Control of volunteer horseradish in corn. Rundle, Mark F., S. Alan Walters, and Bryan G. Young. This study was designed to determine weed management strategies for control of volunteer horseradish using corn as a rotational crop. The study was conducted on an Ebbert silt loam with 1.6% organic matter and pH 6.1 at the Belleville Research Center. Fertilizer applied was 150, 50 and 150 lb/A N, P_2O_5 and K_2O, respectively to an area that had been cropped to soybean in 2001. Pioneer brand 'P33P69LL' glufosinate-resistant field corn was planted 1.5 inch deep at 28 000 seed/A into a reduced-till seedbed on May 27. Horseradish '1722' sets, 6 inch long, were planted every 2 ft in three rows per plot on May 29. A blanket application of s-metolachlor&CGA-154281 at 1.27 lb/A was applied to all plots on May 30. Plots consisted of four rows with 30 inch row spacing, 30 ft long arranged in a randomized complete block design with 4 replications. The herbicides were broadcast applied with a CO_2 pressurized sprayer using 8002 flat fan tips at 40 PSI in 20 GPA water. Application timings were 6 and 12 inch horseradish height (6"HR and 12"HR, respectively). Monthly rainfall in inches was 4.9, 6.6, 1.7, 3.7 and 3.6 in April, May, June, July and August, respectively.

Application information is listed below.

Date	Jun-24-02	Jul-1-02
Treatment	6"HR	12"HR
Air temperature (F)	80	92
Relative humidity (%)	78	36
Soil moisture	normal	dry
field corn		
leaf no.	V6-V7	V8-V10
height (inch)	20-24	36-40
horseradish		
leaf no.	4-5	7-9
height (inch)	6-8	10-12

2,4-D, primisulfuron and halosulfuron were evaluated at field use rates and compared to handweeded and nontreated controls. Horseradish control was greatest with 2,4-D applied at either 6 or 12 inch horseradish height, which resulted in yields that were not different from the handweeded control. Primisulfuron provided greater control when applied to 6 inch horseradish, compared to 12 inch horseradish, but yields were not different. Control of horseradish with halosulfuron was better than with primisulfuron, but less than with 2,4-D. By 56 days after treatment some regrowth had occurred from rhizome tissue except with halosulfuron. (Dept. of Plant, Soil and General Agriculture, Southern Illinois University, Carbondale).

Table. Control of volunteer horseradish in corn. (Rundle, Walters and Young)

				Volunteer horseradish, days after treatment[b]									
	Application		Corn	Control					Discoloration				
Treatment[a]	Rate	Time	yield	7	14	21	28	56	7	14	21	28	56
	(lb/A)		bu/A	%	%	%	%	%	%	%	%	%	%
2,4-De	0.5	6"HR	160	73	90	97	95	84	73	88	96	94	81
2,4-De	0.5	12"HR	166	54	70	85	89	78	45	58	75	78	65
Primisulfuron+NIS+28%N	0.036+0.25%+2.5%	6"HR	136	55	61	71	71	63	48	53	64	64	54
Primisulfuron+NIS+28%N	0.036+0.25%+2.5%	12"HR	144	45	53	56	53	45	40	44	46	43	38
Halosulfuron+NIS+28%N	0.063+0.25%+2.5%	6"HR	151	69	83	90	93	85	63	79	84	88	80
Halosulfuron+NIS+28%N	0.063+0.25%+2.5%	12"HR	133	46	56	60	54	51	40	48	53	46	44
Nontreated			121	0	0	0	0	0	0	0	0	0	0
Handweed			171	99	99	99	99	99	99	99	99	99	99
LSD			25	8	8	6	7	7	9	11	8	7	7
P			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

[a]A blanket application of s-metolachlor&CGA-154281 at 1.27 lb/A was applied to all plots on May 30.
NIS = Activator 90, a nonionic surfactant from Loveland Industries, Inc.
28%N = 28% urea ammonium nitrate.

[b]Rating dates:
Ratings at 7, 14, 21, 28, and 56 days after 6"HR application were on 7-1-02, 7-8-02, 7-15-02, 7-22-02, and 8-19-02, respectively.
Ratings at 7, 14, 21, 28, and 56 days after 12"HR application were on 7-8-02, 7-15-02, 7-22-02, 7-29-02, and 8-26-02, respectively.