

## Comparisons of Herbicide Systems for Weed Control in Field Corn at Rochester, MN in 2015

Behnken, Lisa M., Fritz R. Breitenbach, Jeffery Gunsolus, and Thomas Hoverstad

The objective of this trial was to evaluate herbicide systems in field corn in southeastern Minnesota. The research site was a Lawler loam series with a pH of 6.2, O.M. of 2.4%, and soil test P and K levels of 14 ppm and 116 ppm, respectively. Spring fertilizer was broadcast ahead of a planting on April 13, 2015 at a rate of 120-23-90-24 (N-P-K-S). The field was disked and field cultivated once prior to planting. The previous crop was soybean. The corn hybrid, DEKALB DKC49-72RIB, was planted April 28, 2015 at a depth of 1.5 inches in 30 inch rows at a rate of 32,000 seeds per acre. A randomized complete block design was used with four replications. Preemergence (PRE) treatments were applied with a tractor-mounted sprayer delivering 15 gpa at 40 psi using TTI 11015 spray tips. Evaluations of the plots were taken May 15, May 27, June 3, June 10, and August 11. The center two rows of each plot were machine harvested on October 30, 2015. Application dates, environmental conditions and weed stages can be found in Table 1. Performance ratings for giant ragweed control, common lambsquarters control, common waterhemp control and grass control can be found in Tables 2 through 5 respectively. Minor crop injury was only observed in three postemergence treatments, 18, 20 and 25, and only on the rating date immediately after the application. (University of Minnesota Extension Regional Office, Rochester.)

**Table 1. Application timing, plant stage, environmental conditions.**

Date	4/28	5/22	5/28	6/2	6/8	6/10
<b>Treatment</b>	PRE	POST I	POST II	POST III	POST IV	POST V
<b>Temperature (F)</b>						
Air	60	66	71	73	76	76
Soil	59.2	65.5	62.9	72	76.6	83.3
<b>Relative Humidity (%)</b>	33	35	68	49	51	49
<b>Wind (mph)</b>	13	6	12	16	12	8
<b>Soil Moisture</b>	Adequate	Adequate	Excessive	Adequate	Adequate	Adequate
<b>Corn</b>						
Stage			V2-V3	4-collar	5-collar	6-collar
Height (in)		2.5	5.0	7.0	13.0	12.5
<b>Giant Ragweed</b>						
Weed Density (ft <sup>2</sup> )					18	
Height (in)	0.0	2.8	4.5	4.2	4.6	2.8
<b>Common Waterhemp</b>						
Weed Density (ft <sup>2</sup> )					6	
Height (in)	0.0	0.3	0.5	0.0	2.3	1.4
<b>Common Lambsquarter</b>						
Weed Density (ft <sup>2</sup> )					38	
Height (in)	0.0	0.4	0.9	1.3	1.3	1.6
<b>Grass</b>						
Weed Density (ft <sup>2</sup> )					19	
Height (in)	0.0	0.6	0.6	1.5	1.8	1.5
<b>Rainfall after each application (inch)</b>						
Week 1	0.42	1.47	1.32	1.64	1.64	1.69
Week 2	1.53	1.32	1.41	1.69	0.05	0.78
Week 3	1.12	2.82	1.69	0.78	1.95	1.63

**Table 2. Giant ragweed control in herbicide systems for field corn at Rochester MN in 2015.**

Weed Code		Giant Ragweed										YIELD					
Rating Date		May-15-15		May-27-15		Jun-3-15		Jun-10-15		Aug-11-15		Oct-20-15					
No.	Name	Rate	Unit	Stg	Code	Percent control (%)						Bu/A					
23	Weedy					0	j	0	k	0	l	0	k	0	j	5.8	l
<b>PRE 4-28-15</b>																	
1	SOA 5, 15, 27 Acuron	3	pt/a	Pre	A	78	cd	93	bc	94	d-g	91	efg	92	g	185.6	b-g
<b>PRE / POST II 4-28-15 / 5-28-15</b>																	
2	SOA 15 / 4, 9 Harness Diflexx Roundup Power Max Destiny HC N-Pa-K AMS	1.25 10 28 0.5 2	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C	6	ij	24	i	97	a-d	95	b-e	92	fg	197.0	bcd
4	SOA 15 / 4, 9, 27 Harness Laudis Flexx Roundup Power Max Destiny HC N-Pa-K AMS	1.25 32 28 0.5 2	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C	13	hi	29	h	98	abc	97	abc	97	a-e	201.2	bc
5	SOA 15 / 2, 9, 27 BreakFree Realm Q 4 oz/A - rimsulfuron - mesotrione - Isoxadifen-ethyl Abundit Extra NIS N-Pa-K AMS	2 1.2 2.5 0.3 32 0.25 3	pt/a oz/a oz/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C C C	34	g	39	g	96	b-f	96	abc	96	b-f	197.1	bcd
9	SOA 15 / 2, 4, 9, 15, 27 Dual II Magnum Halex GT NorthStar NIS N-Pa-K AMS	2 3.6 3 0.25 3	pt/a pt/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C	0	j	18	j	96	b-f	98	abc	98	abc	201.9	b
16	SOA 14, 15 / 14, 27, 9 Anthem Solstice Roundup Power Max N-Pa-K AMS	8 3 32 3	oz/a oz/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A C C C	20	h	18	j	92	ghi	97	abc	97	a-e	182.0	d-h
<b>PRE / POST III 4-28-15 / 6-2-15</b>																	
7	SOA 15 / 4, 9, 19 Harness Roundup Power Max Status N-Pa-K AMS	2.25 32 5 3	pt/a oz/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A D D D	54	e	48	f	80	k	97	abc	95	c-g	185.8	b-g
17	SOA 15 / 9, 27 Harness Impact Roundup Power Max Destiny HC N-Pa-K AMS	2.25 0.75 32 0.5 3	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A D D D D	45	f	41	g	81	k	97	abc	94	d-g	188.6	b-f
<b>PRE / POST IV 4-28-15 / 6-8-15</b>																	
8	SOA 2, 4, 15 / 9, 27 TripleFlex II Impact Roundup Power Max Destiny HC N-Pa-K AMS	2 0.75 32 0.5 3	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A E E E E	73	d	90	c	88	j	81	i	95	c-g	220.4	a
12	SOA 2, 4, 15 / 9 Surestart II Durango DMA N-Pa-K AMS	2 32 3	pt/a oz/a qt/a	Pre 4" weeds 4" weeds	A E E	71	d	90	c	88	j	80	i	94	d-g	198.0	bcd
<b>PRE / POST V 4-28-15 / 6-10-15</b>																	
3	SOA 2, 27 / 5, 10 Corvus Liberty atrazine N-Pa-K AMS	5.6 22 16 2	oz/a oz/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A F F F	76	d	93	bc	93	fgh	90	fgh	98	abc	200.7	bc
6	SOA 5, 15 / 2, 9, 27 Breakfree NXT Lite Instigate 6 oz/A - rimsulfuron - mesotrione Abundit Extra N-Pa-K AMS	1.75 1 5 32 3	qt/a oz/a oz/a oz/a qt/a	Pre Pre Pre 4" weeds 4" weeds	A A A F F	86	bc	95	ab	97	b-e	95	b-e	98	abc	197.6	bcd
10	SOA 4, 15, 27 / 9 Resicore Durango DMA N-Pa-K AMS	2.75 32 3	qt/a oz/a qt/a	Pre 4" weeds 4" weeds	A F F	96	a	97	ab	97	b-e	97	abc	99	ab	187.0	b-g
11	SOA 4,15, 27 / 4, 15, 27, 9 Resicore Resicore Durango DMA N-Pa-K AMS	1.5 1.25 32 3	qt/a qt/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A F F F	87	b	93	bc	93	fgh	91	d-g	99	ab	182.9	d-g
13	SOA 2,4,15 / 9 Surestart II Durango DMA N-Pa-K AMS	2.5 32 3	pt/a oz/a qt/a	Pre 4" weeds 4" weeds	A F F	86	b	94	bc	92	ghi	87	h	92	g	160.4	j

**Table 2. (continued) Giant ragweed control in herbicide systems for field corn at Rochester MN in 2015.**

Weed Code				Giant Ragweed					YIELD						
Rating Date				May-15-15	May-27-15	Jun-3-15	Jun-10-15	Aug-11-15	Oct-20-15						
No.	Name	Rate Unit	Stg Code	Percent control (%)					Bu/A						
14	SOA 14, 15 / 9, 15, 27			97	a	97	ab	95	c-g	91	e-h	98	abc	172.5	f-j
	Verdict	18 oz/a	Pre												
	Armezon	0.5 oz/a	4" weeds												
	Outlook	12 oz/a	4" weeds												
	Roundup Power Max	22 oz/a	4" weeds												
	NIS	0.25 % v/v	4" weeds												
	N-Pa-K AMS	3 qt/a	4" weeds												
15	SOA 14, 15 / 4, 9, 19			96	a	95	ab	94	efg	88	gh	98	abc	166.1	hij
	Verdict	16 oz/a	Pre												
	Roundup Power Max	32 oz/a	4" weeds												
	Status	5 oz/a	4" weeds												
	NIS	0.25 % v/v	4" weeds												
	N-Pa-K AMS	3 qt/a	4" weeds												
27	SOA 14, 15 / 4, 9, 19			94	ab	96	ab	96	b-f	90	fgh	98	abc	180.6	e-h
	Verdict	16 oz/a	Pre												
	Roundup Power Max	32 oz/a	3-4" weeds												
	Status	5 oz/a	3-4" weeds												
	NIS	0.25 % v/v	3-4" weeds												
	N-Pa-K AMS	3 qt/a	3-4" weeds												
<b>POST I / POST V 5-22-15 / 6-10-15</b>															
18	SOA 2, 5, 27 / 10			0	j	50	f	96	b-f	96	bcd	98	abc	178.0	e-1
	Capreno	3 oz/a	1" weeds												
	atrazine	16 oz/a	1" weeds												
	Superb HC	0.5 % v/v	1" weeds												
	N-Pa-K AMS	2 qt/a	1" weeds												
	Liberty	22 oz/a	4" weeds												
	N-Pa-K AMS	2 qt/a	4" weeds												
<b>POST I 5-22-15</b>															
25	SOA 4, 9, 15, 27			0	j	80	d	98	abc	94	c-f	95	c-g	192.7	b-e
	Roundup WeatherMax	32 oz/a	1-2" Weeds												
	Dual II Magnum	1.33 pt/a	1-2" Weeds												
	Laudis	3 oz/a	1-2" Weeds												
	Clarity	8 oz/a	1-2" Weeds												
	Destiny HC	0.5 % v/v	1-2" Weeds												
	N-Pa-K AMS	2 qt/a	1-2" Weeds												
26	SOA 9			0	j	70	e	89	ij	74	j	74	i	96.0	k
	Roundup WeatherMax	32 oz/a	1-2" Weeds												
	N-Pa-K AMS	2 qt/a	1-2" Weeds												
<b>POST II 5-28-15</b>															
19	SOA 5, 9, 15, 27			0	j	0	k	90	hij	99	ab	99	ab	185.4	c-g
	Acuron	3 pt/a	2" weeds												
	Touchdown Total	30 oz/a	2" weeds												
	N-Pa-K AMS	3 qt/a	2" weeds												
20	SOA 9, 14, 15, 27			0	j	0	k	94	d-g	97	abc	98	a-d	172.1	g-j
	Solstice	2.5 oz/a	2" weeds												
	Anthem	4.25 oz/a	2" weeds												
	Roundup Power Max	32 oz/a	2" weeds												
	NIS	0.25 % v/v	2" weeds												
	N-Pa-K AMS	3 qt/a	2" weeds												
	SOA 2, 4, 9, 15														
21	SureStart II	2 pt/a	2" weeds	0	j	0	k	99	ab	97	abc	94	efg	190.2	b-e
	Durango DMA	32 oz/a	2" weeds												
	N-Pa-K AMS	3 qt/a	2" weeds												
22	SOA 2, 9, 15, 27			0	j	0	k	93	fgh	95	b-e	95	b-g	177.9	e-i
	Realm Q 4 oz/A		2" weeds												
	- rimsulfuron	1.2 oz/a	2" weeds												
	- mesotrione	2.5 oz/a	2" weeds												
	- isoxadifen-ethyl	0.3 oz/a	2" weeds												
	Abundit Extra	32 oz/a	2" weeds												
	NIS	0.25 % v/v	2" weeds												
	N-Pa-K AMS	3 qt/a	2" weeds												
28	SOA 9			0	j	0	k	95	c-g	87	gh	86	h	163.7	ij
	Roundup WeatherMax	32 oz/a	3-4" weeds												
	N-Pa-K AMS	2 qt/a	3-4" weeds												
24	Weed - Free	multiple		100	a	100	a	100	a	100	a	100	a	194.2	b-e
<b>LSD P=.10 for weed ratings, LSD P = .20 for yields</b>				8		5		3		5		4		16	



**Table 3 (cOntinued) Common lambsquarters control with different herbicide systems in corn at Rochester, MN in 2015.**

Weed Code					CHEAL				Yield						
					Common lambsquarters				Oct-20-15						
Rating Date					May-27-15	Jun-3-15	Jun-10-15	Aug-11-15	BU/A						
Trt	Treatment	Rate	Grow	Appl	Percent Control (%)				BU/A						
13	SOA 2,4,15 / 9 Surestart II Durango DMA N-Pa-K AMS	2.5 32 3	pt/a oz/a qt/a	Pre 4" weeds 4" weeds	A F F	99 99 99	b b ab	99 99 99	bc bc bc	160.4	j				
14	SOA 14, 15 / 9, 15, 27 Verdict Armezon Outlook Roundup Power Max NIS N-Pa-K AMS	18 0.5 12 22 0.25 3	oz/a oz/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds 4" weeds	A F F F F F	99 99 99 99 99 99	b b ab ab ab ab	99 99 99 99 99 99	bc bc bc bc bc bc	172.5	f-j				
15	SOA 14, 15 / 4, 9, 19 Verdict Roundup Power Max Status NIS N-Pa-K AMS	16 32 5 0.25 3	oz/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A F F F F	99 99 99 99 99	b b ab ab ab	97 97 97 97 97	de de de de de	166.1	hij				
27	SOA 14, 15 / 4, 9, 19 Verdict Roundup Power Max Status NIS N-Pa-K AMS	16 32 5 0.25 3	oz/a oz/a oz/a % v/v qt/a	Pre 3-4" WEEDS 3-4" WEEDS 3-4" WEEDS 3-4" WEEDS	A F F F F	99 99 99 99 99	b b ab ab ab	97 97 97 97 97	de de de de de	180.6	e-h				
<b>POST I / POST V 5-22-15 / 6-10-15</b>															
18	SOA 2, 5, 27 / 10 Capreno atrazine Superb HC N-Pa-K AMS Liberty N-Pa-K AMS	3 16 0.5 2 22 2	oz/a oz/a % v/v qt/a oz/a qt/a	1" weeds 1" weeds 1" weeds 1" weeds 4" weeds 4" weeds	B B B B F F	50 99 99 99 99 99	g b ab ab ab ab	99 99 99 99 99 99	ab ab ab ab ab ab	178.0	e-i				
<b>POST I 5-22-15</b>															
25	SOA 4, 9, 15, 27 Roundup WeatherMax Dual II Magnum Laudis Clarity Destiny HC N-Pa-K AMS	32 1.33 3 8 0.5 2	oz/a pt/a oz/a oz/a % v/v qt/a	1-2" WEEDS 1-2" WEEDS 1-2" WEEDS 1-2" WEEDS 1-2" WEEDS 1-2" WEEDS	B B B B B B	80 99 99 99 99 99	e b ab ab ab ab	98 98 98 98 98 98	cd cd cd cd cd cd	192.7	b-e				
26	SOA 9 Roundup WeatherMax N-Pa-K AMS	32 2	oz/a qt/a	1-2" WEEDS 1-2" WEEDS	B B	70 95 91	f d e	91 91 91	h h h	96.0	k				
<b>POST II 5-28-15</b>															
19	SOA 5, 9,15, 27 Acuron Touchdown Total N-Pa-K AMS	3 30 3	pt/a oz/a qt/a	2" weeds 2" weeds 2" weeds	C C C	0 99 99	h b ab	99 99 99	ab ab ab	185.4	c-g				
20	SOA 9, 14, 15, 27 Solstice Anthem Roundup Power Max NIS N-Pa-K AMS SOA 2, 4, 9, 15	2.5 4.25 32 0.25 3	oz/a oz/a oz/a % v/v qt/a	2" weeds 2" weeds 2" weeds 2" weeds 2" weeds 2" weeds	C C C C C C	0 99 99 99 99 99	h b ab ab ab ab	99 99 99 99 99 99	bc bc bc bc bc bc	172.1	g-j				
21	SureStart II Durango DMA N-Pa-K AMS	2 32 3	pt/a oz/a qt/a	2" weeds 2" weeds 2" weeds	C C C	0 99 97	h c c	98 98 98	cd cd cd	190.2	b-e				
22	SOA 2, 9, 15, 27 Realm Q 4 oz/A - rimsulfuron - mesotrione - isoxadifen-ethyl Abundit Extra NIS N-Pa-K AMS	1.2 2.5 0.3 32 0.25 3	oz/a oz/a oz/a oz/a % v/v qt/a	2" weeds 2" weeds 2" weeds 2" weeds 2" weeds 2" weeds 2" weeds	C C C C C C C	0 99 98 98 98 98 98	h b b b b b b	99 99 99 99 99 99 99	bc bc bc bc bc bc bc	177.9	e-i				
28	SOA 9 Roundup WeatherMax N-Pa-K AMS	32 2	oz/a qt/a	3-4" WEEDS 3-4" WEEDS	C C	0 99 96	h b d	96 96 96	f f f	163.7	ij				
24	Weed - Free		multiple			100	a	100	a	100	a	100	a	194.2	b-e
<b>LSD P=.10 for weed ratings, LSD P = .20 for yields</b>						1		0.1		1		1		16	

**Table 4. Common waterhemp control with different herbicide systems in corn at Rochester, MN in 2015.**

AMATA														
Weed Code					Common waterhemp						Yield			
Rating Date					May-27-15		Jun-3-15		Jun-10-15		Aug-11-15		Oct-20-15	
No.	Treatment	Rate	Stage	Code	Percent Control (%)						BU/A			
23	Weedy				0	f	0	d	0	f	0	e	5.8	l
<b>PRE 4-28-15</b>														
1	SOA 5, 15, 27 Acuron	3	pt/a Pre	A	99	b	99	b	99	b	99	b	185.6	b-g
<b>PRE / POST II 4-28-15 / 5-28-15</b>														
2	SOA 15 / 4, 9 Harness Diflexx Roundup Power Max Destiny HC N-Pa-K AMS	1.25 10 28 0.5 2	pt/a Pre oz/a 4" weeds oz/a 4" weeds % v/v 4" weeds qt/a 4" weeds	A C C C C	99	b	99	b	99	b	99	b	197.0	bcd
4	SOA 15 / 4, 9, 27 Harness Laudis Flexx Roundup Power Max Destiny HC N-Pa-K AMS	1.25 32 28 0.5 2	pt/a Pre oz/a 4" weeds oz/a 4" weeds % v/v 4" weeds qt/a 4" weeds	A C C C C	99	b	99	b	99	b	99	b	201.2	bc
5	SOA 15 / 2, 9, 27 BreakFree Realm Q 4 oz/A - rimsulfuron - mesotrione - Isoxadifen-ethyl Abundit Extra NIS N-Pa-K AMS	2 1.2 2.5 0.3 32 0.25 3	pt/a Pre oz/a 4" weeds oz/a 4" weeds oz/a 4" weeds oz/a 4" weeds % v/v 4" weeds qt/a 4" weeds	A C C C C C C	99	b	99	b	99	b	99	b	197.1	bcd
9	SOA 15 / 2, 4, 9, 15, 27 Dual II Magnum Halex GT NorthStar NIS N-Pa-K AMS	2 3.6 3 0.25 3	pt/a Pre pt/a 4" weeds oz/a 4" weeds % v/v 4" weeds qt/a 4" weeds	A C C C C	99	b	99	b	99	b	99	b	201.9	b
16	SOA 14, 15 / 14, 27, 9 Anthem Solstice Roundup Power Max N-Pa-K AMS	8 3 32 3	oz/a Pre oz/a 4" weeds oz/a 4" weeds qt/a 4" weeds	A C C C	99	b	99	b	99	b	99	b	182.0	d-h
<b>PRE / POST III 4-28-15 / 6-2-15</b>														
7	SOA 15 / 4, 9, 19 Harness Roundup Power Max Status N-Pa-K AMS	2.25 32 5 3	pt/a Pre oz/a 4" weeds oz/a 4" weeds qt/a 4" weeds	A D D D	99	b	99	b	99	b	99	b	185.8	b-g
17	SOA 15 / 9, 27 Harness Impact Roundup Power Max Destiny HC N-Pa-K AMS	2.25 0.75 32 0.5 3	pt/a Pre oz/a 4" weeds oz/a 4" weeds % v/v 4" weeds qt/a 4" weeds	A D D D D	99	b	99	b	99	b	99	b	188.6	b-f
<b>PRE / POST IV 4-28-15 / 6-8-15</b>														
8	SOA 2, 4, 15 / 9, 27 TripleFlex II Impact Roundup Power Max Destiny HC N-Pa-K AMS	2 0.75 32 0.5 3	pt/a Pre oz/a 4" weeds oz/a 4" weeds % v/v 4" weeds qt/a 4" weeds	A E E E E	99	b	99	b	99	b	99	b	220.4	a
12	SOA 2, 4, 15 / 9 Surestart II Durango DMA N-Pa-K AMS SOA 2, 4, 15 / 9	2 32 3	pt/a Pre oz/a 4" weeds qt/a 4" weeds	A E E	99	b	99	b	99	b	99	b	198.0	bcd
<b>PRE / POST V 4-28-15 / 6-10-15</b>														
3	SOA 2, 27 / 5, 10 Corvus Liberty atrazine N-Pa-K AMS	5.6 22 16 2	oz/a Pre oz/a 4" weeds oz/a 4" weeds qt/a 4" weeds	A F F F	99	b	99	b	99	b	99	b	200.7	bc
6	SOA 5, 15 / 2, 9, 27 Breakfree NXT Lite Instigate 6 oz/A - rimsulfuron - mesotrione Abundit Extra N-Pa-K AMS	1.75 1 5 32 3	qt/a Pre A oz/a Pre oz/a Pre oz/a 4" weeds qt/a 4" weeds	A A A A F F	99	b	99	b	99	b	99	b	197.6	bcd
10	SOA 4, 15, 27 / 9 Resicore Durango DMA N-Pa-K AMS	2.75 32 3	qt/a Pre oz/a 4" weeds qt/a 4" weeds	A F F	99	b	99	b	99	b	99	b	187.0	b-g
11	SOA 4,15, 27 / 4, 15, 27, 9 Resicore Resicore Durango DMA N-Pa-K AMS	1.5 1.25 32 3	qt/a Pre qt/a 4" weeds oz/a 4" weeds qt/a 4" weeds	A F F F	99	b	99	b	99	b	99	b	182.9	d-g
13	SOA 2,4,15 / 9 Surestart II Durango DMA N-Pa-K AMS	2.5 32 3	pt/a Pre oz/a 4" weeds qt/a 4" weeds	A F F	99	b	99	b	99	b	99	b	160.4	j

**Table 4. (continued) Common waterhemp control with different herbicide systems in corn at Rochester, MN in 2015.**

				Common waterhemp								Yield		
Rating Date				May-27-15		Jun-3-15		Jun-10-15		Aug-11-15		Oct-20-15		
No.	Treatment	Rate	Stage	Code	Percent Control (%)								Bu/A	
14	SOA 14, 15 / 9, 15, 27				99	b	99	b	99	b	99	b	172.5	f-j
	Verdict	18	oz/a	Pre	A									
	Armezon	0.5	oz/a	4" weeds	F									
	Outlook	12	oz/a	4" weeds	F									
	Roundup Power Max	22	oz/a	4" weeds	F									
	NIS	0.25	% v/v	4" weeds	F									
	N-Pa-K AMS	3	qt/a	4" weeds	F									
15	SOA 14, 15 / 4, 9, 19				99	b	99	b	99	b	99	b	166.1	hij
	Verdict	16	oz/a	Pre	A									
	Roundup Power Max	32	oz/a	4" weeds	F									
	Status	5	oz/a	4" weeds	F									
	NIS	0.25	% v/v	4" weeds	F									
	N-Pa-K AMS	3	qt/a	4" weeds	F									
27	SOA 14, 15 / 4, 9, 19				99	b	99	b	99	b	99	b	180.6	e-h
	Verdict	16	oz/a	Pre	A									
	Roundup Power Max	32	oz/a	3-4" weeds	F									
	Status	5	oz/a	3-4" weeds	F									
	NIS	0.25	% v/v	3-4" weeds	F									
	N-Pa-K AMS	3	qt/a	3-4" weeds	F									
<b>POST I / POST V 5-22-15 / 6-10-15</b>														
18	SOA 2, 5, 27 / 10				50	e	99	b	99	b	99	b	178.0	e-i
	Capreno	3	oz/a	1" weeds	B									
	atrazine	16	oz/a	1" weeds	B									
	Superb HC	0.5	% v/v	1" weeds	B									
	N-Pa-K AMS	2	qt/a	1" weeds	B									
	Liberty	22	oz/a	4" weeds	F									
	N-Pa-K AMS	2	qt/a	4" weeds	F									
<b>POST I 5-22-15</b>														
25	SOA 4, 9, 15, 27				80	c	99	b	99	b	99	b	192.7	b-e
	Roundup WeatherMax	32	oz/a	1-2"weeds	B									
	Dual II Magnum	1.33	pt/a	1-2"weeds	B									
	Laudis	3	oz/a	1-2"weeds	B									
	Clarity	8	oz/a	1-2"weeds	B									
	Destiny HC	0.5	% v/v	1-2"weeds	B									
	N-Pa-K AMS	2	qt/a	1-2"weeds	B									
26	SOA 9				70	d	95	c	91	e	91	d	96.0	k
	Roundup WeatherMax	32	oz/a	1-2"weeds	B									
	N-Pa-K AMS	2	qt/a	1-2"weeds	B									
<b>POST II 5-28-15</b>														
19	SOA 5, 9,15, 27				0	f	99	b	99	b	99	b	185.4	c-g
	Acuron	3	pt/a	2" weeds	C									
	Touchdown Total	30	oz/a	2" weeds	C									
	N-Pa-K AMS	3	qt/a	2" weeds	C									
20	SOA 9, 14, 15, 27				0	f	99	b	99	b	99	b	172.1	g-j
	Solstice	2.5	oz/a	2" weeds	C									
	Anthem	4.25	oz/a	2" weeds	C									
	Roundup Power Max	32	oz/a	2" weeds	C									
	NIS	0.25	% v/v	2" weeds	C									
	N-Pa-K AMS	3	qt/a	2" weeds	C									
	SOA 2, 4, 9, 15													
21	SureStart II	2	pt/a	2" weeds	C								190.2	b-e
	Durango DMA	32	oz/a	2" weeds	C									
	N-Pa-K AMS	3	qt/a	2" weeds	C									
22	SOA 2, 9, 15, 27				0	f	99	b	99	bc	99	b	177.9	e-i
	Realm Q 4 oz/A			2" weeds	C									
	- rimsulfuron	1.2	oz/a	2" weeds	C									
	- mesotrione	2.5	oz/a	2" weeds	C									
	- isoxadifen-ethyl	0.3	oz/a	2" weeds	C									
	Abundit Extra	32	oz/a	2" weeds	C									
	NIS	0.25	% v/v	2" weeds	C									
	N-Pa-K AMS	3	qt/a	2" weeds	C									
28	SOA 9				0	f	99	b	96	d	96	c	163.7	ij
	Roundup WeatherMax	32	oz/a	3-4"weeds	C									
	N-Pa-K AMS	2	qt/a	3-4"weeds	C									
24	Weed - Free	multiple			a		100	a	100	a	100	a	194.2	b-e
<b>LSD P=.10 for weed ratings, LSD P = .20 for yields</b>								1		1		16		

**Table 5. Grass control with different herbicide systems in corn at Rochester, MN in 2015.**

Weed Code											GRASS					YIELD				
Rating Date											May-27-15		Jun-3-15		Jun-10-15		Aug-11-15		Oct-20-15	
No.	Name	Rate	Unit	Stg	Code	Percent control (%)					Bu/A									
23 Weedy						0	g	0	d	0	h	0	j	5.8	j					
<b>PRE 4-28-15</b>																				
1	SOA 5, 15, 27 Acuron	3	pt/a	Pre	A	99	b	99	a	99	ab	97	a-e	185.6	b-g					
<b>PRE / POST II 4-28-15 / 5-28-15</b>																				
2	SOA 15 / 4, 9 Harness Diflexx Roundup Power Max Destiny HC N-Pa-K AMS	1.25 10 28 0.5 2	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C	99	b	99	a	97	abc	93	ef	197.0	bcd					
4	SOA 15 / 4, 9, 27 Harness Laudis Flexx Roundup Power Max Destiny HC N-Pa-K AMS	1.25 32 28 0.5 2	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C	99	b	99	a	98	abc	95	b-e	201.2	bc					
5	SOA 15 / 2, 9, 27 BreakFree Realm Q 4 oz/A - rimsulfuron - mesotrione - Isoxadifen-ethyl Abundit Extra NIS N-Pa-K AMS	2 1.2 2.5 0.3 32 0.25 3	pt/a oz/a oz/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C C C	99	b	99	a	99	ab	95	b-e	197.1	bcd					
9	SOA 15 / 2, 4, 9, 15, 27 Dual II Magnum Halex GT NorthStar NIS N-Pa-K AMS	2 3.6 3 0.25 3	pt/a pt/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A C C C C	99	b	99	a	99	a	99	abc	201.9	b					
16	SOA 14, 15 / 14, 27, 9 Anthem Solstice Roundup Power Max N-Pa-K AMS	8 3 32 3	oz/a oz/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A C C C	98	c	99	a	99	a	97	a-e	182.0	d-h					
<b>PRE / POST III 4-28-15 / 6-2-15</b>																				
7	SOA 15 / 4, 9, 19 Harness Roundup Power Max Status N-Pa-K AMS	2.25 32 5 3	pt/a oz/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A D D D	99	b	99	a	99	a	96	a-e	185.8	b-g					
17	SOA 15 / 9, 27 Harness Impact Roundup Power Max Destiny HC N-Pa-K AMS	2.25 0.75 32 0.5 3	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A D D D D	99	b	99	a	99	a	97	a-e	188.6	b-f					
<b>PRE / POST IV 4-28-15 / 6-8-15</b>																				
8	SOA 2, 4, 15 / 9, 27 TripleFlex II Impact Roundup Power Max Destiny HC N-Pa-K AMS	2 0.75 32 0.5 3	pt/a oz/a oz/a % v/v qt/a	Pre 4" weeds 4" weeds 4" weeds 4" weeds	A E E E E	99	b	99	a	99	a	96	a-e	220.4	a					
12	SOA 2, 4, 15 / 9 Surestart II Durango DMA N-Pa-K AMS SOA 2, 4, 15 / 9	2 32 3	pt/a oz/a qt/a	Pre 4" weeds 4" weeds	A E E	99	b	99	a	99	a	93	ef	198.0	bcd					
<b>PRE / POST V 4-28-15 / 6-10-15</b>																				
3	SOA 2, 27 / 5, 10 Corvus Liberty atrazine N-Pa-K AMS	5.6 22 16 2	oz/a oz/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A F F F	99	b	99	a	95	a-d	94	cde	200.7	bc					
6	SOA 5, 15 / 2, 9, 27 Breakfree NXT Lite Instigate 6 oz/A - rimsulfuron - mesotrione Abundit Extra N-Pa-K AMS	1.75 1 5 32 3	qt/a oz/a oz/a oz/a qt/a	Pre Pre Pre 4" weeds 4" weeds	A A A F F	99	b	99	a	97	a-d	97	a-e	197.6	bcd					
10	SOA 4, 15, 27 / 9 GF-3471 Durango DMA N-Pa-K AMS	2.75 32 3	qt/a oz/a qt/a	Pre 4" weeds 4" weeds	A F F	99	b	99	a	99	a	97	a-d	187.0	b-g					
11	SOA 4,15, 27 / 4, 15, 27, 9 GF-3471 GF-3471 Durango DMA N-Pa-K AMS	1.5 1.25 32 3	qt/a qt/a oz/a qt/a	Pre 4" weeds 4" weeds 4" weeds	A F F F	99	b	99	a	91	d	99	ab	182.9	d-g					
13	SOA 2,4,15 / 9 Surestart II Durango DMA N-Pa-K AMS	2.5 32 3	pt/a oz/a qt/a	Pre 4" weeds 4" weeds	A F F	99	b	99	a	96	a-d	94	def	160.4	j					

**Table 5. (continued) Grass control with different herbicide systems in corn at Rochester, MN in 2015.**

Weed Code					GRASS				YIELD					
Rating Date					May-27-15	Jun-3-15	Jun-10-15	Aug-11-15	Oct-20-15					
No.	Name	Rate	Unit	Stg	Percent control (%)				Bu/A					
14	SOA 14, 15 / 9, 15, 27				99	b	99	a	97	a-d	99	ab	172.5	f-j
	Verdict	18	oz/a	Pre										
	Armezon	0.5	oz/a	4" weeds										
	Outlook	12	oz/a	4" weeds										
	Roundup Power Max	22	oz/a	4" weeds										
	NIS	0.25	% v/v	4" weeds										
	N-Pa-K AMS	3	qt/a	4" weeds										
15	SOA 14, 15 / 4, 9, 19				99	b	99	a	99	a	95	b-e	166.1	hij
	Verdict	16	oz/a	Pre										
	Roundup Power Max	32	oz/a	4" weeds										
	Status	5	oz/a	4" weeds										
	NIS	0.25	% v/v	4" weeds										
	N-Pa-K AMS	3	qt/a	4" weeds										
27	SOA 14, 15 / 4, 9, 19				99	b	99	a	98	abc	97	a-e	180.6	e-h
	Verdict	16	oz/a	Pre										
	Roundup Power Max	32	oz/a	MIPOWE										
	Status	5	oz/a	MIPOWE										
	NIS	0.25	% v/v	MIPOWE										
	N-Pa-K AMS	3	qt/a	MIPOWE										
<b>POST I / POST V 5-22-15 / 6-10-15</b>														
18	SOA 2, 5, 27 / 10				50	f	95	c	75	f	88	gh	178.0	e-i
	Capreno	3	oz/a	1" weeds										
	atrazine	16	oz/a	1" weeds										
	Superb HC	0.5	% v/v	1" weeds										
	N-Pa-K AMS	2	qt/a	1" weeds										
	Liberty	22	oz/a	4" weeds										
	N-Pa-K AMS	2	qt/a	4" weeds										
<b>POST I 5-22-15</b>														
25	SOA 4, 9, 15, 27				80	d	99	a	98	abc	97	a-d	192.7	b-e
	Roundup WeatherMax	32	oz/a	EAPOWE										
	Dual II Magnum	1.33	pt/a	EAPOWE										
	Laudis	3	oz/a	EAPOWE										
	Clarity	8	oz/a	EAPOWE										
	Destiny HC	0.5	% v/v	EAPOWE										
	N-Pa-K AMS	2	qt/a	EAPOWE										
26	SOA 9				70	e	93	c	69	g	69	i	96.0	k
	Roundup WeatherMax	32	oz/a	EAPOWE										
	N-Pa-K AMS	2	qt/a	EAPOWE										
<b>POST II 5-28-15</b>														
19	SOA 5, 9, 15, 27				0	g	98	ab	93	bcd	96	a-e	185.4	c-g
	Acuron	3	pt/a	2" weeds										
	Touchdown Total	30	oz/a	2" weeds										
	N-Pa-K AMS	3	qt/a	2" weeds										
20	SOA 9, 14, 15, 27				0	g	97	b	95	a-d	95	cde	172.1	g-j
	Solstice	2.5	oz/a	2" weeds										
	Anthem	4.25	oz/a	2" weeds										
	Roundup Power Max	32	oz/a	2" weeds										
	NIS	0.25	% v/v	2" weeds										
	N-Pa-K AMS	3	qt/a	2" weeds										
	SOA 2, 4, 9, 15													
21	SureStart II	2	pt/a	2" weeds	0	g	99	a	92	cd	90	fg	190.2	b-e
	Durango DMA	32	oz/a	2" weeds										
	N-Pa-K AMS	3	qt/a	2" weeds										
22	SOA 2, 9, 15, 27				0	g	95	c	83	e	84	h	177.9	e-i
	Realm Q 4 oz/A			2" weeds										
	- rimsulfuron	1.2	oz/a	2" weeds										
	- mesotrione	2.5	oz/a	2" weeds										
	- isoxadifen-ethyl	0.3	oz/a	2" weeds										
	Abundit Extra	32	oz/a	2" weeds										
	NIS	0.25	% v/v	2" weeds										
	N-Pa-K AMS	3	qt/a	2" weeds										
28	SOA 9				0	g	98	ab	73	fg	73	i	163.7	ij
	Roundup WeatherMax	32	oz/a	MIPOWE										
	N-Pa-K AMS	2	qt/a	MIPOWE										
24	Weed - Free			multiple	100	a	100	a	100	a	100	a	194.2	b-e
<b>LSD P=.10 for weed ratings, LSD P = .20 for yields</b>					<b>0.4</b>		<b>2</b>		<b>6</b>		<b>5</b>		<b>16</b>	