



Keeping
Up With
Research
3

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Herbicides for Weeds in Soybeans

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Thirty-nine herbicidal treatments were evaluated to determine: 1) how well they control weeds in soybeans, and 2) soybean tolerance to the herbicides. Nontreated, hand weeded, and cultivated plots were compared. The site has a Cherokee silt loam soil (1.4% organic matter). Herbicides were applied using a tractor-mounted plot sprayer, in 28 gallons of water per acre, with 40 pounds pressure, and 8004 nozzles. Plots were 10 feet wide (four 30-inch rows) and 30 feet long. Fertilizer was applied in late May (15 pounds N, 40 pounds P_2O_5 , and 60 pounds K_2O per acre). Rain-fall the first two weeks after herbicide application was 0.09 inch June 15 and 0.29 inch June 20.

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Chronological Procedure

June 6 we applied preplant incorporated (PPI) herbicides to cleantilled plots; then tandem-disked and drag harrowed once. Applications were made from 2 to 2:30 p.m., the sky was overcast, there was no wind, and the soil surface was moist. High for the day was 81° F.

June 7 we planted inoculated Columbus soybeans at 10 seeds per foot, covered 1.5 inches deep, then applied preemergence (PRE) herbicides from 9 a.m. to 2 p.m.; the sky was clear, and wind gusts reached 10 mph. There was no noticeable distortion of the spray pattern, and high for the day was 85° F.

We overseeded the area with soybean-seed cleanings containing mostly pigweed and crabgrass seed, then lightly drag harrowed to incorporate the weed seed and preemergence herbicides.

June 29 and July 13 we cultivated the cultivation-only plots.

September 4 we rated each plot for percentage of pigweed controlled. Other weed species were too scarce for control ratings.

October 20 we harvested the center two rows of each plot using a self-propelled Massey Ferguson 35 combine with Hesston headers.

Summary

Yields, reported as average of three replications at 12.5% moisture, are low because of extremely dry August weather, but treatment differences correlate somewhat with pigweed-control percentages (reported as averages of three replications). Soybeans seemed to be injured on plots that received 0.50 pound or more active ingredient per acre of Sencor. Soybean injury followed a 0.74 inch rain July 15, but recovery was complete by July 30. No physical compatibility problems were encountered with any herbicide mixture we tested.

Soybean herbicide performance test, Columbus, 1973.

Treatment	lbs. AI/a	When applied	Yield, bu/a	Pigweed control, %
No treatment .....	.....	.....	9.1	0
Hand weed .....	.....	.....	11.1	100
2 cultivations .....	.....	.....	8.9	60
Lasso	2.5	PRE	11.6	99
Surflan	1.5	PRE	12.8	73
Treflan .....	.75	PPI	11.7	88
Amiben	3.0	PRE	8.2	67
Tolban .....	.75	PPI	12.1	98
Planavin	1.0	PPI	15.4	87
Maloran	2.0	PRE	11.9	90
Lorox	1.0	PRE	12.8	93
Bladex	2.5	PRE	11.8	15
Ronstar	1.5	PRE	10.8	85
Sencor .....	.375	PRE	9.4	87
Sencor .....	.5	PRE	8.1	92
Sencor .....	.75	PRE	10.0	93
Modown	2.0	PRE	11.5	83
Modown	4.0	PRE	11.0	99
Modown & Surflan	1.5 & 1.5	PRE	6.8	45
Modown & Lasso	1.0 & 1.5	PRE	11.5	99
Modown & Lasso	1.25 & 1.5	PRE	10.8	100
Modown & Lasso	1.5 & 1.5	PRE	16.1	100
Modown + Treflan .....	.75 + .75	PRE + PPI	13.5	99
Modown + Treflan	1.0 + .75	PRE + PPI	17.3	99
Modown + Treflan	1.25 + .75	PRE + PPI	13.4	99
Sencor & Lasso .....	.375 & 1.5	PRE	8.4	99
Treflan + Sencor .....	.75 + .375	PPI + PRE	10.7	100
Treflan + Sencor .....	.75 + .75	PPI + PRE	13.8	100
Treflan & Sencor .....	.75 & .375	PPI	11.3	95
Amiben & Sencor	2.0 & .375	PRE	6.9	76
Surflan & Sencor	1.0 & .375	PRE	12.7	83
Surflan & Lorox	1.0 & .75	PRE	7.3	94
Tolban + Maloran .....	.5 + 1.5	PPI + PRE	9.2	99
Lasso & Maloran	1.5 & 1.5	PRE	10.2	99
Lasso & Lorox	1.5 & .75	PRE	8.8	98
Bladex & Lasso	1.5 & 1.5	PRE	10.5	93
Bladex & Lorox	1.5 & .75	PRE	12.1	82
Treflan + Bladex	0.5 + 1.5	PPI + PRE	13.5	99
Planavin + Bladex	0.5 + 1.5	PPI + PRE	14.0	95
Ronstar & Asulox	1.0 & 1.0	PRE	7.2	67
Ronstar & Asulox	1.0 & 2.0	PRE	9.4	84
Treflan + Ronstar .....	.75 + 1.0	PPI + PRE	10.4	99
LSD .05			4.7	14

Herbicide materials used, Columbus, 1973.

Trade name	Common name	Formulation(s) used ¹
Amiben	chloramben	2 lb/gallon
Bladex	cyanazin	80 WP
Lasso	alachlor	4 lb/gallon
Lorox	linuron	50 WP
Maloran	chlorbromuron	50 WP
Modown (MC-4379)	bifenox	85 WP & 2 lb/gallon
Planavin	nitralin	75 WP & 4 lb/gallon
Ronstar	oxadiazon	2 lb/gallon
Ronstar & Asulox	oxadiazon & asulam	40 & 40 WP
Ronstar & Asulox	oxadiazon & asulam	20 & 40 WP
Sencor	metribuzin	50 WP
Surflan (EL-119)	oryzalin	75 WP
Tolban (CGA-10832)	profluralin	4 lb/gallon
Treflan	trifluralin	4 lb/gallon

1. WP refers to wettable powders, the number preceding it is the percentage of active ingredient in the powder. Liquid formulations are expressed in pounds of active ingredient per gallon. Where two formulations of a herbicide are listed, the liquid formulation was used in combination with other liquid herbicides. The powders were used in combination with other powders. All formulations applied alone were liquid.

Information in this report is for farmers, producers, colleagues, industry cooperators, and other interested persons. It is not a recommendation or endorsement and is from only one year of research.

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