

Herbicide performance in soybeans at Morris, MN - 1997. Gunsolus, Jeffrey L. and George Nelson.

The experimental site was located in E19 6C. The previous crop was wheat. Spring 1997 soil test was pH 7.9, O.M. 4.1, 15 ppm P, and 145 ppm K. A broadcast application of 18-46-60 was applied in October 1996 and incorporated via fall chisel plowing. The site was field cultivated, 1 pass, on May 15. The seedbed for the entire soybean study was prepared and the PPI treatments were applied and incorporated with 2 passes of a field cultivator on May 20. During herbicide application the winds were out of the north at 10-15 mph, with temperatures at 40-60F. The study was seeded to Hendricks soybeans in 30 inch rows at 70#/ac on May 21. Pre-emergence herbicide applications were applied on May 21 with the wind out of the south at 10-15 mph. Post-Emergence applications were applied on June 11 with the wind out of the south at 5-10 mph. The high temperature for the day was 85F. Grasses were 4 inches in height, broadleaves 1/2 to 3 inches, thistle 4-6 inches, and soybeans mostly unifoliolate. The plots were cultivated as per plan on June 20. The soybeans were harvested with an almaco plot combine on October 7 and 10 (rain delay). Grain moisture was 12 to 13.5% during harvest but due to a faulty sensor grain moisture was not recorded. Soybean yields were recorded and assumed to be at 13% moisture. Grain yield was calculated on a harvest area of 5 feet by 27.5 feet for reps 5,6, and 7, and 5 feet by 28.5 feet for rep 8.

Table. Herbicide performance in soybeans at Morris, MN - 1997. (Gunsolus and Nelson).

Treatment	Rate (lb/A)	Weed Control			Soybean		
		gr/ye ¹	Rrpw	Wimu	Injury	SR ²	Yield Bu/A
		----- (%) -----			-----		
(Preplant incorporate 2X)							
Imazethapyr & pendimethalin ³	0.0627 & 0.847	92	92	90	0	0	47
Trifluralin + NAF-75	0.75 + 0.04	93	93	97	0	0	44
Trifluralin + sulfentrazone + NAF-75	0.75 + 0.31 + 0.04	96	98	99	1	0	47
Weedy check	--	0	0	0	0	0	21
Handweeded	--	100	100	100	0	0	50
Clomazone + metribuzin	0.75 + 0.38	88	85	84	0	0	45
(Preplant incorporate 2X) + (Post 3-4 inch weeds) + cultivation							
(Trifluralin) + cultivation	(0.75) + ()	98	98	79	0	0	47
(Trifluralin) + (imazethapyr + COC ⁴ + 28%N ⁵) + cultivation	(0.75) + (0.031 + 1.25% + 1.25%)	99	100	100	5	0	50
(Trifluralin) + (imazethapyr + COC + 28%N) + cultivation	(0.75) + (0.047 + 1.25% + 1.25%)	98	100	100	4	0	48
(Trifluralin) + (imazethapyr + COC + 28%N) + cultivation	(0.75) + (0.063 + 1.25% + 1.25%)	100	100	100	2	0	48
(Trifluralin) + (acifluorfen & bentazon ⁶ + 28%N) + cultivation	(0.75) + (0.167 & 0.752 + 2.5%)	98	100	98	0	0	48
Handweeded check	--	100	100	100	0	0	49
(Preplant incorporate 2X) + (Post 3-4 inch weeds)							
(Trifluralin)	0.75	91	92	15	0	0	40
(Trifluralin) + (imazethapyr + COC + 28%N)	(0.75) + (0.031 + 1.25% + 1.25%)	99	100	100	1	0	46
(Trifluralin) + (imazethapyr + COC + 28%N)	(0.75) + (0.047 + 1.25% + 1.25%)	100	100	100	1	0	44
(Trifluralin) + (imazethapyr + COC + 28%N)	(0.75) + (0.063 + 1.25% + 1.25%)	100	100	100	2	0	45
(Trifluralin) + (acifluorfen & bentazon + 28%N)	(0.75) + (0.167 & 0.752 + 2.5%)	86	99	98	1	0	44
(Trifluralin) + (sethoxydim & bentazon & acifluorfen ⁷ + COC + 28%N)	(0.75) + 0.28 & 0.75 & 0.17 + 0.625% + 1.25%	98	100	98	4	0	44
(Trifluralin) + (flumiclorac & lactofen ⁸ + COC + 28%N)	(0.75) + (0.027 & 0.094 + 0.625% + 2.0%)	90	100	89	0	0	43
(Trifluralin) + (imazethapyr + lactofen + COC + 28%N)	(0.75) + (0.047 + 0.063 + 0.625% + 2.0%)	98	100	100	2	0	47
(Trifluralin) + (imazethapyr + acifluorfen + NIS + 28%N)	(0.75) + (0.047 + 0.22 + 0.25% + 1.25%)	98	100	100	0	0	43
(Clomazone) + (imazethapyr + COC + 28%N)	(0.75) + (0.031 + 1.25% + 1.25%)	99	100	100	0	0	47
(Trifluralin) + (imazamox + COC + 28%N)	(0.75) + (0.039 + 1.25% + 1.25%)	100	100	100	4	0	44
(Trifluralin) + (imazethapyr + fomesafen + COC + 28%N)	(0.75) + (0.047 + 0.18 + 0.625% + 1.25%)	99	100	100	0	0	44
(Trifluralin) + (NAF-75 + thifensulfuron + NIS + 28%N)	(0.75) + (0.016 + 0.002 + 0.125% + 2.5%)	92	100	99	0	0	46
Weedy check		0	0	0	0	0	12
Preemergence							
Clomazone + sulfentrazone + NAF-75	0.75 + 0.31 + 0.04	66	86	71	0	0	42
Clomazone + flumioxazin	0.75 + 0.094	64	62	62	0	0	41
(Preemergence) + (Post 3-4 inch weeds)							
(CGA 77102) + (CGA 277476 + NIS + 28%N)	(1.91) + (0.071 + 0.25% + 1.25%)	64	66	98	1	0	47
(CGA 77102) + (CGA 277476 + CGA 248757 + NIS + 28%N)	(1.91) + (0.071 + 0.0036 + 0.25% + 1.25%)	64	94	98	2	0	46
(Sulfentrazone + NAF-75) + (sethoxydim)	(0.31 + 0.04) + (0.19)	98	98	95	0	0	48
(Clomazone) + (imazethapyr + COC + 28%N)	(0.75) + (0.031 + 1.25% + 1.25%)	96	100	100	0	0	47
(Dimethenamid) + (acifluorfen & bentazon + 28%N)	(1.5) + (0.167 & 0.752 + 2.5%)	71	96	99	0	0	39
(Dimethenamid) + sethoxydim & bentazon & acifluorfen + COC + 28%N)	(0.94) + 0.28 & 0.75 & 0.17 + 0.625% + 1.25%	97	98	100	4	0	43
Postemergence 3-4 inch weeds							
Sethoxydim & bentazon & acifluorfen + COC + 28%N	0.28 & 0.75 & 0.17 + 0.625% + 2.5%	83	56	96	2	0	41
Clethodim + lactofen + bentazon + COC + 28%N	0.095 + 0.094 + 0.5 + 1.25% + 2.5%	88	71	91	0	0	39
Imazethapyr + NIS + 28%N	0.063 + 0.25% + 1.25%	91	92	99	0	0	46
Imazethapyr + thifensulfuron + NIS + 28%N	0.063 + 0.002 + 0.25% + 1.25%	93	98	98	0	0	45
Imazamox + MSO + 28%N	0.039 + 0.9375% + 1.25%	98	100	100	1	0	46
Weedy check		0	0	0	0	0	14
LSD (0.05)		8	13	9	3	ns	5

¹ Gr/ye = Green and yellow foxtail.

² SR = Stand Reduction.

³ Premix = Pursuit Plus 2.9E.

⁴ COC = Class crop oil concentrate.

⁵ 28%N = 28% aqueous urea-ammonia solution.

⁶ Premix = Galaxy 3.67E.

⁷ Package mix = Manifest.

⁸ Premix = Stellar 3.1L.