

Giant foxtail control in corn at Waseca, MN in 1997. Hoverstad, Thomas R. and Jodie K.

Getting. The objective of this research was to evaluate several new herbicide programs for giant foxtail control in corn. The research site was a Webster clay loam soil containing 6.5% organic matter with a pH of 6.4 and soil test P and K levels of 18 and 145 ppm, respectively. The previous crop was corn that had been removed for silage and chisel plowed in the fall. 175 lb N/A was applied as urea and the entire area was field cultivated once to incorporate urea before any herbicide application. Following preplant treatment application the entire area was field cultivated once to incorporate herbicides and prepare a seedbed. 'Pioneer 3730' seed corn was planted on May 1 in 30-inch rows. Force 3G in furrow corn insecticide was applied at planting for corn rootworm control. All treatments were applied with a tractor mounted sprayer delivering 20 gpa at 40 psi using 8002 flat-fan nozzle tips. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 1	May 1	June 3	June 9	June 13
Treatment	PPI	Pre	2-collar	3-collar	4-collar
air temp °F	64	64	80	83	83
soil temp (4-inch)	53	53	66	67	71
Relative humidity (%)	30	30	28	27	25
Wind	SW 2	SW 2	E 3	E 11	NE 10
Soil moisture	moist	moist	moist	moist	dry
Corn					
stage	--	--	V2	V3	V4
height (inch)	--	--	4	5	7-8
Giant foxtail					
leaf no.	--	--	1-3	2-3	4-5
height (inch)	--	--	1-2	2-4	5-6
Common cocklebur					
leaf no.	--	--	coty-2	4	4-6
height (inch)	--	--	1	2-3	2-3
Velvetleaf					
leaf no.	--	--	coty-2	2-3	4
height (inch)	--	--	1	1-2	4
Common ragweed					
leaf no.	--	--	2-4	4-6	4-6
height (inch)	--	--	1	2-3	4-5
Rainfall after application (inch)					
week 1	1.21	1.21	0.19	0.05	0.26
week 2	0.21	0.21	0.05	1.30	1.58
week 3	0.11	0.11	1.30	1.55	1.20

Soil applied acetanilide herbicides did not provide adequate control of giant foxtail in 1997. Cool and dry weather throughout May likely contributed to the poor performance of these products. Preemergence RPA 201772 provided excellent grass control. Postemergence products performed similarly with the exception that those treatments that did not have dicamba postemergence failed to control common ragweed.

Table. Giant foxtail control in corn at Waseca, MN in 1997 (Hoverstad and Getting).

Treatment ^a	Rate (lb/A or %)	Gift	Cocb	Vele	Corw	Rrpw	Yield ^b (bu/A)
		(% control 9/25/97)					
<u>Preplant incorporate 1X/POST II (4-collar corn)</u>							
[EPTC+R-29148&Acet]/Brox	[3.5&0.875]/0.25	78	99	99	99	99	147
CGA 77102/Brox	1.56/0.25	77	99	99	99	99	128
SAN-582H/Brox	1.5/0.25	76	99	76	99	98	140
ICIA 5676/Brox	2.0/0.25	74	99	99	89	96	140
BAY FOE 5043/Brox	0.85/0.25	66	99	99	99	99	133
BAY FOE 5043/Brox	1.02/0.25	75	99	99	99	99	146
<u>Preemergence/POST II (4-collar corn)</u>							
CGA 77102/Brox	1.56/0.25	55	99	99	99	99	102
CGA 77102/Brox	1.88/0.25	69	99	94	99	99	121
SAN 1289H/Brox	0.825/0.25	61	98	94	99	99	144
Alachlor/Brox	3.0/0.25	51	99	99	99	99	117
SAN-582H/Brox	1.5/0.25	65	99	89	99	99	140
[Acet&MON 4660]/Brox	2.0/0.25	76	99	91	99	99	132
ICIA 5676/Brox	2.0/0.25	73	99	84	99	99	155
<u>Preemergence</u>							
RPA 201772	0.094	88	91	99	99	99	149
RPA 201772	0.118	96	79	99	99	82	175
RPA 201772+ICIA 5676	0.094+1.2	96	88	99	99	99	156
<u>Preemergence/POST I (2-collar corn)</u>							
ICIA 5676/Nico+Dica+COC+28%N	1.2/0.016+0.125+1.0%+2.5%	72	72	90	99	99	134
<u>Preemergence/POST II (3-collar corn)</u>							
CGA 77102/Nico	0.96/0.016	90	96	96	99	99	142
+ [CGA 152005&Prim]+COC+28%N	+ [0.018&0.018]+1.0%+2.5%						
CGA 77102/Nico+Prim	0.96/0.016+0.018	88	87	99	99	99	142
+Dica+COC+28%N	+0.063+1.0%+2.5%						
CGA 77102/Prim+Pydt+NIS+28%N	1.91/0.018+0.469+0.25%+2.5%	71	99	96	99	99	140
<u>POST I (2-collar corn)/Cultivation (47 DAP)</u>							
Pend+Nico+Dica	1.25+0.016+0.375	87	84	97	99	99	126
+NIS+28%N/cultivation	+0.25%+2.5%						
ICIA 5676+Nico+Dica	1.2+0.016+0.375	87	96	99	99	99	140
+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	79	93	96	99	99	133
+NIS+28%N	+0.25%+2.5%						
[Acet&MON 4660]+Nico	1.09+0.016	83	84	99	99	99	131
+Dica+NIS+28%N	+0.375+0.25%+2.5%						
<u>POST II (3-collar corn)</u>							
CGA 77102+Nico	0.96+0.016	89	97	96	97	99	137
+ [CGA 152005&Prim]+COC+28%N	+ [0.018&0.018]+1.0%+2.5%						
<u>POST I (2-collar corn)/Cultivation (47 DAP)</u>							
[Rims&Thif]	[0.01&0.005]	89	99	94	56	80	137
+COC+28%N/cultivation	+1.0%+2.5%						
[Rims&Thif]+atrazine	[0.01&0.005]+0.75	80	97	99	59	99	126
+COC+28%N/cultivation	+1.0%+2.5%						
[Rims&Thif]+Dica	[0.01&0.005]+0.125	87	87	97	97	99	134
+COC+28%N/cultivation	+1.0%+2.5%						
<u>POST II (3-collar corn)</u>							
DPX 79406+atrazine+COC+28%N	0.023+0.75+1.0%+2.5%	90	99	97	10	99	144
<u>POST III</u>							
Nico+Brox+Surf+28%N	0.031+0.25+0.25%+2.5%	90	99	94	21	99	131
<u>Checks</u>							
Hand-weeded		100	100	100	100	100	137
Weedy check		0	0	0	0	0	20
	LSD (0.10)	11	13	13	14	11	19

^a [Acet&MON 4660] = Harness 7E; alachlor = Microtech 4ME; atrazine = Aatrex 90DF; BAY FOE 5043 = Axiom 68DF; Brox = Buctril 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, Activate Plus; 28%N = an aqueous solution of urea and ammonium nitrate.

^b Yield adjusted to 15.5% moisture.