

**Tall waterhemp control in glyphosate tolerant soybeans at Waseca, MN in 2000.** Hoverstad, Thomas R. The objective of this trial was to evaluate tall waterhemp control in soybeans using conventional herbicides and Roundup or Touchdown 5. The research site was a shallow peat and muck soil. The previous crop was corn that had been fall chisel plowed. The entire area was field cultivated once in the spring prior to herbicide application. Following preplant incorporated treatments the entire area was field cultivated twice to a depth of 3 to 4 inches to incorporate herbicides and prepare a seedbed. Asgrow '2101' soybeans were planted on May 25, 2000 in 30-inch rows. Due to flooding rain and standing water during emergence on June 1 Asgrow 1301 soybeans were replanted on June 14, 2000. 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 25	May 26	July 14	July 21	July 25	July 28	July 31
Treatment	PPI	Pre	Post 6-inch weeds	Post 8-inch tawh	Post 12-inch tawh	Post 18-inch tawh	Post 20-inch tawh
Air temp °F	82	67	81	76	84	75	85
Soil temp (4-inch)	66	58	83	73	88	77	80
Relative humidity (%)	15	35	60	46	56	70	35
Wind	NW 8	E 8	N 3	NW 7	S 7	NE 5	SW 5
Soil moisture	Moist	Moist	Wet	Wet	Moist	Dry	Dry
Soybeans							
Stage	-	-	R1	R2	R2	R2	R2
height (inch)	-	-	10	13	16	18	20
Tall Waterhemp							
leaf no.	-	-	8	12	14	14	16
height (inch)	-	-	6	8	12	18	20

Results are presented in the accompanying table. Flooding rain and standing water resulted in generally poor performance of soil applied treatments. The only treatments that provided adequate control of waterhemp and good soybean yields were soil applied Authority, Boundary or Domain followed by Roundup postemergence. Flexstar postemergence provided poor control of 8 inch waterhemp. Roundup Ultra applied to 8 to 20-inch tall waterhemp resulted in good control of waterhemp but poor soybean yields due to early season competition.

**Table. Tall Waterhemp Control in Soybeans at Waseca, MN in 2000. Hoverstad.**

Treatment <sup>a</sup>	Rate pt/A	Tawh Aug 15	Tawh Sept 18	Yield <sup>b</sup>
<b>Preplant incorporate 2X/POST (6 to 8-inch weeds)</b>				
		% control		Bu/A
Treflan/	1.5/	87	85	35.8
Roundup Ultra+AMS	2+2.5 lb			
Prowl/	2.5/	91	92	33.0
Extreme+NIS+AMS	3+0.125%+2.5 lb			
Prowl/	2.5 /	74	78	27.2
Pursuit+Flexstar+MSO+28%N	4 oz +12 oz +0.5%+28%N			
Treflan+Valor/	1.5+3 oz /	22	8	12.8
First Rate+NIS+28%N	0.3 oz+0.25%+2.5%			
Sonalan+Python/	2.5+1 oz /	71	67	30.2
First Rate+NIS+28%N	0.3 oz+1.25%+2lb			
<b>Pre/POST (6 to 8-inch weeds)</b>				
Valor/Roundup Ultra	2.5 oz / 2	76	67	30.0
Valor/	2.5 oz /	15	8	11.6
First Rate+Select+COC+28%N	0.3 oz+6 oz+1.2%+2.5%			
Valor/	2.5 oz /	7	10	10.5
Pursuit+MSO+28%N	4 oz + 1.25% +2.5%			
Authority /	5.3 oz /	76	77	32.8
Flexstar+Fusion+COC+28%N	1 + 10 oz +1% + 2.5%			
Authority /	4 oz /	97	96	43.2
Roundup Ultra+AMS	1.5 + 2 lb			
Boundary /	1.5 /	89	91	42.9
Roundup Ultra+AMS	1.5 + 2.5 lb			
Domain /	13 oz /	96	95	40.5
Roundup Ultra+AMS	1.5 + 2.5lb			
Pendimax+Authority	2.5 + 4 oz /	40	42	20.0
First Rate+Select+COC+AMS	3 oz + 6 oz + 1.2% + 2.5 lb			
<b>Postemergence (6 to 8-inch weeds)</b>				
Roundup Ultra+AMS	2 + 2.5 lb	90	88	32.2
Touchdown 5 +AMS	1.6 + 2.5 lb	81	71	32.2
First Rate+Glyphomax	0.3 oz + 1.5 + 2.5 lb	92	92	29.1
First Rate+Flexstar+Select+MSO+AMS	0.3 oz + 10 oz + 6 oz + 1.2% +2.5 lb	40	38	18.7
Weedy	-	0	0	6.7
<b>Postemergence (Poast Plus Applied to 6-inch grass)</b>				
Roundup Ultra+AMS (8 -inch waterhemp)	32 oz + 2.5 lb	97	95	21.5
Roundup Ultra+AMS (12 inch waterhemp)	48 oz + 2.5 lb	97	99	22.0
Roundup Ultra+AMS (18-inch waterhemp)	48 oz + 2.5 lb	99	99	25.2
Roundup Ultra+AMS (20-inch waterhemp)	48 oz + 2.5 lb	99	99	20.5
LSD(0.1)		19	20	8.9

<sup>a</sup> MSO=methylated seed oil, ; NIS = nonionic surfactant, Class Preference; 28%N = an aqueous solution of urea and ammonium nitrate; AMS = spray grade ammonium sulfate.

<sup>b</sup> Yield adjusted to 13% moisture.