rosemary	
Rating Type						Jun-20-2016		Jun-20-2016		Jun-20-2016	
Rating Unit						TOTAL		DAMAGE		CONTROL	
Days After First/Last Applic.						NUMBER		%		%	
						20	17	20	17	20	17
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					2.0	a	0.0	a	0.0	c
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	3.0	a	3.3	a	100.0	a
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	3.7	a	0.0	a	100.0	a
4	Treflan	4	EC	4.0	lb ai/a	5.0	a	0.0	a	98.3	b
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	3.0	a	0.0	a	100.0	a
	NIS	100	SL	0.25	% v/v						
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	3.7	a	0.0	a	100.0	a
	NIS	100	SL	0.25	% v/v						
7	Treflan	4	EC	4.0	lb ai/a	5.2	a	0.0	a	100.0	a
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	5.7	a	0.0	a	0.0	c
	NIS	100	SL	0.25	% v/v						
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	5.0	a	0.0	a	0.0	c
	NIS	100	SL	0.25	% v/v						
10	AIM	2	EC	0.0313	lb ai/a	3.3	a	0.0	a	0.0	c
	NIS	100	SL	0.25	% v/v						
LSD P=.05						4.6		3.13		1.57	
Standard Deviation						2.7		1.83		0.91	
CV						68.1		547.72		1.53	

Pest Name	Overall Weed	Garden rosemary	Garden rosemary						
Crop Name	Rosemary	Jul-8-2016	Jul-8-2016						
Rating Date	Jul-8-2016	COUNT	DAMAGE						
Rating Type	CONTROL	NUMBER	%						
Rating Unit	%	38 17	38 17						
Days After First/Last Applic.	38 17								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0 d	13.7 a	0.0 b	
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	87.7 ab	16.3 a	0.0 b	
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	99.0 a	16.3 a	0.0 b	
4	Treflan	4	EC	4.0	lb ai/a	81.7 b	15.0 a	0.0 b	
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	99.3 a	17.0 a	0.0 b	
	NIS	100	SL	0.25	% v/v				
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	99.3 a	16.3 a	0.0 b	
	NIS	100	SL	0.25	% v/v				
7	Treflan	4	EC	4.0	lb ai/a	85.0 ab	15.0 a	0.0 b	
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	53.3 c	13.0 a	0.0 b	
	NIS	100	SL	0.25	% v/v				
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	86.7 ab	13.7 a	0.0 b	
	NIS	100	SL	0.25	% v/v				
10	AIM	2	EC	0.0313	lb ai/a	81.7 b	14.7 a	5.0 a	
	NIS	100	SL	0.25	% v/v				
LSD P=.05						17.24	6.14	2.71	
Standard Deviation						10.05	3.58	1.58	
CV						12.99	23.7	316.23	

Pest Name	Large crabgrass	Common purslane	Redroot pigweed
Crop Name	Garden rosemary	Garden rosemary	Garden rosemary
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	38 17	38 17	38 17

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
1	Untreated Check					0.0 d	0.0 e	0.0 c	
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	87.7 ab	87.7 cd	93.3 a	
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	99.0 a	99.7 ab	99.0 a	
4	Treflan	4	EC	4.0	lb ai/a	100.0 a	100.0 a	100.0 a	
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	99.3 a	99.3 ab	100.0 a	
	NIS	100	SL	0.25	% v/v				
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	100.0 a	100.0 a	100.0 a	
	NIS	100	SL	0.25	% v/v				
7	Treflan	4	EC	4.0	lb ai/a	100.0 a	100.0 a	93.3 a	
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	53.3 c	80.0 d	53.3 b	
	NIS	100	SL	0.25	% v/v				
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	86.7 ab	91.7 abc	88.3 a	
	NIS	100	SL	0.25	% v/v				
10	AIM	2	EC	0.0313	lb ai/a	81.7 b	88.3 bcd	100.0 a	
	NIS	100	SL	0.25	% v/v				
LSD P=.05						16.48	11.38	19.52	
Standard Deviation						9.61	6.63	11.38	
CV						11.89	7.83	13.76	

Pest Name	Hairy galinsoga	Ladysthumb	Common lambsquarters
Crop Name	Garden rosemary	Garden rosemary	Garden rosemary
Rating Date	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	38 17	38 17	38 17

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Hairy galinsoga		Ladysthumb		Common lambsquarters	
1	Untreated Check					0.0	c	0.0	c	0.0	c
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	100.0	a	100.0	a	91.0	a
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	99.7	a	99.7	a	99.7	a
4	Treflan	4	EC	4.0	lb ai/a	81.7	b	88.3	b	100.0	a
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	100.0	a	100.0	a	100.0	a
	NIS	100	SL	0.25	% v/v						
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	100.0	a	100.0	a	100.0	a
	NIS	100	SL	0.25	% v/v						
7	Treflan	4	EC	4.0	lb ai/a	85.0	b	85.0	b	100.0	a
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	100.0	a	100.0	a	65.0	b
	NIS	100	SL	0.25	% v/v						
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	98.3	a	100.0	a	88.3	ab
	NIS	100	SL	0.25	% v/v						
10	AIM	2	EC	0.0313	lb ai/a	93.3	a	100.0	a	100.0	a
	NIS	100	SL	0.25	% v/v						
LSD P=.05						7.36		6.52		24.06	
Standard Deviation						4.29		3.80		14.03	
CV						5.0		4.35		16.62	

Pest Name	Field bindweed	Overall Weed	Large crabgrass
Crop Name	Garden rosemary	Garden rosemary	Garden rosemary
Rating Date	Jul-8-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	38 17	52 31	52 31

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Field	Overall	Large
1	Untreated Check					66.7 a	0.0 d	0.0 d
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	100.0 a	76.7 ab	76.7 a
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	100.0 a	97.0 a	97.0 a
4	Treflan	4	EC	4.0	lb ai/a	100.0 a	58.3 bc	100.0 a
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	100.0 a	95.3 a	97.0 a
	NIS	100	SL	0.25	% v/v			
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	99.3 a	98.7 a	98.7 a
	NIS	100	SL	0.25	% v/v			
7	Treflan	4	EC	4.0	lb ai/a	100.0 a	60.0 bc	95.0 a
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	100.0 a	6.7 d	6.7 cd
	NIS	100	SL	0.25	% v/v			
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	100.0 a	43.3 c	43.3 b
	NIS	100	SL	0.25	% v/v			
10	AIM	2	EC	0.0313	lb ai/a	100.0 a	30.0 cd	30.0 bc
	NIS	100	SL	0.25	% v/v			
LSD P=.05						31.36	30.53	26.81
Standard Deviation						18.28	17.80	15.63
CV						18.92	31.45	24.25

Pest Name	Common purslane	Redroot pigweed	Hairy galinsoga
Crop Name	Garden rosemary	Garden rosemary	Garden rosemary
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	52 31	52 31	52 31

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Common purslane		Redroot pigweed		Hairy galinsoga	
1	Untreated Check					0.0	c	0.0	d	0.0	d
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	98.3	a	81.7	ab	98.3	a
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	98.7	a	97.0	a	98.7	a
4	Treflan	4	EC	4.0	lb ai/a	88.3	a	100.0	a	58.3	bc
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	96.0	a	97.0	a	97.0	a
	NIS	100	SL	0.25	% v/v						
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	98.7	a	98.7	a	98.7	a
	NIS	100	SL	0.25	% v/v						
7	Treflan	4	EC	4.0	lb ai/a	60.0	ab	65.0	bc	60.0	bc
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	40.0	bc	6.7	d	6.7	d
	NIS	100	SL	0.25	% v/v						
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	43.3	b	43.3	c	43.3	c
	NIS	100	SL	0.25	% v/v						
10	AIM	2	EC	0.0313	lb ai/a	100.0	a	100.0	a	81.7	ab
	NIS	100	SL	0.25	% v/v						
LSD P=.05						41.66		31.09		31.90	
Standard Deviation						24.29		18.12		18.60	
CV						33.57		26.29		28.94	

Pest Name	Ladysthumb	Common lambsquarters		
Crop Name	Garden rosemary	Garden rosemary		Garden rosemary
Rating Date	Jul-22-2016	Jul-22-2016		Jul-22-2016
Rating Type	CONTROL	CONTROL		DAMAGE
Rating Unit	%	%		%
Days After First/Last Applic.	52 31	52 31		52 31

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Untreated Check					0.0	d	0.0	c	0.0	a
2	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	98.3	a	98.3	a	0.0	a
3	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	98.7	a	98.7	a	0.0	a
4	Treflan	4	EC	4.0	lb ai/a	100.0	a	100.0	a	0.0	a
5	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	97.0	a	97.0	a	0.0	a
	NIS	100	SL	0.25	% v/v						
6	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	98.7	a	98.7	a	0.0	a
	NIS	100	SL	0.25	% v/v						
7	Treflan	4	EC	4.0	lb ai/a	100.0	a	100.0	a	0.0	a
8	A16003- bicyclopyrone	1.67	SL	0.0446	lb ai/a	40.0	c	40.0	b	0.0	a
	NIS	100	SL	0.25	% v/v						
9	A16003- bicyclopyrone	1.67	SL	0.089	lb ai/a	43.3	bc	43.3	b	0.0	a
	NIS	100	SL	0.25	% v/v						
10	AIM	2	EC	0.0313	lb ai/a	81.7	ab	100.0	a	0.0	a
	NIS	100	SL	0.25	% v/v						
LSD P=.05						39.58		37.07		.	
Standard Deviation						23.07		21.61		0.00	
CV						30.45		27.85		0.0	

Herbicides for Sweet Corn

Field: N1

Location: Freeville, NY

Crop Information

Crop Information		Trial Design	
Type/Variety	Sweet Corn 'Bonus'	Plot Width	6 FT
Planting Date	May 18, 2016	Plot Length	20 FT
Between-Row Spacing	30 IN	Replications	3
In-Row Spacing	7.5 IN	Randomized Complete Block	

Field Preparations and Maintenance

Plowed	April 20, 2016	Harrowed	May 18, 2016
Disced		Cultipacked	NA
Fertilized	May 9, 2016 13-13-13	Irrigated	July 6 season total 0.4 IN

Soil Description

Soil Type	Howard Gravel Loam	% Sand	47.2
pH	6.3	% Silt	41.4
% Organic Matter	2.9	% Clay	11.4

Harvest Information

Harvest Date	August 16, 2016
Harvest Width	5 FT
Harvest Length	20 FT

Applications

Timing	PRE
Crop Size at Application	NA
Date	May 19, 2016
Time of Day	3:00 PM
Method	CO ₂ Backpack
Placement	Broadcast
Spray Volume	34 GAL/A
Spray Pressure	34 PSI
Air Temperature	62°F
Soil Temperature	61°F
Soil Tilth	Friable
Soil Surface Moisture	Normal
Relative Humidity	Low
Wind Speed	7 MPH
Wind Direction	WNW
Percent Cloud Cover	10

Weeds Present at application

PRE: None

Spray Equipment

Four flatfan 8003VS nozzles spaced 18 IN apart on a 57 IN boom

Nozzle Height: 18 IN

Carrier: Water

Speed: 2.5 MPH

Notes

July 8 – plots 101 and 102 under water stress -corn curling

Herbicides for Sweet Corn

Trial ID: Sweet Corn 2016
Location: Freeville, NY; N1
Investigator: Dr. Darcy Telenko

Plots: 6 by 20 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Amt Product to Measure	Plot No. by Rep		
								1	2	3
1	S-metolachlor	7.62	EC	0.95	lb ai/a	PRE	1.301 ml/mx	101	208	301
2	S-metolachlor	7.62	EC	1.33	lb ai/a	PRE	1.822 ml/mx	102	210	314
3	Pyroxasulfone	85	WG	0.08	lb ai/a	PRE	0.1177 g/mx	103	209	304
4	Pyroxasulfone	85	WG	0.12	lb ai/a	PRE	0.1766 g/mx	104	201	307
5	Pyroxasulfone	85	WG	0.16	lb ai/a	PRE	0.2354 g/mx	105	213	302
6	Acetochlor	7	EC	1.4	lb ai/a	PRE	2.087 ml/mx	106	212	311
7	Acetochlor	7	EC	2.0	lb ai/a	PRE	2.982 ml/mx	107	214	303
8	Acetochlor	7	EC	2.6	lb ai/a	PRE	3.876 ml/mx	108	206	309
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	PRE	0.3301 ml/mx	109	211	313
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	PRE	0.4126 ml/mx	110	205	312
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	PRE	0.4951 ml/mx	111	207	306
12	Acuron	3.44	L	1.7	lb ai/a	PRE	5.158 ml/mx	112	203	305
13	Acuron	3.44	L	2.2	lb ai/a	PRE	6.675 ml/mx	113	202	310
14	Acuron	3.44	L	2.6	lb ai/a	PRE	7.888 ml/mx	114	204	308

Pest Name									Overall weed
Crop Name					Sweet corn	Sweet corn	Sweet corn	Sweet corn	Sweet corn
Crop Variety					Bonus	Bonus	Bonus	Bonus	Bonus
Rating Date					Jun-1-2016	Jun-1-2016	Jun-1-2016	Jun-8-2016	Jun-8-2016
Rating Type					DAMAGE	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit					%	%	%	%	%
Days After First/Last Applic.					13	13	13	13	20

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	S-metolachlor	7.62	EC	0.95	lb ai/a	0.0	a	100.0	a	98.0	ab
2	S-metolachlor	7.62	EC	1.33	lb ai/a	0.0	a	100.0	a	98.5	ab
3	Pyroxasulfone	85	WG	0.08	lb ai/a	0.0	a	100.0	a	97.3	ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	0.0	a	99.3	ab	98.9	ab
5	Pyroxasulfone	85	WG	0.16	lb ai/a	0.0	a	100.0	a	99.8	a
6	Acetochlor	7	EC	1.4	lb ai/a	0.0	a	99.3	ab	84.3	c
7	Acetochlor	7	EC	2.0	lb ai/a	0.0	a	99.7	ab	93.9	bc
8	Acetochlor	7	EC	2.6	lb ai/a	0.0	a	99.7	ab	99.2	ab
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	0.0	a	99.0	ab	99.4	ab
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	0.0	a	99.7	ab	99.8	a
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	0.0	a	98.3	b	99.2	ab
12	Acuron	3.44	L	1.7	lb ai/a	0.0	a	99.7	ab	100.0	a
13	Acuron	3.44	L	2.2	lb ai/a	0.0	a	99.7	ab	100.0	a
14	Acuron	3.44	L	2.6	lb ai/a	0.0	a	99.7	ab	100.0	a
LSD P=.05						.		1.58		3.22	
Standard Deviation						0.00		0.94		6.16	
CV						0.0		0.94		7.37	

Pest Name	Hairy nightshade	Field bindweed	Common lambsquarters
Crop Name	Sweet corn	Sweet corn	Sweet corn
Crop Variety	Bonus	Bonus	Bonus
Rating Date	Jun-8-2016	Jun-8-2016	Jun-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	20 20	20 20	20 20

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	S-metolachlor	7.62	EC	0.95	lb ai/a	97.0	b	98.9	a	100.0	a
2	S-metolachlor	7.62	EC	1.33	lb ai/a	98.9	ab	99.4	a	99.3	a
3	Pyroxasulfone	85	WG	0.08	lb ai/a	99.4	ab	99.8	a	100.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	99.9	ab	99.9	a	100.0	a
5	Pyroxasulfone	85	WG	0.16	lb ai/a	100.0	a	96.4	a	100.0	a
6	Acetochlor	7	EC	1.4	lb ai/a	98.1	ab	95.6	a	99.3	a
7	Acetochlor	7	EC	2.0	lb ai/a	98.9	ab	96.5	a	100.0	a
8	Acetochlor	7	EC	2.6	lb ai/a	99.8	ab	100.0	a	100.0	a
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	100.0	a	97.6	a	99.7	a
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	100.0	a	100.0	a	100.0	a
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	100.0	a	99.9	a	100.0	a
12	Acuron	3.44	L	1.7	lb ai/a	100.0	a	99.8	a	100.0	a
13	Acuron	3.44	L	2.2	lb ai/a	100.0	a	100.0	a	100.0	a
14	Acuron	3.44	L	2.6	lb ai/a	100.0	a	100.0	a	100.0	a
LSD P=.05						3.00		5.49		0.72	
Standard Deviation						5.94		8.07		0.43	
CV						6.81		9.43		0.43	

Pest Name	Canada thistle	Ragweed	Large crabgrass
Crop Name	Sweet corn	Sweet corn	Sweet corn
Crop Variety	Bonus	Bonus	Bonus
Rating Date	Jun-8-2016	Jun-8-2016	Jun-8-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	20 20	20 20	20 20

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Canada thistle		Ragweed		Large crabgrass	
1	S-metolachlor	7.62	EC	0.95	lb ai/a	100.0	a	99.7	b	100.0	a
2	S-metolachlor	7.62	EC	1.33	lb ai/a	100.0	a	100.0	a	100.0	a
3	Pyroxasulfone	85	WG	0.08	lb ai/a	100.0	a	100.0	a	100.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	100.0	a	100.0	a
5	Pyroxasulfone	85	WG	0.16	lb ai/a	100.0	a	100.0	a	100.0	a
6	Acetochlor	7	EC	1.4	lb ai/a	100.0	a	100.0	a	99.3	b
7	Acetochlor	7	EC	2.0	lb ai/a	100.0	a	100.0	a	100.0	a
8	Acetochlor	7	EC	2.6	lb ai/a	100.0	a	100.0	a	100.0	a
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	100.0	a	100.0	a	100.0	a
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	100.0	a	100.0	a	100.0	a
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	98.3	b	100.0	a	100.0	a
12	Acuron	3.44	L	1.7	lb ai/a	100.0	a	100.0	a	100.0	a
13	Acuron	3.44	L	2.2	lb ai/a	99.3	ab	100.0	a	100.0	a
14	Acuron	3.44	L	2.6	lb ai/a	99.3	ab	100.0	a	100.0	a
LSD P=.05						1.51		0.26		0.52	
Standard Deviation						0.90		0.15		0.31	
CV						0.9		0.15		0.31	

Pest Name	Dandelion	Overall weed	Hairy nightshade
Crop Name	Sweet corn	Sweet corn	Sweet corn
Crop Variety	Bonus	Bonus	Bonus
Rating Date	Jun-8-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	20 20	64 64	64 64

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Dandelion		Overall weed		Hairy nightshade	
1	S-metolachlor	7.62	EC	0.95	lb ai/a	100.0	a	97.6	ab	98.3	b
2	S-metolachlor	7.62	EC	1.33	lb ai/a	100.0	a	98.9	a	99.8	ab
3	Pyroxasulfone	85	WG	0.08	lb ai/a	100.0	a	98.5	a	99.4	ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	99.7	a	99.8	ab
5	Pyroxasulfone	85	WG	0.16	lb ai/a	100.0	a	99.7	a	100.0	a
6	Acetochlor	7	EC	1.4	lb ai/a	99.3	b	86.5	c	100.0	a
7	Acetochlor	7	EC	2.0	lb ai/a	100.0	a	89.8	bc	100.0	a
8	Acetochlor	7	EC	2.6	lb ai/a	100.0	a	99.8	a	99.8	ab
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	100.0	a	99.1	a	100.0	a
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	100.0	a	100.0	a	100.0	a
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	99.7	ab	98.0	ab	100.0	a
12	Acuron	3.44	L	1.7	lb ai/a	100.0	a	100.0	a	100.0	a
13	Acuron	3.44	L	2.2	lb ai/a	100.0	a	99.8	a	100.0	a
14	Acuron	3.44	L	2.6	lb ai/a	100.0	a	99.8	a	100.0	a
LSD P=.05						0.59		3.52		1.37	
Standard Deviation						0.35		6.45		4.01	
CV						0.35		7.72		4.53	

Pest Name	Hairy galinsoga	Large Crabgrass	Common purslane
Crop Name	Sweet corn	Sweet corn	Sweet corn
Crop Variety	Bonus	Bonus	Bonus
Rating Date	Jul-22-2016	Jul-22-2016	Jul-22-2016
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Days After First/Last Applic.	64 64	64 64	64 64

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Hairy galinsoga		Large Crabgrass		Common purslane	
1	S-metolachlor	7.62	EC	0.95	lb ai/a	100.0	a	100.0	a	100.0	a
2	S-metolachlor	7.62	EC	1.33	lb ai/a	100.0	a	100.0	a	100.0	a
3	Pyroxasulfone	85	WG	0.08	lb ai/a	100.0	a	100.0	a	100.0	a
4	Pyroxasulfone	85	WG	0.12	lb ai/a	100.0	a	100.0	a	100.0	a
5	Pyroxasulfone	85	WG	0.16	lb ai/a	100.0	a	100.0	a	100.0	a
6	Acetochlor	7	EC	1.4	lb ai/a	100.0	a	99.3	b	100.0	a
7	Acetochlor	7	EC	2.0	lb ai/a	100.0	a	100.0	a	100.0	a
8	Acetochlor	7	EC	2.6	lb ai/a	100.0	a	100.0	a	100.0	a
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	100.0	a	100.0	a	100.0	a
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	100.0	a	100.0	a	100.0	a
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	100.0	a	100.0	a	100.0	a
12	Acuron	3.44	L	1.7	lb ai/a	100.0	a	100.0	a	100.0	a
13	Acuron	3.44	L	2.2	lb ai/a	100.0	a	100.0	a	100.0	a
14	Acuron	3.44	L	2.6	lb ai/a	100.0	a	100.0	a	100.0	a
LSD P=.05						.		0.52		.	
Standard Deviation						0.00		0.31		0.00	
CV						0.0		0.31		0.0	

Pest Name									
Crop Name					Sweet corn	Sweet corn	Sweet corn		
Crop Variety					Bonus	Bonus	Bonus		
Rating Date					Aug-16-2016	Aug-16-2016	Aug-16-2016		
Rating Type					YIELD	YIELD	YIELD		
Rating Unit					kg/plot	NUMBER	Bushel/A		
Days After First/Last Applic.					89 89	89 89	89 89		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	S-metolachlor	7.62	EC	0.95	lb ai/a	17.59	b	53.0	b	241.4	b
2	S-metolachlor	7.62	EC	1.33	lb ai/a	20.73	ab	60.0	ab	284.4	ab
3	Pyroxasulfone	85	WG	0.08	lb ai/a	19.53	ab	59.7	ab	267.9	ab
4	Pyroxasulfone	85	WG	0.12	lb ai/a	20.53	ab	56.7	ab	281.7	ab
5	Pyroxasulfone	85	WG	0.16	lb ai/a	19.00	ab	53.0	b	260.7	ab
6	Acetochlor	7	EC	1.4	lb ai/a	21.25	ab	56.0	ab	291.6	ab
7	Acetochlor	7	EC	2.0	lb ai/a	18.30	ab	52.7	b	251.1	ab
8	Acetochlor	7	EC	2.6	lb ai/a	19.09	ab	54.7	ab	261.9	ab
9	Anthem Maxx	4.3	SC	0.136	lb ai/a	21.97	a	62.0	a	301.4	a
10	Anthem Maxx	4.3	SC	0.17	lb ai/a	22.59	a	62.7	a	309.9	a
11	Anthem Maxx	4.3	SC	0.204	lb ai/a	19.17	ab	55.0	ab	263.0	ab
12	Acuron	3.44	L	1.7	lb ai/a	21.66	ab	59.7	ab	297.2	ab
13	Acuron	3.44	L	2.2	lb ai/a	19.53	ab	58.3	ab	267.9	ab
14	Acuron	3.44	L	2.6	lb ai/a	21.26	ab	56.3	ab	291.7	ab
LSD P=.05						4.29		8.04		58.85	
Standard Deviation						2.56		4.79		35.07	
CV						12.68		8.38		12.68	