

Herbicide Performance in Corn

Herbicide performance in corn at Rochester, MN in 2002. Soderholm, Courtney L. Fritz R. Breitenbach, and Lisa M. Behnken. The objective of this trial was to evaluate Balance Pro, Define, Aatrex, Liberty, Option, Distinct, and Buctril alone and in combinations for weed control in corn in southeastern Minnesota. The research site was a Lawler loam containing 2.4% organic matter with a pH of 6.2 and soil test P and K levels of 35 and 132 ppm, respectively. The previous crop was soybean. The area was fertilized in the fall of 2001 with 200 lb/A Pel-Lime, 200 lb/A potash and 8 tons/A turkey manure. The site was disked twice and chisel plowed. The corn hybrid, NK 32-L9, was planted on April 30, 2002, at a depth of 2.0 inches in 30-inch rows at 31,000 seeds/A. A randomized complete block design with four replications was used. Preemergence (PRE) and postemergence (POST) treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 32 psi using Turbo Tee 11002 nozzles. Evaluations of the plot were taken on May 20, June 5, and June 14, 2002. Application dates, environment conditions, and crop and weed stages are listed below.

<i>Date</i>	<i>May 1, 2002</i>	<i>June 6, 2002</i>
Treatment	PRE	POST
Temperature (F)		
air	47	70
soil	51	---
Relative humidity (%)	66	62
Wind (mph)	8	16
Soil moisture	adequate	adequate
Corn		
stage	---	4 collar
height (inch)	---	8
Giant ragweed		
weed density/ft ²	---	10.9
height (inch)	---	9.13
Common waterhemp		
weed density/ft ²	---	14.6
height (inch)	---	2.25
Common lambsquarters		
weed density/ft ²	---	2.63
height (inch)	---	3
Giant foxtail		
weed density/ft ²	---	14.6
height (inch)	---	4.1
Rainfall after application (inch)		
week 1	0.38	1.24
week 2	0.64	0.64
week 3	0.05	2.68

Excellent giant ragweed control was achieved with soil applied Balance Pro / Liberty + Aatrex, pre/post applied Define /Option + Distinct, Balance Pro / Buctril + Aatrex, and post applied Option + Distinct. Most treatments resulted in excellent control of common lambsquarters. Control was slightly lower with pre/post applied Define /Option + Distinct and post applied Liberty + Aatrex and Option + Distinct. Most treatments gave excellent common waterhemp control. Very good control was achieved with pre/post applied Define /Option + Distinct, Define / Buctril + Aatrex, and post applied Option + Distinct. Post applied Liberty + Aatrex control of common waterhemp was significantly lower than all other treatments. Two pre/post treatments, Balance Pro / Liberty + Aatrex and Define/Option + Distinct resulted in 99% control of giant foxtail. Control was only 86.0 and 88.8% respectively, with pre/post applied Define / Buctril + Aatrex and Balance Pro / Buctril + Aatrex and 84.5% with post applied Liberty + Aatrex gave less control of giant foxtail than all other treatments. The highest yield, 224 bu/A, was achieved with pre/post treatment Balance Pro / Buctril + Aatrex. (Southeast District, University of Minnesota Extension Service, Rochester).

Table. Herbicide performance in corn on June 14 at Rochester, MN in 2002 (Soderholm, Breitbenbach, and Behnken).

<i>Treatment</i>	<i>Rate</i>	<i>Giant ragweed control</i>	<i>Common lambsquarters control</i>	<i>Common waterhemp control</i>	<i>Giant foxtail control</i>	<i>Crop injury</i>	<i>Corn yield</i>
	(rate/A)	(%)	(%)	(%)	(%)	(%)	(bu/A)
<u>Preemergence</u>							
Balance Pro + Define	3 oz+12 oz	87	99	99	96	0	186
Balance Pro + Aatrex	3 oz+32 oz	89	99	99	92	0	182
Balance Pro + Define + Aatrex	2.25 oz+10 oz+32 oz	85	99	99	93	0	157
<u>Preemergence/Postemergence</u>							
Balance Pro / Liberty + Aatrex + AMS	1.5 oz/24 oz+18 oz+3 lb	97	99	99	99	0	159
Balance Pro / Option + UAN + MSO	1.5 oz/1.5oz+2 qt+1.5 pt	85	99	98	93	0	181
Define / Liberty + Aatrex + AMS	10 oz/24 oz+16 oz+3 lb	87	99	99	95	0	167
Define /Option + Distinct + UAN + MSO	10 oz/1.5 oz+4 oz+2 qt +1.5 pt	95	95	95	99	0	188
Define / Buctril + Aatrex	18 oz/2 pt	90	99	92	86	0	187
Balance Pro / Buctril + Aatrex	2.25 oz/2 pt	97	99	99	89	0	224
<u>Postemergence</u>							
Liberty + Aatrex + AMS	28 oz+16 oz+3 lb	89	95	88	85	0	156
Option + Distinct + UAN + MSO	1.5 oz+4 oz+2 qt+1.5 pt	95	95	95	96	0	176
Untreated	0	0	0	0	0	0	3
	LSD (0.10)	3	3	4	4	0	27