

Evaluation of AE F039866 (glufosinate) in soybean at Rochester, MN in 2006.

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The objective of this trial was to evaluate the performance of AE F039866 (glufosinate) for weed control in soybean in southeastern Minnesota. The research site was a Lawler loam series with a pH of 6.7 and soil test P and K levels of 84 ppm and 170 ppm, respectively. The field was chisel plowed, spring disked, and field cultivated once prior to planting. The soybean variety N39427L, 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 12, June 27, and July 13. Application dates, environmental conditions, and weed stages are listed below.

Date	May 19	June 12	June 19	June 30
Treatment	PRE	POST I	POST II	POST III
Temperature (F)				
air	66	71	76	81
soil	66.6	72.0	79.7	77.0
Relative Humidity (%)	38	36	44	65
Wind (mph)	5	5	16	13
Soil moisture	adequate	wet	adequate	dry
Soybean				
stage	--	V2	V3	R2
height (inch)	--	6.3	6.5	16.0
Common Lambsquarters				
weed density (ft ²)	--	10.2	10.2	10.2
height (inch)	--	2.7	4.5	1.8
Common Waterhemp				
weed density (ft ²)	--	12.2	12.2	12.2
height (inch)	--	3.5	4.5	2.8
Giant Foxtail				
weed density (ft ²)	--	35.7	35.7	35.7
height (inch)	--	4.5	7.1	3.0
Rainfall after each application (inch)				
week 1	0.11	0.10	0.43	0.00
week 2	0.42	0.43	0.00	0.21
week 3	2.23	0.00	0.12	2.73

CONCLUSIONS

Sequential applications of AE F039866 applied at POST I and POST III or following preemergence applications of soil applied herbicides resulted in the best weed control when compared to postemergence only treatments of AE F039866 applied at either POST I or POST II. A single application of AE F039866 applied at POST I provided the lowest weed control. (University of Minnesota Extension Service, Regional Center, Rochester, MN).

Table. Performance of AE F039866 programs for weed control in soybean on June 12, June 27, and July 13 at Rochester, MN in 2006.

Treatment	Rate (rate/A)	Common lambsquarters control			Common waterhemp control			Giant foxtail control		
		6/12	6/27	7/13	6/12	6/27	7/13	6/12	6/27	7/13
		(%)			(%)			(%)		
PRE / POST II										
Gangster (FR) + Gangster (V) / AE F039866 SL24 A6 + AMS	0.45 oz + 2.25 oz / 22 oz + 1.5 lb	59	85	83	69	91	89	80	99	96
Boundary / AE F039866 SL24 A6 + AMS	24 oz / 22 oz + 1.5 lb	36	88	89	33	87	79	78	97	97
Sencor / AE F039866 SL24 A6 + AMS	8 oz + 22 oz + 1.5 lb	30	87	88	20	84	81	83	99	94
Valor / AE F039866 SL24 A6 + AMS	2.25 oz / 22 oz + 1.5 lb	71	88	91	75	92	89	83	99	96
POST I										
AE F039866 SL24 A6 + AMS	22 oz + 1.5 lb	0	55	70	0	51	68	0	78	67
POST II										
AE F039866 SL24 A6 + AMS	22 oz + 1.5 lb	0	84	85	0	91	76	0	99	92
POST I / POST III										
AE F039866 SL24 A6 + AMS / AE F039866 SL24 A6 + AMS	22 oz + 1.5 lb / 22 oz + 1.5 lb	0	53	93	0	53	96	0	81	98
Untreated Check		0	0	0	0	0	0	0	0	0
LSD (P=0.10)		7	6	4	5	6	7	9	4	3