

Yellow foxtail control in corn at Lamberton, MN in 1997. Getting, Jodie K. The objective of this study was to evaluate soil applied herbicides and postemergence herbicide time of application for the control of yellow foxtail in corn. This study was conducted on a Normania loam soil containing 4.7% organic matter, pH 5.9, and soil test P and K levels of 82 and 400 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. No crop was planted on this site in 1996 and weeds were allowed to go to seed. The site was fall moldboard plowed. Nitrogen was applied at 140 lb/A as urea and the site was field cultivated once on May 6, 1997. On May 13, 1996 the preplant incorporated treatments were applied and the entire area was tilled 2 to 3 inches deep with a field cultivator operated at 5 to 6 mph. On the same day Pioneer '3531' field corn was planted in 30-inch rows at a seeding rate of 30,000 seeds/A. The POST I (2-collar) treatments were cultivated on June 20, 1997. 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 13	May 13	June 5	June 9	June 11
Treatment	PPI	PRE	POST I	POST II	POST III
Temperature					
air	40	47	80	83	81
soil (4-inch)	44	46	70	80	78
Relative humidity (%)	60	38	41	30	33
Wind (mph)	calm	calm	N 5-8	S 10	S 5
Sky	clear	cloudy	clear	clear	p. cloudy
Soil moisture	dry	moist	dry	dry	dry
Corn					
leaf no.	-	-	2	3	3
height (inch)	-	-	3.5	5	6
Yellow foxtail					
leaf no.	-	-	1-3	2 to 4	3 to 5
height (inch)	-	-	1.5 to 2	2 to 3	3 to 5
no./ft <sup>2</sup>	-	-	18	30	25
Common lambsquarters					
leaf no.	-	-	cotyledon to 3	3 to 5	3 to 6
height (inch)	-	-	0.25 to 1.5	2 to 3	2 to 4
no./ft <sup>2</sup>	-	-	18	27	21
Pennsylvania smartweed					
leaf no.	-	-	cotyledon	2 to 4	2 to 4
height (inch)	-	-	1	1 to 3	2 to 4
no./ft <sup>2</sup>	-	-	<1	2	1
Rainfall after application (inch)					
1 week	0.04	0.04	0.0	0.0	0.07
2 week	0.27	0.27	0.57	1.32	2.50
3 week	0.29	0.29	2.01	3.32	2.08

None of the treatments caused visible crop injury. There was little differences between acetanilide herbicides applied either PPI or PRE in season-long yellow foxtail control. In September, ICIA 5676 + nicosulfuron + dicamba + NIS + 28%N followed by cultivation had 97% control of yellow foxtail. RPA 201772 at two rates and RPA 201772 + ICIA 5676 applied PRE gave 48 to 67% control of common lambsquarters. CGA 77102 applied PRE followed by either nicosulfuron + [CGA 152005 & primsulfuron] + COC + 28%N or primsulfuron + pyridate + NIS + 28%N gave 76 and 68% control, respectively. All other treatments had greater than 95% control of common lambsquarters. All treatments had excellent Pennsylvania smartweed control.

Table. Yellow foxtail control in corn at Lamberton, MN in 1997 (Getting).

Treatment <sup>a</sup>	Rate (lb/A or %)	Yeft				Cola				Pesw				Yield (bu/A) <sup>b</sup>
		6/6	6/19	7/14	9/3	6/6	6/19	7/14	9/3	6/6	6/19	7/14	9/3	
<u>Preplant incorporate IX/POST II (2 to 4-inch weeds)</u>														
[EPTC+R-29148&Acet]/Brox	[3.5&0.875]/0.25	96	92	89	86	94	99	99	100	88	99	98	100	132
CGA 77102/Brox	1.56/0.25	89	85	80	75	78	98	99	100	88	100	100	100	129
SAN-582H/Brox	1.5/0.25	92	89	86	84	85	98	98	100	88	100	99	100	139
ICIA 5676/Brox	2.0/0.25	94	92	90	83	91	97	98	100	88	100	99	100	148
BAY FOE 5043/Brox	0.85/0.25	90	85	81	78	76	97	99	100	80	100	100	100	147
BAY FOE 5043/Brox	1.02/0.25	90	85	80	80	84	97	99	100	88	100	100	100	138
<u>Preemergence/POST II (2 to 4-inch weeds)</u>														
CGA 77102/Brox	1.56/0.25	93	82	69	66	44	95	98	100	75	100	100	100	119
CGA 77102/Brox	1.88/0.25	95	86	81	76	45	97	98	100	83	100	100	100	129
SAN 12891I/Brox	0.825/0.25	91	87	81	76	55	96	99	100	81	100	100	100	129
Alachlor/Brox	3.0/0.25	95	86	79	71	61	98	99	100	86	98	99	100	123
SAN-582H/Brox	1.5/0.25	94	87	81	78	50	98	99	100	70	100	100	100	131
[Acet&MON 4660]/Brox	2.0/0.25	94	89	83	79	83	98	99	100	86	100	100	100	127
ICIA 5676/Brox	2.0/0.25	95	91	85	78	73	98	99	100	87	100	100	100	137
<u>Preemergence</u>														
RPA 201772	0.094	87	81	85	86	87	71	66	67	91	91	94	100	135
RPA 201772	0.118	88	83	86	89	84	68	58	60	90	91	96	100	149
RPA 201772+ICIA 5676	0.094+1.2	97	90	93	91	92	76	60	48	97	94	97	100	137
<u>Preemergence/POST I (2-collar corn)</u>														
ICIA 5676/Nico+Dica	1.2/0.016+0.125	95	93	93	89	79	93	93	98	84	98	99	100	136
+COC+28%N	+1.0%+2.5%													
<u>Preemergence/POST II (3-collar corn)</u>														
CGA 77102/Nico	0.96/0.016	93	94	94	91	45	83	81	76	74	91	94	100	130
+ [CGA 152005&Prim]	+ [0.018&0.018]													
+COC+28%N	+1.0%+2.5%													
CGA 77102/Nico+Prim	0.96/0.016+0.018	94	94	93	90	48	85	90	95	86	93	97	100	140
+Dica+COC+28%N	+0.063+1.0%+2.5%													
CGA 77102/Prim+Pydt	1.91/0.018+0.469	94	93	90	85	45	84	74	68	81	95	95	100	132
+NIS+28%N	+0.25%+2.5%													
<u>POST I (2-collar corn)/Cultivation</u>														
Pend+Nico+Dica	1.25+0.016+0.375	-	94	92	91	-	97	95	98	-	100	99	100	141
+NIS+28%N/cultivation	+0.25%+2.5%													
ICIA 5676+Nico+Dica	1.2+0.016+0.375	-	93	96	97	-	95	97	100	-	98	100	100	138
+NIS+28%N/cultivation	+0.25%+2.5%													
<u>POST I (2-collar corn)</u>														
ICIA 5676+Nico+Dica	1.2+0.016+0.375	-	93	92	89	-	97	97	98	-	100	100	100	133
+NIS+28%N	+0.25%+2.5%													
[Acet&MON 4660]+Nico	1.09+0.016	-	94	90	89	-	95	94	98	-	99	98	100	146
+Dica+NIS+28%N	+0.375+0.25%+2.5%													
<u>POST II (3-collar corn)</u>														
CGA 77102+Nico	0.96+0.016	-	91	94	90	-	88	93	98	-	96	98	100	135
+ [CGA 152005&Prim]	+ [0.018&0.018]													
+COC+28%N	+1.0%+2.5%													
<u>POST I (2-collar corn)/Cultivation</u>														
[Rims&Thif]	[0.01&0.005]	-	89	91	83	-	94	91	96	-	100	99	100	147
+COC+28%N/cultivation	+1.0%+2.5%													
[Rims&Thif]+atrazine	[0.01&0.005]+0.75	-	91	90	81	-	97	98	100	-	100	100	100	143
+COC+28%N/cultivation	+1.0%+2.5%													
[Rims&Thif]+Dica	[0.01&0.005]+0.125	-	91	90	83	-	94	96	100	-	99	100	100	147
+COC+28%N/cultivation	+1.0%+2.5%													
<u>POST II (3-collar corn)</u>														
DPX 79406+atrazine	0.023+0.75	-	91	90	84	-	97	97	98	-	100	99	100	132
+COC+28%N	+1.0%+2.5%													
<u>POST III</u>														
Nico+Brox	0.031+0.25	-	92	91	85	-	97	94	98	-	100	100	100	135
+Surf+28%N	+0.25%+2.5%													
<u>Checks</u>														
Hand-weeded		98	100	100	100	100	100	100	100	100	100	100	100	152
Weedy check		0	0	0	0	0	0	0	0	0	0	0	0	35
	LSD (0.10)	3	4	5	6	9	5	6	9	11	3	3	ns	13

<sup>a</sup> [Acet&MON 4660] = Harness 7E; alachlor = Microtech 4ME; atrazine = Aatrex 90DF; BAY FOE 5043 = Axiom 68DF; Brox = Buclril 2EC; [CGA 152005&Prim] = Exceed 57WDG; CGA 77102 = Dual II Magnum 7.64EC; Dica = Banvel 4S; [EPTC+R-29148&Acet] = DoublePlay 7EC; ICIA 5676 = Surpass 6.4EC; Nico = Accent 75DF; Pend = Prowl 3.3EC; Prim = Beacon 75DF; Pydt = Tough 3.75E; [Rims&Thif] = Basis 75DF; RPA 201772 = Balance 75DF; SAN-582H = Frontier 6EC; COC = crop oil concentrate, Class Additive 17%; NIS = nonionic surfactant, Aclivate Plus; 28%N = an aqueous solution of urea and ammonium nitrate.

<sup>b</sup> Yield adjusted to 15.5% moisture.