

Performance of Ignite 280 Herbicide Systems for Weed Control in Soybean at Lamberton, MN, in 2010.

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The objective of this trial was to evaluate the performance of Ignite 280 herbicide programs for weed control in soybeans in southwestern Minnesota. The research site was a Normania Loam series with a pH of 6.1, O.M of 3.8%. The field was fall chisel plowed, and spring field cultivated once prior to planting. The soybean variety, Stine 23LA08-Var S080137, was planted on May 18, 2010, in 30 inch rows at 160,000 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 40 psi using 8002 flat fan nozzles. Evaluations of the plots were taken on June 16, 24, July 15, and September 28, 2010. Application dates, environmental conditions, and weed stages are listed below. The center two rows of each plot were machine harvested on October 11, 2010.

SUMMARY:

The statistically highest redroot pigweed and tall waterhemp control were achieved with the following sequential PRE followed by POST treatments, Valor followed by Ignite, Fierce followed by Ignite, Prefix followed by Ignite, Gangster followed by Ignite, and Authority First followed by Ignite.

Two POST only combinations also provided redroot pigweed and tall waterhemp control statistically equal to the maximum, Ignite + Flexstar and Ignite + Prefix. All three of the POST sequential treatments of Ignite 280 provided maximum control of redroot pigweed and tall waterhemp.

The statistically highest yellow foxtail and barnyard grass control were achieved with the following sequential PRE followed by POST treatments, Valor followed by Ignite, Optill followed by Ignite, Fierce followed by Ignite, Prefix followed by Ignite, Gangster followed by Ignite, Authority First followed by Ignite and Sonic followed by Ignite. All of the POST only

combinations resulted in statistically lower control of yellow foxtail and barnyard grass. All three of the POST sequential treatments of Ignite 280 provided the maximum level of control for yellow foxtail and barnyard grass.

POST treatments where only Ignite was applied resulted in injury levels ranging from 25-38 percent. The highest crop injury was observed in the POST only combinations of Ignite + Prefix, Ignite + Cobra, and Ignite + Harmony, causing crop injury levels of over 50%. (University of Minnesota Extension).

Date	5/19	6/16	6/16	6/24	6/29
Treatment	PRE	POST I	POST II	POST III	POST IV
Temperature					
Air	52	81	68	73	61
Soil	62	78	70	72	68
Relative Humidity (%)	54	54	56	69	77
Wind (mph)	0	8	6	7	3
Soil Moisture	Dry	Adequate	Excessive	Adequate	Excessive
Soybean					
Stage		V2	V5	V7-R1	V8-R1
Height (inches)		6.0	10	15	24
Yellow					
Foxtail/Barnyard					
Grass					
Weed density (ft ²)		14			
Height (inches)		5.0			
Redroot pigweed/Tall					
waterhemp					
Weed density (ft ²)		8			
Height (inches)		3.5	0.75	2	5
Rainfall after each					
application					
Week 1	0.20	1.44	0.70	0.17	0.06
Week 2	0.09	2.23	0.15	0.06	2.28
Week 3	0.75	0.70	0.07	2.28	1.13

Table 1. Performance of Ignite 280 herbicide systems for yellow foxtail/barnyard grass control in soybeans at Lamberton, MN, in 2010.

Treatment	Rate	Yellow Foxtail/ Barnyard Grass Control				Yield
		6/16	6/24	7/15	9/28	
	(rate/A)	(% Control)				(bu/A)
Untreated		0	0	0	0	30.9
PRE/POST I (5 inch weeds)						
Valor / Ignite 280 + AMS	2.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	64	90	94	98	58.2
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	33	89	89	97	56.2
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	18	85	85	95	59.3
Sharpen / Ignite 280 + AMS	1.0 fl oz/a / 22 fl oz/a + 8.5 lb/100 gal	30	87	78	92	60.3
Fierce / Ignite 280 + AMS	3 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	55	90	94	98	58.2
Prefix / Ignite 280 + AMS	2 pt/a / 22 fl oz/a + 8.5 lb/100 gal	64	94	98	99	58.2
Gangster V + Gangster FR / Ignite 280 + AMS	2.5 oz wt/a + 0.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	49	88	89	96	59.1
Authority Assist / Ignite 280 + AMS	12 fl oz/a / 22 fl oz/a + 8.5 lb/100 gal	56	88	93	98	56.6
Sonic / Ignite 280 + AMS	4.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	15	85	85	94	59.1
POST I (5 inch weeds)						
Ignite 280 + Firstrate + AMS	22 fl oz/a + 0.3 oz wt/a + 8.5 lb/100 gal	0	86	81	93	58.3
Ignite 280 + Pursuit + AMS	22 fl oz/a + 4 fl oz/a + 8.5 lb/100 gal	0	82	83	95	58.9
Ignite 280 + Outlook + AMS	22 fl oz/a + 16 fl oz/a + 8.5 lb/100 gal	0	84	87	96	59.0
Ignite 280 + Flexstar + AMS	22 fl oz/a + 16 fl oz/a + 8.5 lb/100 gal	0	90	87	96	58.4
Ignite 280 + Prefix + AMS	22 fl oz/a + 2 pt/a + 8.5 lb/100 gal	0	85	87	96	56.7
Ignite 280 + Cobra + AMS	22 fl oz/a + 8 fl oz/a + 8.5 lb/100 gal	0	87	77	89	55.1
Ignite 280 + Harmony + AMS	22 fl oz/a + 0.125 oz wt/a + 8.5 lb/100 gal	0	87	76	86	55.0
POST I (5 in weeds)/ POST II (14 days after POST I)						
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	87	95	100	60.4
POST I (5 in weeds)/ POST III (21 days after POST I)						
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	86	97	100	60.6
POST I (5 in weeds)/POST IV (Pre-Canopy)						
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	86	79	100	56.6
LSD (P=0.10)		13	4	4	3	3.8

Table 2. Performance of Ignite 280 herbicide systems for redroot pigweed/tall waterhemp control in soybeans at Lamberton, MN, in 2010.

Treatment	Rate	Redroot Pigweed/ Tall Waterhemp Control				Yield
		6/16	6/24	7/15	9/28	
	(rate/A)	(% Control)				(bu/A)
Untreated		0	0	0	0	30.9
PRE/POST I (5 inch weeds)						
Valor / Ignite 280 + AMS	2.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	69	95	91	98	58.2
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	58	90	80	89	56.2
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	38	92	85	94	59.3
Sharpen / Ignite 280 + AMS	1.0 fl oz/a / 22 fl oz/a + 8.5 lb/100 gal	55	97	80	93	60.3
Fierce / Ignite 280 + AMS	3 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	70	100	87	96	58.2
Prefix / Ignite 280 + AMS	2 pt/a / 22 fl oz/a + 8.5 lb/100 gal	76	100	93	99	58.2
Gangster V + Gangster FR / Ignite 280 + AMS	2.5 oz wt/a + 0.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	71	99	93	98	59.1
Authority Assist / Ignite 280 + AMS	12 fl oz/a / 22 fl oz/a + 8.5 lb/100 gal	59	99	92	97	56.6
Sonic / Ignite 280 + AMS	4.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	35	92	85	89	59.1
POST I (5 inch weeds)						
Ignite 280 + Firstrate + AMS	22 fl oz/a + 0.3 oz wt/a + 8.5 lb/100 gal	0	94	74	87	58.3
Ignite 280 + Pursuit + AMS	22 fl oz/a + 4 fl oz/a + 8.5 lb/100 gal	0	88	56	77	58.9
Ignite 280 + Outlook + AMS	22 fl oz/a + 16 fl oz/a + 8.5 lb/100 gal	0	89	77	88	59.0
Ignite 280 + Flexstar + AMS	22 fl oz/a + 16 fl oz/a + 8.5 lb/100 gal	0	100	90	98	58.4
Ignite 280 + Prefix + AMS	22 fl oz/a + 2 pt/a + 8.5 lb/100 gal	0	100	89	97	56.7
Ignite 280 + Cobra + AMS	22 fl oz/a + 8 fl oz/a + 8.5 lb/100 gal	0	99	85	95	55.1
Ignite 280 + Harmony + AMS	22 fl oz/a + 0.125 oz wt/a + 8.5 lb/100 gal	0	96	68	86	55.0
POST I (5 in weeds)/ POST II (14 days after POST I)						
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	87	93	98	60.4
POST I (5 in weeds)/ POST III (21 days after POST I)						
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	87	98	100	60.6
POST I (5 in weeds)/POST IV (Pre-Canopy)						
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	86	99	56.6
LSD (P=0.10)		14	7	10	5	3.8

Table 3. Percent crop injury from Ignite 280 herbicide systems in soybeans at Lamberton, MN, in 2010.

Treatment	Rate	Injury			Yield
		6/21	6/24	7/12	
	(rate/A)	Injury (%)			(bu/A)
Untreated		0	0	0	30.9
PRE/POST I (5 inch weeds)					
Valor / Ignite 280 + AMS	2.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	26	15	0	58.3
Optill / Ignite 280 + AMS	2 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	26	15	1	56.2
Enlite / Ignite 280 + AMS	2.8 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	28	14	0	59.3
Sharpen / Ignite 280 + AMS	1.0 fl oz/a / 22 fl oz/a + 8.5 lb/100 gal	38	19	0	60.3
Fierce / Ignite 280 + AMS	3 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	29	16	0	57.2
Prefix / Ignite 280 + AMS	2 pt/a / 22 fl oz/a + 8.5 lb/100 gal	25	14	1	58.2
Gangster V + Gangster FR / Ignite 280 + AMS	2.5 oz wt/a + 0.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	36	21	0	59.1
Authority Assist / Ignite 280 + AMS	12 fl oz/a / 22 fl oz/a + 8.5 lb/100 gal	25	15	3	56.6
Sonic / Ignite 280 + AMS	4.5 oz wt/a / 22 fl oz/a + 8.5 lb/100 gal	30	19	0	59.1
POST I (5 inch weeds)					
Ignite 280 + Firstrate + AMS	22 fl oz/a + 0.3 oz wt/a + 8.5 lb/100 gal	33	21	0	58.3
Ignite 280 + Pursuit + AMS	22 fl oz/a + 4 fl oz/a + 8.5 lb/100 gal	38	23	3	58.9
Ignite 280 + Outlook + AMS	22 fl oz/a + 16 fl oz/a + 8.5 lb/100 gal	34	38	0	59.0
Ignite 280 + Flexstar + AMS	22 fl oz/a + 16 fl oz/a + 8.5 lb/100 gal	46	40	0	58.4
Ignite 280 + Prefix + AMS	22 fl oz/a + 2 pt/a + 8.5 lb/100 gal	55	46	1	56.7
Ignite 280 + Cobra + AMS	22 fl oz/a + 8 fl oz/a + 8.5 lb/100 gal	60	49	3	55.1
Ignite 280 + Harmony + AMS	22 fl oz/a + 0.125 oz wt/a + 8.5 lb/100 gal	51	45	5	55.0
POST I (5 in weeds)/ POST II (14 days after POST I)					
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	26	14	0	60.4
POST I (5 in weeds)/ POST III (21 days after POST I)					
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	28	14	0	60.6
POST I (5 in weeds)/ POST IV (Pre-Canopy)					
Ignite 280 + AMS / Ignite 280 + AMS	22 fl oz/a + 8.5 lb/100 gal / 22 fl oz/a + 8.5 lb/100 gal	30	18	0	56.6
LSD (P=0.10)		4	5	1	3.8