

# Canola!

## Canola and Vitamin E

*Canola oil is a good source of vitamin E. Vitamin E is an antioxidant that may help reduce the risk of some chronic diseases like heart disease and cancer.*

For many years, vitamin E was a mystery. Its role in the reproduction of rats had been known since the 1920's, but its role in human health was not clear. Today, this fat-soluble vitamin is known as one of the body's most powerful antioxidants.

### The Trouble with Oxidation

Oxidation is a natural process that occurs in the body and produces compounds called *free radicals*. Free radicals upset the normal operation of body cells by attacking DNA, the body's genetic material. They also damage fats and proteins found in cells. The damage caused by free radicals has been linked with diseases like memory loss, cancer, heart disease, diabetes, rheumatoid arthritis, sun damage to skin and cataracts.

### Vitamin E Protects Against Oxidation

Antioxidants such as vitamin E, vitamin C and beta-carotene help the body defend against oxidation. Antioxidants work by making free radicals inactive - much like throwing water on a fire to douse it. Antioxidants may act alone or together to stop free radicals from attacking fats and proteins. For this reason, vitamin E is important in tissues like the brain, which is rich in fat. Indeed, vitamin E may be linked with cognition - our ability to think, plan and remember. One study, for example, found that elderly people with good vitamin E intakes did better on memory tests than those with poor vitamin E intakes.

### Vitamin E and Heart Disease

Vitamin E helps protect against heart disease. Vitamin E is the main antioxidant in blood lipids like low-density lipoproteins (LDL), the so-called bad cholesterol that carries fats and cholesterol in the bloodstream. Vitamin E helps prevent oxidation of lipoproteins, particularly in smokers, and reduces the

stickiness of platelets in the bloodstream. Vitamin E also keeps arteries flexible and elastic, allowing blood to flow freely. In short, vitamin E reduces heart disease risk by helping to keep arteries healthy.

Furthermore, the risk of heart disease decreases as vitamin E intake increases. That is, populations with high intakes of vitamin E have lower death rates from heart disease. Although the amount of vitamin E needed to prevent heart disease is not known, researchers are working at figuring out how much should be eaten daily to reduce heart disease risk.

### Vitamin E

Vitamin E is an essential nutrient that must be supplied in the diet. The term vitamin E is generic and describes a group of compounds known as *tocopherols*.

### Food Sources

Vitamin E is found mainly in vegetable oils (such as canola, sunflower, safflower, and wheat germ oils), nuts, whole grains and egg yolks. Smaller amounts are found in fruits, vegetables, meats and fish.

### Dietary Requirements

Polyunsaturated fats are found in many foods such as vegetable oils, seeds, grains, nuts, fish and processed foods like fruit pie and granola bars. The more polyunsaturated fat in your diet, the greater your need for vitamin E. One tablespoon (15 mL) of refined canola oil contains 2 mg of vitamin E (alpha-tocopherol), supplying about one-fifth of an adult's daily vitamin E requirement. Contact a nutritionist to determine your recommended daily vitamin E intake.

### A Natural Antioxidant

Vitamin E acts as an antioxidant. In vegetable oils, it helps reduce the speed at which the oils become rancid. In the human body, it helps protect against oxidation caused by free radicals. The richest dietary sources of vitamin E are vegetable oils such as canola oil.

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### References

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### Vitamin E and Cancer

Free radicals can damage DNA, leading to mutations in cells that may cause cancer. Vitamin E appears to protect DNA from free radical damage. It also blocks tumor development in animals and the growth of human breast cancer cells in test tubes. One form of the vitamin protects against cancer by causing cancer cells to die. *In humans, the results are mixed.* Low amounts of vitamin E in the blood have been linked with increased risk of certain types of cancers. Cigarette smokers, for example, tend to eat diets poor in vitamin E and other antioxidants and to have low blood levels of vitamin E compared with nonsmokers. Even so, taking a vitamin E supplement or eating more vitamin E-rich foods may not always reduce cancer risk.

### Food Sources of Vitamin E

Canola oil is a good source of vitamin E. Vitamin E is also found in other vegetable oils, egg yolks, nuts, whole grains, wheat germ, ready-to-eat cereals, spinach and turnip greens. Eating a variety of vitamin E-rich foods or eating combinations of foods, such as a spinach and hard-boiled egg salad made with a canola oil dressing, will ensure an adequate intake of this antioxidant.

### Foods Versus Supplements as Sources of Vitamin E

Supplements are not a better source of vitamin E than foods. The various forms of vitamin E found in foods – and there are eight of them – have different roles in the body. Supplements are made with just one form of the vitamin, and that form is often man-made. The man-made form of vitamin E is not as powerful as natural forms of the vitamin. These are good reasons for choosing foods as a source of vitamin E.

### Vitamin E Intakes Are Low

Many adults appear to have low intakes of the most active form of vitamin E ( $\alpha$ -tocopherol), according to a U.S. study. In this survey of nearly 10,000 adults, only 8% of men and 2.4% of women ate the recommended amount of vitamin E.

### In Conclusion...

Vitamin E is an antioxidant that protects the body's fats and proteins from damage by free radicals. Eating vitamin E-rich foods every day may help reduce the risk of heart disease, cancer and memory loss. Canola oil is a good source of vitamin E. Including canola oil in salad dressings, marinades, desserts, as well as for stir-frying and sautéing, ensures an adequate intake of this essential nutrient.

### Sweet and Spicy Pecans

Kelly Funke, Assistant Editor, *Canola Digest*

5 cups	pecan or walnut halves (1 lb.)	1.25 L
½ cup	granulated sugar	125 mL
2 Tbsp.	canola oil	25 mL
1 Tbsp.	ground cumin	15 mL
1 tsp.	each chili powder and ground coriander	5 mL
¾ tsp.	salt	3 mL
½ tsp.	ground ginger	2 mL
¼ tsp.	each cinnamon, cloves and cayenne pepper	1 mL

- Blanch pecan halves in boiling water for 1 minute; drain well.
  - Transfer immediately to large bowl. Sprinkle with sugar and drizzle with oil; toss to coat well.
  - Let stand for 10 minutes.
  - Spread in single layer on greased, foil-lined, rimmed baking sheet. Bake in 325°F (160°C) oven, turning every 5 minutes for about 25 minutes or until nuts are crisp and slightly darkened.
  - Meanwhile, in metal cake pan or other heatproof pan, combine cumin, chili powder, coriander, salt, ginger, cinnamon, cloves and cayenne. Toast in oven alongside nuts for 5 minutes.
  - Dump nuts into large bowl; sprinkle with spices and toss to coat well. Spread in single layer on baking sheet to cool. Store in airtight containers for up to two weeks.
- Yield: 5 cups (1.25 L) or 10 servings.

For more information  
about canola oil, check  
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