

UW – Madison Weed Science Renz Lab

2016 Roundup Ready Alfalfa Warrant

Investigator: Mark Renz

Location: Arlington Agricultural Research Station, Arlington, WI

Plot Information:

Field: 371 (Center of field)

Alfalfa: 18.4 lb/A of PLS

Plot Dimensions: 10 x 25 ft

Variety: Dekalb DKA40-51RR

Design: RCB, 4 blocks

Soil Type: PnB (Plano silt loam, till substratum, 2 to 6 percent slopes)

Planted: 4/26/16

Field History:

Previous Crop & Tillage: Soybean no till

Fertilizer:

Spring		
Fertilizer	LBS per Acre	Total LBS
DAP	261	1480
Potash	574	3280
AMS	83	480
Boron	2	11
Total	920	5251

Herbicide Treatments:

Trt No.	Treatment	Form Conc	Form	Rate	Timing*	Plot
1	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	101, 207, 308, 404
2	Warrant	3 lb/gal	CS	3 pt/a	A	102, 210, 310, 407
	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	
3	Warrant	3 lb/gal	CS	6 pt/a	A	103, 206, 306, 408
	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	
4	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	104, 209, 307, 402
5	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	105, 201, 309, 405
6	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	106, 208, 302, 406
	Warrant	3 lb/gal	CS	3 pt/a	C	
	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	C	
7	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	B	107, 205, 301, 403
	Warrant	3 lb/gal	CS	6 pt/a	C	
	Roundup PowerMax	4.5 lbae/gal	SL	32 oz/a	C	
8	Select Max	0.97 lb/gal	EC	12 oz/a	B	108, 204, 303, 409
	Raptor	1 lb/gal	SL	6 oz/a	B	
9	Warrant	3 lb/gal	CS	3 pt/a	B	109, 202, 304, 410
	Raptor	1 lb/gal	SL	6 oz/a	B	
10	Control					110, 203, 305, 401

* A=pre-emergence, B=early-postemergence, C=after 1st cut

Herbicide Applications:

Equipment: Backpack sprayer (15 GPA)

Nozzles: Six (6) Flat Tip XR TeeJet 11002 VS, Spacing = 20 in (10 ft boom)

Application Dates & Weather data:

Treatment (Timing)	Application A 5/2/16	Application B 6/8/16	Application C 7/14/16
Temp (°C)	18.3	22.22	23.89
Wind (KPH & Dir.)	8.53 NE	8.37 W	13.68 NW
Relative Humidity	-	43.3%	65.2
Sky	Sunny	97% Clear	95% Clear
Soil Temp @ 2" (°C)	16.67	27.22	23.61

Other Pesticides: None

Notes:

- 5/6/16** Alfalfa: cotyledons expanded
Weeds: C. Lambsquarters, C. Ragweed, Speedwell, Prickly Lettuce
- 5/24/16** Alfalfa: First trifoliate starting to expand
Weeds: C. Ragweed, Speedwell, C. Lambsquarters, P. Lettuce, Dandelion (1-3")
- 5/31/16** Alfalfa: 3-5 trifoliates, 3"
Weeds: C. Ragweed, Speedwell, Prickly Lettuce, Dandelion, C. Lambsquarters (3-8")
- 6/6/16** Alfalfa: 8"
Weeds: C. Ragweed, Speedwell, Prickly Lettuce, Dandelion, C. Lambsquarters (3-12")
- 6/13/16** Alfalfa: 10"
Weeds: C. Lambsquarters, C. Ragweed, Horseweed, Velvetleaf, R. Pigweed (6-14")
- 6/17/16** Weeds: C. Ragweed, C. Lambsquarters, R. Pigweed, Velvetleaf, Dandelion, Speedwell, Prickly Lettuce, Horseweed, Shepard's purse (8-20")
- 6/22/16** Alfalfa: 12-14", 1% Flower
Weeds: C. Lambsquarters, C. Ragweed, R. Pigweed, Horseweed, Velvetleaf (15-36")
- 6/29/16** Alfalfa: 18-20", 5% flower
Weeds: C. Ragweed, C. Lambsquarters, Horseweed, R. Pigweed, Smartweed, Foxtail, Velvetleaf (15-45")
- 6/30/16** Harvest
- 7/21/16** Alfalfa: 13"
Weeds: C. Lambsquarters, C. Ragweed, Horsetail, Smartweed, Dandelion, R. Pigweed (6-17")



7/28/16 Alfalfa: 15-20", 1% flower
Weeds: C. Lambsquarters, C. Ragweed, Horseweed, Smartweed, Pigweed, Foxtail (10-28")

8/3/16 Alfalfa: 17-24", 5% Flower
Weeds: C. Lambsquarters, C. Ragweed, Smartweed, R. Pigweed, Foxtail (12-30")

8/3/16 Harvest

8/26/16 Alfalfa: 9-13"
Weeds: Foxtail (8")



First Cut Rating and Yield (21 DAT B; 6/29/16)

Rating Type				Alfalfa Chlorosis (%)	Alfalfa Growth Reduction (%)	Lambsquarters Control (%)	C. Ragweed Control (%)	Alfalfa Yield (Tons/A)	Broadleaf Yield (Tons/A)
Trt	Treatment	Rate	Timing						
1	Roundup PowerMax	32 oz/a	B	0 -	0.5 -	100 a	100 a	1.51 -	0 -
2	Warrant Roundup PowerMax	3 pt/a 32 oz/a	A B	0 -	0.5 -	100 a	100 a	1.59 -	0 -
3	Warrant Roundup PowerMax	6 pt/a 32 oz/a	A B	0 -	0 -	100 a	100 a	1.43 -	0.004 -
4	Roundup PowerMax Warrant	32 oz/a 3 pt/a	B B	0 -	0.5 -	100 a	100 a	1.44 -	0.01 -
5	Roundup PowerMax Warrant	32 oz/a 6 pt/a	B B	0 -	0 -	98.8 a	99.8 a	1.33 -	0.03 -
6	Roundup PowerMax Warrant Roundup PowerMax	32 oz/a 3 pt/a 32 oz/a	B C C	0 -	0 -	100 a	100 a	1.32 -	0 -
7	Roundup PowerMax Warrant Roundup PowerMax	32 oz/a 6 pt/a 32 oz/a	B C C	0 -	1.5 -	100 a	100 a	1.53 -	0 -
8	Select Max Raptor	12 oz/a 6 oz/a	B B	0 -	0 -	25 b	0 c	1.20 -	0.31 -
9	Warrant Raptor	3 pt/a 6 oz/a	B B	0 -	0 -	25 b	40 b	1.38 -	0.71 -
10	Control			0 -	0 -	10 b	0 c	1.34 -	0.60 -
LSD P=.05				.	1.18	21.48	17.97	0.38	0.49
Standard Deviation				0	0.81	14.8	12.39	0.26	0.34
CV				0	270.65	19.51	16.74	18.47	204.28
Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)									



ID #16-7

Second Cut Rating and Yield (20 DAT C; 8/3/16))

Rating Type				Alfalfa Chlorosis (%)	Alfalfa Growth Reduction (%)	Lambsquarters Control (%)	C. Ragweed Control (%)	Alfalfa Yield (Tons/A)	Broadleaf Yield (Tons/A)
Trt	Treatment	Rate	Timing						
1	Roundup PowerMax	32 oz/a	B	0 -	0 -	100 a	100 a	1.59 -	0 b
2	Warrant	3 pt/a	A	0 -	0 -	100 a	100 a	1.65 -	0 b
	Roundup PowerMax	32 oz/a	B						
3	Warrant	6 pt/a	A	0 -	0 -	100 a	100 a	1.62 -	0 b
	Roundup PowerMax	32 oz/a	B						
4	Roundup PowerMax	32 oz/a	B	0 -	0 -	100 a	100 a	1.75 -	0 b
	Warrant	3 pt/a	B						
5	Roundup PowerMax	32 oz/a	B	0 -	0 -	100 a	100 a	1.51 -	0 b
	Warrant	6 pt/a	B						
6	Roundup PowerMax	32 oz/a	B	0 -	0 -	100 a	100 a	1.62 -	0 b
	Warrant	3 pt/a	C						
	Roundup PowerMax	32 oz/a	C						
7	Roundup PowerMax	32 oz/a	B	0 -	0 -	100 a	100 a	1.74 -	0 b
	Warrant	6 pt/a	C						
	Roundup PowerMax	32 oz/a	C						
8	Select Max Raptor	12 oz/a 6 oz/a	B B	0 -	0 -	18.8 b	18.8 b	1.22 -	0.13 ab
9	Warrant Raptor	3 pt/a 6 oz/a	B B	0 -	0 -	37.5 b	27.5 b	1.24 -	0.142 ab
10	Control			0 -	0 -	12.5 b	12.5 b	1.33 -	0.17 a
LSD P=.05				.	.	24.78	26.68	0.434402783	0.098505394
Standard Deviation				0	0	17.08	18.39	0.29940987	0.067894333
CV				0	0	22.22	24.23	19.6	159.37
Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)									