

Weed Control in Small Grains

Weed control in flax. Wrage, Leon J., Darrell L. Deneke, David A. Vos, Brian T. Rook and Shane M. Andersen. Plots were established at the Northeast Research Farm near Watertown, South Dakota in 2003. The site had a Kranzburg silt loam soil with 3.0% organic matter and a pH of 6.1. The seedbed was prepared in oat stubble using a fall chisel operation and a field cultivator prior to planting. Webster flax was seeded April 28, 2003 using 56 lb/A seed with a press drill having 6 inch row spacings. Herbicide treatments were arranged in a randomized complete block design with two replications of plots 10 x 40 feet. Preplant herbicides were applied with a tractor-mounted compressed air sprayer equipped with 8003LP flat fan nozzles spaced 20 inches; set at 20 psi to deliver 20 gpa. Incorporated treatments were incorporated immediately with two passes using a S-tine field cultivator. Postemergence treatments were applied with a bicycle plot sprayer using compressed air equipped with 8002 flat fan nozzles spaced 20 inches set at 40 psi to deliver 20 gpa. Plots were visually evaluated for weed control. Yields were determined by harvesting a 5 by 35 foot area from the center of each plot using a plot combine. Application information and weather data are presented below.

Date	April 28, 2003	June 3, 2003
Treatment	Preplant	POST
Temperature (F.)	65°	60°
Soil Condition	dry	adequate
Soil Temperature (F.)		
surface	69°	65°
2 inch	55°	61°
Flax		
height (inch)	—	4
Foxtail		
height (inch)	—	1-3
Kochia		
height (inch)	—	1-3
Precipitation (inch)		
week 1	1.08	0.41
week 2	1.08	0.00

Results are summarized in the accompanying table. Crop and grass emergence was uniform. Broadleaf emergence was scattered with early and late emergence. Limited mid and late season precipitation reduced crop growth and lowered yield potential. Comparisons included grass and broadleaf herbicides alone and also evaluated grass and broadleaf herbicide tank-mix combinations for antagonistic response. Antagonistic response was apparent with some herbicide combinations. Yield data indicate grass removal resulted in increased yield compared to the check. Preplant treatment increased yield when compared to check. Plant Science Department, South Dakota State University, Brookings, SD.

Table. Weed control in flax. (Wrage, Deneke, Vos, Rook, and Andersen).

Treatment ^{a/}	Rate	Crop stage	SETLU Control 7/24/03 (%)	KCHSC Control 7/24/03 (%)	Flax Yield (bu/A)	Flax Test Wt. (lb/bu)
Check	----	----	0	0	15	51
Trifluralin	0.75	PPI	93	64	21	53
MCPA amine	0.5	POST	0	85	11	54
MCPA ester	0.463	POST	0	72	10	54
Bromoxynil	0.25	POST	0	94	12	54
Sethoxydim+COC	0.188+1.25%	POST	97	0	23	53
Sethoxydim+bromoxynil+COC	0.188+0.25+1.25%	POST	86	90	19	55
Sethoxydim+clopyralid+COC	0.188+0.124+1.25%	POST	98	77	21	54
Clopyralid&MCPA ^{b/}	0.12&0.69	POST	0	86	12	55
Clethodim+COC	0.125+1.25%	POST	98	0	24	52
LSD (P=0.05)			3	14	6	3

^{a/} Additives. COC is Premium COC by Van Diest Supply Company.

^{b/} Premix=Curtail M.