

# Reduced Rates of Herbicides in Normal Soybeans

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## Objective

To determine if reduced rates of herbicides can provide adequate weed control and show no yield loss in no-tillage soybean utilizing pre-emergence and post-emergence herbicide applications.

## Background

Crop Year:	1997	Soil Test:	N/A
Cooperator:	John Shawhan	Fertilizer Applied:	N/A
County/Town:	Greene/ Selma	Herbicide:	See Methods
Drainage:	N/A	Variety:	Settlemyre 3795
Major Soil Type:	Celina Silt Loam	Planting Rate:	240,000 seeds/A
Previous Crop:	Corn	Planting Date:	April 26, 1997
Tillage:	None	Harvest Date:	October 15, 1997

## Materials and Methods

The plot size for this study was 20 feet wide and 300 feet in length. Each treatment was replicated three times. 2,4-D ester at 1.0 pt/A plus Prime Oil (COC) was added to treatments 1-7 and applied alone to treatment 8 to control existing weeds four days prior to planting. The 1X Canopy rate was 6.0 oz/A and 1X Squadron rate was 3.0 pt/A. For treatments 1 and 4, only Select + Prime Oil (COC) at 2.0 oz/A + 1.0% v/v was applied as no broadleaf weeds were present. The post-emergence application of Basagran + Flexstar + Select + Priority MSO + 28% Nitrogen at the 1X rate was 1.0 pt/A + 1.0 pt/A + 8.0 floz/A + 1.0% v/v + 2.5% v/v and was applied at the listed rate to treatments 2, 3, 5, 6, and 8.

## Results

Treatment	Product and Rate <sup>1</sup>	Treatment Timing		Weed Control (% on July 24, 1997)		Soybean Yield (bu/A)	Treatment Cost <sup>2</sup> (\$/A)
		Height (in.)	DAP	An. Gr.	H. Milk.		
1	Canopy (EPP) 1/2X (POST) 1/4X	<1	-4 32	64	0	64	\$17.86
2	Canopy (EPP) 1/2X (POST) 1/2X	<2	-4 55	78	27	63	\$31.19
3	Canopy (EPP) 1/2X (POST) 1X	3-5	-4 72	98	77	62	\$46.95
4	Squadron (EPP) 1/2X (POST) 1/4X	<1	-4 32	75	0	64	\$22.80
5	Squadron (EPP) 1/2X (POST) 1/2X	<2	-4 55	77	23	66	\$36.13
6	Squadron (EPP) 1/2X (POST) 1X	3-5	-4 72	96	67	62	\$51.89
7	Squadron (EPP) 1X		-4	76	0	63	\$29.16
8	Roundup (POST) 1X	3-5	59	83	29	62	\$39.72
LSD (0.05%)				10	15	NS	

1. Abbreviations: Height = annual grass height, DAP = days after planting, An. Gr. = annual grass (giant foxtail), H. Milk. = honeyvine milkweed, bu/A = bushels per acre, EPP = early pre-plant application, POST = post-emergence application, LSD = least significant difference, NS = no significant difference

2 Treatment cost = cost of all herbicides and additives (including burndown) and application cost at \$2.00/A/application

## Summary and Notes

The annual grass pressure was moderate to heavy and the annual broadleaf pressure was nearly non-existent. Only treatments 3, 6, and 8 provided greater than 82% annual grass control on July 24, but all treatments except treatment 1 provided greater than 82% annual grass control on September 29 (data not shown). This improvement in control over time was apparently due to effects of disease on the small grasses, promoted by large amounts of rain in July and August. This may explain why there was no significant difference in yield, despite the poor control recorded in July.

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