

Boundary, Flexstar, Touchdown, Roundup Ultra Max

Evaluation of Boundary, Flexstar, Touchdown and Roundup Ultra Max for weed control in soybean at Rochester, MN in 2002. Schaufler, Kristal L., Fritz R. Breitenbach, and Lisa M. Behnken. The objective of this trial was to evaluate the performance of Boundary, Flexstar, Touchdown, and Roundup Ultra Max alone and in herbicide combinations for weed control in soybean in southeastern Minnesota. The research site was a Lawler series loam containing 2.3% 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 field corn. In the fall of 2001, the area was fertilized with 200 lb/A Pel-lime and 200 lb/A potash. disked twice and chisel plowed once. In the spring, the site was field cultivated twice. The soybean variety, Pioneer 92B05, was planted on May 15, 2002, at a 1-inch depth in 30-inch rows at 160,000 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 gallons per acre at a pressure of 32 psi using Turbo-Tee 11002 nozzles. Evaluations of the plot were made on June 12 and 24 and July 3, 12, and 23, 2002. Application dates, environment conditions, and crop and weed stages are listed below.

<i>Date</i>	<i>May 15</i>	<i>June 14</i>	<i>July 12</i>
Treatment	PRE	POST I	POST II
Temperature (F)			
air	73	62	76
soil	---	---	---
Relative humidity (%)	51	72	50
Wind (mph)	20	16	8
Soil moisture	adequate	adequate	adequate
Soybean			
Stage	---	V2	R1-R2
height (inch)	---	4.5	13
Common waterhemp			
weed density/ft ²	---	1.5	4.5
height (inch)	---	5.5	7.75
Giant ragweed			
weed density/ft ²	---	5.5	7.75
height (inch)	---	2	3.75
Common lambsquarter			
weed density/ft ²	---	2	3.75
height (inch)	---	2	3.75
Giant foxtail			
weed density/ft ²	---	2.5	4.75
Height	---	2.5	4.75
Rainfall after application (inch)			
week 1	0.05	2.66	0.80
week 2	0.40	0.66	2.76
week 3	3.64	0.00	0.98

1. The best overall weed control and highest yield was achieved with the sequential post applications of Touchdown/Touchdown and Roundup Ultra Max/Roundup Ultra Max.
2. Single applications of Touchdown or Roundup Ultra Max resulted in reduced control of giant ragweed, common waterhemp, and giant foxtail compared to the sequential applications, however soybean yield was not reduced significantly.
3. Boundary plus a single application of Touchdown gave no additional control of these three species and soybean yield was similar to the top weed control treatments.

4. Boundary/Flexstar + Fusion and Boundary/Flexstar + FirstRate + Fusion resulted in significantly lower common lambsquarters control than the other treatments, 76 and 79% compared to 93-99%, respectively.
5. HarmonyGT increased the control of common lambsquarters, however yield was not significantly effected.
6. Boundary + Gauntlet C + Gauntlet S resulted in fair control of giant ragweed and poor control of giant foxtail. Soybean yield was significantly lower than all other herbicide treatments, except Boundary alone.
7. Boundary alone gave only fair control of common lambsquarters, common waterhemp and giant foxtail and no control of giant ragweed. Soybean yield was significantly less than all other herbicide treatments.

(Southeast District, University of MN Extension Service, Rochester).

Table. Performance of Boundary, Flexstar, Touchdown and Roundup Ultra Max in soybean on July 23 at Rochester, MN in 2002 (Schaufler, Breitenbach, and Behnken).

<i>Treatment</i>	<i>Rate</i>	<i>Common lambsquarter control</i>	<i>Giant ragweed control</i>	<i>Common waterhemp control</i>	<i>Giant foxtail control</i>	<i>Soybean yield</i>
	(rate/A)	(%)	(%)	(%)	(%)	(bu/A)
<u>Preemergence</u>						
Boundary	1.5 pt	76	0	78	63	10
Boundary+GauntletC+GauntletS	1.25 pt + 0.6 oz + 5.33 oz	95	76	92	52	24
<u>Premergence/Postmergence I</u>						
Boundary/Flexstar+Fusion+COC+UAN	1.25 pt / 1pt + 8 fl oz + 1% v/v + 2.5% v/v	79	91	92	89	41
Boundary/Flexstar+FirstRate+Fusion+COC+UAN	1.25 pt / 1 pt + 0.3 oz + 10 fl oz + 1% v/v + 2.5% v/v	76	97	94	93	43
Boundary/Flexstar+HarmonyGT+Fusion+COC+UAN	1.25 pt / 1 pt + 0.04167 oz + 10 fl oz + 1% v/v + 2.5% v/v	99	92	93	87	39
Boundary/Touchdown+AMS	1.25 pt /1 qt + 2.5 lb	95	89	80	89	46
<u>Postmergence I</u>						
Flexstar+HarmonyGT+Fusion+Fusion+COC+UAN	1 pt + 0.04167 oz + 10 fl oz + 1% v/v + 2.5% v/v	93	88	91	90	38
Touchdown+AMS	1 qt + 2.5 lb	94	88	81	87	46
RoundupUltraMax+AMS	26 fl oz + 2.5 lb	93	87	77.8	88.0	47
<u>Postmergence I / Postmergence II</u>						
Touchdown+AMS / Touchdown+AMS	1 qt + 2.5 lb / 1 qt + 2.5 lb	98	97	97	98	49
RoundupUltraMax+AMS / RoundupUltraMax+AMS	26 fl oz + 2.5 lb / 26 fl oz + 2.5 lb	98	97	98.0	98.0	49
Untreated		0	0	0.0	0.0	12
	LSD (0.10)	5	5	7.33	5.42	7