

Evaluation of Prefix[®] for weed control in soybean at Rochester, MN in 2006.

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The objective of this trial was to evaluate Prefix[®] for weed control in soybean in southeastern Minnesota. The research site was a Lawler loam series with a pH of 7.2 and soil test P and K levels of 81 ppm and 204 ppm, respectively. The field was chisel plowed, spring disked, and field cultivated once prior to planting. The soybean variety AgVenture 4192RR was planted on May 17, 2006 at a depth of 1.5 inches in 30 inch rows at 140,000 seeds per acre. A randomized complete block design was used with four replications. Preemergence (PRE) and postemergence (POST) treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 32 psi using TurboTee 11002 nozzles. Evaluations of the plots were taken on June 16, June 27, and July 17. Application dates, environmental conditions, and weed stages are listed below. The center two rows of each plot were harvested on October 14, 2006.

Date	May 19	June 16	July 3
Treatment	PRE	POST I	POST II
Temperature (F)			
air	68	65	75
soil	65.7	64.2	79.2
Relative Humidity (%)	46	43	76
Wind (mph)	21	6	8
Soil moisture	adequate	adequate	dry
Soybean			
stage	--	V3	R2
height (inch)	--	4.0	14.0
Giant Ragweed			
weed density (ft ²)	--	1.3	1.3
height (inch)	--	7.5	--
Common Lambsquarters			
weed density (ft ²)	--	2.8	2.8
height (inch)	--	1.4	1.0
Common Waterhemp			
weed density (ft ²)	--	11.8	11.8
height (inch)	--	3.9	1.5
Giant Foxtail			
weed density (ft ²)	--	7.1	7.1
height (inch)	--	8.0	1.3
Rainfall after each application (inch)			
week 1	0.11	0.15	0.12
week 2	0.24	0.27	0.90
week 3	0.42	0.00	1.86

CONCLUSIONS

Preemergence applications of Prefix[®] provided better initial giant ragweed and velvetleaf control and similar common waterhemp and giant foxtail control compared to preemergence applications of Boundary[®]. However, Boundary[®] provided better common lambsquarters control than Prefix[®]. Control for all weed species increased as the rate of Prefix[®] increased from 0.75 qt to 1.25 qt per acre.

Both Prefix[®] and Boundary[®] performed well as setup programs for POST I Touchdown[®] Total applications and provided similar control to sequential applications of Touchdown[®] Total applied at POST I and POST II. Sequential applications of Prefix[®] or Boundary[®] applied PRE and followed by Touchdown[®] Total at POST I provided similar control of giant ragweed and velvetleaf when compared to a single application of Touchdown[®] Total applied at POST I. Sequential applications of Prefix[®] or Boundary[®] applied PRE and followed by POST I Touchdown[®] Total provided superior control of common lambsquarters, common waterhemp, and giant foxtail when compared to a single application of Touchdown[®] Total applied at POST I.

Sequential applications of Prefix[®] or Boundary[®] applied PRE and followed by POST I Touchdown[®] Total resulted in a higher yields than the Touchdown[®] Total applied only at POST I programs and similar yields to the POST I / POST II Touchdown[®] Total program. (University of Minnesota Extension Service, Regional Center, Rochester, MN).

Table. Performance of Prefix® for weed control in soybean at Rochester, MN in 2006.

Treatment	Rate	Giant ragweed control			Common lambsquarters control			Common waterhemp control			Giant foxtail control			Velvetleaf control		Soybean yield
		6/16	6/27	7/17	6/16	6/27	7/17	6/16	6/27	7/17	6/16	6/27	7/17	6/16	6/27	
	(rate/A)	(%)			(%)			(%)			(%)			(%)		(bu/A)
Untreated Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.8 c
PRE / POST I																
Prefix / Touchdown Total + AMS	0.75 qt / 24 oz + 1% v/v	39	91	99	45	88	96	60	87	83	66	99	98	35	85	42.9 a
Prefix / Touchdown Total + AMS	1 qt / 24 oz + 1% v/v	45	92	98	49	90	97	78	89	87	74	99	99	39	85	41.9 a
Prefix / Touchdown Total + AMS	1.25 qt / 24 oz + 1% v/v	58	93	99	69	90	98	80	93	95	80	99	99	45	86	43.8 a
Boundary / Touchdown Total + AMS	1.5 pt / 24 oz + 1% v/v	20	94	99	84	94	97	71	93	92	73	99	99	28	85	42.8 a
Boundary / Touchdown Total + AMS	1.8 pt / 24 oz + 1% v/v	29	94	98	86	93	98	78	95	96	80	99	99	28	90	44.3 a
POST I																
Touchdown Total + AMS	24 oz + 1% v/v	0	89	96	0	75	91	0	70	77	0	76	81	0	85	36.6 b
POST I / POST II																
Touchdown Total + AMS / Touchdown Total + AMS	24 oz + 1% v/v / 24 oz + 1% v/v	0	92	99	0	73	98	0	73	98	0	80	99	0	85	42.0 a
LSD (P=0.10)		7	3	1	6	4	1	7	4	3	14	3	1	4	5	3.2