Weed control with POST applied [nicosulfuron & rimsulfuron] tank mixes in corn at Lamberton, MN in 2003. Getting, Jodie K. and Bruce D. Potter. The objective of this study was to evaluate [nicosulfuron & rimsulfuron] tank mixed with either s-metolachlor + mesotrione + atrazine or s-metolachlor + mesotrione for annual grass and annual broadleaf weed control in corn. This study was conducted on a Normania loam soil containing 5.1% organic matter, pH 6.2 and soil test P and K levels of 42 and 338 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. The site was planted to oats in 2002 and was fall chiseled. The area was fertilized with 180 lb/A of nitrogen as urea. On May 2, 2003, Northrup King 'N32L9' glufosinate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. Cyfluthrin + tebupirimphos (Aztec 2.1G) was applied at 6.7 oz/1000 row feet in a T-band for the control of northern corn rootworm larvae. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 40 psi. The sprayer was equipped with 8002 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	May 29	June 11
Treatment	POST I	POST II
Temperature (F)		
air	75	61
soil (4 inch)	70	66
Relative humidity (%)	27	82
Wind (mph)	S 5	calm
Sky	clear	cloudy
Soil moisture	dry	dry
Corn		
leaf no.	2-collar	5-collar
height (inch)	3	10
Yellow foxtail		
leaf no.	1 to 3	3 to 5
height (inch)	1 to 3	4 to 7
no./ft^2	75	98
Common lambsquarters		
leaf no.	2 to 4	5 to 8
height (inch)	1 to 3	4 to 6
no./ft^2	6	4
Tall waterhemp		
leaf no.	3 to 5	4 to 6
height (inch)	1 to 3	2 to 5
no./ft^2	1	2
Rainfall after application (inch)		
1 week	0.17	0.01
2 week	1.24	3.34
3 week	0.01	0.59

Early season crop development was delayed due to a June 23 hailstorm. The precipitation received in July and August was below average with a total of 2.96 inches compared to the historical average of 7.07 inches. None of the herbicide treatments caused visible crop injury. On June 13, 15 days after treatment, POST I herbicide treatments gave 93% or greater yellow foxtail control and 96% or greater common lambsquarters control. On June 27, 16 days after POST II treatments, POST II treatments gave 74 to 87% yellow foxtail control and 80 to 98% common lambsquarters control. In August, [nicosulfuron & rimsulfuron], [nicosulfuron & rimsulfuron] + [s-metolachlor & mesotrione & CGA-154281] and [nicosulfuron & rimsulfuron] + [s-metolachlor & atrazine & mesotrione & CGA-154281] applied POST I resulted in 65%, 74 to 80%, and 66 to 78% yellow foxtail control. Those same treatments applied POST II gave 71, 60 to 64%, and 53 to 59% control. [Nicosulfuron & rimsulfuron] + NIS + AMS applied POST I and POST II gave 43 and 68% tall waterhemp control, respectively. [Nicosulfuron & rimsulfuron] tank mixed with the low and high rate of [s-metolachlor & mesotrione & CGA-154281] + NIS provided 82 and 95% control. [Nicosulfuron & rimsulfuron] tank mixed with the low and high rate of [s-metolachlor & mesotrione & CGA-154281] + NIS + AMS resulted in 80 and 95% control. All other POST I herbicide treatments gave 92% or greater control. All other POST II herbicide treatments gave 90% or greater control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with POST applied [nicosulfuron & rimsulfuron] tank mixes in corn at Lamberton, MN in 2003 (Getting and Potter).

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Treatment[a]	Rate	6/13	6/27	7/30	8/27	6/13	6/27	7/30	8/27	6/27	7/30	8/27	Yield
POST I (3-inch corn)	(lb/A or %)	----------(% control)----------											(bu/A)[b]
[Nico&Rims]+NIS+AMS	[0.023&0.012]+0.25%+2.0	94	88	70	65	97	84	75	55	76	60	43	130
[Nico&Rims] +[S-meto&atra&meso&CGA-154281]+NIS	[0.023&0.012] +[0.5&0.19&0.05]+0.25%	94	90	76	66	98	95	96	97	98	96	96	137
[Nico&Rims] +[S-meto&atra&meso&CGA-154281]+NIS	[0.023&0.012] +[1.0&0.38&0.1]+0.25%	97	92	83	78	98	97	96	97	97	97	98	145
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS	[0.023&0.012] +[0.42&0.04]+0.25%	95	92	76	74	96	91	92	87	90	85	82	149
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS	[0.023&0.012] +[0.84&0.08]+0.25%	96	93	85	80	98	96	97	97	97	98	95	155
[Nico&Rims] +[S-meto&atra&meso&CGA-154281] +NIS+AMS	[0.023&0.012] +[0.5&0.19&0.05] +0.25%+2.0	93	93	80	71	98	95	97	96	94	93	92	154
[Nico&Rims] +[S-meto&atra&meso&CGA-154281] +NIS+AMS	[0.023&0.012] +[1.0&0.38&0.1] +0.25%+2.0	94	94	83	78	98	98	98	98	98	98	98	141
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS+AMS	[0.023&0.012] +[0.42&0.04]+0.25%+2.0	94	91	78	74	98	95	93	90	88	85	80	133
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS+AMS	[0.023&0.012] +[0.84&0.08]+0.25%+2.0	93	91	80	74	98	97	98	98	95	95	95	153
[Nico&Rims]+Meso+Atra+COC+AMS	[0.023&0.012]+0.05+0.67+1%+2.0	97	90	71	68	98	97	98	98	97	98	97	153
[Nico&Rims] +[s-meto&atra&CGA-154281]+Meso +NIS+AMS	[0.023&0.012] +[0.84&1.09]+0.05 +0.25%+2.0	96	91	78	72	98	98	98	97	97	98	97	146
POST II (10-inch corn)													
[Nico&Rims]+NIS+AMS	[0.023&0.012]+0.25%+2.0	-	77	69	71	-	80	81	86	83	73	68	110
[Nico&Rims] +[S-meto&atra&meso&CGA-154281]+NIS	[0.023&0.012] +[0.5&0.19&0.05]+0.25%	-	74	58	59	-	98	97	98	98	98	98	98
[Nico&Rims] +[S-meto&atra&meso&CGA-154281]+NIS	[0.023&0.012] +[1.0&0.38&0.1]+0.25%	-	78	54	53	-	97	98	98	90	93	91	104
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS	[0.023&0.012] +[0.42&0.04]+0.25%	-	76	63	60	-	95	95	98	96	92	90	108
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS	[0.023&0.012] +[0.84&0.08]+0.25%	-	79	73	63	-	97	98	98	90	96	96	115
[Nico&Rims] +[S-meto&atra&meso&CGA-154281] +NIS+AMS	[0.023&0.012] +[0.5&0.19&0.05] +0.25%+2.0	-	76	68	59	-	98	98	98	98	98	98	100
[Nico&Rims] +[S-meto&atra&meso&CGA-154281] +NIS+AMS	[0.023&0.012] +[1.0&0.38&0.1] +0.25%+2.0	-	81	64	59	-	98	98	98	96	97	98	102
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS+AMS	[0.023&0.012] +[0.42&0.04]+0.25%+2.0	-	81	66	63	-	96	97	98	94	93	91	112
[Nico&Rims] +[S-meto&meso&CGA-154281]+NIS+AMS	[0.023&0.012] +[0.84&0.08]+0.25%+2.0	-	80	69	64	-	98	98	98	95	94	94	118
[Nico&Rims]+Meso+Atra+COC+AMS	[0.023&0.012]+0.05+0.67+1%+2.0	-	87	70	63	-	98	98	98	98	97	96	124
[Nico&Rims] +[s-meto&atra&CGA-154281]+Meso +NIS+AMS	[0.023&0.012] +[0.84&1.09]+0.05 +0.25%+2.0	-	79	70	65	-	98	98	98	98	96	95	120
Checks													
Weedy check		0	0	0	0	0	0	0	0	0	0	0	13
Weed-free		100	100	100	100	100	100	100	100	100	100	100	159
	LSD (0.10)	1.6	3.6	8.6	9.6	1.2	4.1	4.1	6.3	6.1	5.5	8.4	15.0

[a] Atra or atrazine = Aatrex 90DF; [Nico&Rims] or [nicosulfuron & rimsulfuron] = Steadfast 75DF; [S-meto&atra&CGA-154281] or [s-metolachlor & atrazine & CGA-154281] = Cinch ATZ 5.5F; [S-meto&meso&CGA-154281] or [s-metolachlor & mesotrione & CGA-154281] = Camix 3.67SE; [S-meto&atra&meso&CGA-154281] or [s-metolachlor & atrazine & mesotrione & CGA-154281] = Lumax 3.95L; Meso or mesotrione = Callisto 4L; COC = crop oil concentrate; NIS = nonionic surfactant; AMS = spray grade ammonium sulfate.

[b] Yield adjusted to 15.5% moisture.