Control of wild garlic and winter annual weeds in winter wheat. Krausz, Ronald F. and Bryan G. Young. This study was designed to evaluate Harmony Extra, Olympus, Maverick, and 2,4-D for control/suppression of wild garlic and broadleaf winter annuals. The study was conducted on a Weir silt loam with 1.2% organic matter and pH 5.9 at the Belleville Research Center. Pioneer brand 'P25R78' winter wheat was planted 1.0 inch deep at 1.2 million seed/A into a no-till seedbed, on an area that had been cropped to soybean in 2001, on October 22, 2001. Total fertilizer applied was 110 lb N/A as a split application of 30 and 80 lb N/A on October 21, 2001 and February 5, 2002, respectively. Plots consisted of 16 rows with 7.5 inch row spacing, 35 ft long arranged in a randomized complete block design with 3 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 preemergence (PRE) and postemergence in the spring following green-up (SPRING). Monthly rainfall in inches was 2.7, 3.9, 3.5, 3.5, 2.0, 1.2, 3.9, 4.9, 6.6, 1.7, 3.7 and 3.6 in September, October, November, December, January, February, March, April, May, June, July and August, respectively. Wild garlic population was 12 per 0.25 m^2 in the nontreated plots on May 1.

Application information is listed below.

Date	Oct-27-01	Mar-29-02
Treatment	PRE	SPRING
Air temperature (F)	40	50
Relative humidity (%)	50	80
winter wheat		
leaf no.		F5
height (inch)		4-5
wild garlic		
leaf no.	3-4	3-4
height (inch)	3-8	4-10
henbit		
leaf no.	8-10	10+
height (inch)	1-2	4-6
buttercup, smallflower		
leaf no.	3-4	10+
height (inch)	1-2	2-4

Preemergence applications of glyphosate at 0.75 lb ae/A and paraquat at either 0.31 or 0.63 lb ai/A controlled 90 to 95% of wild garlic at 28 days after treatment (DAT). When evaluated the following spring (April 26), wild garlic control was still 90% from the preemergence applications of glyphosate at 0.75 lb ae and paraquat. Spring applications of thifensulfuron & tribenuron and MON 37500 controlled 95 to 97% of wild garlic on April 26 (28 days after treatment). Tank mixing metribuzin with MON 37500 reduced wild garlic control by 20%. Similarly, tank mixing 2,4-D amine with MON 37500 reduced wild garlic control from 95% from MON 37500 alone to 33% or less from the tank mixture. MKH6561, 2,4-D amine, imazamox, and carfentrazone provided no wild garlic control unless tank mixed with thifensulfuron & tribenuron. Glyphosate controlled 100% of henbit and 93 to 95% of smallflower buttercup on April 12 (167 DAT). Paraquat at 0.63 lb ai controlled 85% of henbit and 92% of smallflower buttercup on April 12. Wheat yield was highly variable ranging from 10 to 37 bu/A. Only plots treated with paraquat at 0.63 lb ai yielded greater than the nontreated plots. (Dept. of Plant, Soil and General Agriculture, Southern Illinois University, Carbondale).

Table. Control of wild garlic and winter annual weeds in winter wheat. (Krausz and Young)

Treatment[a]	Application Rate	Application Time	Wheat Test weight	Wheat Garlic bulbs	Wheat Yield	Wheat injury days after treatment 14	Wheat injury days after treatment 28	ALLVI control[b] Days after PRE 14	ALLVI control[b] Days after PRE 28	ALLVI control[b] Days after PRE 167	ALLVI control[b] Days after SPRING 14	ALLVI control[b] Days after SPRING 28	LAMAM control days after PRE 14	LAMAM control days after PRE 28	LAMAM control days after PRE 167	RANAB control 167 da PRE
	(lb/A)		lb/bu	/1000g	bu/A	%	%	%	%	%	%	%	%	%	%	%
Nontreated			54.1	100	16	0	0	0	0	0	0	0	0	0	0	0
Glyphosate	0.375	PRE	59.6	100	30		0	0	60	67		85	72	100	100	95
Glyphosate	0.75	PRE	60.0	43	30		0	50	90	85		90	77	100	100	93
Paraquat+NIS	0.31+0.25%	PRE	60.8	66	31		0	90	95	70		90	80	17	47	78
Paraquat+NIS	0.63+0.25%	PRE	60.5	39	37		0	95	95	82		90	90	77	85	92
Thifensulfuron &tribenuron+NIS	0.0157 &0.0078+0.5%	SPRING	59.0	89	22	0	0				0	97				
MKH6561+NIS	0.04+0.25%	SPRING	55.6		19	0	0				0	0				
MKH6561 +carfentrazone+NIS	0.04 +0.0083+0.25%	SPRING	52.9		13	0	0				0	0				
MKH6561 +metribuzin+NIS	0.04 +0.141+0.25%	SPRING	53.7		19	0	0				0	0				
MKH6561 +thifensulfuron &tribenuron+NIS	0.04 +0.0157 &0.0078+0.25%	SPRING	58.4	69	32	0	0				0	96				
MKH6561 +2,4-Damine+NIS	0.04 +0.48+0.25%	SPRING	53.8		18	0	0				0	0				
MKH6561 +2,4-Damine+NIS	0.04 +0.148+0.25%	SPRING	53.8		15	0	0				0	0				
MON 37500+NIS	0.0313+0.5%	SPRING	60.3	100	23	0	0				0	95				
MON 37500 +carfentrazone+NIS	0.0313 +0.0083+0.5%	SPRING	58.9	100	21	0	0				0	94				
MON 37500 +metribuzin+NIS	0.0313 +0.141+0.5%	SPRING	56.3	100	13	0	0				0	75				
MON 37500 +thifensulfuron &tribenuron+NIS	0.0313 +0.0157 &0.0078+0.5%	SPRING	60.0	64	25	0	3				0	98				
MON 37500 +2,4-Damine+NIS	0.0313 +0.48+0.5%	SPRING	57.1	76	23	0	0				0	33				
MON 37500 +2,4-Damine+NIS	0.0313 +0.148+0.5%	SPRING	55.9		16	0	0				0	0				
2,4-Damine+NIS	0.48+0.5%	SPRING	53.5		16	0	0				0	0				
2,4-Damine+NIS	0.148+0.5%	SPRING	55.5		16	0	0				0	0				
UAN carrier +MKH6561	+0.04	SPRING	51.5		16	0	0				0	0				
UAN carrier +MKH6561+NIS	+0.04+0.25%	SPRING	55.3		18	0	0				0	0				
UAN carrier +MKH6561 +2,4-Damine	+0.04 +0.148	SPRING	48.8		10	0	0				0	0				

(continued)

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	(lb/A)		lb/bu	/1000g	bu/A	%	%	%	%	%	%	%	%	%	%	%
Imazamox +NIS+28%N	0.039 +0.25%+2.5%	SPRING	51.3		16	0	0				0	0				
Carfentrazone+NIS	0.0083+0.5%	SPRING	54.3		22	0	0				0	0				
Carfentrazone +thifensulfuron &tribenuron+NIS	0.0083 +0.0157 &0.0078+0.5%	SPRING	60.0	67	34	0	0				0	96				
Carfentrazone +2,4-Damine+NIS	0.0083 +0.356+0.5%	SPRING	58.4		32	0	0				0	0				
LSD			5.8	51	19	0	2	0	15	22	0	6	22	24	39	18
P			0.01	0.2	0.3	1.0	0.5	1.0	0.01	0.01	1.0	0.01	0.01	0.01	0.01	0.01

[a]Treatments were mixed and applied in water, except were noted.
UAN carrier = herbicides were mixed and applied in 28% urea ammonium nitrate.
NIS = Activator 90, a nonionic surfactant from Loveland Industries, Inc.

[b]Rating dates:
14, 28, and 167 days after PRE application were on Nov-10-01, Nov-24-01, Apr-12-02, respectively.
14, and 28 days after SPRING application were on Apr-12-02, and Apr-26-02, respectively.
Ratings at 28 days after SPRING application were also 181 days after PRE application.