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Always consult a current label prior to making any pesticide application.

Pumpkin - Squash Herbicide Efficacy - Arlington, WI - 2019

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Location: Arlington Agricultural Research Station, field 623

Plot Information:

Soil Type: Plano Silt Loam, 9% sand - 62% silt - 28 % clay, OM 3.4%, pH 6.4

Pumpkin Varieties: 'Howden', 'Dickenson'. Squash: 'Waltham Butternut'

Date Planted: 5-23-2019

Row Spacing: 7.5 ft

Plant Spacing: 12" in row

Date Harvested: 10-8-2019

Plot Size-Design: 24' x 20', 3 reps

Rating Dates: 6-17, 7-2

Phytotoxicity (PHYGEN) Rating Scale: 0% = no crop injury, 100% = dead crop plants

Phytotoxicity (PHYSTU) Rating Scale: % stunting relative to Handweeded Check

Weed Control Rating Scale: 0% = no control, 100% = complete control

Application Equipment: Tractor Mounted Compressed Air pressure sprayer. GPA 20, PSI 27, MPH 3.3,
Nozzle: XR8003VS, Nozzle spacing 18", Height 18".

Herbicide Application Data:

Date	5-26-19	7/8/19	
Time	11:30 am	11:30 am	
Treatment	PRE (all)	POST	
Application Timing	A	B	
Soil Moisture			
SF	wet	moist	
1"	wet	moist	
3"	wet	moist	
Soil Temp (F°)			
SF	88.5	98.7	
3"	67.9	80.1	
Air Temp (F°)	70.3	78.2	
Wind (mph/dir.)	1.2 NE	1.4 W	
%RH	57.0%	53.6%	
Sky Condition (% clouds)	10%	0%	
Crop Stage	-----	10-16"	
Weed & Size	-----	-----	

Summary: All plots were seeded at 20 plants/plot for each variety. Although all plots averaged 50-75% germination, no clear trends were present between treatments. The only treatment to express substantive crop injury was the PRE application of League (imazosulfuron) + Dual Magnum (s-metolachlor). This injury was highest in butternut squash (22.5%) and roughly 10% in pumpkin. All plots had completely recovered from injury by the 7/2 rating. Weed control was generally acceptable in all treatments except treatment 2 which broke down late in the season. Butternut squash yield was significantly higher in treatments 3 and 4. This trend was consistent (although not significant) in pumpkin as well. In this season, POST applications were safe, but did not provide additional weed control.

Notes: 5-23-19 Capture LFR 8 oz/A in-furrow for seed corn maggot control
7-9-19 Switch 62.5 WG 14 oz/A for diseasem management

Weed Abbreviations

COLQ = Common Lambsquarter

VELE = Velvetleaf

RRPW = Redroot Pigweed

EBNS = Eastern Black Nightshade

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Pumkin-Squash Herbicide Eff. - Arl, WI - 2019				Butternut 6/17/19		Dickenson 6/17/19		Howden 6/17/19	
Trt	Treatment	Rate	Appl	PHYGEN	stand ct	PHYGEN	stand ct	PHYGEN	stand ct
No.	Name	Rate	Unit Timing	% Injury	plants	% Injury	plants	% Injury	plants
1	Untreated Check			0	9.3	0	18.7	0	13.3
2	Strategy	4 pt/a	PRE	0 b	10 -	0 b	16.3 -	0 c	15 ab
3	Reflex	0.75 pt/a	PRE	0 b	9.7 -	0.8 b	18 -	0 c	16 a
	Command	2 pt/a	PRE						
	Sandea	0.75 oz/a	POST						
	NIS	0.25 % v/v	POST						
4	Sharpen	2 oz/a	PRE	2.2 b	10 -	2.3 ab	14.3 -	3 ab	12.7 b
	Dual Magnum	1.33 pt/a	PRE-Row Mid						
5	League	6.4 oz/a	PRE	22.5 a	8.7 -	10.1 a	14.7 -	9.2 a	13 ab
	Dual Magnum	1.33 pt/a	PRE-Row Mid						
	Sandea	0.75 oz/a	POST						
	NIS	0.25 % v/v	POST						
6	Zidua	3 oz/a	PRE	3.3 b	11.3 -	0.8 b	16.3 -	0.8 bc	14.3 ab
	Command	2 pt/a	PRE						

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

Trt	Treatment	Rate	Appl	% Weed Control 6/17/2019		
No.	Name	Rate	Unit Timing	COLQ	RRPW	VELE
1	Untreated Check			0	0	0
2	Strategy	4 pt/a	PRE	94.8 b	95.3 -	100 -
3	Reflex	0.75 pt/a	PRE	99.1 ab	100 -	100 -
	Command	2 pt/a	PRE			
	Sandea	0.75 oz/a	POST			
	NIS	0.25 % v/v	POST			
4	Sharpen	2 oz/a	PRE	99.8 a	100 -	100 -
	Dual Magnum	1.33 pt/a	PRE-Row Mid			
5	League	6.4 oz/a	PRE	98 ab	100 -	99.3
	Dual Magnum	1.33 pt/a	PRE-Row Mid			
	Sandea	0.75 oz/a	POST			
	NIS	0.25 % v/v	POST			
6	Zidua	3 oz/a	PRE	98.5 ab	100 -	100 -
	Command	2 pt/a	PRE			

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Trt	Treatment	Rate	Appl	% Weed Control 7/2/2019			
No.	Name	Rate	Unit Timing	COLQ	RRPW	VELE	HANS
1	Untreated Check			0	0	0	0
2	Strategy	4 pt/a	PRE	85 -	75 b	100 -	85 -
3	Reflex	0.75 pt/a	PRE	94 -	99.3 a	100 -	100 -
	Command	2 pt/a	PRE				
	Sandea	0.75 oz/a	POST				
	NIS	0.25 % v/v	POST				
4	Sharpen	2 oz/a	PRE	99 -	100 a	99.3 -	100 -
	Dual Magnum	1.33 pt/a	PRE-Row Mid				
5	League	6.4 oz/a	PRE	96.5 -	100 a	100 -	100 -
	Dual Magnum	1.33 pt/a	PRE-Row Mid				
	Sandea	0.75 oz/a	POST				
	NIS	0.25 % v/v	POST				
6	Zidua	3 oz/a	PRE	92.5 -	100 a	100 -	100 -
	Command	2 pt/a	PRE				

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Trt No.	Treatment Name	Rate	Unit	Appl Timing	Butternut Squash Yield 10/8/2019		
					fruit/A	tons/A	avg lbs/fruit
1	Untreated Check				0	0	0
2	Strategy	4 pt/a		PRE	3291 c	3.92 c	2.3 b
3	Reflex	0.75 pt/a		PRE	9874 a	13.48 a	2.7 ab
	Command	2 pt/a		PRE			
	Sandea	0.75 oz/a		POST			
	NIS	0.25 % v/v		POST			
4	Sharpen	2 oz/a		PRE	9099 a	13.31 a	2.9 ab
	Dual Magnum	1.33 pt/a		PRE-Row Mid			
5	League	6.4 oz/a		PRE	5711 b	7.02 b	2.5 ab
	Dual Magnum	1.33 pt/a		PRE-Row Mid			
	Sandea	0.75 oz/a		POST			
	NIS	0.25 % v/v		POST			
6	Zidua	3 oz/a		PRE	6292 b	9.83 b	3.2 a
	Command	2 pt/a		PRE			

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Trt No.	Treatment Name	Rate	Unit	Appl Timing	Dickenson Pumpkin Yield 10/8/2019		
					fruit/A	tons/A	avg lbs/fruit
1	Untreated Check				968	4.00	8.3
2	Strategy	4 pt/a		PRE	5518 -	21.44 b	7.8 b
3	Reflex	0.75 pt/a		PRE	6970 -	32.23 ab	9.2 ab
	Command	2 pt/a		PRE			
	Sandea	0.75 oz/a		POST			
	NIS	0.25 % v/v		POST			
4	Sharpen	2 oz/a		PRE	7260 -	40.07 a	11.1 a
	Dual Magnum	1.33 pt/a		PRE-Row Mid			
5	League	6.4 oz/a		PRE	6970 -	33.72 ab	9.4 ab
	Dual Magnum	1.33 pt/a		PRE-Row Mid			
	Sandea	0.75 oz/a		POST			
	NIS	0.25 % v/v		POST			
6	Zidua	3 oz/a		PRE	6389 -	34.35 ab	10.9 a
	Command	2 pt/a		PRE			

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Trt No.	Treatment Name	Rate	Unit	Appl Timing	Howden Pumpkin Yield 10/8/2019		
					fruit/A	tons/A	avg lbs/fruit
1	Untreated Check				1162	8.24	14.3
2	Strategy	4 pt/a		PRE	2420 -	17.11 -	14.0 -
3	Reflex	0.75 pt/a		PRE	3969 -	25.71 -	12.4 -
	Command	2 pt/a		PRE			
	Sandea	0.75 oz/a		POST			
	NIS	0.25 % v/v		POST			
4	Sharpen	2 oz/a		PRE	3872 -	29.61 -	15.5 -
	Dual Magnum	1.33 pt/a		PRE-Row Mid			
5	League	6.4 oz/a		PRE	1936 -	13.67 -	13.9 -
	Dual Magnum	1.33 pt/a		PRE-Row Mid			
	Sandea	0.75 oz/a		POST			
	NIS	0.25 % v/v		POST			
6	Zidua	3 oz/a		PRE	1742 -	13.45 -	16.2 -
	Command	2 pt/a		PRE			

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