

Crop safety of glyphosate on Roundup Ready hard red spring wheat. (Hendrickson, Endres, and Valenti) The objective of the study was to evaluate crop safety of Roundup Ultramax against competitive treatments in weed free Roundup Ready hard red spring wheat. The experiment was conducted at the NDSU Carrington Research Extension Center on a loam soil with a 6.8 pH and 3.9% organic matter. ‘SD99’ glyphosate resistant hard red spring wheat was planted at approximately 120 lb seed/A on May 14, 2002. EPOST herbicide treatments were applied to 2.5-leaf wheat on May 31 with 85° F, 20% RH, 95% cloud cover, 5 mph wind, and 79° F soil temperature. POST herbicide treatments were applied to 4- to 5-leaf wheat on June 17 with 75° F, 24% RH, 90% cloud cover, 8 mph wind, and 75° F soil temperature. A blanket application of Roundup Ultramax at 0.75 lb ae/A was applied June 7 to eliminate potential weed problems. Individual plots were 8 ft by 25 ft and arranged in a randomized complete block design with three replications. Herbicide treatments were applied with a CO₂-hand boom sprayer delivering 10 gpa at 26 psi through XR 80015 flat fan nozzles. Crop injury was visually evaluated for chlorosis, necrosis, and growth reduction 7, 14, and 21 days after application. The trial was harvested for seed yield with a plot combine on September 6.

Table.

Treatment ^a	Rate ^b lb ai/A	Timing	Seed yield bu/A
Roundup Ultramax	0.375	EPOST	38
Roundup Ultramax	0.56	EPOST	40
Roundup Ultramax	0.75	EPOST	39
Roundup Ultramax	0.375	POST	41
Roundup Ultramax	0.56	POST	37
Roundup Ultramax	0.75	POST	39
Roundup Ultramax / Roundup Ultramax	0.375 / 0.375	EPOST / POST	41
Discover+Bronate Advantage+DSV	0.05+0.5+1%v/v	POST	35
Puma+Bronate Advantage	0.08+0.5	POST	38
Achieve+Bronate Advantage+Supercharge	0.18+0.5+0.5%v/v	POST	36
Everest+Bronate Advantage+NIS	0.026+0.5+0.25%v/v	POST	35
Starane+2,4-D Ester	0.1875+0.25	POST	39
Bronate Advantage	0.5	POST	38
Harmony GT+2,4-D Ester	0.023+0.25	POST	35
2,4-D Ester	0.25	POST	41
Banvel	0.06	POST	39
Untreated check	0	-	38
LSD (P=.05)			NS

^aDSV and Supercharge=adjuvants from Syngenta, NIS=nonionic surfactant=Preference.

^bRates for Roundup Ultramax are in lb ae/A.

Glyphosate did not injure the wheat when visually evaluated for chlorosis, necrosis, or growth reduction (data not shown). Everest caused a 7% reduction in growth when evaluated 7 DAT (data not shown). Wheat seed yield ranged from 35 to 41 bu/A (Table).