

Canola

HISTORY

The name *Canola* was registered as a trademark in Canada in 1978. The name comes from *Can* as in Canada and *ola* as in oil low acid. Prior to canola oil, most of the oil Canadians used for food purposes was imported. The canola plant was developed through the knowledge and ingenuity of two Canadian prairie plant scientists, Dr. Baldur Stefansson and Dr. Keith Downey, who bred rapeseed populations to develop a crop that would meet consumer demand for a healthy, edible oil product. Canola came about only after years of hard work, research, and countless field tests of new plant varieties.

Canola is often confused with rapeseed. *Canola is not rapeseed.* It may look the same, but its nutritional makeup is totally different.

PRODUCTION

The canola plant is a member of the *crucifer* family. Crucifers are easy to identify because their four yellow flower petals form the shape of a cross. Canola belongs to a *genus* (section) of the crucifer family called *Brassica*. As well as canola, Brassica plants include mustard, Brussels sprouts, cabbage, cauliflower, broccoli, and turnip. Brassicas are a major source of food in many countries, including Canada.

From germination to seed production, the life cycle of a canola plant takes about 3.5 months, depending on temperature, moisture, sunlight, and soil fertility. Canola is a cool season crop. It grows particularly well on the prairies, where cool nights and hot days allow it to develop its unique fatty acid profile. Canola is grown across the province, but the majority is grown in Manitoba's Black and Dark Brown soil zones.

Canola fields are seeded in the spring, with seedlings sprouting four to 15 days after planting. The bottom leaves grow in a rosette shape, and the plant's stem elongates with flowers beginning to form as the days lengthen. Flowering lasts 14 to 21 days, depending on weather conditions and seed varieties. You can always tell it is canola flowering time when the fields turn into brilliant waves of yellow blossoms. Bright yellow canola attracts bees that pollinate the flowers. Once pollinated, the flowers are replaced by pods around 5 centimetres in length, each holding 20 to 30 tiny round seeds. There is an average of 60 to 100 pods per plant.

Canola fields may be fertilized and treated with pesticides as needed to provide the proper nutrients and protection from insects, weeds, and diseases.

When the canola plant is ready to harvest, it changes from green to light yellow. Canola fields can be *swathed* (cut and left to dry in a row) when 60 per cent of the seeds have turned from green to yellow. The swathed crop is allowed to dry for about 10 days and then combined. A *combine* is a piece of equipment that cuts the crop and separates the pods from the plant. At the same time, it processes and spreads the remaining material over the field. (It's called a combine because it *combines* several jobs into one machine.) Specific varieties of canola allow farmers to *straight cut* the crop without the need for swathing.

The harvested seeds are then crushed to produce canola oil, and the remainder of the seed is processed into meal, which can be used as a high protein livestock feed and for human consumption. Canola seeds are about 43 per cent oil and 57 per cent meal.



Photo: Canola Council of Manitoba



Photo: Canola Council of Canada

NUTRITION

Including fat in your diet is important for your health. Fats provide your body with energy and help your body use certain vitamins, make hormones, and protect your organs. Unsaturated fats are healthier than saturated and trans-fat, and they reduce your overall fat intake.

Canola oil is:

- **Low in saturated fat.** By choosing foods that contain mostly healthy fats instead of foods that contain mostly saturated fat you can lower your risk of developing heart disease – one of the leading causes of death in Canada. Canola oil contains 7 per cent saturated fat, lower than most other oils, including olive, sunflower, and soybean oil.
- **High in omega-3 fat.** Omega-3 fats are a type of plant-based polyunsaturated fat that lower cholesterol levels and support heart health, promote normal brain and nervous system functions, protect against dry eye disease, and reduce inflammation in the body.
- **High in monosaturated fat.** These healthy fats help to increase HDL, the “good” cholesterol in the body. Swapping out monounsaturated or polyunsaturated fats, such as vegetable oils, for saturated fats, such as butter and lard, may help reduce cholesterol in the body. Cholesterol is a waxy substance that can build up and clog blood vessels. Narrowed or blocked blood vessels increase your risk for heart attack or stroke. Canola oil is 62 per cent monosaturated fat.
- **Trans fat and cholesterol free.** Both trans and saturated fats can raise levels of LDL (“bad”) cholesterol. Trans fats can also lower the levels of blood HDL cholesterol when compared to other fats. Health Canada has banned the use



Photo: Canola Council of Manitoba

of partially hydrogenated oils in foods. These are the main source of industrially produced trans-fat.

- **A source of omega-6 polyunsaturated fat.** Just like omega-3 fats, we need to get omega-6 fats from food in our diet. Omega-6 fats play an important role in regulating our genes and promoting immune health and blood clotting.

BY-PRODUCTS

Canola has a lot of common uses, including food and non-food products. Canola oil is made into cooking oil, margarine, shortening, salad dressing, cooking spray, mayonnaise, sandwich spread, coffee whitener/creamer, cookies, crackers, cake mixes, bread, and snack food.

Canola oil is an ingredient in non-food products such as biodiesel, plastics, sunscreen, printing ink, de-icer for airplanes, anti-static for paper, plastic wrap, biodegradable greases, and bioplastics.

FARMER PROFILE



Photo: Canola Council of Manitoba

NICOLEA DOW Portage la Prairie, Manitoba

“What I love most about being a Manitoba canola farmer is being a part of something bigger than myself. As a farmer, I help the canola plants on my farm store carbon in the soil and turn energy from the environment into things that humans use every day. When canola leaves my farm, it goes on to become cooking oil, plant-based protein, biofuel, animal feed and (in the future) even clothing! I get to be an important link in a cycle that keeps the world running.”

INDUSTRY IN MANITOBA

Production: 2.3 million metric tonnes (2021)

Number of Producers: 7,500 producers

Value to Economy: \$1.49 billion in farm cash receipts (2019)



INDUSTRY IN CANADA

Production: 20.8 million metric tonnes

Number of Producers: 43,000 producers

Value to Economy: \$29.9 billion in canola exports



ENVIRONMENT

Canola farming has a proud history of environmental stewardship and continues to innovate and find opportunities to produce canola even more sustainably. By focusing on improving soil and water health, reducing greenhouse gas emissions, sequestering carbon, using land more efficiently, reducing energy consumption, and maintaining biodiversity, canola farmers are invested in maintaining a healthy environment. Canola can also be converted into **biodiesel**, a more sustainable and cleaner fuel.



CANOLA INDUSTRY IN CANADA

Canola is Canada’s most valuable crop. Canadian-grown canola creates more than 207,000 Canadian jobs and \$12 billion in wages.

Canada exports 90 per cent of its canola to 55 markets worldwide. The largest export market for Canadian canola is the United States, followed by China, Japan, Mexico, and the European Union.

Canada has 14 crushing and refining plants able to crush around 11 million tonnes of seed.

DID YOU KNOW?

Canola is an acronym for **CAN**adian **OIL** **L**ow **A**cid.

CAREERS

- » Account manager
- » Agronomist
- » Plant operator
- » Canola farmer
- » Breeding specialist
- » Sales manager
- » Engineer



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