Weed Control in Soybean

Evaluation of conventional weed control programs in soybeans. Horky, Kevin T. and Alex R. Martin. A field study was conducted to evaluate the efficacy of conventional weed control programs in soybeans.   A randomized complete block design with three replications per treatment was utilized. The study was conducted on a Sharpsburg silty clay loam with 3.1% organic matter and a pH of 6.7. Individual plots consisted of six 30-inch rows, each 30 feet long. 'Asgrow 2703' soybeans were planted June 2 at a population of 134,000 seeds per acre. Treatments were applied with a tractor-mounted sprayer traveling 3.0 mph. EPOST treatments were applied 15 days after planting, and LPOST treatments were applied 41 days after planting. Application, crop, weed, and environmental data are presented below:

Date	June 2	June 17	July 13
Treatment	PRE	EPOST	LPOST
Sprayer			
gpa	15	15	15
psi	30	30	30
Temperature (°C)			
air	18	24	28
soil (4 inch)	18	18	21
Soil Moisture	adequate	adequate	adequate
Wind (mph)	5	8	2
Sky (% cloudy)	15	15	30
Relative			
humidity (%)	57	55	70
Precip. After appl. (inches)			
week 1	0.18	1.53	0.26
week 2	1.01	0.3	1.33
Soybean			
no. trifoliate leaves	--	2	6
height (cm)	--	10	35
Velvetleaf			
height (cm)	--	3	30
infestation (m2)	--	5	3
Palmer amaranth			
height (cm)	--	2	30
infestation (m2)	--	3	2
Common sunflower			
height (cm)	--	5	25
infestation (m2)	--	2	2

Summary comments: EPOST and LPOST treatments achieved greater control of velvetleaf, Palmer amaranth, and common sunflower. Crop injury was observed with lactofen and imazamox + acifluorfen. Results of the study are summarized in the following table. (Dept. of Agronomy and Horticulture, University of Nebraska-Lincoln)

Table. Evaluation of conventional weed control programs in soybeans (Horky and Martin).

Treatment	Application Rate	Timing	ABUTH 6/17	ABUTH 6/30	ABUTH 7/27	AMAPA 6/17	AMAPA 6/30	AMAPA 7/27	HELAN 6/17	HELAN 6/30	HELAN 7/27	GLXMA 6/17	GLXMA 6/30	GLXMA 7/27
	(lb/a)						-% Weed Control-						-% Injury-	
Flumetsulam/	0.065	PRE/	75	75	98	82	82	93	55	57	99	0	0	0
cloransulam+	0.016	LPOST												
clethodim+	0.094													
COC[1]	1.0% v/v													
Cloransulam+	0.032	PRE	95	95	95	95	93	93	93	95	93	0	0	0
flumioxazin+	0.096													
pendimethalin	1.24													
Cloransulam+	0.032	PRE	93	93	96	93	91	98	93	93	99	0	0	0
flumioxazin+	0.08													
pendimethalin	1.24													
Imazethapyr&	0.063	PRE	82	82	96	92	90	83	82	80	81	0	0	0
pendimethalin	0.84													
Imazethapyr&	0.063	PRE/	83	82	99	90	87	90	82	78	98	0	0	10
pendimethalin/	0.84													
lactofen+	0.16	LPOST												
NIS[2]+	0.25% v/v													
AMS[3]	2.0													
S-metolachlor&	0.96	PRE	82	80	78	88	88	93	82	78	80	0	0	0
benoxacor+														
chlorimuron+	0.038													
sulfentrazone	0.19													
Imazamox+	0.04	EPOST	0	98	96	0	98	98	0	95	94	0	25	18
acifluorfen+	0.19													
COC+	1.25% v/v													
UAN[4]	2.0 qt/a													
LSD (P=.05)			5	6	6	6	7	11	7	6	11	0	6	4

[1]COC = 'Prime Oil' by Agriliance

[2]NIS = 'Preference' by Agriliance

[3]AMS = ' N- PAK' by Agriliance

[4]UAN = '28%N' by Agriliance