

Herbicide performance in corn at Waseca, MN common cocklebur site in 2005. Hoverstad, Thomas R. and Jeffrey L. Gunsolus. The objective of this trial was to evaluate weed management systems available to corn producers in southern Minnesota on several annual weed species. This site had an especially high population of common cocklebur. The research site was a Clarion clay loam soil containing 5% organic matter, pH = 6.4 and soil test P and K levels of 40 and 173 ppm, respectively. The previous crop was soybean that had been chisel plowed in the fall. The area was fertilized in the spring with 150 lb N/A as anhydrous ammonia and field cultivated once to a depth of 3 inches prior to planting to prepare a seedbed. Pioneer '38H69' was planted on May 23, 2005 in 30-inch rows. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 40 psi using 8002 flat-fan nozzle tips. Visual estimates of weed control were taken on September 1, 2005. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 24	June 9	June 13	June 16
Treatment	Pre	Post I	Post II	Post III
air temp °F	75	79	75	83
soil temp (4-inch) °F	70	66	68	66
Relative humidity (%)	35	40	45	21
Wind	N 12	E 1	E 5	NE 3
Soil moisture	Moist	Wet	Moist	Moist
Corn				
Stage	-	V2	V3	V4
height (inch)	-	4	5	6
Giant foxtail				
leaf no.	-	2	3	4
height (inch)	-	1	2	4
Common cocklebur				
leaf no.	-	3	3	4
height (inch)	-	3	4	5
Common lambsquarters				
leaf no.	-	4	5	6
height (inch)	-	2	2-3	3-4
Rainfall after application (inch)				
Week 1	0.74	0.55	0.32	1.00
Week 2	0.37	0.99	1.94	2.54
Week 3	1.76	2.55	1.95	0.35

Poor common cocklebur was observed with preemergence Lumax. Postemergence V2 applications of Basis or Steadfast tank mixed with Lumax resulted in slightly lower levels of common cocklebur control than other V2, V3 or V4 applications. KIH-485 applied preemergence followed by Hornet plus Callisto plus atrazine resulted in poorer giant foxtail control than all other treatments. (University of Minnesota, Southern Research and Outreach Center, Waseca, MN and Dept of Agronomy and Plant Genetics, University of Minnesota, St Paul).

Table. Herbicide performance in corn at a common cocklebur site at Waseca, MN in 2005 (Hoverstad and Gunsolus).

Treatment	Rate (Product/A)	Giant foxtail	Common cocklebur	Common lambquarters	Yield Bu/A ^a
		-----(% control)-----			
<u>Preemergence</u>					
Keystone LA + Hornet WDG	2.2 qt + 4oz	98	91	99	201
Lumax	6 pt	97	49	99	173
<u>Preemergence/POST III (V4 corn)</u>					
Surpass / Hornet + Callisto + atrazine + COC + AMS	2.75 pt / 3 oz + 0.75 oz + 8 oz + 1% + 3 qt	97	99	99	195
KIH-485 / Hornet + Callisto + atrazine + COC + AMS	8 oz / 3 oz + 0.75 oz + 8 oz + 1% + 3 qt	90	99	99	172
Outlook / Distinct + atrazine + NIS + AMS	21 oz / 4 oz + 16 oz + 0.25% + 2.5 lb	99	98	99	189
Define SC/ Liberty+atrazine+AMS	12 oz / 32 oz + 16 oz + 3.5 qt	97	95	99	192
Define SC/ Option+Distinct+MSO+28%	12 oz / 1.5 oz + 2 oz + 1.5 pt + 3 pt	99	92	97	188
Cinch/ Steadfast+ Callisto+atrazine+COC+AMS	1 pt / 0.75 oz + 2 oz + 16 oz + 1% + 4.7 pt	99	94	99	189
Dual II Magnum/ Callisto+atrazine+COC+28%N	2 pt / 3 oz + 16 oz + 1% + 2.5%	97	99	99	192
Outlook/ Aim+atrazine+Clarity+NIS	21 oz / 0.5 oz + 16 oz + 3 oz + 0.25%	96	96	97	192
Harness/ Roundup WeatherMax+AMS	1.25 pt / 22 oz + 3 qt	99	92	99	200
Keystone LA / Glyphomax XRT + AMS	2.2 pt / 24 oz + 3 qt	99	96	98	191
Outlook/ Distinct + RoundupWeatherMax + NIS + AMS	12 oz / 3 oz + 11 oz + 0.25% + 3 qt	99	94	99	195
Basis + atrazine/ Roundup OriginalMax	0.4 oz + 12 oz/ 22 oz				
<u>POST I (V2 Corn)</u>					
Basis + Lumax + NIS	0.33 oz + 3.5 pt + 0.25%	92	88	99	199
Lumax + Touchdown Total + AMS	3 pt + 24oz + 2 qt	99	95	99	195
Lumax + Liberty + AMS	3 pt + 20oz + 2 qt	99	91	99	205
Steadfast + Lumax + NIS	0.75 oz + 2 pt + 0.25%	98	82	96	193
<u>POST II (V3 corn)</u>					
Option + Callisto + MSO + 28%N	1.5 oz + 1.5 oz + 1.5 pt + 3 pt	98	92	93	195
<u>POST III (V4 corn)</u>					
Steadfast + Callisto + Atrazine + COC + AMS	0.75 oz + 2 oz + 16 oz + 1% + 4.7 pt	97	92	99	192
Resolve + Roundup OriginalMax + AMS	1 oz + 22 oz + 4.7 pt	99	95	96	201
Resolve + atrazine + Roundup OriginalMax + AMS	1 oz + 16 oz + 22 oz + 4.7 pt	98	93	97	194
<u>Checks</u>					
Weedy	-	0	0	0	24
Hand-Weeded	-	100	100	100	199
	LSD (0.10)	5	5	4	14

^a Yield adjusted to 15.5% moisture.