



Texas Agricultural Extension Service
The Texas A&M University System

Result Demonstration Report

WEED CONTROL IN LIBERTY LINK AND ROUNDUP READY SOYBEANS

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SUMMARY: Liberty and Roundup Ultra provide good control of a broad spectrum of weeds. Roundup Ultra may be less sensitive to weed size than Liberty due to translocation, making coverage less critical.

INTRODUCTION & OBJECTIVE: Herbicide resistant soybean varieties represent a potentially valuable tool for weed control since a broad spectrum of weeds can be economically controlled with a single herbicide. This work was to examine season long performance of Roundup Ultra and spectrum of control with Liberty.

METHODS & MATERIALS: Liberty Link variety soybeans were planted at the Texas Agricultural Experiment Station at Bushland, Texas on June 25, 1997. Pioneer 9396 Roundup Ready soybeans were planted at the Texas Agricultural Experiment Station at Etter, Texas on June 18, 1997. The soybean treatments at Bushland were replicated four times and the soybean treatments at Etter were replicated three times. All plots measured 15 by 25 feet. All treatments were applied in 10 gallons of water per acre using standard flat fan nozzles. The treatments at Bushland were applied as follows: ppi and preemergence on June 25, 1997, epost on July 17, 1997 to 4 inch soybeans, mpost on July 23, 1997 to 5 inch soybeans, and post on July 28, 1997 to 6 inch soybeans. The pigweed (Palmer amaranth) and barnyardgrass were 4 inches on July 17, 1997, while the morningglory and velvetleaf were at 2-leaf stage. On July 23, 1997 the pigweed was 6 inches, the barnyardgrass was 5 inches, and the morningglory and velvetleaf were both 4 leaf. On July 28, 1997 the pigweed was 8 to 12 inches, the barnyardgrass was 6 to 8 inches, the morningglory had 2-inch runners, and the velvetleaf was 4 inches. The treatments at Etter were applied on July 8, 1997 to 4-inch soybeans and July 15, 1997 to 6-inch soybeans. The pigweed on July 8, 1997 was 6 to 8 inches, while on July 15, 1997 it was 8 to 12 inches. Weed control was evaluated by visually observing the plots throughout the season.

RESULTS: See tables.

Table 1. Liberty Link Soybeans

Rate	Herbicide	Cost	% Control on 8-21-97		
			Morning-	Velvet-	Barnyard-

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Treatment	Product/ A	Timing	\$/A	Pigweed	glory	leaf	Grass
Liberty ¹⁾ + Liberty ¹⁾	28 oz + 28 oz	epost + post	49.80	76	76	100	64
Dual II + Liberty ¹⁾	2.1 pt + 28 oz	pre + epost	40.70	68	32	54	95
Liberty ¹⁾	28 oz	mpost	24.90	5	0	0	5
Dual II + Pinnacle ²⁾ + Select ²⁾	2.1 pt + 0.25 oz + 8 oz	pre + mpost + post	35.20	96	20	65	100

¹⁾Ammonium Sulfate @ 17 lb ai/100 gal, ²⁾COC @ 1% v/v

B-04-97

Table 2. Roundup Ready Soybeans

Treatment	Rate Product/A	Herbicide Timing	Cost \$/A	% Pigweed Control		Yield Bu/A
				7-23-97	9-3-97	
Roundup Ultra	24 oz	post	8.40	95	93	29
Roundup Ultra	32 oz	post	11.20	100	98	32
Roundup Ultra	48 oz	post	16.80	100	97	34
Roundup Ultra + Roundup Ultra	24 oz + 16 oz	post + lpost	14.00	100	98	34
Roundup Ultra + Roundup Ultra	24 oz + 24 oz	post + lpost	16.80	100	100	33
Roundup Ultra + Roundup Ultra	32 oz + 16 oz	post + lpost	16.80	100	100	33
Roundup Ultra + Roundup Ultra	32 oz + 24 oz	post + lpost	19.60	100	98	36
Roundup Ultra + Roundup Ultra	32 oz + 32 oz	post + lpost	22.40	100	100	32

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ANALYSIS & CONCLUSION: Liberty provided good control of pigweed and red morningglory with a split application. A later single application gave very poor control, partially due to incomplete coverage associated with larger weeds, and partly due to less herbicidal activity on larger plants. Velvetleaf control was excellent with the split application and very poor with a mid-post, also because of coverage and activity with large plants. Control of barnyardgrass was best when Dual II was included pre-emergence with a single post emergence application of Liberty. Roundup Ultra provided excellent control with all treatments of pigweed. While in this study the second application was not necessary due to the lack of subsequent weed flushes, producers could expect to make a second application for more difficult to control weeds.