Glyphosate-resistant volunteer soybean control. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Casselton, ND, to evaluate volunteer glyphosate-resistant soybean control at two soybean stages with no corn present. NDSU 'RG200RR' soybean was planted on May 28, 2004. POST treatments were applied on June 28 at 12:05 pm with 77 F air, 91 F soil surface, 22% relative humidity, 0% clouds, 7 to 12 mph W wind, dry soil surface, moist subsoil, good crop vigor, and no dew present to V2 to V3 soybean. Late postemergence (LPOST) treatments were applied July 13 at 11:00 am with 75 F air, 84 F soil surface, 56% relative humidity, 0% clouds, 7 to 10 mph NW wind, moist soil surface, wet subsoil, good crop vigor, and no dew present to V4 to V6 soybean. Treatments were applied to the center 6.7 feet of the 10 by 40 plots with a backpack-type plot sprayer delivering 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat fan nozzles. The experiment had a randomized complete block design with three replicates per treatment.

Herbicides rates used were significantly reduced from labeled crop use. Soybean size at application determined degree of control with reduced herbicide rates. Data shows herbicide application early is key for soybean control. Most herbicides applied to V2 to V3 soybean gave near complete control. The rate of 2,4-D, clopyralid&2,4-D, or the lowest rate of clopyralid&fluroxypyr gave less than 80% soybean control. Herbicides applied to V4 to V6 soybean slowly elicited phytotoxicity and did not give greater than 53% control at 14 DAT. However, by 28 DAT only treatments containing dicamba gave greater than 93% control. Soybean control from treatments containing clopyralid seems inconsistent in that the greatest control observed was from flumetsulam&clopyralid. Flumetsulam is labeled preemergence on soybean but apparently causes greater injury when applied POST because flumetsulam&clopyralid resulted in greater injury than other cloypyralid pre-mixes when applied at V2 to V3 soybean. 2,4-D or fluroxypyr when pre-mixed with clopyralid did not increase soybean control to the same level as flumetsulam&clopyralid in the earlier application. However, the high rates of 2,4-D or fluroxypyr with cloypyralid were similar to flumetsulam&clopyralid in the later application. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Glyphosate-resistant volunteer soybean control (Zollinger and Ries).

		Soybean control			
		V2 to V3		V4 to V6	
Treatment[1]	Rate	14 DAT	28 DAT	14 DAT	28 DAT
	(lb/A)	(%)	(%)	(%)	(%)
Dicamba+Herbimax	0.125+1.0 qt	99	99	40	96
Dicamba+Herbimax	0.156+1.0 qt	99	99	40	93
Dicamba&diflufenzopyr+Herbimax	0.031&0.013+1.0 qt	70	95	40	83
Dicamba&diflufenzopyr+Herbimax	0.063&0.025+1.0 qt	94	98	40	94
Atrazine+Herbimax	0.375+1.0 qt	92	92	50	53
Atrazine+Herbimax	0.5+1.0 qt	94	95	53	70
2,4-D Amine	0.125	20	20	33	43
2,4-D Amine	0.25	30	30	40	60
Clopyralid&2,4-D	0.013&0.063	35	67	33	53
Clopyralid&2,4-D	0.025&0.125	72	77	40	83
Flumetsulam&clopyralid+Herbimax	0.012&0.038+1.0 qt	80	95	37	75
Flumetsulam&clopyralid+Herbimax	0.023&0.075+1.0 qt	97	97	40	80
Clopyralid&fluroxypyr[2]	0.012&0.012	33	60	-	-
Clopyralid&fluroxypyr	0.023&0.023	63	92	40	83
LSD (0.05)		5	3	5	8

[1]Herbimax = petroleum oil concentrate.
[2]Clopyralid&fluroxypyr = WideMatch.