Evaluation of Capreno Herbicide Programs in Field Corn in SE Minnesota in 2009

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The objective of this trial was to evaluate the performance of Capreno herbicide programs for weed control in corn in southeastern Minnesota. The research site was a Lawler loam series with a pH of 7.0 and soil test P and K levels of 73 ppm and 191 ppm, respectively. Spring fertilizer was broadcast ahead of planting on April 17, 2009 at a rate of 126-35-120-24 (N-P-K-S). The area was side dressed with an additional 30 lb/A of N on June 15. The field was spring disked and field cultivated once prior to planting. The corn hybrid, Pioneer 35F44, was planted on May 8, 2009 at a depth of 1.5 inches in 30 inch rows at 35,000 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 Turbo Tee 11002 nozzles. Evaluations of the plots were taken on June 2, 9, 16, 24 and July 20. Application dates, environmental conditions, and weed stages are listed below. The center two rows of each plot were machine harvested on November 13, 2009.

Date	**5/11**	**5/29**	**6/5**	**6/18**
Treatment	PRE	POST I	POST II	POST III
Temperature (F)				
Air	59	73	75	80
Soil	57	75.2	70.5	75.2
Relative Humidity (%)	36	29	33	69
Wind (mph)	0	12	18	17
Soil Moisture	Adequate	Adequate	Inadequate	Excessive
Corn				
Stage		V2-V3	V4	V6
Height (inch)		5.0	6.0	17.0
Giant Ragweed				
Weed density (ft^2)		6.4	6.4	6.4
Height (inch)		2.5	5.8	3.8
Common Lambsquarters				
Weed density (ft^2)		5.4	5.4	5.4
Height (inch)		1.3	2.0	3.5
Common Waterhemp				
Weed density (ft^2)		13.8	13.8	13.8
Height (inch)		1.1	2.0	3.2
Giant foxtail				
Weed density (ft^2)		3.5	3.5	3.5
Height (inch)		2.6	3.6	4.2
Rainfall after each application (inch)				
Week 1	0.61	0.02	1.97	0.21
Week 2	0.19	1.97	1.03	0.17
Week 3	1.76	1.03	0.17	0.90

Table 1. Performance of Capreno herbicide systems for giant ragweed control in field corn on June 2, 9, 16, 24 and July 20 at Rochester, MN in 2009.

Treatment	Rate	Giant Ragweed Control					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	7 e
PRE/POST III							
Corvus / Capreno + COC + UAN	3 fl oz/a / 3 fl oz/a + 1% v/v + 1.5 qt/a	69	73	82	87	99	185 a
Corvus / Capreno + MSO + UAN	3 fl oz/a / 3 fl oz/a + 0.5% v/v + 1.5 qt/a	65	69	82	87	99	187 a
Lumax / Capreno + Atrazine + COC + UAN	2.5 qt/a / 3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	83	96	97	99	99	178 abc
POST I							
Halex GT + NIS + AMS	3.6 pt/a + 0.25% v/v + 8.5 lb/100 gal	0	89	89	90	87	178 abc
Capreno + Atrazine + COC + UAN	3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	86	94	96	91	161 d
Impact + Atrazine + COC + UAN	0.75 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	89	88	87	79	165 cd
Capreno + Atrazine + MSO + UAN	3 fl oz/a + 16 fl oz/a + 0.5% v/v + 1.5 qt/a	0	88	90	92	87	181 ab
Laudis + Atrazine + MSO + UAN	2.607 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	93	95	94	95	167 bcd
POST II							
Capreno + Roundup PowerMax + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	95	95	96	175 a-d
Capreno + Roundup PowerMax + Superb HC + AMS	3 fl oz/a + 11 fl oz/a + 12 fl oz/a + 8.5 lb/100 gal	0	0	97	95	96	179 abc
Capreno + Ignite 280 + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	96	97	97	180 ab
	LSD (P=0.10)	2	2	3	3	5	15

Table 2. Performance of Capreno herbicide systems for common lambsquarters control in field corn on June 2, 9, 16, 24 and July 20 at Rochester, MN in 2009.

Treatment	Rate	Common Lambsquarters Control					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	7 e
PRE/POST III							
Corvus / Capreno + COC + UAN	3 fl oz/a / 3 fl oz/a + 1% v/v + 1.5 qt/a	92	98	98	99	98	185 a
Corvus / Capreno + MSO + UAN	3 fl oz/a / 3 fl oz/a + 0.5% v/v + 1.5 qt/a	88	98	98	99	95	187 a
Lumax / Capreno + Atrazine + COC + UAN	2.5 qt/a / 3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	99	99	99	99	98	178 abc
POST I							
Halex GT + NIS + AMS	3.6 pt/a + 0.25% v/v + 8.5 lb/100 gal	0	99	99	99	95	178 abc
Capreno + Atrazine + COC + UAN	3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	99	99	99	92	161 d
Impact + Atrazine + COC + UAN	0.75 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	99	99	99	92	165 cd
Capreno + Atrazine + MSO + UAN	3 fl oz/a + 16 fl oz/a + 0.5% v/v + 1.5 qt/a	0	99	99	99	93	181 ab
Laudis + Atrazine + MSO + UAN	2.607 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	99	99	99	95	167 bcd
POST II							
Capreno + Roundup PowerMax + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	98	98	94	175 a-d
Capreno + Roundup PowerMax + Superb HC + AMS	3 fl oz/a + 11 fl oz/a + 12 fl oz/a + 8.5 lb/100 gal	0	0	84	97	91	179 abc
Capreno + Ignite 280 + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	84	97	91	180 ab
	LSD (P=0.10)	4	1	2	2	3	15

Table 3. Performance of Capreno herbicide systems for common waterhemp control in field corn on June 2, 9, 16, 24 and July 20 at Rochester, MN in 2009.

Treatment	Rate	Common Waterhemp Control					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	7 e
PRE/POST III							
Corvus / Capreno + COC + UAN	3 fl oz/a / 3 fl oz/a + 1% v/v + 1.5 qt/a	70	80	71	86	97	185 a
Corvus / Capreno + MSO + UAN	3 fl oz/a / 3 fl oz/a + 0.5% v/v + 1.5 qt/a	71	79	80	91	95	187 a
Lumax / Capreno + Atrazine + COC + UAN	2.5 qt/a / 3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	99	99	99	99	98	178 abc
POST I							
Halex GT + NIS + AMS	3.6 pt/a + 0.25% v/v + 8.5 lb/100 gal	0	99	99	94	93	178 abc
Capreno + Atrazine + COC + UAN	3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	99	97	95	89	161 d
Impact + Atrazine + COC + UAN	0.75 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	99	90	88	88	165 cd
Capreno + Atrazine + MSO + UAN	3 fl oz/a + 16 fl oz/a + 0.5% v/v + 1.5 qt/a	0	99	97	97	92	181 ab
Laudis + Atrazine + MSO + UAN	2.607 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	99	97	97	94	167 bcd
POST II							
Capreno + Roundup PowerMax + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	96	96	89	175 a-d
Capreno + Roundup PowerMax + Superb HC + AMS	3 fl oz/a + 11 fl oz/a + 12 fl oz/a + 8.5 lb/100 gal	0	0	89	94	85	179 abc
Capreno + Ignite 280 + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	96	95	89	180 ab
	LSD (P=0.10)	2	1	4	4	4	15

Table 4. Performance of Capreno herbicide systems for giant foxtail control in field corn on June 2, 9, 16, 24 and July 20 at Rochester, MN in 2009.

Treatment	Rate	Giant foxtail Control					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	7 e
PRE/POST III							
Corvus / Capreno + COC + UAN	3 fl oz/a / 3 fl oz/a + 1% v/v + 1.5 qt/a	65	70	71	78	92	185 a
Corvus / Capreno + MSO + UAN	3 fl oz/a / 3 fl oz/a + 0.5% v/v + 1.5 qt/a	68	76	76	83	92	187 a
Lumax / Capreno + Atrazine + COC + UAN	2.5 qt/a / 3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	83	91	95	98	97	178 abc
POST I							
Halex GT + NIS + AMS	3.6 pt/a + 0.25% v/v + 8.5 lb/100 gal	0	96	92	94	91	178 abc
Capreno + Atrazine + COC + UAN	3 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	95	90	92	86	161 d
Impact + Atrazine + COC + UAN	0.75 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	92	90	91	87	165 cd
Capreno + Atrazine + MSO + UAN	3 fl oz/a + 16 fl oz/a + 0.5% v/v + 1.5 qt/a	0	93	88	92	87	181 ab
Laudis + Atrazine + MSO + UAN	2.607 fl oz/a + 16 fl oz/a + 1% v/v + 1.5 qt/a	0	97	82	82	88	167 bcd
POST II							
Capreno + Roundup PowerMax + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	98	99	94	175 a-d
Capreno + Roundup PowerMax + Superb HC + AMS	3 fl oz/a + 11 fl oz/a + 12 fl oz/a + 8.5 lb/100 gal	0	0	97	99	95	179 abc
Capreno + Ignite 280 + AMS	2 fl oz/a + 22 fl oz/a + 8.5 lb/100 gal	0	0	97	97	92	180 ab
	LSD (P=0.10)	3	5	5	4	5	15