

The Great Con-ola

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Canola oil is “widely recognized as the healthiest salad and cooking oil available to consumers.” It was developed through hybridization of rape seed. Rape seed oil is toxic because it contains significant amounts of a poisonous substance called erucic acid. Canola oil contains only trace amounts of erucic acid and its unique fatty acid profile, rich in oleic acid and low in saturated fats, makes it particularly beneficial for the prevention of heart disease. It also contains significant amounts of omega-3 fatty acids, also shown to have health benefits. This is what the food industry says about canola oil.

Canola oil is a poisonous substance, an industrial oil that does not belong in the body. It contains “the infamous chemical warfare agent mustard gas,” hemagglutinins and toxic cyanide-containing glycosides; it causes mad cow disease, blindness, nervous disorders, clumping of blood cells and depression of the immune system. This is what detractors say about canola oil.

How is the consumer to sort out the conflicting claims about canola oil? Is canola oil a dream come true or a deadly poison? And why has canola captured so large a share of the oils used in processed foods?

HIDDEN HISTORY

Let’s start with some history. The time period is the mid-1980s and the food industry has a problem. In collusion with the American Heart Association, numerous government agencies and departments of nutrition at major universities, the industry had been promoting polyunsaturated oils as a heart-healthy alternative to “artery-clogging” saturated fats. Unfortunately, it had become increasingly clear that polyunsaturated oils, particularly corn oil and soybean oil, cause numerous health problems, including and especially cancer.¹

The industry was in a bind. It could not continue using large amounts of liquid polyunsaturated oils and make health claims about them in the face of mounting evidence of their dangers. Nor could manufacturers return to using traditional healthy saturates—butter, lard, tallow, palm oil and coconut oil—without causing an uproar. Besides, these fats cost too much for the cut-throat profit margins in the industry.

The solution was to embrace the use of monounsaturated oils, such as olive oil. Studies had shown that olive oil has a “better” effect than polyunsaturated oils on cholesterol levels and other blood parameters. Besides, Ancel Keys and other promoters of the diet-heart idea had popularized the notion that the Mediterranean diet—rich in olive oil and conjuring up images of a carefree existence on sun-drenched islands—protected against heart disease and ensured a long and healthy life.

The National Heart, Lung and Blood Institute (NHLBI) sponsored the First Colloquium on Monounsaturates in Philadelphia. The meeting was chaired by Scott Grundy, a prolific writer and apologist for the notion that cholesterol and animal fats cause heart disease. Representatives from the edible oil industry, including Unilever, were in attendance. The Second Colloquium on Monounsaturates took place in Bethesda, Maryland, early in 1987. Dr. Grundy was joined by Claude Lenfant, head of the NHLBI, and speakers included Fred Mattson, who had spent many years at Proctor and Gamble, and the Dutch scientist Martign

Katan, who would later publish research on the problems with trans fatty acids. It was at this time that articles extolling the virtues of olive oil began to appear in the popular press.

Promotion of olive oil, which had a long history of use, seemed more scientifically sound to the health-conscious consumer than the promotion of corn and soy oil, which could only be extracted with modern stainless steel presses. The problem for the industry was that there was not enough olive oil in the world to meet its needs. And, like butter and other traditional fats, olive oil was too expensive to use in most processed foods. The industry needed a less expensive monounsaturated oil.

Rapeseed oil was a monounsaturated oil that had been used extensively in many parts of the world, notably in China, Japan and India. It contains almost 60 percent monounsaturated fatty acids (compared to about 70 percent in olive oil). Unfortunately, about two-thirds of the mono-unsaturated fatty acids in rapeseed oil are erucic acid, a 22-carbon monounsaturated fatty acid that had been associated with Keshan's disease, characterized by fibrotic lesions of the heart. In the late 1970s, using a technique of genetic manipulation involving seed splitting,² Canadian plant breeders came up with a variety of rapeseed that produced a monounsaturated oil low in 22-carbon erucic acid and high in 18-carbon oleic acid.

The new oil referred to as LEAR oil, for Low Erucic Acid Rapeseed, was slow to catch on in the US. In 1986, Cargill announced the sale of LEAR oil seed to US farmers and provided LEAR oil processing at its Riverside, North Dakota plant but prices dropped and farmers took a hit.³

MARKETING LEAR

Before LEAR oil could be promoted as a healthy alternative to polyunsaturated oils, it needed a new name. Neither "rape" nor "lear" could be expected to invoke a healthy image for the new "Cinderella" crop. In 1978, the industry settled on "canola," for "Canadian oil," since most of the new rapeseed at that time was grown in Canada. "Canola" also sounded like "can do" and "payola," both positive phrases in marketing lingo. However, the new name did not come into widespread use until the early 1990s.

An initial challenge for the Canola Council of Canada was the fact that rapeseed was never given GRAS (Generally Recognized as Safe) status by the US Food and Drug Administration. A change in regulation would be necessary before canola could be marketed in the US.⁴ Just how this was done has not been revealed, but GRAS status was granted in 1985, for which, it is rumored, the Canadian government spent \$50 million to obtain.

Since canola was aimed at the growing numbers of health-conscious consumers, rather than the junk food market, it required more subtle marketing techniques than television advertising. The industry had managed to manipulate the science to make a perfect match with canola oil—very low in saturated fat and rich in monounsaturates. In addition, canola oil contains about 10 percent omega-3 fatty acids, the most recent discovery of establishment nutritionists. Most Americans are deficient in omega-3 fatty acids, which had been shown to be beneficial to the heart and immune system. The challenge was to market this dream-come-true fatty acid profile in a way that would appeal to educated consumers.

Canola oil began to appear in the recipes of cutting edge health books, such as those by Andrew Weil and Barry Sears. The technique was to extol the virtues of the Mediterranean diet and olive oil in the text, and then call for "olive oil or canola oil" in the recipes. One informant in the publishing industry told us that since the mid 1990s, major publishers would not accept cookbooks unless they included canola in the recipes.

In 1997, Harper Collins engaged Dr. Artemis Simopoulos to write a cookbook featuring the health benefits of omega-3 fatty acids.⁵ Dr. Simopoulos was a pediatrician who had served for nine years as chair of the Nutritional Coordinating Committee of the National Institutes of Health before becoming president of the Center for Genetics, Nutrition and Health. She had published several papers on omega-3 fatty acids, calling attention to their disappearance from the food supply due to the industrialization of agriculture. Her most famous paper, published in 1992 in the *American Journal of Clinical Nutrition*, compared omega-3 levels in supermarket eggs from hens raised on corn with eggs from hens allowed to roam and eat a more varied diet.⁶ The more natural eggs contained twenty times more omega-3 than supermarket eggs.



Empty cans of canola oil in an alley behind a Chinese restaurant. In China, lard was traditionally used for frying.

Simopoulos's *The Omega Plan* came out in 1998 and was reissued as *The Omega Diet* in 1999. The book discusses the virtues of monounsaturated and omega-3 fatty acids in the Mediterranean diet.⁷ Since unprocessed canola oil contains not only lots of monounsaturated fatty acids, but also a significant amount of omega-3, it shows up in most of the book's recipes. Simopoulos claims that the Mediterranean diet is low in saturated fat and recommends lean meat and lowfat yoghurt and milk as part of her regime.

The canola industry's approach— scientific conferences, promotion to upscale consumers through books like *The Omega Diet* and articles in the health section of newspapers and magazines—was successful. By the late 1990s, canola use had soared, and not just in the US. Today China, Japan, Europe, Mexico, Bangladesh and Pakistan all buy significant amounts. Canola does well in arid environments such as Australia and the Canadian plains, where it has become a major cash crop. It is the oil of choice in gourmet and health food markets like Fresh Fields (Whole Foods) markets, and shows up in many supermarket items as well. It is a commonly used oil in sterol-containing margarines and spreads recommended for cholesterol lowering. Use of hydrogenated canola oil for frying is increasing, especially in restaurants.

DANGERS OVERSTATED

Reports on the dangers of rapeseed oil are rampant on the internet, mostly stemming from an article, "Blindness, Mad Cow Disease and Canola Oil," by John Thomas, which appeared in *Perceptions* magazine, March/April 1996. Some of the claims are ludicrous. Although rape is a member of the brassica or mustard family, it is not the source of mustard gas used in chemical warfare.

Glycosides or glucosinolates (compounds that produce sugars on hydrolysis) are found in most members of the brassica family, including broccoli, kale, cabbage and mustard greens. They contain sulfur (not arsenic), which is what gives mustard and cruciferous vegetables their pungent flavor. These compounds are goitrogenic and must be neutralized by cooking or fermentation. As rapeseed meal was high in glycosides, it could not be used in large amounts for animal feeding. However, plant breeders have been able to breed out

the glycosides as well as the erucic acid from canola oil.⁸ The result is a low-glycoside meal that can be used as an animal feed. In fact, canola meal for animal feed is an important Canadian export.

Hemagglutinins, substances that promote blood clotting and depress growth, are found in the protein portion of the seed, although traces may show up in the oil. And canola oil was not the cause of the mad cow epidemic in Britain⁹, although feeding of canola oil may make cattle more susceptible to certain diseases.

Like all fats and oils, rapeseed oil has industrial uses. It can be used as an insecticide, a lubricant, a fuel and in soap, synthetic rubber and ink. Like flax oil and walnut oil, it can be used to make varnish. Traditional fats like coconut oil, olive oil and tallow also have industrial uses, but that does not make them dangerous for human consumption.

We have had reports of allergies to canola, and internet articles describe a variety of symptoms—tremors, shaking, palsy, lack of coordination, slurred speech, memory problems, blurred vision, problems with urination, numbness and tingling in the extremities, and heart arrhythmias—that cleared up on discontinuance of canola. None of this has been reported in the medical journals, however. Writing for the *Washington Post*, Professor Robert L. Wolke (www.professorscience.net) chastises the publishers of these reports as spreading “hysterical urban legends about bizarre diseases.”¹⁰ The industry actually profits from such wild claims, because they are wrong and easily dismissed.

Nevertheless, consumers *do* have reason to be cautious about the establishment’s favorite oil, now showing up in an increasing number of products.

THE STUDIES

Says Wolke: “I found no research studies indicating that today’s low-erucic-acid canola oil, as distinguished from ordinary rapeseed oil, is harmful to humans.” That’s because, even though canola oil now has Generally Recognized as Safe (GRAS) status, no long-term studies on humans have been done. Animal studies on Low Erucic Acid Rapeseed oil were performed when the oil was first developed and have continued to the present. The results challenge not only the health claims made for canola oil, but also the theoretical underpinnings of the diet-heart hypothesis.

The first published studies on the new oil were performed in 1978 at the Unilever research facility in the Netherlands.¹¹ The industry was naturally interested to know whether the new LEAR oil caused heart lesions in test animals. In earlier studies, animals fed high-erucic-acid rape seed oil showed growth retardation and undesirable changes in various organs, especially the heart, a discovery that touched off the so-called “erucic acid crisis” and spurred plant geneticists to develop new versions of the seed. The results of the LEAR study were mixed. Rats genetically selected to be prone to heart lesions developed more lesions on the LEAR oil and the flax oil, than those on olive oil or sunflower oil, leading researchers to speculate that the omega-3 fatty acids (not erucic acid) in LEAR and flax oil might be the culprit. But rats genetically selected to be resistant to heart lesions showed no significant difference between the four oils tested and LEAR oil did not cause heart problems in mice, in contrast to high-erucic oil which induced severe cardiac necrosis.

In 1979, researchers at the Canadian Institute for Food Science and Technology pooled the results of 23 experiments involving rats at four independent laboratories. All looked at the effects of LEAR and other oils on the incidence of heart lesions. They found that saturated fats (palmitic and stearic acids)

were *protective* against heart lesions but that high levels of omega-3 fatty acids correlated with high levels of lesions. They found a lesser correlation with heart lesions and erucic acid.¹²

In 1982, the same research group published a paper that looked at the interaction of saturated fats with LEAR oil and soybean oil. When saturated fats in the form of cocoa butter were added to the diets, the rats in both groups had better growth and a significant lowering of heart lesions. Said the authors: “These results support the hypothesis that myocardial lesions in male rats are related to the balance of dietary fatty acids and not to cardiotoxic contaminants in the oils.”¹³

Canadian researchers looked at LEAR oils again in 1997. They found that piglets fed milk replacement containing canola oil showed signs of vitamin E deficiency, even though the milk replacement contained adequate amounts of vitamin E.¹⁴ Piglets fed soybean oil-based milk replacement fortified with the same amount of vitamin E did not show an increased requirement for vitamin E. Vitamin E protects cell membranes against free radical damage and is vital to a healthy cardiovascular system. In a 1998 paper, the same research group reported that piglets fed canola oil suffered from a decrease in platelet count and an increase in platelet size.¹⁵ Bleeding time was longer in piglets fed both canola oil and rapeseed oil. These changes were mitigated by the addition of saturated fatty acids from either cocoa butter or coconut oil to the piglets’ diet. These results were confirmed in another study a year later. Canola oil was found to suppress the normal developmental increase in platelet count.¹⁶

Finally, studies carried out at the Health Research and Toxicology Research Divisions in Ottawa, Canada discovered that rats bred to have high blood pressure and proneness to stroke had shortened life-spans when fed canola oil as the sole source of fat.¹⁷ The results of a later study suggested that the culprit was the sterol compounds in the oil, which “make the cell membrane more rigid” and contribute to the shortened life-span of the animals.¹⁸

These studies all point in the same direction—that canola oil is definitely not healthy for the cardiovascular system. Like rapeseed oil, its predecessor, canola oil is associated with fibrotic lesions of the heart. It also causes vitamin E deficiency, undesirable changes in the blood platelets and shortened life-span in stroke-prone rats when it was the only oil in the animals’ diet. Furthermore, it seems to retard growth, which is why the FDA does not allow the use of canola oil in infant formula.¹⁹ When saturated fats are added to the diet, the undesirable effects of canola oil are mitigated. Most interesting of all is the fact that many studies show that the problems with canola oil are not related to the content of erucic acid, but more with the high levels of omega-3 fatty acids and low levels of saturated fats.

RAPSEED OIL IN TRADITIONAL DIETS

Rapeseed oil has been used in China, Japan and India for thousands of years. In areas where there is a selenium deficiency, use of rapeseed oil has been associated with a high incidence of fibrotic lesions of the heart, called Keshan’s disease.²⁰ The animal studies carried out over the past twenty years suggest that when rapeseed oil is used in impoverished human diets, without adequately saturated fats from ghee, coconut oil or lard, then the deleterious effects are magnified. In the context of healthy traditional diets that include saturated fats, rapeseed oil, and in particular erucic acid in rapeseed oil, does not pose a problem. In fact, erucic acid is helpful in the treatment of the wasting disease adrenoleukodystrophy and was the magic ingredient in Lorenzo’s oil.

High levels of omega-3 fatty acids, present in unprocessed rapeseed oil, don’t pose a problem either when the diet is high in saturates. A 1998 study indicates that diets with adequate saturated fats help the body convert omega-3 fatty acids into the long-chain versions EPA and DHA, which is what the body wants to do

with most of the 18-carbon omega-3s.²¹ Conversion is reduced by 40-50 percent in diets lacking in saturated fats and high in omega-6 fatty acids from commercial vegetable oils (particularly soybean oil). In the animal studies on canola oil, dietary saturated fats mitigated the harmful effects of omega-3s.

A 1995 *Wall Street Journal* article reported that use of rapeseed oil in cooking was associated with greatly increased rates of lung cancer in the women breathing the fumes.²² Once again, a lack of saturates in the diet may explain the association, because the lungs can't work without adequate saturated fats.²³ In India, rapeseed oil has been used as a cooking oil for thousands of years, but only recently have Indian housewives been cajoled into the belief that saturated butter and ghee should be avoided. Many now use *vanispati*, an imitation ghee made of partially hydrogenated soybean oil.

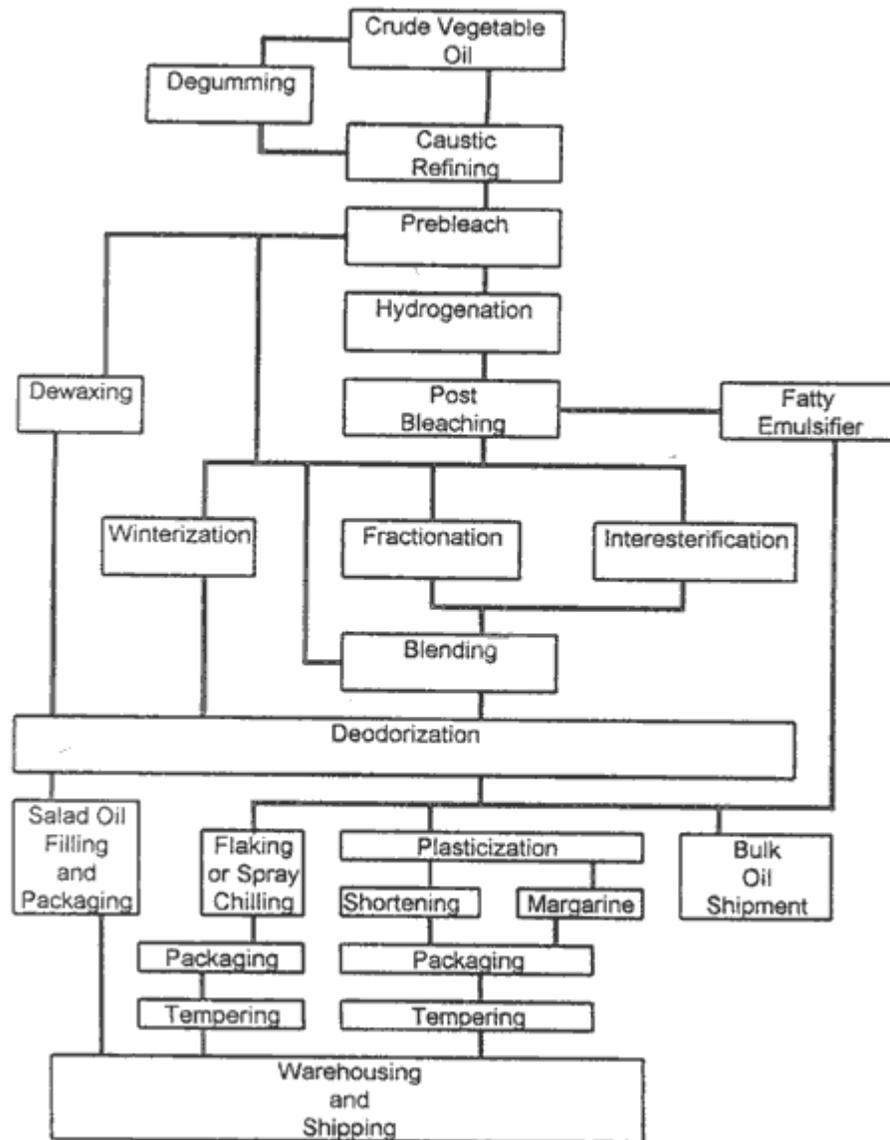
PROCESSING

Rapeseed has been used as a source of oil since ancient times because it is easily extracted from the seed. Interestingly, the seeds were first cooked before the oil is extracted. In China and India, rapeseed oil was provided by thousands of peddlers operating small stone presses that press out the oil at low temperatures. What the merchant then sells to the housewife is absolutely fresh.

Modern oil processing is a different thing entirely. The oil is removed by a combination of high temperature mechanical pressing and solvent extraction. Traces of the solvent (usually hexane) remain in the oil, even after considerable refining. Like all modern vegetable oils, canola oil goes through the process of caustic refining, bleaching and degumming—all of which involve high temperatures or chemicals of questionable safety. And because canola oil is high in omega-3 fatty acids, which easily become rancid and foul-smelling when subjected to oxygen and high temperatures, it must be deodorized. The standard deodorization process removes a large portion of the omega-3 fatty acids by turning them into *trans* fatty acids. Although the Canadian government lists the *trans* content of canola at a minimal 0.2 percent, research at the University of Florida at Gainesville, found *trans* levels as high as 4.6 percent in commercial liquid oil.²⁴ The consumer has no clue about the presence of *trans* fatty acids in canola oil because they are not listed on the label.

A large portion of canola oil used in processed food has been hardened through the hydrogenation process, which introduces levels of *trans* fatty acids into the final product as high as 40 percent.²⁵ In fact, canola oil hydrogenates beautifully, better than corn oil or soybean oil, because modern hydrogenation methods hydrogenate omega-3 fatty acids preferentially and canola oil is very high in omega-3s. Higher levels of *trans* mean longer shelf life for processed foods, a crisper texture in cookies and crackers—and more dangers of chronic disease for the consumer.²⁶

FLOW CHART FOR EDIBLE OIL PROCESSING



THE MYTH OF MONOUNSATURATES

Consumer acceptance of canola oil represents one in a series of victories for the food processing industry, which has as its goal the replacement of all traditional foods with imitation foods made out of products derived from corn, wheat, soybeans and oil seeds. Canola oil came to the rescue when the promotion of polyunsaturated corn and soybean oils had become more and more untenable. Scientists could endorse canola oil in good conscience because it was a “heart-healthy” oil, low in saturated fat, high in monounsaturates and a good source of omega-3 fatty acids.

But most of the omega-3s in canola oil are transformed into *trans* fats during the deodorization process; and research continues to prove that the saturates are necessary and highly protective.

At least it can be said that canola oil is a good source of monounsaturated fat—like olive oil—and therefore not harmful. . . Or is it? Obviously monounsaturated fatty acids are not harmful in moderate amounts in the

context of a traditional diet, but what about in the context of the modern diet, where the health-conscious community is relying on monounsaturated fats almost exclusively? There are indications that monounsaturated fats in excess and as the major type of fat can be a problem. Overabundance of oleic acid (the type of monounsaturated fatty acid in olive and canola oil) creates imbalances on the cellular level that can inhibit prostaglandin production.²⁷ In one study, higher monounsaturated fat consumption was associated with an increased risk of breast cancer.²⁸

Even the dogma that monounsaturated fatty acids are good for the heart is at risk. According to a 1998 report, mice fed a diet containing monounsaturated fats were more likely to develop atherosclerosis than mice fed a diet containing saturated fat.²⁹ In fact, the mice fed monounsaturated fats were even more prone to heart disease than those fed polyunsaturated fatty acids.

This means that the type of diet recommended in books like *The Omega Diet*—low in protective saturates, bolstered with high levels of omega-3 fatty acids and relying on monounsaturated fatty acids, whether from olive or canola oil, for the majority of fat calories—may actually contribute to heart disease. Such diets have been presented with great marketing finesse, but we need to recognize them for what they are—payola for the food companies and con-ola for the public.

Sidebars

FATTY ACIDS

SATURATED FATTY ACIDS are chains of carbon atoms that have hydrogen filling every bond. In foods, they normally range in length from 4 to 22 carbons. Because of their straight configuration, saturated fatty acids pack together easily and tend to be solid at room temperature. Butter, tallows, suet, palm oil and coconut oil are classified as saturated fats because they contain a preponderance of saturated fatty acids. Saturated fats are stable and do not become rancid when subjected to heat, as in cooking.

MONOUNSATURATED FATTY ACIDS are chains of carbon atoms that have one double bond between two carbons and therefore lack two hydrogens. Normally they range from 16 to 22 carbons. They have a kink or bend at the position of the double bond so the molecules do not pack together as easily as saturated fatty acids. Monounsaturated oils tend to be liquid at room temperature but become solid when refrigerated. Olive oil, peanut oil, lard, rapeseed and canola oils are classified as monounsaturated oils. The most common monounsaturated fatty acids are palmitoleic (16 carbons), oleic (18 carbons) and erucic (22 carbons). Monounsaturated oils are relatively stable and can be used for cooking.

POLYUNSATURATED FATTY ACIDS have two or more double bonds. As there is a bend or kink at each double bond, these fatty acids do not pack together easily and tend to be liquid, even when cold. Polyunsaturated oils are very fragile. They tend to develop harmful free radicals when subjected to heat and oxygen, as in cooking or processing. Soybean oil, safflower oil, sunflower oil and flax oil are polyunsaturated oils. Omega-6 fatty acids have the first double bond at the 6th carbon from the end of the fatty acid chain. The most common omega-6 fatty acid is linoleic acid, which is called an essential fatty acid (EFA) because your body cannot make it. Omega-3 fatty acids have the first double bond at the 3rd carbon. The most common omega-3 fatty acid is the EFA alpha-linolenic acid. The consensus among lipid experts is that the American diet is too high in omega-6 fatty acids (present in high amounts in commercial vegetable oils) and lacking in omega-3 fatty acids (which are present in organ meats, wild fish, pastured egg yolks,

organic vegetables and flax oil). Surfeit of omega-6 fatty acids and deficiency in omega-3 fatty acids has been shown to depress immune system function, contribute to weight gain and cause inflammation.

SOYBEAN OIL VERSUS RAPESEED OIL IN INDIA

While canola oil is displacing soybean oil in many American processed foods, soybean oil is displacing traditional rapeseed oil in India. In her book *Stolen Harvest*, Indian author Vandana Shiva describes how American industrially processed soy oil replaced traditional seed oils in a large part of India. Each region in India has its specific edible oil used for cooking. In the North and East it is rapeseed oil, in the West it is peanut oil, in the Deccan it is sesame and in Kerala it is coconut. In India, rapeseed or mustard oil was traditionally sold in small quantities, extracted as needed with a small oil press or ghanis. Oil processing provided employment for thousands of artisans and ensured that the housewife had a fresh product. The oil cake was then fed to cattle (with no apparent negative effects). Mustard oil also served as mosquito repellent and as a nonpolluting oil in lamps.

Within a few months after the advent of “free trade” for soybean oil into India, thousands of Indians fell ill with “dropsy” due to a mysterious adulteration of rapeseed oil. The government banned the sale of all unpackaged edible oils, thus ensuring an end to all household and community-level oil processing. Edible oil production became fully industrialized and local processing became a criminal act. Thousands of workers were dispossessed of their livelihood and millions of Indians were dispossessed of a healthy oil. Cheap, highly processed soy oil immediately replaced rapeseed oil in the markets. During the crisis, the US Soybean Association pushed for soybean imports as the “solution.” “US farmers need big new export markets. . .” reported one business publication. “India is a perfect match.” Growth was achieved by theft of an important part of the small-scale local economy.

GENETICALLY MODIFIED CANOLA

The first seed oil to be created through genetic manipulation, canola is also the focus of a variety of genetic engineering (GMO) projects in which genetic material from other species is inserted into the seeds in order to magnify certain traits in the resultant plant. Herbicide-resistant GMO canola now comprises a large portion of the total canola crop. Apologists point to endorsement by the FDA and the American Dietetic Association that GMO canola is nutritionally and environmentally safe and claim that the GMO variety means less spraying of herbicides, less chemical runoff and a boon to farmers.

Percy Schmeiser, a third generation Saskatchewan farmer, found out the hard way that GMO canola may not be a boon to farmers. Pollen from Monsanto’s patented GMO canola seeds blew onto his land from neighboring farms— unlike grains, rape and canola plants spread their pollen on the wind. Monsanto’s “gene police” then invaded his farm and took seed samples without his permission. Because Schmeiser did not spray his crop with herbicides, a Canadian court ruled that he had taken advantage of Monsanto’s GM technology. Schmeiser was ordered to pay \$10,000 for licensing fees and up to \$75,000 in profits from his 1998 crop.

Meanwhile, genetic engineers are involved in projects to make canola oil “even more nutritious,” by further reducing the amount of saturates in the fatty acid profile and raising the levels of monounsaturates. This, they claim, will make it possible to reduce the amount of trans fats in the processed oil, presumably because levels of omega-3 fatty acids, which need to be deodorized, will also be lowered. Should the genetic engineers be successful, it might be possible to create a diet in which the vast majority of fatty acids is monounsaturated, something that does not exist in any traditional diet anywhere in the world. (Source: Eric Peters, “Let them eat canola,” *Washington Times*, 4/29/2002.)

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Reader Interactions

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COMMENTS



1. [D. Johansson](#) says

[May 25, 2014 at 12:21 am](#)

First you tell us that consumption of rapeseed causes heart lesions and other problems; then you lament the fact that rapeseed is being replaced by soy oil in the Indian diet. You seem to want to have it both ways.

[REPLY](#)



[Mike Angell](#) says

[December 10, 2014 at 1:28 pm](#)

I suspect a rereading is necessary. That is not at all what I understood from this article.

[REPLY](#)



[M. Medford](#) says

[August 1, 2016 at 8:49 pm](#)

You need to read the whole thing again while critically thinking. You read it, but you did not comprehend it. Short summary: Processed rapeseeds without saturated fats causes the lesions and other heart-related problems; naturally cooked then pressed traditional rapeseed with a diet high in saturated fats had no adverse effects. Soybean oil in and of itself is toxic and was never meant as a food item, neither is Canola. The replacing of natural products by a confirmed unhealthy and inedible compound should be lamented, because it's a major cause of the poverty in India since oil pressers were chased off for making harmless products because of one incident which had nothing to do with the rapeseed oil and probably everything to do with marketers causing this. The incident was otherwise unprecedented because there was nothing wrong with the product for thousands of years before the soybean oil companies suddenly wanted to do trade in India. Tin foil hats aren't just a fad, when something like this happens, it's just like the PG&E case where they found out the company was harming people and hiding it – and they new the entire time.

It's not wanting it both ways if we're talking apples and oranges. You have natural versus processed, and the exclusion of saturates is what's causing even natural rapeseed to be hazardous.

[REPLY](#)



2. David Seal says

[June 18, 2014 at 11:16 am](#)

My problem with Canola oil is that even small quantities causes low level nausea, night-time stomach upset, excess gas, and chronic diarrhea. Elimination of this oil from my diet (nearly impossible to do completely, it's in almost every processed food now), has cleared these symptoms for over a year now. My body either finds it no more digestible than mineral oil, or the hidden toxins rife in the product from nature or processing simply disagree with my biochemistry. Either way, if I inadvertently consume some of this Canola Oil, the symptoms rapidly return and last for days. I really wish the food manufacturers would come out with lines of products similar to the "gluten free" labels: like "Canola Free" or "No Rapeseed Oil Used". Restaurants will not tell you, they will just say they use "vegetable oil".

[REPLY](#)



3. Organic Canola Farmer says

[June 19, 2014 at 1:52 am](#)

<http://www.snopes.com/medical/toxins/canola.asp>

[REPLY](#)



o K. O. Kowalski says

[November 25, 2014 at 2:03 am](#)

Snopes is nothing more than a husband and wife team who protect the interests of big business while providing specious answers to those too lazy to do their own research. Note how they brush off the issue of the kosher tax that non-Jews are forced to pay on practically all supermarket products. (deceptively marked as K, BCK, U, Parve, Pareve, COR, etc.)

I know for a fact companies are paying anywhere from \$2000 a year or more to have their products certified kosher, and this is passed on to the consumer. The profits to these rabbinical unions is in the millions. Even many Jews could care less whether their food is kosher or not. It certainly doesn't add to the quality of the product like organic certification does. Snopes is as trustworthy as a politician or head of a corporation, and just as biased. The public would do better by researching on their own and coming to their own conclusions, than by relying on the toadies at Snopes.

[REPLY](#)



4. H Sim says

[July 6, 2014 at 1:36 am](#)

I am one of the people who was rushed to an emergency room with symptoms of a stroke or overdose. I had consumed Atlantic salmon cooked in canola oil with salt & pepper. I was slurring and my blood pressure dropped; I passed out after vomiting. The emergency doctor wanted to order an MRI, but I was certain I wasn't having a stroke, as there was no pain or confusion associated. Thankfully, my husband could understand me through my slurring (no one else could). We skipped the MRI, and blood tests confirmed for the doctor what I already knew: I hadn't overdosed nor consumed a drug that would cause this. My husband was able to convince the doctor to give me treatment for food allergy (Benadryl, IV steroids, and epinephrine). Within several minutes I was feeling better and the slurring went away. I followed up with an allergist who tested for everything I'd consumed except canola oil (they don't have allergy tests for canola, so of course it can't be written in medical journals) and I tested with no allergies. However, each time I've been inadvertently exposed to canola oil, it's happened again, only now I can feel the symptoms come on and take Benadryl before I become seriously ill. I must admit, it's incredibly frustrating to read about this reaction being "a myth" since it's not in medical journals. I dare say there are many illnesses not yet written about in medical journals. Assuming the illness to be a myth because it isn't in a journal is probably the chief reason it isn't in a journal.

[REPLY](#)



5. [Jaime](#) says

[January 15, 2015 at 1:21 pm](#)

Thank You for this article. I found it to be well-researched with sources and well-written. I appreciate how informative it is and I especially value any article that makes an effort to debunk the erroneous information that is often repeated and shared as fact. If we are to make headway against lies masquerading as marketing campaigns we must arm ourselves with the facts.

Thank You Again,
Jaime

[REPLY](#)



6. [Tony R.](#) says

[May 19, 2015 at 1:27 pm](#)

If canola were as dangerous as this article claims, with millions of people consuming the stuff for more than a generation since its introduction, people should be dropping dead like flies. They're not. In fact, people are thriving, and new actuarial tables have just boosted life expectancies by a couple of years.

A few years ago I switched to canola as my dietary oil of choice. It's high in omega fatty acids and a good replacement for or supplement to flax and cold-water fish. Its neutral taste works with all foods. I did my own research and became convinced that the breathless anti-canola reporting was nothing more than misinformed hype.

[REPLY](#)



○ [Colin](#) says

[May 31, 2015 at 7:38 pm](#)

Tony R., paid to hype Canola much?

Where is your "research" material coming from?

"Its neutral taste works with all foods." – really? You mean to say you've tried it with all foods? Good for you, but most of us reading this article don't want this crap in our diet.

[REPLY](#)



■ [bob](#) says

[August 6, 2016 at 9:26 am](#)

So, Colin, anyone who disagrees with you is a shill?

[REPLY](#)



○ [Tony W](#) says

[July 8, 2015 at 3:15 am](#)

"...people should be dropping dead like flies". Do only flies drop dead? Actually members of all species die, some time, but longevity is not a measure of health. The overuse of canola oil is just one factor in unhealthy diets that lead to unhealthy populations. If you can show that using canola as a "dietary oil of choice" leads to longer, healthier, lives, please publish here.

Rather than your anecdotal argument, you should show where the explanations given in the above article fall down. The article provides reams of references which you can check for yourself. When you've done your homework and checked out the arguments, perhaps you could post again with your findings?

[REPLY](#)



Lupus Major says

[December 29, 2015 at 5:42 pm](#)

Only... people ARE dropping dead like flies. After seed oils were introduced we've gotten progressively sicker. Medical science has progressed which could just as easily be the cause of increased lifespan in spite of increased illness— but a long, sick life isn't exactly ideal.

If type 2 diabetes affecting 35% of the population, heart disease causing 30% of all deaths, not to mention cases of cancer, autoimmune disease, depression/anxiety increasing, is your definition of “thriving”, I don't know what to say.

Correlation is not causation of course, and there are so many other possible culprits that we're still teasing apart what affects what, but it's hard to believe that the steady decline in health that began around the time industrial oils were introduced is 100% unrelated to this dietary change— so why give it the benefit of the doubt, when these problems were much fewer 100 years ago?

[REPLY](#)



7. scott roberts says

[September 9, 2015 at 10:46 am](#)

References 17 and 18 are the primary evidence in this article against canola for human consumption. But these studies were in rats bred to be hypertensive rats who need cholesterol to mitigate the rigid membranes they are born with. The authors in the 2nd link think canola's cholesterol-lowering ability was why they did not live as long and conclude “Thus, canola oil, because of its low concentration of saturated fatty acids and high phytosterol concentration, could be considered more beneficial than other common dietary fats in lowering the blood lipid risk factors for the development of CHD.” The rats receiving olive oil had the lowest lifespans, and the lowest plant sterols, indicating it was not the sterols.

[REPLY](#)



Ben W says

[November 26, 2015 at 3:06 pm](#)

“indicating it was not the sterols.”

Untrue, sir. The paper states that must be due to another minor unknown element. It does not exculpate the sterols at all. The scope of the paper is still valid and verifiable in its conclusions.

The use of genetically bred rats, does not invalidate the point either. They are working with a chosen model, for whatever reasons they deemed necessary. I do not see any flaws in the extrapolation, is a logical assumption. But if you do not like the hypothesis, Bacon gives you a very easy tool, try to disprove it.

[REPLY](#)



8. scott roberts says

[September 9, 2015 at 7:22 pm](#)

Concerning reference 12 supporting the statement “high levels of omega-3 fatty acids correlated with high levels of lesions.” The reference said diets without saturated fat are harmful to rats. Soybean and canola-only diets were both harmful, not merely that “high omega 3s” are harmful. Likewise for references 13, 14, 15, and 16: diets containing ONLY canola oil without saturated fat or excess vitamin E were harmful in animal testing. This is an important distinction from saying “high levels of omega-3 fatty acids correlated with high levels of lesions”, “piglets fed canola oil suffered from a decrease in platelet count and an increase in platelet size”, and “Canola oil was found to suppress the normal developmental increase in platelet count”. These are all true statements, but there is some context missing from the original research. The only important and dangerous-sounding aspects of these papers was the “excess” vitamin E needed to protect against the higher level of peroxidation caused by canola when compared to soybean oil (and olive oil in a 2009 paper).

I looked into this further and found out the filtering process can remove pre-existing Vit E found naturally in the oil which adds to any excess oxidation caused in refining. From a paper: "By development of auto-oxidation [peroxidation] of unsaturated lipids, hydroperoxides decomposed into aldehyde and carbonyl products." It will not taste as well, so there is a motivation to prevent it. If a surfactant like SDS (Sodium dodecyl sulfate), the oxidation greatly increases.

I do not think this increased "rancidity" of canola coming from the refiner should be considered a drawback (a paper called anti-oxidant-stripped canola oil "TCO"). I wonder if it is a direct result of the omega-3s being easier to oxidize, and why they are so hard to find in anything except flaxseed oil. I will take an excess of vit E to offset it, if I don't use another source of omega-3's that are less likely to oxidize, like fish oil.

Reference 19 (Federal Register, 1985) was supposed to be the support for the statement "it seems to retard growth, which is why the FDA does not allow the use of canola oil in infant formula". I could not find that regulation, but it was cited in one of the references, giving a different reason: "The use of canola oil in infant formulas is not permitted because infants fed formula might consume higher amounts of 22:1(n-9) than would be provided in usual mixed diets and because of the lack of data about infants fed diets containing canola oil. (Federal Register, 1985)"

[REPLY](#)



9. Sue D says

[October 10, 2015 at 3:41 pm](#)

I really do not care what the official research says, but we now know that they got it wrong with natural oils like butter, as this turns out not to be bad for our hearts now, so the "official" research here as is probably paid for by the manufacturers anyway is just as likely to be wrong.

I do know however that this stuff even in the smallest amount makes me very unwell, I can have nausea, diarrhoea and extreme stomach cramps. Plus I know I am not alone in this. It took me years to work it out this was my problem, but now I have life is a nightmare as everything I eat has to be either made by me or heavily researched first. Restaurants I have found are helpful as they say more and more people are asking. If they say they use it, I have to apologise and leave.

[REPLY](#)



10. T. Schumacher says

[January 14, 2016 at 8:37 am](#)

I am leaving this comment for other mothers and caregivers as anecdotal evidence to add to their own research efforts. Recently, my family went on an elimination diet. After having an unexpected inflammatory reaction to a new food, we found out that we are intolerant of canola oil. Not wanting to face the incredible inconvenience that this creates for me, as the primary sustenance giver, I challenged everybody, multiple times. Sadly, canola oil causes an inflammatory response in the skin of my teenager, gut issues for all of us, and an arthritis type low grade pain in my hands. I have removed it from our diet, and find that a very occasional slip with a pre-prepared food isn't bad, but regular consumption causes increasing inflammation issues. We have returned to olive oil and butter, as well as various nut oils and animal fats. Unfortunately, this means that I now have to prepare almost everything by hand, since even the most 'healthy' prepared foods seem to use this cheap oil.

[REPLY](#)



Carlyne Mas says

[October 22, 2017 at 1:19 pm](#)

Good for you. Processed foods are no good for you. My family gave them up when our son was a baby. It's the only way to keep track of what you are actually eating.

[REPLY](#)



11. Kay says

[February 11, 2016 at 11:10 pm](#)

"The Great Cholesterol Myth" book says this oil is not fit for consumption. Unfortunately it is in many foods, especially chips. I believe we should all avoid it. Kay

[REPLY](#)



12. Dale Willman says

[August 18, 2016 at 3:04 pm](#)

I found the article to be well balanced with minimal editorializing (though some could not be overlooked... such as the title). The debate is likely to continue. Based on our research and a strong desire to be as healthy as possible, we will avoid Canola, even at the cost of profit margin in our new restaurant.

[REPLY](#)