

Viability of Canola Cultivation in Insular Newfoundland

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Project Objectives

The objective of the canola project is to determine the potential for growing canola in Newfoundland and Labrador, specifically to:

- Determine if canola can reach maturity in western Newfoundland;
- Assess direct combining potential;
- Establish growing practices; and
- Determine oil and meal yield quality.

Canola is being considered as a complementary rotation option for wheat to provide another local livestock feed option to farmers. Meal left once the oil is extracted is a high-quality protein concentrate that can replace imported canola and soy meal.

Canola meal is known to increase milk production and milk fat. Extracted oil is also valuable and can be used as a feed additive, replacing other commonly added fats such as dehydrated palm oil. Further oil filtering can result in a product that can be used as a biofuel in tractors during the summer or as oil for human consumption, such as salad dressing or for frying.

Primary goals of the program are to provide a high-quality canola meal feed for livestock, with the canola oil as a valuable byproduct that can be used in feed, food, or fuel.

Trials are being conducted on large farm plots to assess varieties that are early maturing and suitable for direct combining instead of swathing in rows to account for the wet fall season in Newfoundland and Labrador. Disease and insect pressures will be recorded along with yields, nutritional content and days to maturity. Tests are being developed to assess pressing parameters on oil quality.

Background

Local grain and oilseed production is the next step in feed production following forages. Supplementing imported feed with local high-quality and high-value options will increase self-sufficiency while decreasing exposure to market conditions. Canola can be crushed into canola meal on-farm and added to rations as required. Byproducts of canola oil and straw are highly desirable and the oil can be used in many different commercial applications.

- Imported feed is one of the largest on-farm expenses in the livestock industry.
- Newfoundland and Labrador is the only province in Canada that has not grown canola as an oil or feed crop.
- Closely related crops rutabaga and turnip have been grown for decades and many beneficial-management practices are already known.
- Equipment required in the grain program such as seeders and combines can be used for canola, but a grain dryer and crushing press are required.

- The extruder (press) is a simple screw press with food grade components, and automated units can be purchased that can run for 24 hours.
- The dryer is a versatile addition to any farm and can be added to the bottom of existing upright silos; inexpensive, used stand-alone dryers are also available.
- Double-pressed canola meal is comparable in quality to national standards.
- Canola meal is a common and widely utilized feed across Canada, including Newfoundland and Labrador.
- Canola oil can be used as-is from the press as a fat additive for feed, or may be further refined as a biodiesel or for human consumption.



Technical Details

- Large 20-acre plot trials are planted on agricultural fields on the west coast assessing canola varieties that are early maturing, high yielding, exhibit suitable disease resistance, and are able to be direct combined.
- Crop growth assessments include days to maturity, seed and straw yield, lodging propensity, nutritional contents, disease and mycotoxin pressures, and harvestability.
- Processing assessments will include oil and meal yield, meal quality, oil quality (first and second press) and filtering requirements.

Preliminary Results

- Canola establishes well and grows vigorously throughout the season.
- Crop can be successfully planted and harvested using the same equipment as grain with no modifications.
- Yields average 0.75 tons per acre and straw yields range from 4-7 large round bales per acre.
- Forty per cent of the canola seed is oil, 30+ per cent can be extracted with double pressing, 15-20 per cent on a single press.
- Canola straw is a versatile bedding and highly desirable among local farmers for feeding calves.

Recommendations

- Direct combining is a suitable harvest method in Newfoundland and Labrador that will help compensate for wet fall seasons.
- Soil pH must be brought up to 5.8-6.0 for thick stand establishment and high yields.
- Seed must be dried to a minimum of eight per cent but no lower than five per cent for optimum pressing.

Agriculture Industry Benefits

We work closely with Newfoundland and Labrador farmers to ensure research is relevant to their needs and will provide them with tangible benefits.

- Economic – creating new agricultural products and opportunities, decreasing costs, and generating new employment potential.
- Innovative – diversifying production and sources of income, and providing a quality locally grown feed.
- Business stability – decreasing susceptibility to market fluctuations from political or natural events.
- Food/feed security – increasing self-sufficiency and less reliance on other provinces or transportation.

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