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### Potato Herbicide Efficacy

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Location: Langlade County Ag Research Station, Antigo WI

Plot Information:

Soil Type: Antigo Silt Loam - O.M. 1.4%, pH 4.7  
Crop: Potato 'Superior'  
Date Planted: 5/25/18  
Row Spacing: 36"  
Plant Spacing: 12"  
Date Harvested: 9/24/18  
Plot Size-Design: 12'x20' - 4 reps  
Rating Dates: 6/21, 6/28, 7/26

Weed Control Rating Scale: 0% = no control, 100% = complete control  
Phytotoxicity Rating Scale: 0% = no injury, 100% = plant death  
Application Equipment: Tractor Mounted air pressure sprayer. GPA 20, PSI 27, MPH 3.3,  
Nozzle - AIXR11003VS, Nozzle spacing 18", Height 18".

Herbicide Application Data:

Date	6/8/18	
Time	5:00 pm	
Treatment	H.S.	
Soil Moisture		
	SF	dry
	1"	moist
	3"	moist
Soil Temp (F°)		
	SF	87.6
	3"	80.1
Air Temp (F°)	75.6	
Wind (mph/dir.)	2.5 NE	
%RH	37.2%	
Sky Condition-% clouds	80%	
Crop Stage	-----	
Weed & Size	-----	

**Summary:** This trial was set up to evaluate the use of ethalfluralin in Wisconsin seed potato production. Although not present in this trial, ethalfluralin can be helpful in controlling some difficult weeds such as eastern black nightshade and dodder. The trial location had low common lambsquarter pressure and moderate wild buckwheat and yellow foxtail pressure. Treatment differences noted early in the season were generally masked by the developing crop canopy so that by harvest only the untreated check had easily visible weed pressure. Minimal moisture in the week following application may have resulted in lower grass control in several treatments where greater incorporation would have likely improved weed control. No herbicide injury or yield differences were noted in any treatment.

Weed Abbreviations:

COLQ = Common Lambsquarter  
WIRA = Wild Radish  
WIBU = Wild Buckwheat  
YEFT = Yellow Foxtail

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2018 Field Season Precipitation/Irrigation

<u>Date</u>	<u>Type</u>	<u>Amount (inches)</u>
26-May	Precipitation	0.19
31-May	Precipitation	2.09
2-Jun	Precipitation	0.01
3-Jun	Precipitation	0.48
4-Jun	Precipitation	0.06
5-Jun	Precipitation	0.04
13-Jun	Precipitation	0.04
15-Jun	Precipitation	0.15
16-Jun	Precipitation	1.21
18-Jun	Precipitation	2.89
19-Jun	Precipitation	0.05
29-Jun	Irrigation	1
2-Jul	Precipitation	0.4
13-Jul	Precipitation	0.28
14-Jul	Precipitation	0.02
18-Jul	Irrigation	1
20-Jul	Precipitation	0.47
21-Jul	Precipitation	0.24
26-Jul	Precipitation	0.14
30-Jul	Precipitation	0.08
2-Aug	Precipitation	0.5
4-Aug	Precipitation	0.04
5-Aug	Precipitation	0.06
6-Aug	Irrigation	1
9-Aug	Precipitation	0.08
15-Aug	Irrigation	0.7
24-Aug	Precipitation	0.02
25-Aug	Precipitation	1.21
27-Aug	Precipitation	0.77
28-Aug	Precipitation	0.29
29-Aug	Precipitation	0.08
19-Jun	Precipitation	0.13
5-Sep	Precipitation	2.4
6-Sep	Precipitation	0.01
19-Sep	Precipitation	0.02
20-Sep	Precipitation	0.05
21-Sep	Precipitation	0.86
22-Sep	Precipitation	0.08

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2018 Maintenance Fertilizer and Pesticides

<u>Date</u>	<u>Product</u>	<u>Rate</u>	<u>Unit</u>
14-May	0-0-62	300	lb/A
25-May	0-0-62	150	lb/A
25-May	18-46-0	350	lb/A
25-May	Calcium Sulfate	185	lb/A
25-May	Zinc Oxy-Sulfate (36% ZN, 9% S)	10	lb/A
25-May	Granubor 2 (14.3% B)	5	lb/A
25-May	Platinum 75SG (impregnated on fert	2.7	oz/A
7-Jun	32-0-0 UAN	30	gal/A
3-Jul	Abba 0.15EC	16	oz/A
10-Jul	Echo	1.5	pt/A
10-Jul	Endura	5	oz/A
11-Jul	Abba 0.15EC	16	oz/A
17-Jul	Echo	1.5	pt/A
25-Jul	Echo	1.5	pt/A
25-Jul	Endura	5	oz/A
2-Aug	Echo	1.5	pt/A
9-Aug	Echo	1.5	pt/A
15-Aug	Echo	1.5	pt/A
23-Aug	Echo	1.5	pt/A
30-Aug	Echo	1.5	pt/A
6-Sep	Echo	1.5	pt/A
6-Sep	Vendure X (vine desiccation)	1.5	pt/A
6-Sep	FS Aqualight NIS	7	oz/A
23-Aug	Roper	1.5	lb/A
23-Aug	Tanos	8	oz/A
27-Aug	Diquat E	1.5	pt/A
4-Sep	Diquat E	1.5	pt/A

\*all applications of fungicide and insecticide include the adjuvant FS Talyx @ 0.125% V/V

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Trt No.	Treatment Name	Rate	Growth Unit Stage	6/21/2018			
				% Injury	% Weed Control		
				WIRA	WIBU	YEFT	
1	Untreated Check			0	0	0	25
2	Dual Magnum	1 pt/a	HS	0 -	100 -	99.7 ab	99.5 a
	Metribuzin	0.5 lb/a	HS				
3	Eptam	3.5 pt/a	HS	0 -	100 -	95 bcd	91.4 cd
	Sonalan HFP	2 pt/a	HS				
4	Eptam	4 pt/a	HS	0 -	100 -	90.4 cd	84.3 d
	Sonalan HFP	2 pt/a	HS				
5	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	99.9 a
	TriCor	1.5 pt/a	HS				
6	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	99.7 a
	TriCor	1.5 pt/a	HS				
	Eptam	3.5 pt/a	HS				
7	Eptam	3.5 pt/a	HS	0 -	100 -	100 a	99.2 ab
	TriCor	2.5 pt/a	HS				
8	Sonalan HFP	2 pt/a	HS	0 -	100 -	99.2 ab	97.1 abc
	Linex	1.5 pt/a	HS				
9	Sonalan HFP	2 pt/a	HS	0 -	100 -	99.9 ab	99.5 a
	Eptam	3.5 pt/a	HS				
	Linex	1.5 pt/a	HS				
10	Boundary	2 pt/a	HS	0 -	100 -	98.7 abc	93.8 bcd
11	Satellite Hydrocap	2 pt/a	HS	0 -	100 -	94.5 bcd	85.7 d
12	Zidua	2 oz/a	HS	0 -	100 -	89.7 d	95.7 abc
13	Zidua	4 oz/a	HS	0 -	100 -	84.8 d	84 d

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

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Trt No.	Treatment Name	Rate	Growth Unit Stage	6/28/2018			
				% Injury	% Weed Control 6/28/2018		
				COLQ	WIBU	YEFT	
1	Untreated Check			0	0	0	25
2	Dual Magnum	1 pt/a	HS	0 -	100 -	98.3 ab	100 a
	Metribuzin	0.5 lb/a	HS				
3	Eptam	3.5 pt/a	HS	0 -	100 -	90 c	84 c
	Sonalan HFP	2 pt/a	HS				
4	Eptam	4 pt/a	HS	0 -	99.5 -	91.7 bc	83.6 c
	Sonalan HFP	2 pt/a	HS				
5	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	99.2 a
	TriCor	1.5 pt/a	HS				
6	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	98.7 ab
	TriCor	1.5 pt/a	HS				
	Eptam	3.5 pt/a	HS				
7	Eptam	3.5 pt/a	HS	0 -	100 -	100 a	99.5 a
	TriCor	2.5 pt/a	HS				
8	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	86.7 c
	Linex	1.5 pt/a	HS				
9	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	99.5 a
	Eptam	3.5 pt/a	HS				
	Linex	1.5 pt/a	HS				
10	Boundary	2 pt/a	HS	0 -	100 -	100 a	100 a
11	Satellite Hydrocap	2 pt/a	HS	0 -	100 -	100 a	84 c
12	Zidua	2 oz/a	HS	0 -	100 -	80 d	93 bc
13	Zidua	4 oz/a	HS	0 -	99.5 -	85 cd	99.7 a

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Trt No.	Treatment Name	Rate	Growth Unit Stage	7/26/2018	% Weed Control 7/26/2018		
				% Injury	COLQ	WIBU	YEFT
1	Untreated Check			0	0	0	0
2	Dual Magnum	1 pt/a	HS	0 -	100 -	100 a	99.7 a
	Metribuzin	0.5 lb/a	HS				
3	Eptam	3.5 pt/a	HS	0 -	97.5 -	96.3 ab	93.7 bc
	Sonalan HFP	2 pt/a	HS				
4	Eptam	4 pt/a	HS	0 -	97.5 -	93.8 b	86.2 cd
	Sonalan HFP	2 pt/a	HS				
5	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	99.6 a
	TriCor	1.5 pt/a	HS				
6	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	100 a
	TriCor	1.5 pt/a	HS				
	Eptam	3.5 pt/a	HS				
7	Eptam	3.5 pt/a	HS	0 -	100 -	100 a	99.9 a
	TriCor	2.5 pt/a	HS				
8	Sonalan HFP	2 pt/a	HS	0 -	100 -	93.8 b	77.1 d
	Linex	1.5 pt/a	HS				
9	Sonalan HFP	2 pt/a	HS	0 -	100 -	100 a	99.7 a
	Eptam	3.5 pt/a	HS				
	Linex	1.5 pt/a	HS				
10	Boundary	2 pt/a	HS	0 -	100 -	100 a	100 a
11	Satellite Hydrocap	2 pt/a	HS	0 -	100 -	100 a	87.6 cd
12	Zidua	2 oz/a	HS	0 -	100 -	100 a	99.3 ab
13	Zidua	4 oz/a	HS	0 -	100 -	100 a	100 a

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Trt No.	Treatment Name	Rate	Growth Unit Stage	Harvest 9/24/2018 (cwt/a)		
				B's	Cull's	A's
1	Untreated Check			11.07	22.23	290.49
2	Dual Magnum	1 pt/a	HS	13.07 -	36.24 -	369.81 -
	Metribuzin	0.5 lb/a	HS			
3	Eptam	3.5 pt/a	HS	11.80 -	49.86 -	379.88 -
	Sonalan HFP	2 pt/a	HS			
4	Eptam	4 pt/a	HS	9.08 -	28.42 -	327.24 -
	Sonalan HFP	2 pt/a	HS			
5	Sonalan HFP	2 pt/a	HS	17.15 -	37.56 -	408.47 -
	TriCor	1.5 pt/a	HS			
6	Sonalan HFP	2 pt/a	HS	13.98 -	43.98 -	391.13 -
	TriCor	1.5 pt/a	HS			
	Eptam	3.5 pt/a	HS			
7	Eptam	3.5 pt/a	HS	10.44 -	31.11 -	385.60 -
	TriCor	2.5 pt/a	HS			
8	Sonalan HFP	2 pt/a	HS	10.25 -	39.53 -	335.50 -
	Linex	1.5 pt/a	HS			
9	Sonalan HFP	2 pt/a	HS	14.34 -	32.04 -	367.72 -
	Eptam	3.5 pt/a	HS			
	Linex	1.5 pt/a	HS			
10	Boundary	2 pt/a	HS	12.71 -	31.84 -	391.40 -
11	Satellite Hydrocap	2 pt/a	HS	12.80 -	29.16 -	382.06 -
12	Zidua	2 oz/a	HS	12.61 -	33.67 -	383.96 -
13	Zidua	4 oz/a	HS	14.25 -	35.66 -	365.09 -

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