

Glyphosate with adjuvants. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Wahpeton, ND, to evaluate weed control from glyphosate with adjuvants. Pioneer '91B33' soybean was planted on May 7, 2002. POST treatments were applied June 18 at 9:30 am with 74 F air, 75 F soil surface, 65% relative humidity, 100% clouds, 8-14 mph SSE wind, dry soil surface, damp subsoil, good crop vigor, and no dew present to V2 soybean. Weed species present were: 1 to 4 inch (5 to 20/yd<sup>2</sup>) yellow foxtail; 1 to 3 inch (1 to 5/yd<sup>2</sup>) redroot pigweed; 1 to 4 inch (1 to 30/ft<sup>2</sup>) common lambsquarters; and 1 to 3 inch (1 to 5/yd<sup>2</sup>) common ragweed. Treatments were applied to the center 6.67 feet of the 10 by 40 foot plots with a bicycle-wheel-type plot sprayer and attached wind screen delivering 8.5 gpa at 40 psi through 8001 flat fan nozzles. The experiment had a randomized complete block design with three replicates per treatment.

Yellow foxtail was controlled by all treatments. Redroot pigweed and common lambsquarters control by various adjuvants used with a full surfactant load formulation of glyphosate varied by adjuvants but range was much narrower with common ragweed. Common lambsquarters was the species most difficult to control. Dri-Gard, a drift reducing adjuvant had the greatest weed control. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Glyphosate with adjuvants (Zollinger and Ries).

Treatment <sup>1</sup>	Rate (lb/A)	July 2			July 16		
		AMARE	CHEAL	AMBEL	AMARE	CHEAL	AMBEL
		(%)	(%)	(%)	(%)	(%)	(%)
Glyphosate	0.376	77	65	80	83	72	77
Glyphosate+	0.376+	73	63	80	88	72	86
AMS	8.5lb/100gal						
Glyphosate	0.188	43	30	47	73	33	67
Glyphosate+	0.188+	53	37	53	77	37	68
AMS	8.5lb/100gal						
Class Act NG	1.25% v/v	67	60	67	87	57	70
Class Act NG	2.5% v/v	83	77	83	88	75	78
Class Act NG+Placement	2.5% v/v+2fl oz	83	77	83	85	75	73
Placement Propak	1% v/v	67	58	65	83	57	73
AG 02001	1% v/v	57	47	63	75	40	72
Valid	0.125% v/v	50	43	53	70	32	67
Bronc Max	1% v/v	55	50	60	80	52	73
Cayuse Plus	0.75% v/v	62	60	63	85	58	70
Gardian Plus	2.5gal/100gal	63	57	63	82	55	78
Dri-Gard	9lb/100gal	73	67	77	92	65	85
L-132	1% v/v	40	30	40	70	28	62
Glyphosate&AMADS+	0.188&1.39	83	73	80	78	70	68
Liberate	0.25% v/v						
LSD (0.05)		10	12	8	10	13	9

<sup>1</sup>Glyphosate = RoundUp WeatherMax; AMS = ammonium sulfate; Class Act NG = surfactant and fertilizer; Placement = drift retardant; Placement Propak = ammonium sulfate fertilizer + drift retardant; AG 02001 = proprietary adjuvant from Agrilliance; Valid = drift retardant + deposition + defoamer; Bronc Max = ammonium sulfate fertilizer + water conditioning agent; Cayuse Plus = surfactant + fertilizer; Gardian Plus = ammonium sulfate + deposition + defoamer; Dri-Gard = ammonium sulfate + deposition + foamer; L-132 = petroleum oil concentrate; Liberate = surfactant.