

June 21, 2019

[U.S. Department of Agriculture Food and Nutrition Service \(USDA-FNS\)](#)
[U.S. Department of Health and Human Services \(HHS\)](#)



USDA-FNS and HHS,

The [U.S. Canola Association](#) (USCA) appreciates the opportunity to comment on topics and questions related to the development of the *Dietary Guidelines for Americans 2020-2025* as requested March 12, 2019 on Regulations.gov. Based in Washington, D.C., the USCA works to support and advance U.S. canola production, marketing, processing and use through government and industry relations. Since its founding in 1989, the USCA has helped domestic canola acreage grow from virtually zero to 2 million. It represents all industry segments, including farmers from five U.S. regions.

These comments highlight the health benefits of canola oil in the diet for people of all ages and health statuses. Canola oil has Generally Recognized as Safe (GRAS) status for use in infant formula and qualified health claims from the U.S. Food and Drug Administration (FDA) on its ability to reduce the risk of coronary heart disease in both regular (commodity) and high-oleic versions.

Canola oil is predominantly composed of unsaturated fatty acids (UFAs), including 62 percent oleic acid, a monounsaturated fatty acid (MUFA), and 9 and 19 percent of polyunsaturated fatty acids (PUFAs) alpha-linolenic acid (ALA) and linoleic acid (LA), respectively. In fact, canola oil has the least saturated fatty acids (SFAs), only 7 percent, and the most omega-3 ALA of all common cooking oils. (See [dietary fat comparison chart for oils](#).) It is also a good source of vitamins E and K as well as plant sterols. Using canola oil as an everyday cooking oil is a simple, affordable way for Americans to reduce their risk of heart disease, metabolic syndrome and type 2 diabetes while increasing their intake of nutrients of concern: vitamin E and the essential fatty acid ALA.

In order to address the topics and questions posed by the Dietary Guidelines Advisory Committee (DGAC), these comments are focused on adults and elderly populations since most of the human clinical trials with canola oil have been conducted with these life stage groups. Below are summaries of studies providing evidence that canola oil helps reduce heart disease risk and abdominal adiposity, manage type 2 diabetes, and potentially protect against colon and breast cancers when consumed in place of SFAs.

DIETARY PATTERNS AND RISK OF OVERWEIGHT/OBESITY, CARDIOVASCULAR DISEASE AND TYPE 2 DIABETES

Canola oil well fits into the current Dietary Guidelines for Americans and recommended eating patterns (Mediterranean, DASH, vegetarian/vegan, low carb diets). Clinical studies have been going on for decades involving thousands of human volunteers to examine canola oil, its components (e.g., MUFA, ALA and LA) and their effects on the body. Based on such research, the [FDA](#) authorized in 2006 a [qualified health claim](#) for canola oil on its ability to reduce the risk of heart disease when used in place of SFAs and the same [claim for high-oleic canola oil](#) in 2018.

A scientific literature review published in [Nutrition Reviews](#) in June 2013 summarized additional studies on health benefits of canola oil. Data showed that:

- **Canola oil substantially reduces total and LDL cholesterol levels and improves insulin sensitivity when used in place of SFAs** as well as increases levels of tocopherol (vitamin E) compared with other dietary fat sources.
- **Canola oil can help consumers meet expert dietary fat recommendations** (less than 10 percent SFAs from total daily calories and minimal *trans* fat) and can be included in diets designed to reduce blood cholesterol and/or heart disease risk.
- **Compared with high-SFA or typical Western diets, canola oil-based diets can reduce total and LDL cholesterol** in healthy people and those with high cholesterol, reducing heart disease risk.
- **With 62 percent MUFA, canola oil may prevent the oxidation of LDL cholesterol.** Oxidized LDL may contribute to inflammation in the arteries and heart disease risk.
- **Canola oil may promote immune and cardiovascular health** through its anti-blood clotting and anti-oxidative effects.
- **Canola oil may help reduce inflammation in the body and possibly protect against breast and colon cancers.** Researchers are interested in studying this further.

[Additional studies](#) with canola oil since publication of this scientific literature review support these benefits, too. Two are relevant to dietary patterns and disease risk:

Blood Glucose Control and Canola Oil

Canola oil can help control blood glucose in people with type 2 diabetes when included as part of a low-glycemic index (GI) diet, according to research published online June 14, 2014 in [Diabetes Care](#). The study of Canadian adults with type 2 diabetes showed that adding canola oil

to the diet helps control blood glucose and risk of cardiovascular disease (CVD).

In the randomized controlled trial, 141 participants with type 2 diabetes who were taking drugs to control blood glucose were given either a test or control diet for three months. The test diet was low-GI (minimizing fluctuations in blood glucose levels) and higher in fat, including bread made with canola oil (31 grams of oil per person per day). The control diet was healthy, low-fat and high-fiber. Results showed that those who consumed the canola oil diet improved blood glucose control. Importantly, participants at increased risk for adverse effects from type 2 diabetes, such as those with high blood pressure, derived the greatest benefits.

The [“Effect of Lowering the Glycemic Load with Canola Oil on Glycemic Control and Cardiovascular Risk Factors: A Randomized Controlled Trial”](#) was the first study to assess the combination of healthy dietary fat and low-GI food intake. In addition to helping control blood glucose, canola oil consumption was associated with a significant reduction in LDL cholesterol. This may translate into an extra 7 percent reduction in CVD events, the researchers noted.

Abdominal Obesity and Canola Oil

Abdominal obesity is a risk factor for CVD and diabetes and prevalent in U.S. adults of all ages. Rates of elevated blood pressure, adverse blood lipid profiles and diabetes are highest in those with elevated abdominal obesity.

Canola and high-oleic canola oils were shown to lower abdominal fat when used in place of three other types of oils in a heart-healthy diet for weight maintenance, according to research from the Canola Oil Multicentre Intervention Trial (COMIT). Published in the [November 2016 Obesity journal](#), the study of American and Canadian adults at risk for metabolic syndrome showed that consuming canola oil and its high-oleic counterpart may reduce their risk of this pre-diabetes condition.

In the multicenter, randomized, controlled trial, 121 participants at risk for metabolic syndrome were all given a weight-maintenance, heart-healthy diet with a daily smoothie containing one of five study oils. This process was repeated with each oil. Study oils included canola, high-oleic canola, high-oleic canola oil enriched with an algal source of the omega-3 DHA, a flax/safflower oil blend and a corn/safflower oil blend.

Results showed that those who consumed canola or high-oleic canola oils on a daily basis for four weeks lowered their abdominal fat by 1.6 percent. Abdominal fat was unchanged by the other three oils – two of which (flax/safflower and corn/safflower oil blends) were low in MUFA. This study suggested that a diet high in MUFA without DHA may reduce the risk of metabolic syndrome and therefore, heart disease, stroke and type 2 diabetes.

TYPES OF DIETARY FAT, NEUROCOGNITIVE DEVELOPMENT, RISK OF CVD AND CANCER, AND ALL-CAUSE MORTALITY

The *Dietary Guidelines for Americans 2015-2020* recommends that consumers: 1) reduce intake of SFAs to 10 percent of total daily calories, replacing those calories with UFAs as much as possible and 2) consume non-partially hydrogenated (PH) vegetable oils relatively low in SFAs instead of tropical oils or animal fats. The fatty acid composition of canola oil is consistent with scientific evidence in favor of these recommendations as reported in italics by the 2015 DGAC:

- *Strong evidence indicates dietary patterns that are lower in saturated fat and richer in unsaturated fats are beneficial for reducing cardiovascular disease risk. **Canola oil has only 7 percent SFAs and zero trans fatty acids by definition of the U.S. Food and Drug Administration, helping Americans stay below the recommended 10 percent upper limit for saturated fat and to minimize trans fat.***
- *Strong and consistent evidence shows that replacing SFAs with UFAs, especially PUFAs, significantly reduces total and LDL cholesterol as well as the risk of CVD events and coronary mortality. For every 1 percent of energy intake from SFAs replaced with PUFAs, incidence of heart disease is reduced by 2 to 3 percent. **Canola oil contains 28 percent PUFAs, including ALA and LA at an ideal ratio of 1:2.***
- *In low-fat diets, fats are often replaced with refined carbohydrates and this is of particular concern because such diets are generally associated with dyslipidemia. Therefore, dietary advice should put the emphasis on optimizing types of dietary fat and not reducing total fat. **Canola oil is predominantly composed of UFAs so it contributes healthy fats to the diet.***
- *When individuals reduce consumption of refined carbohydrates and added sugars, they should not replace them with foods high in SFAs. Instead, refined carbohydrates and added sugars should be replaced by healthy sources of carbohydrates [and] fats (e.g., non-partially hydrogenated vegetable oils that are high in UFAs and nuts/seeds). **Low in SFAs, canola oil is ideal for use in home and commercial kitchens as well as in food products.***
- *It is now well-established that higher intake of trans fat from partially hydrogenated vegetable oils is associated with increased risk of CVD and thus, should be minimized in the diet. **Canola and high-oleic canola oils are free of trans fat and can well replace PH oils – which are no longer GRAS – in the diet. High-oleic canola oil is particularly suitable for replacing PH oils in food service operations and food products.***

NUTRIENTS OF PUBLIC HEALTH CONCERN

Alpha-Linolenic Acid and Vitamin E

Canola oil can help Americans get adequate dietary ALA and vitamin E, which the 2015 DGAC noted in italics below are shortfall nutrients:

- *The Adequate Intake (1.6 g/day for men and 1.1 g/day for women) for ALA is not met by an estimated 45 percent of men and 32 percent of women. **Canola oil contains the most ALA of all cooking oils with 1.3 grams per serving (1 tablespoon).***
- *Vitamin E remains on the list of shortfall nutrients, with only 6 and 15 percent of women and men 19 years of age or older getting enough of it, respectively. The Estimated Average Requirement for vitamin E is 12 mg per day for both genders ages 14 and up. **Canola oil is a good source of vitamin E, providing 2.4 mg per one tablespoon serving.***

Finally, canola oil is suitable for almost every culinary application and cuisine due to its neutral taste, light texture, high heat tolerance ([smoke point](#) of 468 °F) and oxidative stability. It is widely available and affordable.

In summary, using canola oil as an everyday cooking oil is an easy, effective and low-cost way for Americans to reduce their risk of heart disease, abdominal fat and metabolic syndrome, and to help control blood glucose in those with type 2 diabetes. Preliminary evidence shows that canola oil may help prevent certain types of cancer as well.

On behalf of the USCA, thank you for consideration of these comments.

Respectfully submitted,

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President
U.S. Canola Association