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## Facts about Canola Oil

### What is Canola Oil?

Canola is a specifically bred variety of rapeseed and is part of the mustard (or Brassica) family whose other members include broccoli, Brussels sprouts, cabbage, kale and mustard greens. Canola oil contains a fatty acid profile of: 5% saturated fat, 57% monounsaturated acid (oleic acid), 23% polyunsaturated omega-6 and 10–15% polyunsaturated omega-3. It is thought that its high oleic acid content (similar to levels found in olive oil), low saturated fat content and relatively high omega-3 content make canola oil particularly beneficial for heart health.

### Where has Rapeseed oil traditionally been consumed?

Rapeseed oil has traditionally been consumed in Eastern Europe (especially Poland), India, Japan, China and Canada for thousands of years. In the context of a healthy, traditional diet, rapeseed oil has not been reported to cause any health problems.

### How was Canola Oil developed?

In the late 1970s, canola was bred from rapeseed to contain low amounts of erucic acid, a long chain fatty acid that had been associated with detrimental health effects in animal studies. The new oil was referred to as LEAR oil (Low Erucic Acid Rapeseed) or Canola oil (from Canadian oil low acid, since most canola oil was grown in Canada).

### What is Erucic Acid?

Erucic acid is a 22-carbon fatty acid that is present in all members of the Brassica family in trace amounts. Erucic acid constitutes 40%-50% of the fatty acid content in rapeseed, however canola has been bred to typically contain less than 2% erucic acid. Because of this, canola oil is thought to have a more neutral taste and to be healthier for human consumption. Note that erucic acid is not all bad: for individuals with the wasting disease adrenoleukodystrophy, erucic acid is actually helpful with treatment and was the lifesaving ingredient of Lorenzo's oil.

### Myths about Canola Oil

There appears to be much confusion concerning the safety of canola oil. Most of this controversy stems from an article, Blindness, Mad Cow Disease, and Canola Oil, which appeared in the March/April 1996 issue of Perceptions magazine. The



following information presents our beliefs concerning the myths that Mr. Thomas and others have created against canola oil.

**Is Canola genetically engineered?**

No. Canola oil is a variety of rapeseed that was bred through traditional plant breeding methods in the 1970s to contain less erucic acid — its development predated genetic engineering by almost 20 years. Traditional plant breeding methods involve selecting desired traits followed by crossing these traits into existing varieties until the offspring exhibit the desired characteristics. But, while it is true that canola oil was not originally developed using genetic engineering methods, today some forms of canola are genetically engineered. In order to avoid genetically engineered canola oil, it is recommended to buy organic canola oil, which by definition would not be genetically modified.

**Does Canola oil contain trans fat?**

Canola oil that has not been intentionally treated to contain trans fatty acids will not have significant amounts of trans fats. In order to form trans fatty acids commercially, oils are hydrogenated through a process where a catalyst, heat, pressure and the presence of hydrogen are necessary. You will not find products that contain hydrogenated oils at Whole Foods Market.

**Is Canola an industrial oil?**

Whereas it is true that Canola Oil can be used as an industrial oil (as an insecticide, lubricant, fuel, in soap, rubber and ink), this does not mean that the food form of canola is dangerous for human consumption or inedible. Many oils besides canola have been used as both industrial and edible oils, depending on how they are prepared. For example, coconut oil is used in many industrial products, including soaps and cosmetics, and flaxseed oil is used in paints and linoleum. Vegetable oils can be processed to make industrial chemicals, however the food forms of these oils are all safe.

**Does Canola cause mad cow disease?**

No. It is generally accepted that the infectious agent responsible for mad cow disease is an abnormal form of cell protein called a prion. The transmission of mad cow disease occurs when infected animal tissue from sheep and other animals is added to cattle feed. There is no suspected causative role played by canola in this disease.

**Is Canola a toxic weed which insects will not eat?**

Canola is susceptible to pests that thrive in temperate climates, so is grown only in regions that experience extended periods of freezing (like Canada and the northern US).

**Is Canola a biopesticide?**

A biopesticide is a type of pesticide that is derived from natural materials and is inherently less toxic than conventional pesticides. Canola is classified as a biopesticide, and works by suffocating pests, not poisoning them. In general, vegetable oils are recommended as a non-chemical insect control method.

**Is Canola oil related to mustard gas?**

Canola oil is a member of the Mustard (or Brassica) plant family,

however, it has no relationship at all to mustard gas, which consists of the chemical 2,2'-dichlorodiethyl sulfide. Mustard gas received its name because of the color of the gas and the sulfur odor, not because it is chemically related to the mustard family.

#### **Does Canola oil cause numerous ill health effects?**

A search in Medline will reveal that none of the purported side effects attributed to canola consumption—loss of vision, glaucoma, respiratory illness, disruption of central nervous system, anemia, constipation, depression of the immune system—increased incidence of heart disease and cancer—have been reported in the medical journals. There are no research studies indicating that canola oil is harmful to humans when consumed as recommended.

#### **Does Canola oil cause lung cancer?**

Rapeseed oil, as well as other unrefined vegetable oils, have been linked to increased rates of lung cancer in people breathing the cooking fumes, according to a 1995 Wall Street Journal article. Cooking at lower temperatures (so the oil does not produce smoke) is recommended and will prevent this risk. It is recommended that canola oil be subjected to no higher than medium-high heat. In general, canola oil is appropriate for use in baking and other oven cooking, crisp sautéing and medium stir-frying.

#### **Does Canola oil contain harmful cyanide-containing glycosides?**

Glucosinolates (which are a type of glycoside) are sulfur-containing compounds found in all members of the Brassica family, including canola. The major function of glucosinolates in plants is as feeding deterrents against insects and mammals. When glucosinolates are hydrolyzed, as when plant tissue is crushed, a compound called isothiocyanate is formed. Although the isothiocyanate compound is related to cyanide (it is actually a metabolite of cyanide), it does not contain or have the same negative effects as cyanide. In terms of health effects, at high levels glucosinolates can adversely affect thyroid function and at low levels may help with cancer prevention. Glucosinolates are not a concern with canola oil, however, as canola has been bred to contain low levels of glucosinolates and the small amounts remaining are destroyed during the expeller-pressing process.

#### **Will Canola permanently stain fabrics?**

Fabric made from plant fibers will be stained by all vegetable oils, as vegetable oil causes the plant cell wall of the fabric to break and solidify the stain.

#### **Does Canola oil become rancid very quickly?**

In general, vegetable oils with higher quantities of polyunsaturated fatty acids are more susceptible to rancidity than saturated fatty acids. In order to avoid rancid oil, it is recommended that all oils, including canola, be consumed before their expiration date. Storing oil in a cool, dark place will also decrease susceptibility to rancidity.

### **Whole Foods Market's Position on Canola Oil**

Whole Foods Market believes canola oil is a safe and wholesome food and, therefore, will continue to sell it in our stores. In order to ensure the highest quality oil possible, we feature expeller-pressed, organic canola oil in our stores. Accordingly, each individual is free to choose whether or not to buy canola oil or to choose from one of the other many culinary oils we sell. Note that all of the stand-alone oils at WFM (except grapeseed oil) are expeller-pressed.

### General recommendations

As part of a balanced and varied diet, use a variety of oils, including oils from different sources and oils that contain different kinds of fatty acids. Do not use one oil to the exclusion of others-any food in excess is not recommended.

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