Weed control in canola. Wrage, Leon J., Darrell L. Deneke, David A. Vos, Brian T. Rook and Shane M. Andersen. Plots were established at the Northeast South Dakota Research Farm near Watertown, South Dakota in 2003. The site had a Kranzburg silt loam soil with 3.9% organic matter and a pH of 6.3. The seedbed was prepared in oat stubble using a fall chisel operation and a field cultivator prior to planting. Plots were seeded April 28, 2003 using 8.5 lb/A seed with a press drill having 6 inch row spacings. Herbicide treatments were arranged in a randomized complete block design with three replications of plots 10 x 50 feet. Preplant and preemergence 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 and crop response. Yields were determined by harvesting a 5 by 45 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	June 9, 2003
Treatment	Preplant, PRE	EPOST	POST
Temperature (F.)	65°	60°	75°
Soil Condition	dry	adequate	adequate
Soil Temperature (F.)			
surface	60°	65°	60°
2 inch	55°	61°	56°
Canola			
height (inch)	—	2-4	3-5
Foxtail			
height (inch)	—	0.5-1.5	2-4
Lambsquarters			
height (inch)	—	0.5-2	1-4
Precipitation (inch)			
week 1	1.08	0.41	0.02
week 2	1.08	0.00	0.03

Results are summarized in the accompanying table. Crop emergence was uniform; crop canopy provided considerable late season competition. Several treatments provided at least 90% control of yellow foxtail and common lambsquarters. Crop stand was not affected by most treatments; however trends for lower yields for some treatments cannot be attributed only to weed control. Results include weed control programs in standard canola, glyphosate-resistant (DeKalb DKL223) and glufosinate-resistant (Invigor 2663) systems that provided excellent weed control and high yield. Plant Science Department, South Dakota State University, Brookings, SD.

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

Treatment[a/]	Rate	Crop stage	Crop vigor reduction	SETLU Control 6/26/03	CHEAL Control 6/26/03	Canola Yield	Canola Test Wt.
	(lb/A)		(%)	(%)	(%)	(lb/A)	(lb/bu)
DeKalb DKL223 (glyphosate-resistant)							
Check	----	----	0	0	0	1155	52
Ethalfluralin	0.938	PPI	0	96	91	956	52
Trifluralin	1	PPI	0	97	96	950	52
Trifluralin/ clopyralid	0.75/ 0.124	PPI/ POST	0	93	94	1002	52
S-metolachlor&CGA-154281[b/]	1.587	PRE	0	87	84	877	52
Dimethanamid-P	0.984	PRE	0	96	88	1391	52
Acetochlor(S)	2.4	PRE	0	94	91	1271	52
Sulfentrazone	0.25	PRE	60	45	92	640	52
Glyphosate[c/]+AMS	0.75+2	EPOST	0	92	96	1267	52
Glyphosate[c/]+AMS	0.75+2	POST	0	92	95	1193	52
Quizaloflop-P+COC	0.055+1%	EPOST	0	97	0	993	51
Clethodim+COC	0.094+1%	EPOST	0	97	0	1078	52
Invigor 2663 (glufosinate-resistant)							
Check	----	----	0	0	0	933	52
Glufosinate+AMS	0.44	EPOST	0	89	94	1363	53
Glufosinate+AMS	0.88	EPOST	0	92	97	1291	53
LSD (P=0.05)			4	6	5	272	1

[a/] Additives. AMS is ammonium sulfate; COC is Premium COC by Van Diest Supply Company.
[b/] Premix=Dual II Magnum.
[c/] glyphosate=Roundup UltraMax 3.75AS.
(S)=Surpass.