

## **Preemergence Corn Herbicide Performance on Giant Ragweed at Waseca, MN in 2014**

Thomas R. Hoverstad.

The objective of this study was to evaluate soil applied corn herbicides at reduced and maximum label rates for control of giant ragweed in corn. This study was conducted on a Webster Clay Loam soil containing 7% organic matter, pH 6.4 and soil test P and K levels of 18 and 196 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 corn in 2013 and fall tillage was done using a moldboard plow. The area was fertilized with 190 lbs of nitrogen as urea in the spring of 2014. On May 23, 2014, Dekalb 'DKC 53-56' glufosinate resistant/glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 36,500 seeds/A. All treatments were applied with a tractor-mounted compressed air sprayer delivering 15 gpa at a pressure of 35 psi. The sprayer was equipped with 80015 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	May 23	June 26	June 30
Treatment	Pre	Post 1	Post 2
Temperature (F)			
Air	76	82	67
Soil (4-inch)	65	78	70
Relative humidity	40	60	80
Wind (mph)	N 8	S 12	N 3
Sky	clear	P cloudy	cloudy
Soil moisture	medium	moist	medium
Corn			
Leaf no.	-	4	5
Height (inch)	-	5	6
Giant ragweed			
Leaf no.	-	4	4
Height (inch)	-	5	7
Rainfall after application (inch)			
1 week	0.33	0.89	0.31
2 week	4.28	0.28	0.36
3 week	2.04	0.26	0.02

(Southern Research and Outreach Center, University of Minnesota, Waseca).

Yield, herbicide rates and weed control are shown in Table1. Lumax and Instigate resulted in the best control of giant ragweed from soil the soil applied herbicides in this trial. Maximum label rates of either Lumax or Instigate applied preemergence resulted in corn yield equivalent to two pass programs where soil applied herbicides were follow with either glyphosate or glufosinate postemergence.

Table 1. Preemergence Corn Herbicide Performance on Giant Ragweed at Waseca, MN in 2014

Herbicide	Rate	Giant Ragweed 20-Jun	Giant Ragweed 15-Sep	Yield
<u>Preemergence/POST III (V4 corn)</u>		% Control		Bu/A
Harness / Roundup WeatherMax + AMS	1.5 pt / 32 oz + 3 qt	19	95	141
SureStart / Roundup WeatherMax + AMS	1.5 pt / 32 oz + 3 qt	33	95	145
Verdict / Roundup WeatherMax + AMS	18 oz / 32 oz + 3 qt	74	95	133
Lumax / Roundup WeatherMax + AMS	2 qt / 32 oz + 3 qt	89	95	143
Instigate / Roundup WeatherMax + AMS	5.25 oz / 32 oz + 3 qt	84	95	152
<u>Preemergence</u>				
Harness	3 pt	38	24	68
SureStart	3 pt	61	41	123
Outlook + Sharpen	21 oz + 3.5 oz	58	25	100
Lumax	3.25 qt	90	85	153
Instigate	7 oz	91	79	149
<u>Preemergence/POST III (V6 corn)</u>				
Harness / Ignite + AMS	3 pt / 32 oz + 3 qt	31	95	141
SureStart / Ignite + AMS	3 pt / 32 oz + 3 qt	76	95	155
Outlook + Sharpen / Ignite + AMS	21 oz + 3.5 oz / 32 oz + 3 qt	48	95	140
Lumax / Ignite + AMS	3.25 qt / 32 oz + 3 qt	93	95	146
Instigate / Ignite + AMS	7 oz / 32 oz + 3 qt	86	95	142
Weedy Check	-	0	0	43
	LSD (0.10)	15	8	22