

Evaluation and comparison of HPPD weed control systems in field corn at Rochester, MN, in 2008.

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The objective of this trial was to evaluate and compare weed control performance of Callisto, Impact, Laudis, Halex GT, Steadfast Q, Resolve Q and Require Q in corn in southeastern Minnesota. The research site was a Lawler loam series with a pH of 7.1 and soil test P and K levels of 51 ppm and 185 ppm, respectively. Spring fertilizer was broadcast ahead of planting on April 26, at a rate of 120-36-86-28 (N-P-K-S). The area was side dressed with an additional 30lb/A of N on June 26. The field was spring disked and field cultivated once prior to planting. The corn hybrid, NK 41C-4000GT 98RM, was planted on May 5, 2008, at a depth of 1.5 inches in 30 inch rows at 35,000 seeds per acre. A randomized complete block design was used with four replications. Preemergence (PRE) and postemergence (POST) treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 32 psi using Turbo Tee 11002 nozzles. Evaluations of the plots were taken on May 24 and 30, June 9 and 20, July 1 and 28. Application dates, environmental conditions, and weed stages are listed below. The center two rows of each plot were machine harvested on November 3, 2008.

Date	5/6	6/2	6/10	6/18	6/23
Treatment	PRE	POST I	POST II	POST III	POST IV
Temperature (F)					
Air	75	66	70	74	78
soil	57.6	61	64	75	85
Relative Humidity (%)	34	70	56	38	38
Wind (mph)	17	6	20	10	5
Soil moisture	Adequate	Excessive	Excessive	Adequate	Inadequate
Corn					
stage		V4	5 Collar		V7
height (inch)		3.5	9.5	13	15.5
Giant Ragweed					
weed density (ft ²)		17.3	17.3	17.3	17.3
height (inch)		4.3	4.5	5.5	5.6
Common Lambsquarters					
weed density (ft ²)		10.7	10.7	10.7	10.7
height (inch)		1.6	1.8	1.5	2.0
Common Waterhemp					
weed density (ft ²)		3.0	3.0	3.0	3.0
height (inch)		0.4	1.1	2.75	3.5
Giant Foxtail					
weed density (ft ²)		0.9	0.9	0.9	0.9
height (inch)		1.9	4.0	6.0	2.5
Rainfall after each application (inch)					
week 1	1.22	4.79	3.52	0.00	0.76
week 2	0.11	3.52	0.00	0.76	0.87
week 3	0.19	0.00	0.76	0.87	0.92

CONCLUSIONS

Weather conditions following pre-emergence applications allowed for excellent activation of the herbicides with 1.22 inches of precipitations falling within one week of application.

The best preemergence early season control of giant ragweed was provided by both the 2 qt and 1.5 quart rates of Lumax, 92% and 90%, respectively. SureStart also provided very good giant ragweed control, 86%. Harness Xtra and Bicep Lite II Magnum offered poor control of giant ragweed, 40% and 23%, respectively. No preemergence giant ragweed control was detected with the Dual II Magnum or Aatrex treatments (5/30 rating).

For preemergence common lambsquarters control, both Lumax rates, Bicep Lite II Magnum, Harness Xtra, and SureStart all provided 99% control. The Dual II Magnum treatments provide control that ranged between 73% and 76%, and Aatrex offered 79% control of common lambsquarters (5/30 rating).

All soil applied treatments provided excellent control of common waterhemp providing at least 98% control (5/30 rating).

All soil applied treatments provided excellent control of giant foxtail providing at least 95% control, with the exception of Aatrex which offered virtually no giant foxtail control 4% (5/30 rating).

Weather conditions prior to POST I and POST II applications were favorable due to abundant moisture. Subsequent applications were more challenging due to drier than normal conditions.

Sequential PRE/POST applications consistently provided very good to excellent giant ragweed control. Statistically, the best treatments included Dual II Magnum followed by Laudis, 95%, Lumax followed by Touchdown Total, 97%, Lumax followed by Halex GT, 99%, Bicep Lite II Magnum followed by Halex GT, 97%, and Aatrex followed by Halex GT, 96%. Weaker treatments included both the Dual II Magnum followed by Impact + Aatrex, 78%, and the Dual II Magnum followed by Status, 83%, (7/28 rating).

Total POST treatments for giant ragweed were more variable. Statistically, the best treatments included Touchdown Total + Callisto, 95%, Touchdown Total + Laudis, 95%, Halex GT, 96%, Halex GT + Aatrex, 92%, NorthStar + Halex GT, 95%, Steadfast Q + Impact + Aatrex, 94%, and the sequential two-pass Roundup PowerMax treatment, 98%. Weaker treatments included the single pass of Roundup PowerMax, 69%, and Roundup PowerMax + Impact, 75%, (7/28 rating).

All sequential PRE/POST applications provided excellent common lambsquarters control with no treatment providing less than 95% control.

On the whole, postemergence applications for common lambsquarters was very good to excellent. Statistically, the best treatments included Touchdown Total + Callisto, 98%, Touchdown Total + Laudis, 98%, Halex GT, 99%, Halex GT + Aatrex, 99%, SureStart + Durango, 97%, Roundup PowerMax + Laudis, 99%, NorthStar + Halex GT, 99%, NorthStar + Sequence, 99%, Steadfast Q + Impact + Aatrex, 99%, Resolve Q + Aatrex + Roundup PowerMax, 99%, and Require Q + Aatrex + Roundup PowerMax, 99%, and the sequential 2-pass Roundup PowerMax treatment, 97%. Only the single pass Roundup PowerMax treatment performed poorly at 74% control (7/28 rating).

All sequential PRE/POST applications provided excellent common waterhemp control with no treatment providing less than 95% control.

On the whole, postemergence applications for common waterhemp was very good to excellent. Statistically, the best treatments included Touchdown Total + Callisto, 97%, Touchdown Total + Status, 96%, Halex GT, 99%, Halex GT + Aatrex, 95%, Roundup PowerMax + Status, 97%, NorthStar + Halex GT, 97%, and the sequential two-pass Roundup PowerMax treatment, 98%. Only the single pass Roundup PowerMax treatment performed poorly at 75% control (7/28 rating).

All sequential PRE/POST applications provided excellent giant foxtail control with no treatment providing less than 94% control.

On the whole, postemergence applications for giant foxtail was very good to excellent. Statistically, the best treatments included Halex GT, 97%, SureStart + Durango, 96%, NorthStar + Sequence, 97%, Steadfast Q + Impact + Aatrex, 95%, Resolve Q + Aatrex + Roundup PowerMax, 97%, Require Q + Aatrex + Roundup PowerMax, 96%, and the sequential two-pass Roundup PowerMax treatment, 99%. Only the single pass Roundup PowerMax treatment provided reduced control at 81% (7/28 rating). (University of Minnesota Extension, Regional Office – Rochester).

Table 1. Performance of herbicide systems for giant ragweed control in field corn on May 22 and 30, June 9 and 20, and July 1 and 28 at Rochester, MN, in 2008.

Treatment	Rate	Giant Ragweed Control						Yield	
		5/22	5/30	6/9	6/20	7/1	7/28		
	(rate/A)	(%)						(bu/A)	
Untreated Check		0	0	0	0	0	0	4	
PRE / POST II									
Dual II Mag / Callisto + Aatrex + COC + AMS	1 pt / 3.0 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100gal	0	0	91	89	87	85	105	
Dual II Mag / Impact + Aatrex + COC + AMS	1 pt / 0.5 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	0	0	85	82	75	78	83	
Dual II Mag / Laudis + Aatrex + COC + AMS	1 pt / 3 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	0	0	93	97	97	95	108	
Dual II Mag / Status + COC + AMS	1 pt / 5 oz wt + 1% v/v + 8.5 lb/100 gal	0	0	91	88	86	83	108	
Lumax / Touchdown Total + AMS	2 qt / 24 fl oz + 1% w/v	83	92	94	90	98	97	118	
Lumax / Halex GT + NIS + AMS	1.5 qt / 3.6 pt + 0.25% v/v + 1% w/v	76	90	95	89	98	99	144	
Bicep Lite II Magnum / Halex GT + NIS + AMS	1 qt / 3.6 pt + 0.25% v/v + 1% w/v	20	23	97	98	98	97	124	
Aatrex / Halex GT + NIS + AMS	26 fl oz / 3.6 pt + 0.25% v/v + 1% w/v	11	0	97	97	97	96	149	
Harness Xtra / Roundup PowerMAX + AMS	1.25 qt / 22 fl oz + 1% w/v	41	40	96	90	84	89	111	
SureStart / Durango DMA + AMS	1.75 pt / 24 fl oz + 1% w/v	77	86	83	96	95	93	136	
POST I									
Touchdown Total + Callisto + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	0	95	97	97	95	123	
Touchdown Total + Impact + AMS	24 fl oz / 0.5 fl oz + 8.5 lb/100 gal	0	0	93	89	80	83	83	
Touchdown Total + Laudis + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	0	93	97	96	95	119	
Touchdown Total + Status + AMS	24 fl oz / 2.4 oz wt + 8.5 lb/100 gal	0	0	94	90	82	83	90	
Halex GT + NIS + AMS	3.6 pt + 0.25% v/v + 1% w/v	0	0	95	96	96	96	112	
Halex GT + Aatrex + NIS + AMS	3.6 pt + 1 pt + 0.25% v/v + 1% w/v	0	0	92	95	93	92	118	
Roundup PowerMAX + AMS	22 fl oz + 1% w/v	0	0	92	83	73	69	75	
SureStart + Durango DMA + AMS	1.75 pt + 24 fl oz + 1% w/v	0	0	95	94	93	89	159	
Roundup PowerMAX + Laudis + AMS	22 fl oz + 3 fl oz + 1% w/v	0	0	93	96	97	97	140	
Roundup PowerMAX + Status + AMS	22 fl oz + 2.5 oz wt + 1% w/v	0	0	92	89	79	80	98	
Roundup PowerMAX + Impact + AMS	22 fl oz + 0.5 fl oz + 1% w/v	0	0	91	85	78	75	89	
NorthStar + Halex GT + NIS + AMS	2.5 oz + 3.6 pt + 0.25% v/v + 1% w/v	0	0	93	96	96	95	142	
NorthStar + Sequence + AMS	3 oz + 2.5 pt + 1% w/v	0	0	93	92	89	87	135	
Steadfast Q (Rimsulfuron + Nicosulfuron + Isoxadifen-ethyl)	(0.75 oz wt + 0.5 oz wt + 0.25 oz wt)	0	0	92	94	94	94	132	
+ Impact + Aatrex + MSO + AMS	+ 0.5 fl oz + 8.9 oz wt + 1% v/v + 1% w/v								
Resolve Q (Rimsulfuron + Thifensulfuron + Isoxadifen-ethyl)	(0.92 oz wt + 0.1 oz wt + 0.25 oz wt)	0	0	87	95	90	90	123	
+ Aatrex + Roundup PowerMAX + AMS	+ 8.9 oz wt + 22 fl oz + 1% w/v								
Require Q (Rimsulfuron + Dicamba + Isoxadifen-ethyl)	(1 oz wt + 2.75 oz wt + 0.25 oz wt)	0	0	95	96	94	95	116	
+ Aatrex + Roundup PowerMAX + AMS	+ 8.9 oz wt + 22 fl oz + 1% w/v								
POST I / POST III									
Roundup PowerMAX + AMS / Roundup PowerMAX + AMS	22 fl oz + 1% w/v / 22 fl oz + 1% w/v	0	0	93	83	99	98	135	
		LSD (P=0.10)	3	1	3	3	3	4	26

Table 2. Performance of herbicide systems for common lambsquarters control in field corn on May 22 and 30, June 9 and 20, and July 1 and 28 at Rochester, MN, in 2008.

Treatment	Rate (rate/A)	Common Lambsquarters Control (%)						Yield (bu/A)
		5/22	5/30	6/9	6/20	7/1	7/28	
Untreated Check		0	0	0	0	0	0	4
PRE / POST II								
Dual II Mag / Callisto + Aatrex + COC + AMS	1 pt / 3.0 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100gal	64	74	99	99	99	99	105
Dual II Mag / Impact + Aatrex + COC + AMS	1 pt / 0.5 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	70	73	99	98	99	95	83
Dual II Mag / Laudis + Aatrex + COC + AMS	1 pt / 3 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	68	75	99	99	99	99	108
Dual II Mag / Status + COC + AMS	1 pt / 5 oz wt + 1% v/v + 8.5 lb/100 gal	66	76	97	96	95	95	108
Lumax / Touchdown Total + AMS	2 qt / 24 fl oz + 1% w/v	99	99	99	99	99	99	118
Lumax / Halex GT + NIS + AMS	1.5 qt / 3.6 pt + 0.25% v/v + 1% w/v	99	99	99	99	99	99	144
Bicep Lite II Magnum / Halex GT + NIS + AMS	1 qt / 3.6 pt + 0.25% v/v + 1% w/v	99	99	99	99	99	99	124
Aatrex / Halex GT + NIS + AMS	26 fl oz / 3.6 pt + 0.25% v/v + 1% w/v	99	79	99	99	99	99	149
Harness Xtra / Roundup PowerMAX + AMS	1.25 qt / 22 fl oz + 1% w/v	99	99	99	99	98	98	111
SureStart / Durango DMA + AMS	1.75 pt / 24 fl oz + 1% w/v	99	99	96	99	99	97	136
POST I								
Touchdown Total + Callisto + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	0	99	99	99	98	123
Touchdown Total + Impact + AMS	24 fl oz / 0.5 fl oz + 8.5 lb/100 gal	0	0	99	98	96	95	83
Touchdown Total + Laudis + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	0	99	99	98	98	119
Touchdown Total + Status + AMS	24 fl oz / 2.4 oz wt + 8.5 lb/100 gal	0	0	99	97	90	87	90
Halex GT + NIS + AMS	3.6 pt + 0.25% v/v + 1% w/v	0	0	99	99	99	99	112
Halex GT + Aatrex + NIS + AMS	3.6 pt + 1 pt + 0.25% v/v + 1% w/v	0	0	99	99	99	99	118
Roundup PowerMAX + AMS	22 fl oz + 1% w/v	0	0	98	94	77	74	75
SureStart + Durango DMA + AMS	1.75 pt + 24 fl oz + 1% w/v	0	0	99	99	98	97	159
Roundup PowerMAX + Laudis + AMS	22 fl oz + 3 fl oz + 1% w/v	0	0	99	99	99	99	140
Roundup PowerMAX + Status + AMS	22 fl oz + 2.5 oz wt + 1% w/v	0	0	99	98	92	91	98
Roundup PowerMAX + Impact + AMS	22 fl oz + 0.5 fl oz + 1% w/v	0	0	99	97	90	91	89
NorthStar + Halex GT + NIS + AMS	2.5 oz + 3.6 pt + 0.25% v/v + 1% w/v	0	0	99	99	99	99	142
NorthStar + Sequence + AMS	3 oz + 2.5 pt + 1% w/v	0	0	99	99	99	99	135
Steadfast Q (Rimsulfuron + Nicosulfuron + Isoxadifen-ethyl) + Impact + Aatrex + MSO + AMS	(0.75 oz wt + 0.5 oz wt + 0.25 oz wt) + 0.5 fl oz + 8.9 oz wt + 1% v/v + 1% w/v	0	0	99	99	99	99	132
Resolve Q (Rimsulfuron + Thifensulfuron + Isoxadifen-ethyl) + Aatrex + Roundup PowerMAX + AMS	(0.92 oz wt + 0.1 oz wt + 0.25 oz wt) + 8.9 oz wt + 22 fl oz + 1% w/v	0	0	99	99	99	99	123
Require Q (Rimsulfuron + Dicamba + Isoxadifen-ethyl) + Aatrex + Roundup PowerMAX + AMS	(1 oz wt + 2.75 oz wt + 0.25 oz wt) + 8.9 oz wt + 22 fl oz + 1% w/v	0	0	99	99	99	99	116
POST I / POST III								
Roundup PowerMAX + AMS / Roundup PowerMAX + AMS	22 fl oz + 1% w/v / 22 fl oz + 1% w/v	0	0	99	97	99	97	135
LSD (P=0.10)		5	3	1	1	2	3	26

Table 3. Performance of herbicide systems for common waterhemp control in field corn on May 30, June 9 and 20, and July 1 and 28 at Rochester, MN, in 2008.

Treatment	Rate (rate/A)	Common Waterhemp Control (%)					Yield (bu/A)
		5/30	6/9	6/20	7/1	7/28	
Untreated Check		0	0	0	0	0	4
PRE / POST II							
Dual II Mag / Callisto + Aatrex + COC + AMS	1 pt / 3.0 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100gal	88	99	98	98	99	105
Dual II Mag / Impact + Aatrex + COC + AMS	1 pt / 0.5 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	87	98	98	98	95	83
Dual II Mag / Laudis + Aatrex + COC + AMS	1 pt / 3 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	90	99	99	98	97	108
Dual II Mag / Status + COC + AMS	1 pt / 5 oz wt + 1% v/v + 8.5 lb/100 gal	88	99	98	96	96	108
Lumax / Touchdown Total + AMS	2 qt / 24 fl oz + 1% w/v	99	98	99	99	99	118
Lumax / Halex GT + NIS + AMS	1.5 qt / 3.6 pt + 0.25% v/v + 1% w/v	99	99	99	99	99	144
Bicep Lite II Magnum / Halex GT + NIS + AMS	1 qt / 3.6 pt + 0.25% v/v + 1% w/v	95	99	99	99	99	124
Aatrex / Halex GT + NIS + AMS	26 fl oz / 3.6 pt + 0.25% v/v + 1% w/v	0	99	99	99	99	149
Harness Xtra / Roundup PowerMAX + AMS	1.25 qt / 22 fl oz + 1% w/v	99	99	99	97	98	111
SureStart / Durango DMA + AMS	1.75 pt / 24 fl oz + 1% w/v	99	99	99	98	97	136
POST I							
Touchdown Total + Callisto + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	99	99	98	97	123
Touchdown Total + Impact + AMS	24 fl oz / 0.5 fl oz + 8.5 lb/100 gal	0	99	94	83	84	83
Touchdown Total + Laudis + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	99	98	94	93	119
Touchdown Total + Status + AMS	24 fl oz / 2.4 oz wt + 8.5 lb/100 gal	0	99	92	82	96	90
Halex GT + NIS + AMS	3.6 pt + 0.25% v/v + 1% w/v	0	98	98	98	99	112
Halex GT + Aatrex + NIS + AMS	3.6 pt + 1 pt + 0.25% v/v + 1% w/v	0	98	97	95	95	118
Roundup PowerMAX + AMS	22 fl oz + 1% w/v	0	98	89	73	75	75
SureStart + Durango DMA + AMS	1.75 pt + 24 fl oz + 1% w/v	0	99	97	94	92	159
Roundup PowerMAX + Laudis + AMS	22 fl oz + 3 fl oz + 1% w/v	0	96	98	94	92	140
Roundup PowerMAX + Status + AMS	22 fl oz + 2.5 oz wt + 1% w/v	0	97	96	82	97	98
Roundup PowerMAX + Impact + AMS	22 fl oz + 0.5 fl oz + 1% w/v	0	97	92	80	92	89
NorthStar + Halex GT + NIS + AMS	2.5 oz + 3.6 pt + 0.25% v/v + 1% w/v	0	98	99	98	97	142
NorthStar + Sequence + AMS	3 oz + 2.5 pt + 1% w/v	0	99	98	84	86	135
Steadfast Q (Rimsulfuron + Nicosulfuron + Isoxadifen-ethyl) + Impact + Aatrex + MSO + AMS	(0.75 oz wt + 0.5 oz wt + 0.25 oz wt) + 0.5 fl oz + 8.9 oz wt + 1% v/v + 1% w/v	0	83	95	84	82	132
Resolve Q (Rimsulfuron + Thifensulfuron + Isoxadifen-ethyl) + Aatrex + Roundup PowerMAX + AMS	(0.92 oz wt + 0.1 oz wt + 0.25 oz wt) + 8.9 oz wt + 22 fl oz + 1% w/v	0	95	96	84	82	123
Require Q (Rimsulfuron + Dicamba + Isoxadifen-ethyl) + Aatrex + Roundup PowerMAX + AMS	(1 oz wt + 2.75 oz wt + 0.25 oz wt) + 8.9 oz wt + 22 fl oz + 1% w/v	0	98	97	89	86	116
POST I / POST III							
Roundup PowerMAX + AMS / Roundup PowerMAX + AMS	22 fl oz + 1% w/v / 22 fl oz + 1% w/v	0	97	91	99	98	135
LSD (P=0.10)		2	2	2	3	5	26

Table 4. Performance of herbicide systems for giant foxtail control in field corn on May 22 and 30, June 9 and 20, and July 1 and 28] at Rochester, MN, in 2008.

Treatment	Rate (rate/A)	Giant Foxtail Control (%)						Yield (bu/A)
		5/24	5/30	6/9	6/20	7/1	7/28	
Untreated Check		0	0	0	0	0	0	4
PRE / POST II								
Dual II Mag / Callisto + Aatrex + COC + AMS	1 pt / 0.5 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100gal	98	96	99	98	97	95	105
Dual II Mag / Impact + Aatrex + COC + AMS	1 pt / 0.5 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	98	95	99	98	98	95	83
Dual II Mag / Laudis + Aatrex + COC + AMS	1 pt / 3 fl oz + 8 fl oz + 1% v/v + 8.5 lb/100 gal	98	96	99	99	99	99	108
Dual II Mag / Status + COC + AMS	1 pt / 5 oz wt + 1% v/v + 8.5 lb/100 gal	98	96	99	98	98	94	108
Lumax / Touchdown Total + AMS	2 qt / 24 fl oz + 1% w/v	99	96	98	93	99	99	118
Lumax / Halex GT + NIS + AMS	1.5 qt / 3.6 pt + 0.25% v/v + 1% w/v	99	96	98	94	99	99	144
Bicep Lite II Magnum / Halex GT + NIS + AMS	1 qt / 3.6 pt + 0.25% v/v + 1% w/v	99	97	99	99	99	99	124
Aatrex / Halex GT + NIS + AMS	26 fl oz / 3.6 pt + 0.25% v/v + 1% w/v	0	4	99	99	99	96	149
Harness Xtra / Roundup PowerMAX + AMS	1.25 qt / 22 fl oz + 1% w/v	99	98	99	99	99	96	111
SureStart / Durango DMA + AMS	1.75 pt / 24 fl oz + 1% w/v	99	98	98	99	99	98	136
POST I								
Touchdown Total + Callisto + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	0	99	95	94	89	123
Touchdown Total + Impact + AMS	24 fl oz / 0.5 fl oz + 8.5 lb/100 gal	0	0	99	96	97	93	83
Touchdown Total + Laudis + AMS	24 fl oz / 3 fl oz + 8.5 lb/100 gal	0	0	99	97	97	92	119
Touchdown Total + Status + AMS	24 fl oz / 2.4 oz wt + 8.5 lb/100 gal	0	0	99	98	97	94	90
Halex GT + NIS + AMS	3.6 pt + 0.25% v/v + 1% w/v	0	0	99	99	97	97	112
Halex GT + Aatrex + NIS + AMS	3.6 pt + 1 pt + 0.25% v/v + 1% w/v	0	0	99	99	98	94	118
Roundup PowerMAX + AMS	22 fl oz + 1% w/v	0	0	99	95	93	81	75
SureStart + Durango DMA + AMS	1.75 pt + 24 fl oz + 1% w/v	0	0	99	99	98	96	159
Roundup PowerMAX + Laudis + AMS	22 fl oz + 3 fl oz + 1% w/v	0	0	99	98	98	94	140
Roundup PowerMAX + Status + AMS	22 fl oz + 2.5 oz wt + 1% w/v	0	0	99	96	95	92	98
Roundup PowerMAX + Impact + AMS	22 fl oz + 0.5 fl oz + 1% w/v	0	0	99	94	93	88	89
NorthStar + Halex GT + NIS + AMS	2.5 oz + 3.6 pt + 0.25% v/v + 1% w/v	0	0	99	99	98	94	142
NorthStar + Sequence + AMS	3 oz + 2.5 pt + 1% w/v	0	0	99	99	98	97	135
Steadfast Q (Rimsulfuron + Nicosulfuron + Isoxadifen-ethyl) + Impact + Aatrex + MSO + AMS	(0.75 oz wt + 0.5 oz wt + 0.25 oz wt) + 0.5 fl oz + 8.9 oz wt + 1% v/v + 1% w/v	0	0	98	97	97	95	132
Resolve Q (Rimsulfuron + Thifensulfuron + Isoxadifen-ethyl) + Aatrex + Roundup PowerMAX + AMS	(0.92 oz wt + 0.1 oz wt + 0.25 oz wt) + 8.9 oz wt + 22 fl oz + 1% w/v	0	0	99	97	97	97	123
Require Q (Rimsulfuron + Dicamba + Isoxadifen-ethyl) + Aatrex + Roundup PowerMAX + AMS	(1 oz wt + 2.75 oz wt + 0.25 oz wt) + 8.9 oz wt + 22 fl oz + 1% w/v	0	0	98	99	98	96	116
POST I / POST III								
Roundup PowerMAX + AMS / Roundup PowerMAX + AMS	22 fl oz + 1% w/v / 22 fl oz + 1% w/v	0	0	99	95	99	99	135
LSD (P=0.10)		1	2	1	3	2	4	26