

Weed management in STS/RR soybean, Carrington, 2006. Gregory J. Endres. The trial had a randomized complete block design with four replicates. The trial was conducted under conventional-till with lupin as the previous crop on a loam soil with 6.8 pH and 3.1% organic matter at the NDSU Carrington Research Extension Center. ‘Clearfield’ canola seed was scattered throughout trial prior to soybean planting to add volunteer canola as a weed species in the trial. Peterson Farm Seeds ‘0605 STS/RR’ was planted at 175,000 pls/A in 7-inch rows on May 17. Herbicide treatments were applied to 5 by 25 ft plots with a CO₂ pressurized hand-held plot sprayer at 10 gal/A and 35 psi through 8001 flat fan nozzles. Initial POST treatments were applied on June 12 with 71 F, 65% RH, 70% clear sky, and 5 mph wind to V1-stage soybean, 2- to 4-leaf volunteer ‘Clearfield’ canola, 0.5- to 6-inch tall common lambsquarters, 0.5-inch tall redroot and prostrate pigweed, 1- to 6-inch tall kochia, 1- to 2-inch tall hairy and Eastern black nightshade, and seedling- to bud-stage Canada thistle. The second POST timing (sequential glyphosate) was applied on July 10 with 62 F, 72% RH, 80% clear sky, and 6 mph wind to R2-stage soybean, 3- to 6-leaf volunteer ‘Clearfield’ canola, 1- to 6-inch tall common lambsquarters, 1- to 4-inch tall redroot and prostrate pigweed, 2- to 4-inch tall hairy and Eastern black nightshade, 2- to 10-inch diameter common purslane, and bud-stage Canada thistle. The trial was harvested with a plot combine on October 6.

Weed control was excellent with both treatments during the June 26 visual evaluation (Table 1). The July 27 evaluation indicated an advantage for control of kochia and nightshade species with sequential glyphosate, while Harmony GT + glyphosate provided improved control of common purslane. No crop injury was detected from herbicides (data not shown). Soybean development from planting to first flower and physiological maturity was similar between herbicide treatments (Table 2). Seed yield also was similar between herbicide treatments. The untreated check was not harvested due to very high weed density.

Table 1. Weed control in STS/RR soybean.

Herbicide ²		Weed control ¹												
		6/26						7/27						
Treatment	Rate product/A	voca	colq	kochia	nish	piwe	cath	voca	colq	kochia	nish	piwe	cath	copu
		%												
Untreated check	x	0	0	0	0	0	0	0	0	0	0	0	0	0
Harmont GT + glyt + AMS	0.5 oz + 24 fl oz	93	99	97	94	99	93	85	85	60	77	96	88	89
Glyphosate + AMS/glyt + AMS	24/24 fl oz	96	96	99	92	98	92	93	87	99	89	99	87	63
C.V. (%)		2.9	2.8	2.0	3.2	1.5	3.2	11.4	14.5	33.3	10.5	4.1	22.1	21.4
LSD (0.05)		3	3	2	3	2	4	12	14	32	10	5	25	19

¹voca=volunteer 'Clearfield' canola; colq=common lambsquarters; nish=hairy and Eastern black nightshade; piwe=prostrate and redroot pigweed; cath=Canadian thistle; copu=common purslane.

²Treatments: Glyphosate=Buccaneer Plus, a 3 lb ae/gal with full-load adjuvant from Tenkoz; AMS at 64 fl oz/A. Treatments applied June 12 and July 10.

Table 2. STS/RR soybean response to herbicides.

Herbicide ¹		Soybean	
Treatment	Rate product/A	Physiological maturity Jday	Seed yield lb/A
Untreated check	x	x	x
Harmont GT + glyt + AMS	0.5 oz + 24 fl oz	257	28
Glyphosate + AMS/glyt + AMS	24/24 fl oz	257	26
C.V. (%)		0	17.8
LSD (0.05)		NS	NS

¹Treatments: Glyphosate=Buccaneer Plus, 3 lb ae/gal with full-load adjuvant from Tenkoz; AMS at 64 fl oz/A. Treatments applied June 12 and July 10.