

Performance of Ignite 280 Herbicide Systems for Weed Control in Soybean at Rochester, MN, in 2009

Breitenbach, Fritz R., Lisa M. Behnken, Ryan P. Miller, Jeffrey L. Gunsolus and Jason Welter

The objective of this trial was to evaluate the performance of Ignite 280 herbicide programs for weed control in soybeans in southeastern Minnesota, 2009. The research site was a Lawler loam series with a pH of 6.6, O.M of 2.6%, and soil test P and K levels of 62 ppm and 188 ppm, respectively. The field was spring disked and field cultivated once prior to planting. The soybean variety, BAYER CROPS SCIENCE S62077LL, was planted on May 19, 2009, at a depth of 1.5 inches in 30 inch rows at 150,000 seeds an 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 Turbo Tee 11002 nozzles. Evaluations of the plots were taken on June 16, 29, July 6, 13, 20, and 28. Application dates, environmental conditions, and weed stages are listed below. The center two rows of each plot were machine harvested on October 20, 2009. (University of Minnesota Extension Regional Office, Rochester).

Date	5/19	6/20	6/22	7/13
Treatment	PRE	POST I	POST II	POST III
Temperature				
Air	93	83	84	75
Soil	69.4	78.2	75.9	74.7
Relative Humidity (%)	23	39	62	43
Wind (mph)	23	13	5	6
Soil Moisture	Inadequate	Adequate	Excessive	Inadequate
Soybean				
Stage		V1	V2	V6-R1
Height (inches)		5.0	7.2	15.8
Giant Ragweed				
Weed density (ft ²)		8.3	8.3	8.3
Height (inches)		5.0	7.6	9.4
Common Lambsquarters				
Weed density (ft ²)		9.4	9.4	9.4
Height (inches)		2.0	2.9	5.1
Common Waterhemp				
Weed density (ft ²)		6.9	6.9	6.9
Height (inches)		0.5	2.8	5.8
Giant foxtail				
Weed density (ft ²)		1.8	1.8	1.8
Height (inches)		3.0	3.6	4.8
Rainfall after each application				
Week 1	1.13	0.32	0.18	0.0
Week 2	0.82	0.21	0.27	1.80
Week 3	1.75	0.85	0.79	0.99

Table 1. Performance of Ignite 280 herbicide systems for giant ragweed control in soybeans at Rochester, MN, in 2009

Treatment	Rate	Giant Ragweed Control						Yield
		6/16	6/29	7/6	7/13	7/20	7/28	
	(rate/A)	(% Control)						(bu/A)
Untreated		0	0	0	0	0	0	3.6 d
PRE/POST II								
Valor SX / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	61	95	93	83	92	87	31.0 c
Sonic or Authority First / Ignite 280 + AMS	4 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	82	97	95	92	96	93	37.1 ab
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	66	97	95	91	96	93	37.1 ab
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	81	97	95	91	97	95	35.4 b
Prefix / Ignite 280 + AMS	1.5 pt/a / 22 fl oz/a + 8.5 lb/100 gal	75	96	96	93	97	97	38.8 a
Gangster FR + Gangster V / Ignite 280 + AMS	0.3 oz wt/a + 1.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	80	96	95	88	95	93	37.3 ab
POST I/POST III								
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	0	93	90	78	93	99	36.1 ab
	LSD (P=0.10)	5	3	3	4	2	4	3.1

Table 2. Performance of Ignite 280 herbicide systems for common lambsquarters control in soybeans at Rochester, MN, in 2009

Treatment	Rate	Common Lambsquarters Control						Yield
		6/16	6/29	7/6	7/13	7/20	7/28	
	(rate/A)	(% Control)						(bu/A)
Untreated		0	0	0	0	0	0	3.6 d
PRE/POST II								
Valor SX / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	72	97	94	90	92	93	31.0 c
Sonic or Authority First / Ignite 280 + AMS	4 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	96	99	99	99	99	99	37.1 ab
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	96	98	97	95	96	97	37.1 ab
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	98	99	99	96	97	98	35.4 b
Prefix / Ignite 280 + AMS	1.5 pt/a / 22 fl oz/a + 8.5 lb/100 gal	71	98	95	89	93	93	38.8 a
Gangster FR + Gangster V / Ignite 280 + AMS	0.3 oz wt/a + 1.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	91	99	95	92	94	92	37.3 ab
POST I/POST III								
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	0	85	86	76	85	95	36.1 ab
	LSD (P=0.10)	3	1	3	3	3	3	3.1

Table 3. Performance of Ignite 280 herbicide systems for common waterhemp control in soybeans at Rochester, MN, in 2009

Treatment	Rate	Common Waterhemp Control						Yield
		6/16	6/29	7/6	7/13	7/20	7/28	
	(rate/A)	(% Control)						(bu/A)
Untreated		0	0	0	0	0	0	3.6 d
PRE/POST II								
Valor SX / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	90	99	98	98	99	95	31.0 c
Sonic or Authority First / Ignite 280 + AMS	4 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	89	99	99	99	99	97	37.1 ab
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	87	99	99	99	99	98	37.1 ab
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	71	99	97	94	98	94	35.4 b
Prefix / Ignite 280 + AMS	1.5 pt/a / 22 fl oz/a + 8.5 lb/100 gal	91	99	99	99	99	98	38.8 a
Gangster FR + Gangster V / Ignite 280 + AMS	0.3 oz wt/a + 1.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	91	99	99	99	99	98	37.3 ab
POST I/POST III								
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	0	92	89	76	96	96	36.1 ab
	LSD (P=0.10)	5	1	3	1	1	3	3.1

Table 4. Performance of Ignite 280 herbicide systems for giant foxtail control in soybeans at Rochester, MN, in 2009

Treatment	Rate	Giant Foxtail Control						Yield
		6/16	6/29	7/6	7/13	7/20	7/28	
	(rate/A)	(% Control)						(bu/A)
Untreated		0	0	0	0	0	0	3.6 d
PRE/POST II								
Valor SX / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	79	98	98	97	97	97	31.0 c
Sonic or Authority First / Ignite 280 + AMS	4 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	63	99	98	96	97	98	37.1 ab
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	71	99	98	96	98	97	37.1 ab
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	64	99	99	98	99	98	35.4 b
Prefix / Ignite 280 + AMS	1.5 pt/a / 22 fl oz/a + 8.5 lb/100 gal	88	99	99	98	98	99	38.8 a
Gangster FR + Gangster V / Ignite 280 + AMS	0.3 oz wt/a + 1.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	81	98	97	94	95	97	37.3 ab
POST I/POST III								
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	0	98	98	95	97	99	36.1 ab
	LSD (P=0.10)	5	1	2	4	3	2	3.1