Dormant-seeded Canola Evaluation

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Dormant (frost) seeding is the practice of planting a crop in the fall, close enough to freeze-up to prevent germination before winter. The principle advantage to this practice is time management, reducing planting time in spring and spreading out the spraying and harvesting operations in summer. However, dormant seeding involves considerable risk of premature germination and poor stand establishment. Planting immediately before fall freeze-up is ideal, but difficult to predict, and large acreages reduce flexibility. Also, periods of warm weather in winter may result in germination. Polymer seed coatings have been developed to reduce the risk of premature germination and permit planting up to three weeks before freeze-up.

Field experiments were conducted at North Dakota State University research extension centers and research sites to evaluate the effects of polymer coating and planting date on performance of canola. In the 1999-2000 experiments, dormant seeding resulted in advancing harvest-year field operations up to 2.5 weeks. In the 2001-2002 trials, hard frosts in May killed off the first dormant-seeded plants and field operations were at the same time as or later than for the spring-seeded plots. In general, fall-seeded canola produced significantly poorer stands and lower yields than spring-seeded.

The data suggest that the minimum plant stand to equal spring planting varies with tillage, site, and year. Polymer seed coating or increasing the seeding rate generally had a minimal effect on stand and yield, but the effects were inconsistent. No-till generally provided a more favorable environment for dormant seeding, due to buffering of weather changes and reduced soil cracking. This result is especially meaningful for the typically-drier western part of North Dakota, where no-till is a common practice. Traditional crops in this region are normally harvested by early fall and farmers have more time available for seeding in the late fall.

Dormant-seeding involves considerable risk. Inadequate stands and reduced yields were common in these research plots. Growers interested in this practice need to be aware of the risks and avoid over-committing resources.

Dormant-seeded canola, left, versus spring-seeded canola, right.