

March 20, 2018

U.S. Department of Agriculture
U.S. Department of Health and Human Services
<https://www.cnpp.usda.gov/dietary-guidelines#submitcomments>



USDA and HHS,

The U.S. Canola Association (USCA) appreciates the opportunity to comment on topics and supporting scientific questions related to the development of the Dietary Guidelines for Americans 2020-2025 as requested in the Feb. 28, 2018 *Federal Register*. The Washington, D.C.-based 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 nearly 2 million. It represents all industry segments, including growers from five regions.

With Generally Recognized As Safe (GRAS) status for use in infant formula and a qualified health claim from the U.S. Food and Drug Administration (FDA) on its ability to reduce the risk of heart disease, canola oil is suitable for people of all ages. But to address the topics and questions posed in the *Federal Register*, these comments are focused on adults and older adults since most of the human clinical trials have been conducted with these life stage groups. Below are summaries of studies providing evidence that canola oil can help reduce heart disease risk and abdominal adiposity, manage type 2 diabetes, and may potentially help protect against colon and breast cancers.

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. 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 and gain other health benefits.

DIETARY PATTERNS TO PROMOTE HEALTH, PREVENT DISEASE AND MEET NUTRIENT NEEDS

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 U.S. Food and Drug Administration authorized in 2006 a qualified health claim about canola oil's ability to reduce the risk of heart disease when used in place of SFAs. 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 a diet designed to reduce blood cholesterol.
- **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 of relevance to the *Federal Register* topics:

Blood Glucose Control and Canola Oil

Canola oil can also 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 is a simple way of helping 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 (minimizes 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 emphasizing whole wheat foods. 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 fat consumption and a low-GI diet. Moreover, even though study participants were being treated with drugs to control blood glucose and had low LDL cholesterol levels, canola oil consumption was associated with a significant, additional reduction in this type of 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 can lower abdominal fat when used in place of other selected oil blends in a heart-healthy diet for weight maintenance, according to research from the Canola Oil Multicentre Intervention Trial (COMIT) that was published in a special section of the [November 2016 Obesity journal](#). The study of American and Canadian adults at risk for metabolic syndrome showed that consuming these canola oils may be a simple way of reducing their risk of this medical 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 for the remaining four oils, which included a flax/safflower oil blend, corn/safflower oil blend and high-oleic canola oil enriched with an algal source of the omega-3 DHA.

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 may reduce the risk of metabolic syndrome and therefore, heart disease, stroke and type 2 diabetes.

SATURATED AND TRANS FATTY ACIDS AND HEART DISEASE

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 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 Dietary Guidelines Advisory Committee (DGAC) here:

- *Strong evidence indicates dietary patterns that are lower in saturated fat and richer in unsaturated fats are beneficial for reducing cardiovascular disease risk. The USCA supports the current recommendation of a 10 percent upper limit for saturated fat intake and minimization of partially hydrogenated oils containing trans fat. **Canola oil has only 7 percent SFAs and zero trans fatty acids by definition of the U.S. Food and Drug Administration.** (See [dietary fat comparison chart for oils.](#))*
- *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 the rights types of fatty acids 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 healthy sources of fats (e.g., non-partially hydrogenated vegetable oils that are high in UFAs and nuts/seeds). **Canola oil is suitable for home and commercial kitchens as well as 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. **High-stability or high-oleic canola oils, which have even higher MUFA content than commodity canola oil, are excellent alternatives to partially hydrogenated oils, which lost GRAS status from the FDA in June 2015.***

Adequate ALA and Vitamin E Intake

Canola oil can also help Americans get adequate ALA and vitamin E in their diets, 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 has the advantage of being 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. (See [smoke point comparison chart](#).) It is also affordable and widely available.

In summary, using canola oil as an everyday cooking oil is an easy, effective and budget-friendly way for Americans to reduce their risk of heart disease, manage diabetes and reduce abdominal fat. Preliminary evidence also shows that it 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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