Liberty Link in soybean at Rochester, MN, in 2008.

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The objective of this trial was to evaluate the performance of Ignite 280 systems for weed control in glufosinate tolerant soybean. The research site was a Lawler loam series with a pH of 6.7 and soil test P and K levels of 19 ppm and 142 ppm, respectively. The field was spring disked and field cultivated prior to planting. The soybean variety, Liberty Link Soybean, was planted on May 22, 2008, at a depth of 1.5 inches in 30 inch rows at 150,000 seeds per acre. A randomized complete block design was used with four replications. Preemergence (PRE) and postemergence (POST I, POST II, and POST III) 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 23 and 30 and July 7 and 14. Application dates, environmental conditions, and weed stages are listed below. The plot was destroyed prior to harvest on July 22, 2008.

Date	**5/22**	**6/23**	**6/30**	**7/8**
Treatment	**PRE**	**POST I**	**POST II**	**POST III**
Temperature (F)				
Air	70	78	76	80
soil	70	79	87	85
Relative Humidity (%)	41	40	32	46
Wind (mph)	8	3	12	15
Soil moisture	Inadequate	Inadequate	Adequate	Adequate
Bean				
stage		V2	V3	R1
height (inch)		4.7	6.75	12.0
Velvetleaf				
weed density (ft^2)		1.5	1.5	
height (inch)		2.2	3.9	1.1
Common Lambsquarters				
weed density (ft^2)		3.6	3.6	
height (inch)		2.5	3.5	1.9
Common Waterhemp				
weed density (ft^2)		13.1	13.1	
height (inch)		1.8	3.9	1.0
Giant Foxtail				
weed density (ft^2)		6.6	6.6	
height (inch)		3.1	9.5	1.3
Rainfall after each application (inch)				
week 1	1.99	0.76	0.87	0.92
week 2	2.06	0.87	0.92	0.60
week 3	6.57	0.92	0.59	0.03

CONCLUSIONS

Weather conditions following pre-emergence applications allowed for excellent activation of the herbicides with 1.99 inches of precipitations falling within one week of application.

The best preemergence velvetleaf control was provided by the FirstRate, Gangster, and Sonic treatments with 99% control for all treatments (6/23 rating). Valor SX and Valor SX + Sencor provided very good velvetleaf control, 90 and 95%, respectively. Prefix offered poor control at 39%.

Valor SX (98%), Valor + Sencor (99%), Firstrate (98%), Gangster (99%), and Sonic (99%) preemergence provided excellent common lambsquarters control (6/23 rating). Prefix provided poor control at 46%.

Valor SX (98%), Valor + Sencor (99%), and Gangster (99%), pre-emergence provided excellent common waterhemp control. Very good control of common waterhemp was provided by Prefix (88%), and Sonic (86%). FirstRate provided poor control at 35% (6/23 rating).

Excellent preemergence giant foxtail control was achieved with Prefix (97%). Very good foxtail control was provided by the Valor SX (88%), Valor SX + Sencor (93%), and Gangster (90%) treatments. Sonic offered good control at 83%. FirstRate provided fair control of giant foxtail with 64% (6/23 rating).

Weather conditions prior to all POST applications were challenging due to drier than normal conditions and inadequate soil moisture. Despite these adverse conditions, all herbicide treatments provided very good to excellent weed control.

All treatments provided at least 98% control of velvetleaf, except the Prefix followed by Ignite which offered 90% control of velvetleaf, 7/14 rating. Common lambsquarters control was similar, with all treatments proving at least 96% control; again with the exception of the Prefix followed by Ignite treatment which provided 88% control (7/14 rating). Common waterhemp control with FirstRate, Gangster, Prefix, and Sonic all followed by Ignite, 7/14 rating, and the sequential Ignite treatment (7/7 rating) provided at least 96% control (7/14 rating). Valor SX and Valor SX + Sencor both followed by Ignite provide 95% common waterhemp control (7/14 rating).

Valor SX, Valor SX + Sencor, FirstRate, and Prefix all followed by Ignite, and the sequential Ignite treatment all provided at least 95% control of giant foxtail, (7/14 rating). Gangster and Sonic both followed by Ignite provide 93% control of giant foxtail (7/14 rating). (University of Minnesota Extension, Regional Office – Rochester).

Table 1. Performance of herbicide systems for velvetleaf control in soybean on June 23 and 30, and July 7 and 14 at Rochester, MN, in 2008.

		Velvetleaf control			
		6/23	6/30	7/7	7/14
	(rate/A)			**(%)**	
Untreated		0	0	0	0
PRE / POST II					
Valor SX/ Ignite 280 + AMS	2 oz wt / 22 fl oz + 1.7 lb	90	91	98	98
FirstRate/ Ignite 280 + AMS	0.75 oz wt / 22 fl oz + 1.7 lbs	99	99	98	99
Gangster FR + Gangster V/ Ignite 280 + AMS	0.3 oz wt + 1.5 oz wt / 22 fl oz + 1.7 lbs	99	99	99	99
Valor SX + Sencor/ Ignite 280 + AMS	2 oz wt + 4.6 oz wt / 22 fl oz +1.7 lbs	95	97	98	98
Prefix/ Ignite 280 + AMS	1.5 pt / 22 fl oz + 1.7 lbs	39	40	94	90
Sonic/ Ignite 280 + AMS	2.25 oz wt / 22 fl oz +1.7 lbs	99	99	91	98
POST I / POST II					
Ignite 280 + AMS/ Ignite 280 + AMS	22 fl oz + 1.7lbs / 22 fl oz + 1.7 lbs	0	98	98	NR
	LSD (P=0.10)	**4**	**3**	**2**	**1**

Table 2. Performance of herbicide systems for common lambsquarters control in soybean on June 23 and 30, and July 7 and 14 at Rochester, MN, in 2008.

		Common Lambsquarters control			
		6/23	6/30	7/7	7/14
	(rate/A)			**(%)**	
Untreated		0	0	0	0
PRE / POST II					
Valor SX/ Ignite 280 + AMS	2 oz wt / 22 fl oz + 1.7 lb	98	99	99	98
FirstRate/ Ignite 280 + AMS	0.75 oz wt / 22 fl oz + 1.7 lbs	98	96	99	99
Gangster FR + Gangster V/ Ignite 280 + AMS	0.3 oz wt + 1.5 oz wt / 22 fl oz + 1.7 lbs	99	99	99	98
Valor SX + Sencor/ Ignite 280 + AMS	2 oz wt + 4.6 oz wt / 22 fl oz +1.7 lbs	99	99	98	96
Prefix/ Ignite 280 + AMS	1.5 pt / 22 fl oz + 1.7 lbs	46	44	86	88
Sonic/ Ignite 280 + AMS	2.25 oz wt / 22 fl oz +1.7 lbs	99	97	63	99
POST I / POST II					
Ignite 280 + AMS/ Ignite 280 + AMS	22 fl oz + 1.7lbs / 22 fl oz + 1.7 lbs	0	99	99	NR
	LSD (P=0.10)	**3**	**3**	**3**	**3**

Table 3. Performance of herbicide systems for common waterhemp control in soybean on June 23 and 30, and July 7 and 14 at Rochester, MN, in 2008.

		Common Waterhemp control			
		6/23	6/30	7/7	7/14
	(rate/A)			**(%)**	
Untreated		0	0	0	0
PRE / POST II					
Valor SX/ Ignite 280 + AMS	2 oz wt / 22 fl oz + 1.7 lb	98	94	98	95
FirstRate/ Ignite 280 + AMS	0.75 oz wt / 22 fl oz + 1.7 lbs	35	60	98	96
Gangster FR + Gangster V/ Ignite 280 + AMS	0.3 oz wt + 1.5 oz wt / 22 fl oz + 1.7 lbs	99	94	99	97
Valor SX + Sencor/ Ignite 280 + AMS	2 oz wt + 4.6 oz wt / 22 fl oz +1.7 lbs	99	97	99	95
Prefix/ Ignite 280 + AMS	1.5 pt / 22 fl oz + 1.7 lbs	88	95	98	97
Sonic/ Ignite 280 + AMS	2.25 oz wt / 22 fl oz +1.7 lbs	86	99	89	98
POST I / POST II					
Ignite 280 + AMS/ Ignite 280 + AMS	22 fl oz + 1.7lbs / 22 fl oz + 1.7 lbs	0	74	98	NR
	LSD (P=0.10)	**6**	**4**	**3**	**3**

Table 4. Performance of herbicide systems for giant foxtail control in soybean on June 23 and 30, and July 7 and 14 at Rochester, MN, in 2008.

		Giant Foxtail Control			
		6/23	6/30	7/7	7/14
	(rate/A)			**(%)**	
Untreated		0	0	0	0
PRE / POST II					
Valor SX/ Ignite 280 + AMS	2 oz wt / 22 fl oz + 1.7 lb	88	89	97	96
FirstRate/ Ignite 280 + AMS	0.75 oz wt / 22 fl oz + 1.7 lbs	64	55	97	96
Gangster FR + Gangster V/ Ignite 280 + AMS	0.3 oz wt + 1.5 oz wt / 22 fl oz + 1.7 lbs	90	88	94	93
Valor SX + Sencor/ Ignite 280 + AMS	2 oz wt + 4.6 oz wt / 22 fl oz +1.7 lbs	93	90	97	95
Prefix/ Ignite 280 + AMS	1.5 pt / 22 fl oz + 1.7 lbs	97	93	98	98
Sonic/ Ignite 280 + AMS	2.25 oz wt / 22 fl oz +1.7 lbs	83	99	88	93
POST I / POST II					
Ignite 280 + AMS/ Ignite 280 + AMS	22 fl oz + 1.7lbs / 22 fl oz + 1.7 lbs	0	60	96	NR
	LSD (P=0.10)	**6**	**4**	**2**	**3**