Winter annual weed control with fall and spring applied herbicides. Spotanski, Jess J., and Alex R. Martin. A field study was conducted to evaluate the efficacy of herbicide programs in no-tillage systems. A randomized complete block design with three replications per treatment was utilized. The study was conducted on a Sharpsburg silt loam with 2.4% organic matter and a pH of 6.9. Individual plots consisted of six 30-inch rows, each 30 feet long. Treatments were applied with a tractor-mounted sprayer traveling 3.0 mph. Application, weed, and weather data are presented:

Date	November 15	April 17
Treatment	FALL	SPRING
Sprayer		
gpa	15	15
psi	30	30
Temperature (°F)		
Air	77	70
Soil (4 inch)	66	63
Soil Moisture	Dry	Moist
Wind (mph)	8	5
Sky (% cloudy)	10	0
Relative Humidity (%)	35	33
Precip. after appl.		
Week 1 (inch)	0.0	0.75
Week 2 (inch)	1.52	1.45
Henbit		
Stage	2-8 leaf	flowering
Height (cm)	1-7	8-10
Infestation (m^2)	1500	1000
Tansy mustard		
Stage	rosette	flowering
Height (cm)	0-2	22-28
Infestation (m^2)	0-50	0-10

Summary comments: All treatments, with the exception of flumioxazin alone, provided excellent control of the winter annual weeds. There was, though, a slight advantage to applying the treatments in the fall over the spring. Some of the fall applied treatments showed little activity in the weeks after application, but in the spring, the treatments had excellent weed control. Results of the study are summarized in the following table (Dept. of Agronomy and Horticulture, University of Nebraska-Lincoln).

Table. Winter annual weed control with fall and spring applied herbicides (Spotanski and Martin).

Treatment	Application		LAMAM				DESPI			
	Rate	Timing	11/30	12/15	4/9	5/14	11/30	12/15	4/9	5/14
	(lb/a)		% weed control							
Flumioxazin+	0.063	Fall	7	50	50	3	13	95	90	7
COC[1]	1 pt									
Flumioxazin+	0.063	Fall	10	47	100	100	20	95	80	85
atrazine+	1.0									
COC	1 pt									
Flumioxazin+	0.063	Fall	18	73	100	100	37	97	95	89
2,4-D+	0.33									
COC	1 pt									
Atrazine+	1.0	Fall	10	12	100	100	20	95	92	95
COC	1 pt									
s-metolachlor&CGA-154281&	1.5	Fall	10	13	100	100	20	95	98	99
atrazine+	1.94									
COC	1 qt									
s-metolachlor&CGA-154281&	1.8	Fall	10	10	100	100	20	95	100	99
atrazine+	2.33									
COC	1 qt									
s-metolachlor&CGA-154281&	1.5	Spring	0	0	0	100	0	0	0	95
atrazine+	1.94									
COC	1 qt									
Glyphosate[2]+	1.0	Spring	0	0	0	83	0	0	0	98
AMS[3]	2.55									
Glyphosate&	0.37	Spring	0	0	0	97	0	0	0	95
atrazine&	1.0									
acetochlor+	1.31									
AMS	1.3									
Glyphosate[4]+	0.75	Fall	10	70	100	100	28	100	100	100
flumetsulam+	0.05									
2,4-D+	0.5									
AMS+	2.55									
NIS[5]	0.25%									
Flumetsulam+	0.05	Fall	10	72	99	100	28	100	100	100
2,4-D+	0.5									
COC	1%									
Glyphosate[4]+	0.75	Fall	13	72	99	100	28	100	93	100
2,4-D+	0.5									
AMS+	2.55									
NIS	0.25%									
Flumetsulam+	0.05	Fall	18	25	99	100	28	100	100	100
metribuzin+	0.188									
2,4-D+	0.5									
NIS	0.25%									
LSD (P=0.05)			4	14	1	3	5	1	6	7

[1]COC = 'Prime Oil' by Agrilliance

[2]glyphosate = 'Roundup UltraMax'

[3]AMS = 'N Pa K' by Agrilliance

[4]glyphosate = 'Glyphomax Plus'

[5]NIS = 'Preference' by Agrilliance