

# Reduced Rates of Herbicides in Normal Soybeans

Jeff Stachler, AGNR Extension Educator- Auglaize County

Dr. Mark Loux, OSU Professor- Weed Management

## 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:	Bob Swetland	Fertilizer Applied:	N/A
County/Town:	Morrow/ Sparta	Herbicide:	See Methods
Drainage:	N/A	Variety:	Pioneer 9393
Major Soil Type:	Bennington Silt Loam	Planting Rate:	223,000 seeds/A
Previous Crop:	Corn	Planting Date:	May 13, 1997
Tillage:	None	Harvest Date:	October 11, 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 22 days prior to planting. The 1X Canopy rate was 6.0 oz/A and 1X Squadron rate was 3.0 pt/A. 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 applied based on broadleaf weed height as listed in the table. Annual grass height was 1.25" for 1/4X rate, 3.0" for 1/2X rate, and 6.0" for 1X rate.

## Results

Treatment	Product and Rate <sup>1</sup>	Treatment Timing		Weed Control (% on August 6, 1997)		Soybean Yield (bu/A)	Treatment Cost <sup>2</sup> (\$/A)
		Height (in.)	DAP	An. Gr.	An. Br.		
1	Canopy (EPP) 1/2X (POST) 1/4X	<1	-22 43	99	97	57	\$23.31
2	Canopy (EPP) 1/2X (POST) 1/2X	<2	-22 48	100	100	60	\$31.19
3	Canopy (EPP) 1/2X (POST) 1X	3-5	-22 60	99	99	58	\$46.95
4	Squadron (EPP) 1/2X (POST) 1/4X	<1	-22 37	90	82	57	\$28.25
5	Squadron (EPP) 1/2X (POST) 1/2X	<2	-22 41	96	92	59	\$36.13
6	Squadron (EPP) 1/2X (POST) 1X	3-5	-22 48	100	93	57	\$51.89
7	Squadron (EPP) 1X		-22	71	80	55	\$29.16
8	Roundup (POST) 1X	3-5	48	99	95	53	\$39.72
LSD (0.05%)				5.6	8	NS	

1. Abbreviations: Height = annual broadleaf height, DAP = days after planting, An. Gr. = annual grass (giant foxtail and fall panicum), An. Br. = annual broadleaf weeds, 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 light to moderate. All treatments provided greater than 91% control of weeds except for treatments 4 and 7. Despite this lower control, there was no significant yield reduction. There was great variability in soybean stand caused by *Phytophthora* root rot, which is why there was no significant yield reduction where weed control was reduced.

For additional information, contact:

Jeff Stachler and Dr. Mark Loux  
The Ohio State University  
stachler.1@osu.edu or loux.1@osu.edu