Potato Herbicides for Extended Control Evaluation - Hanocock - 2012

Daniel J. Heider / Jed B. Colquhoun

Location: Hancock Ag Research Station: R-1 Pivot

Plot Information:

Soil Type: Plainfield Loamy Sand; pH 6.8; OM 1.0%.
Potato Cultivar: Russet Burbank
Date Planted: 5/1/12
Row Spacing: 36 Inches, 4 rows/plot
Plant Spacing: 12 inches
Date Harvested: 9/17/12
Plot Size-Design: 12' x 20', 3 Reps
Rating Dates: 5/30, 6/13, 6/20, 7/5

Application Equipment: Tractor mounted air pressure sprayer. GPA 20, PSI 27, MPH 3.3, Nozzle - XR8003VS, Nozzle spacing 18", Height 18".

Herbicide Application Data:

Date	5/16/12	5/30/12	6/29/12
Time	12:30 pm	10:00 am	10:00 am
Treatment	HS	PO1	PO2
Soil Moisture			
SF	dry	dry	dry
1"	moist	moist	moist
3"	moist	moist	moist
Soil Temp (F^o)			
SF	89.6	66.5	95.0
3"	74.6	63.4	83.3
Air Temp (F^o)	73.1	57.5	83.3
Wind	4.0-6.0 W	4.2 NW	1.6 NW
%RH	24.0%	54.1%	43.1%
Sky Condition	0% clouds	90% clouds	50% clouds
Crop Stage	pre	8-10"	tuber init.
Weed & Size	pre	COLQ 1"	-----
	-----	CORW 1"	-----
	-----	WIBU 1"	

Summary: The primary goal of this trial was to attempt to extend weed control later into the season, after the potato canopy begins to break down. To accomplish this, most treatments consisted of sequential applications, culminating with June 29th application. The trial was irrigated approximately 1 hour after the PO1 and PO2 treatment timings. Weed control and crop safety was excellent in all treatments, however many of the herbicides tested would require new residue trials to reduce pre-harvest intervals or change use pattern.

Weed Abbreviations:	Plot Weed Density:
COLQ = Common Lambsquarters	moderate
HANS = Hairy Nightshade	low
CORW = Common Ragweed	high
WIBU = Wild Buckwheat	high
YEFT = Yellow Foxtail	moderate

Potato Herbicide Efficacy - Hancock, WI - 2012

2012 Field Season Precipitation/Irrigation (R-1 Pivot)

Date	Type	Amount (inches)
6-May	Precipitation	0.35
7-May	Precipitation	0.64
9-May	Precipitation	0.02
14-May	Irrigation	0.4
18-May	Irrigation	0.5
22-May	Irrigation	0.5
25-May	Precipitation	0.34
25-May	Irrigation	0.5
26-May	Precipitation	0.24
27-May	Precipitation	0.85
29-May	Precipitation	0.42
30-May	Irrigation	0.5
1-Jun	Irrigation	0.5
3-Jun	Irrigation	0.5
5-Jun	Irrigation	0.5
6-Jun	Irrigation	0.25
7-Jun	Irrigation	0.25
8-Jun	Irrigation	0.25
9-Jun	Irrigation	0.25
9-Jun	Precipitation	0.1
10-Jun	Irrigation	0.5
14-Jun	Irrigation	0.5
16-Jun	Irrigation	0.5
17-Jun	Precipitation	0.15
18-Jun	Precipitation	0.56
20-Jun	Irrigation	0.5
21-Jun	Precipitation	0.92
23-Jun	Irrigation	0.5
25-Jun	Irrigation	0.5
27-Jun	Irrigation	0.75
29-Jun	Irrigation	0.75
1-Jul	Irrigation	0.5
3-Jul	Irrigation	0.75
3-Jul	Precipitation	0.04
5-Jul	Irrigation	0.75
7-Jul	Irrigation	0.75
9-Jul	Irrigation	0.6
11-Jul	Irrigation	0.75
13-Jul	Irrigation	0.5
15-Jul	Irrigation	0.5
15-Jul	Precipitation	0.07
17-Jul	Irrigation	0.75
19-Jul	Irrigation	0.5
19-Jul	Precipitation	0.17
21-Jul	Irrigation	0.6
23-Jul	Irrigation	0.6
24-Jul	Precipitation	0.08
25-Jul	Irrigation	0.5
25-Jul	Precipitation	0.06
26-Jul	Precipitation	0.06
27-Jul	Irrigation	0.5
27-Jul	Precipitation	0.15
29-Jul	Irrigation	0.5
31-Jul	Irrigation	0.5
2-Aug	Irrigation	0.5
3-Aug	Precipitation	0.03
4-Aug	Irrigation	0.5
4-Aug	Precipitation	0.05
6-Aug	Irrigation	0.5
8-Aug	Irrigation	0.5
9-Aug	Precipitation	0.68
10-Aug	Precipitation	0.4
13-Aug	Irrigation	0.5
16-Aug	Precipitation	1.07
20-Aug	Irrigation	0.5
23-Aug	Irrigation	0.5
26-Aug	Precipitation	0.66
27-Aug	Precipitation	0.04
31-Aug	Irrigation	0.5
2-Sep	Irrigation	0.5
4-Sep	Irrigation	0.5
7-Sep	Irrigation	0.5
7-Sep	Precipitation	0.07
8-Sep	Precipitation	0.2
9-Sep	Precipitation	0.08
10-Sep	Irrigation	0.5
13-Sep	Precipitation	0.1

Potato Herbicide Efficacy - Hancock, WI - 2012

Maintenance Fertilizer & Pesticides (R-1 Pivot)

Date	Product	Rate	Unit
9-Apr	0-0-60	400	lb/A
9-Apr	0-0-0-17S-21Ca	500	lb/A
1-May	6-30-22-4S, Platinum impreg.	550	lb/A
15-May	21-0-0-24S	360	lb/A
21-Jun	Blackhawk	3.3	oz/A
22-Jun	Dithane DF	2	lb/A
29-Jun	Bravo ZN	2.125	pt/A
6-Jul	Bravo ZN	2.125	pt/A
6-Jul	Headline	10	oz/A
12-Jul	Bravo ZN	2.125	pt/A
13-Jul	34-0-0	100	lb/A
17-Jul	Coragen	5	oz/A
19-Jul	Brigade	6	oz/A
20-Jul	Bravo Weathstik	1.5	pt/A
20-Jul	Endura	3.5	oz/A
27-Jul	Bravo Weathstik	1.5	pt/A
27-Jul	Headline	10	oz/A
31-Jul	Coragen	3	oz/A
2-Aug	Bravo Weathstik	1.5	pt/A
2-Aug	Tanos	8	oz/A
7-Aug	Revus Top	7	oz/A
12-Aug	Tanos	8	oz/A
12-Aug	Penncozeb 75 DF	2	lb/A
17-Aug	Forum	6	oz/A
17-Aug	Penncozeb 75 DF	2	lb/A
22-Aug	Tanos	8	oz/A
22-Aug	Dithane DF	2	lb/A
27-Aug	Forum	6	oz/A
27-Aug	Dithane DF	2	lb/A
1-Sep	Tanos	8	oz/A
1-Sep	Dithane DF	2	lb/A
5-Sep	Reglone	1	pt/A
5-Sep	NIS	1	pt/A
5-Sep	Agri Tin 80WP	1.87	oz/A
10-Sep	Reglone	1	pt/A
10-Sep	NIS	1	pt/A
10-Sep	Agri Tin 80WP	1.87	oz/A

Potato Herbicides For Extended Control Evaluation - Hancock, WI - 2012

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	% Injury 5/30/12	% Weed Control 5/30/12 COLQ	CORW	WIBU
1	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Dual Magnum	1	PT/A	HS				
	Eptam	3	PT/A	PO2				
2	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Matrix	1	OZ/A	PO1				
	NIS	0.25	% V/V	PO1				
	2,4-D Amine 4	3	OZ/A	PO2				
3	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Dual Magnum	1	PT/A	HS				
	Prowl H2O	1	PT/A	PO2				
4	Metribuzin	0.67	LB/A	HS	0 a	98.3 b	98.3 b	100 a
	Matrix	1	OZ/A	PO1				
	NIS	0.25	% V/V	PO1				
	Eptam	3	PT/A	PO2				
5	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Prowl H2O	1	PT/A	HS				
	Dual Magnum	1	PT/A	PO2				
6	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Prowl H2O	1	PT/A	HS				
	Outlook	14	OZ/A	PO2				
7	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Dual Magnum	1	PT/A	HS				
	Curbit	2	PT/A	PO2				
8	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a
	Prowl H2O	1	PT/A	HS				
	Matrix	1	OZ/A	PO2				
	Eptam	1	PT/A	PO2				
	MSO	1	% V/V	PO2				
	AMS	2	LB/A	PO2				
9	Prowl H2O	1	PT/A	PO1	0 a	0 c	0 c	0 b
	Matrix	1	OZ/A	PO1				
	NIS	0.25	% V/V	PO1				
10	Matrix	1	OZ/A	PO1	0 a	0 c	0 c	0 b
	NIS	0.25	% V/V	PO1				
	Select Max	16	OZ/A	PO1				
11	Eptam	3	PT/A	PO1	0 a	0 c	0 c	0 b
	Matrix	1	OZ/A	PO1				
	NIS	0.25	% V/V	PO1				
12	Matrix	1	OZ/A	PO1	0 a	0 c	0 c	0 b
	NIS	0.25	% V/V	PO1				
	Select Max	16	OZ/A	PO1				
	Metribuzin	0.67	LB/A	PO1				
LSD (P=.05)					0	1.41	1.41	0

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

Note: Research results only. Some treatments in this trial are not currently registered on the crop

Potato Herbicides For Extended Control Evaluation - Hancock, WI - 2012

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	% Injury 6/13/12	% Weed Control 6/13/12				
						COLQ	CORW	WIBU	HANS	YEFT
1	Metribuzin	0.67	LB/A	HS	0 a	100 a	92.7 abc	94.3 a	100 a	100 a
	Dual Magnum	1	PT/A	HS						
	Eptam	3	PT/A	PO2						
2	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a	100 a	100 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
	2,4-D Amine 4	3	OZ/A	PO2						
3	Metribuzin	0.67	LB/A	HS	0 a	100 a	95 ab	100 a	100 a	100 a
	Dual Magnum	1	PT/A	HS						
	Prowl H2O	1	PT/A	PO2						
4	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a	100 a	100 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
	Eptam	3	PT/A	PO2						
5	Metribuzin	0.67	LB/A	HS	0 a	100 a	95 ab	99.3 a	100 a	100 a
	Prowl H2O	1	PT/A	HS						
	Dual Magnum	1	PT/A	PO2						
6	Metribuzin	0.67	LB/A	HS	0 a	100 a	86.7 c	100 a	100 a	100 a
	Prowl H2O	1	PT/A	HS						
	Outlook	14	OZ/A	PO2						
7	Metribuzin	0.67	LB/A	HS	0 a	100 a	91 bc	95 a	100 a	100 a
	Dual Magnum	1	PT/A	HS						
	Curbit	2	PT/A	PO2						
8	Metribuzin	0.67	LB/A	HS	0 a	100 a	93.3 abc	100 a	100 a	100 a
	Prowl H2O	1	PT/A	HS						
	Matrix	1	OZ/A	PO2						
	Eptam	1	PT/A	PO2						
	MSO	1	% V/V	PO2						
	AMS	2	LB/A	PO2						
9	Prowl H2O	1	PT/A	PO1	0 a	99.3 a	100 a	100 a	100 a	100 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
10	Matrix	1	OZ/A	PO1	0 a	100 a	99.3 a	98.33 a	100 a	100 a
	NIS	0.25	% V/V	PO1						
	Select Max	16	OZ/A	PO1						
11	Eptam	3	PT/A	PO1	0 a	100 a	100 a	100 a	100 a	100 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
12	Matrix	1	OZ/A	PO1	0 a	100 a	100 a	100 a	100 a	100 a
	NIS	0.25	% V/V	PO1						
	Select Max	16	OZ/A	PO1						
	Metribuzin	0.67	LB/A	PO1						
LSD (P=.05)					0	0.56	7.51	6.25	0	0

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

Note: Research results only. Some treatments in this trial are not currently registered on the crop

Potato Herbicides For Extended Control Evaluation - Hancock, WI - 2012

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	% Injury 6/13/12	% Weed Control 6/20/12				% Injury 7/5/12
						COLQ	CORW	WIBU	YEFT	
1	Metribuzin	0.67	LB/A	HS	0 a	100 a	93.3 a	100 a	100 a	0 a
	Dual Magnum	1	PT/A	HS						
	Eptam	3	PT/A	PO2						
2	Metribuzin	0.67	LB/A	HS	0 a	100 a	97.7 a	99.3 a	100 a	0 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
	2,4-D Amine 4	3	OZ/A	PO2						
3	Metribuzin	0.67	LB/A	HS	0 a	99.3 a	94.3 a	93.3 a	100 a	0 a
	Dual Magnum	1	PT/A	HS						
	Prowl H2O	1	PT/A	PO2						
4	Metribuzin	0.67	LB/A	HS	0 a	100 a	100 a	100 a	100 a	0 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
	Eptam	3	PT/A	PO2						
5	Metribuzin	0.67	LB/A	HS	0 a	100 a	91 a	98.3 a	100 a	0 a
	Prowl H2O	1	PT/A	HS						
	Dual Magnum	1	PT/A	PO2						
6	Metribuzin	0.67	LB/A	HS	0 a	100 a	92.7 a	100 a	100 a	0 a
	Prowl H2O	1	PT/A	HS						
	Outlook	14	OZ/A	PO2						
7	Metribuzin	0.67	LB/A	HS	0 a	100 a	91.7 a	98.3 a	100 a	0 a
	Dual Magnum	1	PT/A	HS						
	Curbit	2	PT/A	PO2						
8	Metribuzin	0.67	LB/A	HS	0 a	100 a	95 a	100 a	100 a	0 a
	Prowl H2O	1	PT/A	HS						
	Matrix	1	OZ/A	PO2						
	Eptam	1	PT/A	PO2						
	MSO	1	% V/V	PO2						
	AMS	2	LB/A	PO2						
9	Prowl H2O	1	PT/A	PO1	0 a	100 a	98.3 a	98.3 a	100 a	0 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
10	Matrix	1	OZ/A	PO1	0 a	100 a	95 a	98.3 a	100 a	0 a
	NIS	0.25	% V/V	PO1						
	Select Max	16	OZ/A	PO1						
11	Eptam	3	PT/A	PO1	0 a	100 a	100 a	100 a	100 a	0 a
	Matrix	1	OZ/A	PO1						
	NIS	0.25	% V/V	PO1						
12	Matrix	1	OZ/A	PO1	0 a	100 a	100 a	96.7 a	100 a	0 a
	NIS	0.25	% V/V	PO1						
	Select Max	16	OZ/A	PO1						
	Metribuzin	0.67	LB/A	PO1						
LSD (P=.05)					0	0.56	8.62	7.06	0	0

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

Note: Research results only. Some treatments in this trial are not currently registered on the crop

Potato Herbicides For Extended Control Evaluation - Hancock, WI - 2012

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	Yield 9/17/12 (cwt/A) B's	Cull's	2-4 oz	4-6 oz	6-10 oz
1	Metribuzin	0.67	LB/A	HS	87.97 a	47.67 a	52.64 a	118.58 a	226.03 a
	Dual Magnum	1	PT/A	HS					
	Eptam	3	PT/A	PO2					
2	Metribuzin	0.67	LB/A	HS	81.43 a	40.78 a	63.53 a	129.59 a	230.14 a
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
	2,4-D Amine 4	3	OZ/A	PO2					
3	Metribuzin	0.67	LB/A	HS	90.87 a	50.94 a	60.14 a	110.59 a	237.52 a
	Dual Magnum	1	PT/A	HS					
	Prowl H2O	1	PT/A	PO2					
4	Metribuzin	0.67	LB/A	HS	80.95 a	44.41 a	49.73 a	135.88 a	281.93 a
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
	Eptam	3	PT/A	PO2					
5	Metribuzin	0.67	LB/A	HS	88.09 a	30.86 a	59.77 a	118.34 a	267.29 a
	Prowl H2O	1	PT/A	HS					
	Dual Magnum	1	PT/A	PO2					
6	Metribuzin	0.67	LB/A	HS	68.97 a	86.39 a	50.94 a	98.01 a	276.73 a
	Prowl H2O	1	PT/A	HS					
	Outlook	14	OZ/A	PO2					
7	Metribuzin	0.67	LB/A	HS	80.83 a	56.87 a	43.20 a	104.91 a	200.50 a
	Dual Magnum	1	PT/A	HS					
	Curbit	2	PT/A	PO2					
8	Metribuzin	0.67	LB/A	HS	88.81 a	64.01 a	51.91 a	105.88 a	247.20 a
	Prowl H2O	1	PT/A	HS					
	Matrix	1	OZ/A	PO2					
	Eptam	1	PT/A	PO2					
	MSO	1	% V/V	PO2					
	AMS	2	LB/A	PO2					
9	Prowl H2O	1	PT/A	PO1	72.48 a	48.64 a	43.20 a	114.95 a	304.56 a
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
10	Matrix	1	OZ/A	PO1	86.15 a	52.39 a	48.76 a	104.30 a	245.87 a
	NIS	0.25	% V/V	PO1					
	Select Max	16	OZ/A	PO1					
11	Eptam	3	PT/A	PO1	65.46 a	45.25 a	48.52 a	115.80 a	256.76 a
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
12	Matrix	1	OZ/A	PO1	59.53 a	70.91 a	41.50 a	100.55 a	268.62 a
	NIS	0.25	% V/V	PO1					
	Select Max	16	OZ/A	PO1					
	Metribuzin	0.67	LB/A	PO1					
LSD (P=.05)					33.126	36.001	29.839	60.234	83.971

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

Note: Research results only. Some treatments in this trial are not currently registered on the crop

Potato Herbicides For Extended Control Evaluation - Hancock, WI - 2012

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	Yield 9/17/12 (cwt/A) 10-13 oz	13-16 oz	>16 oz	Total Yield	Specific Gravity
1	Metribuzin	0.67	LB/A	HS	107.09 a	33.76 a	19.97 a	693.69 a	1.073 cd
	Dual Magnum	1	PT/A	HS					
	Eptam	3	PT/A	PO2					
2	Metribuzin	0.67	LB/A	HS	85.67 a	24.56 a	21.42 a	677.12 a	1.075 abc
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
	2,4-D Amine 4	3	OZ/A	PO2					
3	Metribuzin	0.67	LB/A	HS	100.31 a	16.82 a	27.10 a	694.30 a	1.075 abc
	Dual Magnum	1	PT/A	HS					
	Prowl H2O	1	PT/A	PO2					
4	Metribuzin	0.67	LB/A	HS	89.54 a	33.52 a	13.92 a	729.87 a	1.077 a
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
	Eptam	3	PT/A	PO2					
5	Metribuzin	0.67	LB/A	HS	82.52 a	20.21 a	14.04 a	681.11 a	1.075 abc
	Prowl H2O	1	PT/A	HS					
	Dual Magnum	1	PT/A	PO2					
6	Metribuzin	0.67	LB/A	HS	99.83 a	32.07 a	36.78 a	749.72 a	1.076 ab
	Prowl H2O	1	PT/A	HS					
	Outlook	14	OZ/A	PO2					
7	Metribuzin	0.67	LB/A	HS	113.01 a	35.09 a	23.47 a	657.88 a	1.077 a
	Dual Magnum	1	PT/A	HS					
	Curbit	2	PT/A	PO2					
8	Metribuzin	0.67	LB/A	HS	95.23 a	26.50 a	11.13 a	690.67 a	1.072 d
	Prowl H2O	1	PT/A	HS					
	Matrix	1	OZ/A	PO2					
	Eptam	1	PT/A	PO2					
	MSO	1	% V/V	PO2					
	AMS	2	LB/A	PO2					
9	Prowl H2O	1	PT/A	PO1	76.96 a	31.94 a	11.01 a	703.74 a	1.074 bcd
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
10	Matrix	1	OZ/A	PO1	82.04 a	13.67 a	4.96 a	638.15 a	1.073 cd
	NIS	0.25	% V/V	PO1					
	Select Max	16	OZ/A	PO1					
11	Eptam	3	PT/A	PO1	106.60 a	31.82 a	37.63 a	707.85 a	1.077 ab
	Matrix	1	OZ/A	PO1					
	NIS	0.25	% V/V	PO1					
12	Matrix	1	OZ/A	PO1	111.32 a	46.95 a	27.23 a	726.61 a	1.077 ab
	NIS	0.25	% V/V	PO1					
	Select Max	16	OZ/A	PO1					
	Metribuzin	0.67	LB/A	PO1					
LSD (P=.05)					51.079	23.053	30.353	138.951	0.0029

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

Note: Research results only. Some treatments in this trial are not currently registered on the crop