

XVII FALL DORMANT SEEDING

Objective: Compare the effectiveness of seeding canola in the spring versus fall (with and without 'Extender' polymer seed coating).

Background: Fall dormant seeding has become another management tool that growers can use when planting canola to spread out the workload and hopefully capture higher yields. Research in Canada and in the United States has shown mixed results. With good spring stand establishment, fall-seeded canola generally flowers sooner and longer than spring-seeded canola and often produces a better yield by avoiding the hot weather during flowering. Thin and uneven stands can cause problems with weed control and harvest timing due to many late maturing branches. One of the difficulties of fall dormant seeding is judging when to plant it. The soil must be cool enough and/or dry enough to prevent germination in the fall. Early snow or rains late in the season can prevent a grower from seeding fall dormant canola. "Extender", a product from GrowTec Inc. out of Nisku, AB, Canada provides an extended period in the fall in which the grower can seed the canola up to two weeks before freeze-up. Without Extender, the grower needs to plant a day or two before winter freeze-up. The introduction of herbicide tolerant canola has provided a better means of weed control in fall-seeded canola, especially for the winter annual weeds.

Methodology: The fall dormant seeding trial was conducted on wheat stubble that had been disced lightly to allow the 9350 John Deere double disc drill to seed into the soil. Different seed treatments and seeding dates included:

1. October 18 - Extender treated + Helix Xtra
2. November 6 - Extender treated + Helix Xtra
3. November 6 - Helix Xtra
4. November 6 - Tribune (Syngenta fungicide only)
5. May 21 - Helix Xtra

Observations:

The Roundup Ready variety DKL 3525 was used for this trial. The trial was lightly disced (not recommended on Extender label) to bury some of the residue from the previous heavy wheat crop and provide some exposed soil for seeding while still maintaining as much residue as possible for snow catch. The winter was mild with little or no snow cover. Fall soil temperatures at 2 inches below the surface stayed between 2 and 5 °C until November 19 before dropping below freezing. Soil temperatures rose above 2 °C on November 22-25 then stayed below freezing for the rest of the winter. Spring soil temperatures rose above 2 °C for two days after March 27 and fluctuated around 2 to 4 °C during mid-April. Stand counts were noticeably thin during spring planting (mid-May): however it looked like more plants were emerging. Stand counts were taken on June 4, after flea beetles had moved into the plots, and were thinner than necessary to obtain a decent crop. However, the trial was allowed to continue to see what would result from the thin stands. Maturity on June 4 varied from 1 to 3-leaf growth stage. The Roundup application was delayed until the largest plants were bolting due to the light weed pressure and lack of crop canopy. During the course of the summer, flooding destroyed the third and fourth reps. The Tribune treatment in the first two reps had an inadequate stand to take to harvest. The first two reps of spring seeded plots and the Extender treated plots were salvaged as a demonstration trial.

Results:

FALL DORMANT SEEDING - FALLOW								
Thief River Falls, MN								
Seeding Date	Yield (%)	Yield (lb/ac)	Yield (bu/ac)	Contrib. Margin (\$/ac)	Spring Stand (plt/ft ²)	Flea Beetle Injury*	Height (in)	Days To Maturity
Oct. 18 - Extender	19	203	4.1	(106.94)	0.5	4.0	27	100
Nov. 6 - Extender	19	198	4.0	(106.35)	0.9	4.0	25	100
Nov. 6 - Helix Xtra	NA	NA	NA	NA	0.2	3.8	NA	NA
Nov. 6 - Tribune	NA	NA	NA	NA	0.1	5.3	NA	NA
May 21 - Helix Xtra	100	1069	21.4	(8.46)	7.8	0.5	39	87
LSD		NA	NA		0.61	1.49		
CV%					33.8	25.0		

Note: Brackets indicate a negative contribution margin.

Discussion:

Fall seed treatments yielded much less than the spring seeding treatment due to inadequate stand counts. The November 6 - Extender treatment had a higher spring stand than the November 6 treatments without Extender. The Extender likely helped reduce fall germination during the first 13 days after seeding while the soil temperature remained above freezing. Days to maturity for the fall-seeded treatments were calculated from April 27 when the average temperature stayed above freezing.