

Tall waterhemp Control in Corn at Waseca, MN in 2000. Thomas R Hoverstad

The objective of this trial was to evaluate broadleaf weed control programs in corn for performance on tall waterhemp. Application timings included 1 to 3-inch waterhemp and 4 to 6-inch waterhemp. A Sethoxydim resistant hybrid 'DK 493 SR' was planted to allow a grass herbicide to be applied over several treatments to focus on waterhemp control. The entire area was field cultivated once in the spring following application of 160 lb N/Acre as urea on May 14. Corn was Planted on May 22, 2000 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. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 22	June 14	June 21
Treatment	Pre	Post 1 to 3-inch weeds	Post 4 to 6-inch weeds
Air temp °F	75	68	77
Soil temp (4-inch)	68	65	72
Relative humidity (%)	30	55	20
Wind	S 15	W 12	W 11
Soil moisture	Moist	Wet	Wet
Corn			
Stage	-	V3	V5
height (inch)	-	6	10
Tall Waterhemp			
Stage	-	2 to 6 leaf	6 to 8 leaf
height (inch)	-	1 to 4	6

Table 1. Tall waterhemp Control in Corn at Waseca, MN in 2000.

Herbicide	Rate / A	Tall Waterhemp (% Control)	Yield (bu/A)
Postemergence (1-3" tall waterhemp) - Poast Plus applied for grass control			
Hornet + NIS + AMS	3 oz + 0.25% + 2 lb	63	90
Hornet + atrazine + NIS + AMS	3 oz + 1 pt+ 0.25% + 2 lb	99	101
Hornet + atrazine + NIS + AMS	3 oz + 1.5 pt+ 0.25% + 2 lb	94	92
Hornet + Clarity + NIS + AMS	3 oz + 2 oz+ 0.25% + 2 lb	72	94
Hornet + Clarity + NIS + AMS	3 oz + 4 oz+ 0.25% + 2 lb	89	88
Hornet + Aim + NIS	3 oz + 1/3 oz+ 0.25% + 2 lb	81	99
Hornet + atrazine + Clarity + COC + AMS	3 oz + 1 pt + 2 oz + 1% + 2 lb	93	90
Accent Gold + COC + AMS	2.9 oz + 1% + 2 lb	76	93
Accent Gold + atrazine + COC + AMS	2.9 oz + 1 pt + 1% + 2 lb	89	93
Celebrity Plus + NIS + AMS	4.7 oz + 0.25% + 2 lb	98	101
Northstar + NIS + AMS	5 oz/A + 0.25% + 2 lb	77	97
Postemergence (4 to 6-inch tall waterhemp) - Poast Plus applied for grass control			
Hornet + NIS + AMS	3 oz + 0.25% + 2 lb	24	93
Hornet + atrazine + NIS + AMS	3 oz + 1 pt+ 0.25% + 2 lb	81	97
Hornet + atrazine + NIS + AMS	3 oz + 1.5 pt+ 0.25% + 2 lb	81	91
Hornet + Clarity + NIS + AMS	3 oz + 2 oz+ 0.25% + 2 lb	51	95
Hornet + Clarity + NIS + AMS	3 oz + 4 oz+ 0.25% + 2 lb	45	103
Hornet + Aim + NIS	3 oz + 1/3 oz+ 0.25% + 2 lb	58	104
Hornet + atrazine + Clarity + COC + AMS	3 oz + 1 pt + 2 oz + 1% + 2 lb	81	107
Accent Gold + COC + AMS	2.9 oz + 1% + 2 lb	73	86
Accent Gold + atrazine + COC + AMS	2.9 oz + 1 pt + 1% + 2 lb	90	85
Celebrity Plus + NIS + AMS	4.7 oz + 0.25% + 2 lb	94	95
Northstar + NIS + AMS	5 oz/A + 0.25% + 2 lb	75	99
Weedy Check	-	0	85
Hand Weeded	-	100	95
Preemergence / Postemergence (1 to 3-inch tall waterhemp)			
Outlook / Marksman	21 oz / 3.5 pt	74	106
Surpass / Accent Gold + atrazine + COC + 28%N	1.5 pt / 2.9 oz + 1.5 pt + 1% + 2 qt	99	101
Preemergence / Postemergence (4 to 6-inch tall waterhemp)			
Outlook / Distinct + NIS + 28%N	21 oz / 4 oz/A + 0.25% + 2 qt	99	96
Surpass / Callisto + COC + 28%N	2.5 pt / 3 oz + 1% + 2.5%	98	105
Postemergence (1 to 3-inch tall waterhemp)			
Accent Gold + Atrazine + COC + 28%N	2.9 oz + 1.5 pt + 1%	97	102
	LSD(0.05)	19	17

Tall waterhemp control was better when herbicides were applied to 1 to 3-inch waterhemp compared to applications made to 4 to 6-inch waterhemp. The addition of 0.5 lb/A atrazine improved tall waterhemp control with growth regulator type herbicides. Two-pass systems including soil applied Surpass or Outlook followed by Accent Gold, Distinct or Callisto resulted in better control of tall waterhemp than where growth regulator herbicides were applied to plots that had Poast Plus applied for grass control. This indicates that the soil activity afforded by Surpass or Outlook is an important contribution to season long tall waterhemp control with postemergence herbicides.

