

Effect of adjuvants tank-mixed with glyphosate on weed control in soybeans at Lamberton, MN in 2004. Getting, Jodie K., and Bruce D. Potter. The objective of this study was to evaluate the effect of adjuvants tank-mixed with Buccaneer and Buccaneer Plus on annual grass and broadleaf weed control in glyphosate-resistant soybeans. This study was conducted on a Normania loam soil containing 4.2% organic matter, pH 6.5 and soil test P and K levels of 60 and 316 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. The site was planted to oats in 2003 and was fall chiseled. On May 10, 2004, Asgrow 'AG 2107' glyphosate-resistant soybeans were planted in 30-inch rows at a seeding rate of 160,000 seeds/A. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 40 psi. The sprayer was equipped with 8002 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	June 15
Treatment	POST I
Temperature (F)	
air	64
soil (4 inch)	64
Relative humidity (%)	68
Wind (mph)	S 5
Sky	cloudy
Soil moisture	moist
Soybean	
leaf no.	V1
height (inch)	5
Yellow foxtail	
leaf no.	2 to 4
height (inch)	3 to 5
no./ft <sup>2</sup>	68
Common lambsquarters	
leaf no.	3 to 5
height (inch)	2 to 4
no./ft <sup>2</sup>	1
Tall waterhemp	
leaf no.	3 to 5
height (inch)	2 to 4
no./ft <sup>2</sup>	3
Rainfall after application (inch)	
1 week	0.56
2 week	0.48
3 week	0.87

(Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Effect of adjuvants tank-mixed with glyphosate on weed control in soybeans at Lamberton, MN in 2004 (Getting and Potter).

Treatment <sup>a</sup>	Rate	Yellow			Common			Tall			Yield
		foxtail			lamsbsquarters			waterhemp			
		6/23	6/30	7/22	6/23	6/30	7/22	6/23	6/30	7/22	(bu/A) <sup>b</sup>
POST (4-inch weeds)	(oz/A or lb/A or %)	-----(% control)-----									
Buccaneer	16oz	97	93	88	100	100	95	98	93	79	49.3
Buccaneer Plus	16oz	97	93	87	100	98	97	99	95	85	51.2
Buccaneer + Premier 90 + Premium AMS	16 oz + 0.5% + 8.5lb/100gal	100	100	91	100	100	97	100	98	91	54.3
Buccaneer Plus + Cornbelt Gardian	16 oz + 2qt/100gal	100	100	94	100	100	98	100	98	90	55.6
Buccaneer + One-Ap XL	16 oz + 9lb/100gal	100	99	93	100	100	99	100	95	86	53.1
Buccaneer + WC038	16 oz + 2qt/100gal	100	100	94	100	100	99	100	99	91	56.7
Buccaneer Plus + Cornbelt Dri-Gard	16 oz + 9lb/100gal	100	100	91	100	100	97	100	98	93	54.1
Buccaneer Plus + Cornbelt Gardian Plus	16 oz + 2.5gal/100gal	100	100	94	100	100	96	100	98	91	55.9
Buccaneer + WC037	16 oz + 2qt/100gal	100	100	93	100	100	100	100	97	89	54.1
Buccaneer Plus + WC037	16 oz + 2qt/100gal	100	100	95	100	100	99	100	98	89	53.7
Buccaneer + WC037	16 oz + 4qt/100gal	100	100	92	100	100	99	100	98	91	53.6
Buccaneer Plus + WC037	16 oz + 4qt/100gal	100	99	91	100	100	98	100	99	88	53.7
Buccaneer + WC036	16 oz + 2qt/100gal	100	100	92	100	100	97	100	98	92	56.2
<b>Checks</b>											
Weedy Check	-	0	0	0	0	0	0	0	0	0	12.5
	LSD (0.10)	1.7	1.9	3.2	ns	1.0	2.6	1.8	2.8	4.6	3.68

<sup>a</sup> Premier 90 = surfactant; Premium AMS = spray grade ammonium sulfate fertilizer; One-Ap XL; spray grade ammonium sulfate fertilizer + surfactant + deposition + defoamer; Cornbelt Dri-Gard = spray grade ammonium sulfate fertilizer + deposition + defoamer; Cornbelt Gardian Plus = spray grade ammonium sulfate fertilizer + deposition + defoamer; WC036, WC037, WC038 = experimental.

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