

Study Name: Dormant versus spring-seeded canola

Study Number: 9940N

Objectives: Compare weed control in fall-seeded and spring-seeded canola

Results: Roundup Ready canola was seeded December 3, 1998 and April 23, 1999 into 7.5-inch rows at 700,000 pls/A. Canola was seeded into standing wheat stubble (very low residue). The canola was not treated with a coating that inhibits germination. Treflan and Sonalan granules were spread over individual plots with a Gandy granular applicator on December 4. One application of Roundup was applied on May 25. The canola was harvested on August 9. We waited in late October and early November 1998 for the temperatures to go down low enough to inhibit seed germination. When that finally happened, we were greeted with 10 inches of snow in early November. Warm temps in November allowed the snow to melt and the soil to partially dry. We decided to seed in early December into wet, but hopefully frozen soil. The soil was not completely frozen at time of seeding and soil moisture was very high in some areas. The December-seeded canola began emerging about April 12. Time of emergence was quite variable, which resulted in varying stages of growth in May (i.e., some plants at 5-leaf stage while others in cotyledon stage). The dry month of April resulted in some stand loss due to soil crusting. We chose to try to break up the crust by going through the plot area with an empty drill. Stand counts taken on May 26 showed a significant difference in canola population in the fall vs. spring seeding. Stand counts ranged from 4-6 plants/ft² in the fall-seeded plots compared to 10-14 plants/ft² in the spring seeded plots. Canola yields in the fall-seeded plots were consistently 600 to 800 lb/A lower than the spring-seeded plots. At least some stand loss and yield difference can be attributed to the soil crusting in April. Weed control was better and more consistent in the spring seeded plots. Spring-seeded canola emergence was more uniform and provided good suppression of weeds through crop competition. The low plant population of the fall- seeded canola did not compete as well with weeds, even though herbicides provided some control. For example, Roundup was applied May 25 and effectively controlled all emerged weeds. The higher canola population in the spring-seeded plots helped shade out later emerging weeds, while the lower canola population in the fall-seeded plots allowed later emerging weeds to be competitive. The same scenario occurred in the Sonalan and Treflan plots, i.e., better weed control with a more competitive crop.

Table. Dormant versus spring-seeded canola.

Treatment	Rate	<u>June 26</u>			<u>July 26</u>			<u>May 26</u>	Yield
		Colq	Rrpw	Fxtl ^a	Colq	Rrpw	Fxtl ^a	Canola	
-----Control (%)-----								per sq ft	lb/A
Sonalan (F)	11.5 lb	75	91	89	71	85	74	4.8	1219
Sonalan (S)	11.5 lb	96	98	96	93	97	94	10.6	2063
Treflan (F)	11.5 lb	60	85	87	58	83	76	4.5	1270
Treflan (S)	11.5 lb	86	95	95	91	96	96	14.4	1935
Roundup (F)	1 pt	85	89	76	81	88	53	4.7	1312
Roundup (S)	1 pt	95	98	95	93	95	75	9.5	1914
Check (F)		0	0	0	0	0	0	6.3	1035
Check (S)		0	0	0	0	0	0	10.4	1676
LSD		14	13	6	11	12	13	2	341
CV		16	13	6	12	12	15	20	15

^a Fxtl=green and yellow foxtail
(F)--fall seeded
(S)--spring seeded