

Annual weed control with Zemax, Zidua, Surestart, and Verdict in corn at Lamberton, MN in 2012.

Getting, Jodie K.

The objective of this study was to evaluate Zemax, Zidua, Surestart, and Verdict applied preemergence for annual grass and annual broadleaf weed control in corn. This study was conducted on a Normania loam soil containing 4.1% organic matter, pH 5.6 and soil test P and K levels of 72 and 364 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 soybeans in 2011 and was fall chiseled. The area was fertilized with 150 lbs of nitrogen as urea. On May 15, 2012, Dekalb 'DK 48-12' glufosinate resistant/glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 36,000 seeds/A. 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 16	June 12	June 15
Treatment	PRE	POST I	POST II
Temperature (F)			
air	66	52	61
soil (4 inch)	70	66	78
Relative humidity (%)	32	58	77
Wind (mph)	calm	N 10	calm
Sky	clear	clear	cloudy
Soil moisture	dry	dry	dry
Corn			
leaf no.	-	V5	V6
height (inch)	-	10	14
Yellow foxtail			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	2 to 4	3 to 6
no./ft ²	-	4	7
Common lambsquarters			
leaf no.	-	3 to 4	3 to 5
height (inch)	-	1 to 3	2 to 4
no./ft ²	-	1	1
Tall waterhemp			
leaf no.	-	2 to 3	3 to 4
height (inch)	-	1 to 3	2 to 4
no./ft ²	-	3	4
Rainfall after application (inch)			
1 week	0.53	0.27	0.72
2 week	4.52	0.53	0.01
3 week	0.47	0.00	0.00

(Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Annual weed control with Zemax, Zidua, Surestart, and Verdict in corn at Lamberton, MN in 2012 (Getting).

Treatment ^a	Rate (oz/A, pt/A, qt/A, or %)	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield ^b (bu/A)
		Jun 15	Jun 22	Jul 5	Aug 20	Jun 15	Jun 22	Jul 5	Aug 20	Jun 15	Jun 22	Jul 5	Aug 20	
Preemergence/POST II (6-collar corn)														
Zemax	2.4 qt	95 a	98 a	95 b	92 b	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	142 a
Zemax / Halex GT + NIS + AMS	1 qt / 3.6 pt + 0.25% + 2.5%	91 b	99 a	99 a	99 a	98 a	99 a	99 a	99 a	97 ab	99 a	99 a	99 a	135 a
Zemax / Touchdown Total + AMS	1.6 qt / 30 oz + 2.5%	96 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	134 a
Surestart / Touchdown Total + AMS	1.75 pt / 30 oz + 2.5%	94 ab	99 a	99 a	99 a	97 ab	99 a	99 a	99 a	96 ab	99 a	99 a	99 a	140 a
Verdict / Touchdown Total + AMS	15 oz / 30 oz + 2.5%	91 b	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	145 a
Zidua / Touchdown Total + AMS	2.5 oz / 30 oz + 2.5%	91 b	99 a	99 a	98 a	95 b	99 a	99 a	99 a	95 b	99 a	99 a	99 a	137 a
POST I (2 to 4-inch weeds)														
Zemax + Touchdown Total + AMS	1.6 qt + 30 oz + 2.5%	-	98 a	98 a	97 a	-	99 a	99 a	99 a	-	99 a	98 b	99 a	142 a
Checks														
Weedy check		0 c	0 b	0 c	0 c	0 c	0 b	0 b	0 b	0 c	0 b	0 c	0 b	101 b
	LSD (0.10)	3.1	1.2	2.5	2.2	2.8	ns	ns	ns	3.8	ns	0.9	ns	14.2

^a NIS = non-ionic surfactant; AMS = liquid spray grade ammonium sulfate.

^b Yield adjusted to 15.5% moisture.