Canola Oil: Questions &Answers

You're looking for more information about canola - the seed, the oil and the meal. Maybe you've checked websites that made you wonder who's telling the truth. Wonder no more.
We asked impartial professionals in the fields of nutrition, biology and food science to answer your questions. Some of these questions may seem a little bizarre but that's what's out there!
So here's the truth. We promise.

Q: What is canola oil?

A: Canola oil is the healthiest of all commonly used cooking oils. It is lowest in saturated fat, high in cholesterol-lowering mono-unsaturated fat and the best source of omega-3 fats of all popular oils.
Canola oil comes from pressed canola seed. The seed is harvested from pods that are formed after those beautiful yellow flowers you've probably seen in the summer fade away. North American farmers have been growing canola seed for over 30 years.
Canola is not rapeseed. It looks the same on the outside but it's very different on the inside where it matters. In the late 1960s, plant scientists used traditional plant breeding methods to get rid of rapeseed's undesirable qualities – erucic acid and glucosinolates. That means canola oil and meal are different from rapeseed oil and meal.

Q: Have human studies been conducted on the consumption of canola oil?

A: Yes. Clinical studies conducted over the past 20 years involving thousands of healthy volunteers, examined the role of canola oil in lowering blood cholesterol levels and reducing risk of coronary heart disease, cancer, diabetes and high blood pressure.
The studies confirmed that when used as part of a balanced diet, canola oil has been shown to lower blood cholesterol levels and have a beneficial effect on clot formation, thereby decreasing the risk of heart disease and stroke.
Canola oil contains just 7% saturated fat compared to, for example, 15% for olive oil, 19% from peanut oil and 12% for sunflower oil.

Q: Is canola oil safe for animals and humans?

A: Yes. Before being approved for food use, canola oil was required to go through stringent animal feeding trials to ensure it was a safe edible oil. And a great deal of research has been done which shows the benefits of incorporating canola oil into human diets.

Q: Was canola developed using genetic engineering?

A: Canola was developed using traditional plant breeding techniques, so it was not developed using biotechnology. However, about 80% of the canola grown in Canada has now been modified using biotechnology to make it tolerant to some herbicides. Using these specific herbicides has reduced the amount of chemical needed for weed control in the fields.
Remember - the canola plant has been modified, not the oil. So canola oil from the herbicide tolerant plant is exactly the same safe and healthy oil as canola oil from conventional plants. The modification has been made to only one canola gene and it is a protein. Processing removes all proteins from canola oil. That means canola oil made from GM seed is conventional canola oil.

Q: Are canola oil and rapeseed oil poisonous to living things?

A: No. Canola oil has been thoroughly tested and is guaranteed safe and beneficial for humans.

Hydrogenated rapeseed oil is also safe and is in fact approved by Canadian and US food regulatory agencies for use as a food product emulsifier. When rapeseed oil is fully hydrogenated, its erucic acid becomes behenic acid - a natural saturated fatty acid found in peanuts and peanut butter. Some peanut butter brands contain very small amounts of hydrogenated rapeseed oil to prevent the peanut oil from separating from the peanut butter.
Rapeseed is grown on very limited acreages in North America under contract between the grower and the buyer. It doesn't get into the regular grain handling system.

Q: Was GRAS status for canola oil purchased from the U.S. Food and Drug Administration (FDA)?
A: No. The FDA granted GRAS (Generally Recognized as Safe) status following the submission of a lengthy petition, which detailed years of research on the beneficial health effects of canola oil in human and animal diets.

Q: Can canola oil and rapeseed be used as lubricants, penetrating oils, fuel, soap, paints, etc?
A: Yes. Any plant sourced oil such as olive, corn, soybean and flax can be used industrially to make lubricants, oils, fuel, soaps, paints, plastics, cosmetics or inks. In fact, any organic hydrocarbon (including ALL vegetable oils) can be processed and denatured to make industrial chemicals. Proteins in milk can be used to make glue. Wheat and canola can be used to make ethanol, an ingredient in "gasohol" and canola seed can be used to produce bio diesel.
But just because you can do this doesn't make the approved food canola oil or corn oil, for example that you buy at the grocery store somehow poisonous or harmful!

Q: Does canola form "latex-like substances which agglutinate red blood corpuscles"?
A: No. In fact, canola oil has good effects on your blood. Canola oil is a good source of alpha-linolenic acid or ALA, for short. ALA is an essential omega-3 fatty acid required in the human diet because our bodies cannot make it.
Animal and human clinical studies show that ALA has many of the same beneficial effects on blood clotting, platelet aggregation and the vascular system as omega-3 fatty acids found in fatty fish such as salmon and mackerel.

Q: Does canola oil cause emphysema, respiratory distress, anaemia, constipation, irritability, and blindness in animals and humans?
A: No. After extensive animal and human testing, canola oil has been proven to be absolutely safe to consume and will not produce these or any other diseases or conditions.

Q: Does the Canadian government subsidize Canadian food processors who use canola oil?
A: No. Canada's food processors use canola oil because their customers want healthy food.

Q: Is mustard gas made from canola oil?
A: No. Mustard gas is an oily volatile liquid which got its name from its mustard-like odour. It bears no relation to canola, or any other plant member of the mustard family.

Q: Is it true that in China, rapeseed oil was found to emit harmful emissions when heated?
A: Yes. However, the study also found that other vegetable oils tested in China produced the same emissions under the same conditions. Most people in China cook with unrefined

rapeseed oil, which is not processed to remove contaminants and contains no antioxidants. Temperatures during wok cooking in China are about 100° F (38°C) higher than those used in Canada and the U.S. This combination of frying with unrefined rapeseed oil at very high temperatures (to the point where the oil produces a thick, black smoke) can produce harmful emissions.
Consumers in other countries use more refined vegetable oils– never rapeseed oil - at much lower cooking temperatures. These two factors prevent these emissions. All vegetable frying oils used in Canada and the U.S. (and many other countries) are refined and frequently contain antioxidants which help prevent harmful emissions during frying.

Q: Does canola oil turn rancid quickly?
A: No. Canola oil's shelf life stored at room temperature is about one year. Except for flaxseed oil, the shelf life of other vegetable oils stored at room temperature is similar. Flaxseed oil should be stored in the refrigerator.

Q: Is canola oil linked to mad cow disease?
A: No. There is no connection between BSE and canola oil.

Q: Can canola kill insects such as aphids?
A: Yes. Pour any cooking oil– canola, olive, corn, sunflower or peanut– over an insect and you'll suffocate it. Vegetable oils in general are recommended by many horticulturists as a non-chemical, more environmentally friendly insect control method.

Q: Does canola contain cyanide?
A: No, canola does not contain cyanide. Canola contains compounds that sound a little like that - isothiocyanates, compounds found naturally in many foods, especially in cruciferous vegetables such as cabbage, Brussels sprouts, cauliflower, broccoli, kale, turnips and canola.
Isothiocyanates are sulphur-containing compounds that have anti-cancer properties, a fact first recognized some 30 years ago. In rats and mice, isothiocyanates inhibit the development of tumours in esophagus, mammary and lung tissue. Isothiocyanates appear to act by interfering with the metabolism of cancer agents and increasing their removal from the body. The cancer-fighting properties of cabbage, cauliflower and the other members of the mustard family are likely due to their isothiocyanate content.

Q: Is canola made of a "very long chain fatty acid oil (c22)" that can cause a degenerative disease?
A: No. Canola oil's fatty acid profile consists predominantly (over 90%) of the 18 carbon unsaturated fatty acids oleic acid, linoleic acid and linolenic acid. Canola does not cause or contribute to any disease and in fact, it can improve health. The positive effects of canola's unsaturated fatty acids on certain health conditions, such as cardiovascular disease, are well documented.

Q: Are the covalent bonds holding fatty acids together harmful?
A: No. Millions of organic compounds found on earth contain covalent bonds. Covalent bonds are those in which atoms share their electrons. There is nothing dangerous or harmful about covalent bonds. They are the glue that holds most organic compounds such as fatty acids, proteins, glucose and ascorbic acid (vitamin C) together.
When necessary, the body uses enzymes (types of proteins) to break the covalent bonds during normal metabolism. The fatty acids found in canola oil and all other fats and oils

contain covalent bonds that can be broken by enzymes to create compounds used to produce energy or make hormones and other important compounds.

Q: Do the glycosides in canola suppress the immune system?

A: No. There is no evidence that canola oil depresses the immune system. Glycosides are compounds formed from reactions involving alcohols and sugars such as glucose. Many compounds found in plants – flavorings, colors and steroids – occur as glycosides. Table sugar – or sucrose, as it is known chemically– is a glycoside, as is lactose or milk sugar and potato starch. So is salicin, the bitter-tasting glycoside obtained from willow bark and used by First Nations peoples many years ago to treat fevers and other ailments. Today, we use a related compound for the aches and pains of sore throats, colds and the flu– we call it ASA. Glycosides are a key part of normal human metabolism. There is no evidence that canola oil depresses the immune system.

Q: Is it true that Europe has banned canola oil since 1991?

A: No. The European Union (EU) countries together produce more canola than Canada. Europeans call their canola "oilseed rape" and the oil "rape oil" or "rapeseed oil" but it is canola. They chose not to adopt the new name "canola" when it was developed. So Europeans consume canola oil every day and have ever since canola was introduced in Europe shortly after being developed in Canada.

The difference at present is that European farmers are prevented by law from growing genetically modified canola (or any GM crop). Europeans therefore consume canola oil from non-GM plants. Most of the canola oil from Canada can be exported to the EU and the EU has approved some of the GM canola seed for processing as well.

Canola oil produced from GM plants is safe and healthy. And - canola oil itself does not contain any GM ingredients. The GM modification is made to one canola gene and it is a protein. All proteins are removed from canola oil during processing so canola oil made from GM plants is no different from conventional canola oil.