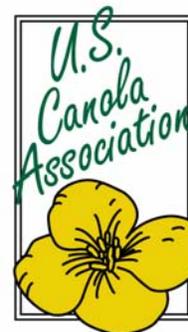


July 13, 2010

Carole Davis
Co-Executive Secretary and Designated Federal Officer
of the Dietary Guidelines Advisory Committee
Center for Nutrition Policy and Promotion
U.S. Department of Agriculture
3101 Park Center Dr., Room 1034
Alexandria, VA 22302



Dear Ms. Davis:

The U.S. Canola Association (USCA) appreciates the opportunity to comment on the final report of the 2010 Dietary Guidelines Advisory Committee (DGAC) as requested in the June 15, 2010 *Federal Register*. The USCA applauds the DGAC's efforts and supports its recommended revisions to the guidelines, especially as they pertain to dietary fats.

The USCA concurs with the need to educate the public about different types of fats, distinguishing healthy unsaturated fatty acids (UFA) from saturated (SFA) and *trans* fatty acids (TFA) due to their varying effects on blood lipid values and heart health. As the DGAC notes, consumption of SFA and TFA is associated with a poor lipid/lipoprotein profile and increased risk of cardiovascular disease (CVD), but UFA, including monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA), have significant metabolic benefits and are health-promoting. In fact, the DGAC report says "several lines of evidence indicate that the type of fat is more important in decreasing metabolic and CVD risk than the total amount of fat in the diet."

The USCA commends the DGAC in considering type 2 diabetes (T2D) for the first time along with CVD in its evaluation of dietary fats and cholesterol since T2D is a strong risk factor for CVD and increasing at an alarming rate. Moreover, it is important for children along with adults to be considered in the analysis of CVD and T2D risk with dietary recommendations. As the DGAC notes, "the age of onset of T2D is substantially younger than that of CVD and increasingly frequent in adolescence," plus "early signs of atherosclerotic CVD are seen in children and a number of studies indicate that the atherosclerotic process begins in childhood and is affected by high blood cholesterol levels."

Given the need to reduce non-nutritive calories in the American diet, the USCA supports the DGAC's recommendations for all Americans to: 1) reduce solid fats and foods containing them in consumer food choices, restaurants and food products; 2) gradually reduce intake of SFA from 10 to 7 percent of total daily calories, replacing those calories with UFA; 3) limit cholesterol-raising fats (SFA exclusive of stearic acid and TFA) to less than 5 to 7 percent of energy; 4) consume less than 300 mg of cholesterol per day and 5) avoid artificial (industrial) TFA. While the DGAC recommends total fat consumption in the range of 20 to 35 percent of total calories, the USCA suggests the DGAC consider reducing this range to 20 to 30 percent due to DGAC's own conclusion that "consuming the recommended intake of saturated fat is more likely achievable when total fat intake is less than 30 percent of total calories." This reduction should

not come at the expense of increased intake from simple carbohydrates.

Reducing Saturated Fat

“As the evidence indicates that a 5 percent energy decrease in SFA, replaced by MUFA or PUFA, results in meaningful reduction of risk of CVD or T2D, and given that in the U.S. population 11-12 percent of energy from SFA intake has remained unchanged for over 15 years, a reduction of this amount resulting in the goal of less than 7 percent energy from SFA should, if attained, have a significant public health impact,” says the DGAC report. “Reduction in SFA in children and young adults may provide benefits decades earlier than currently appreciated relative to both CVD and T2D incidence.”

Moreover, based on the DGAC’s own dietary modeling, if all solid fats were removed and replaced with oils, total SFA would be decreased to 7.0 to 7.5 percent of calories and cholesterol-raising fatty acids (SFA minus stearic acid and TFA) would be decreased to 5.0 to 5.5 percent of calories. Given this benefit analysis, the USCA supports DGAC recommendations of 7 percent total daily calories from saturated fat as well as 5 percent from cholesterol-raising fatty acids.

Since stearic acid is not known to raise LDL cholesterol, the USCA concurs with the DGAC’s recommendation that stearic acid not be categorized with known cholesterol-raising fats, including lauric, myristic, palmitic SFA and TFA. However, translating this message into the Dietary Guidelines for Americans 2010 could be problematic as consumers at large will not know which types of SFA foods contain. In addition, per the DGAC report, “the potential impact of changes in stearic acid intake on cardiovascular disease risk remains unclear.” Therefore, regarding public health recommendations, it may be best to emphasize the reduction in SFA overall to less than 7 percent of total daily calories.

Total Fat and Minimum Health Fat Intakes

The USCA supports a recommended minimum total fat intake of 20 percent for adults based on a 2,000-calorie diet with an upper limit of 30 percent since it would be easier for Americans to reduce their saturated fat intake to 7 percent within this range. However, in reducing total fat intake to less than 30 percent of total calories, carbohydrate intake may increase. The USCA suggests that any increase in carbohydrates come from more complex carbohydrates rather than simple sugars, as the latter may negate the advantages of reducing SFA with respect to CVD incidence.

Specifying a minimum intake of healthy unsaturated fat could also strengthen the recommended total fat range, especially since Americans of all ages do not achieve recommended intakes of oils, which provide the essential fatty acids alpha-linolenic acid (ALA) and linoleic acid (LA) and in some cases, vitamins E and K, which are shortfall nutrients, according to the DGAC report. Fat intakes lower than 20 percent of energy could put individuals at risk for inadequate intakes of ALA, LA and vitamin E. This underscores the need for a minimum intake of healthy fats that are good sources of the latter nutrients. To this end, vegetable oils low in SFA, such as canola oil, should be specifically cited in the Dietary Guidelines for Americans 2010. Similarly, recommended sources of ALA, LA and vitamin E should be low in SFA.

Canola Oil and DGAC Recommendations

Canola oil can help Americans meet DGAC recommendations based on its fatty acid composition and the following DGAC findings:

- “Strong evidence indicates that intake of dietary SFA is positively associated with: 1) increased serum total and LDL cholesterol and increased risk of CVD and 2) increased markers of insulin resistance and increased risk of T2D. Conversely, decreased SFA intake improves measures of both CVD and T2D risk. The evidence shows that 5 percent energy decrease in SFA, replaced by MUFA or PUFA, decreases risk of CVD and T2D in healthy adults and improves insulin responsiveness in insulin resistant and T2D individuals.” *Canola oil has only 7 percent SFA, of which 2 percent is stearic acid, an SFA not known to raise LDL cholesterol.*
- “Strong evidence indicates that dietary MUFA are associated with improved blood lipids related to both CVD and T2D, when MUFA is a replacement for dietary SFA. The evidence shows that 5 percent energy replacement of SFA with MUFA decreases intermediate markers and the risk of CVD and T2D in healthy adults and improves insulin responsiveness in insulin resistant and T2D individuals. Moderate evidence indicates that increased MUFA intake, rather than high carbohydrate intake, may be beneficial for persons with T2D. High MUFA intake, when replacing a high carbohydrate intake, results in improved biomarkers of glucose tolerance and diabetic control.” *Canola oil contains 61 percent MUFA.*
- “Strong and consistent evidence indicates that dietary PUFA are associated with improved blood lipids related to CVD, in particular when PUFA is a replacement for dietary SFA or TFA. Evidence shows that energy replacement of SFA with PUFA decreases total cholesterol, LDL cholesterol and triglycerides as well as numerous markers of inflammation. PUFA intake significantly decreases risk of CVD and has also been shown to decrease risk of T2D.” *Canola oil contains 32 percent PUFA, including both ALA (omega-3) and LA (omega-6) at an ideal ratio of 1:2, respectively.*
- “ALA intake of 0.6-1.2 percent of total calories will meet current recommendations and may lower CVD risk. Limited but supportive evidence suggests that higher intake of omega-3 fatty acids from plant sources may reduce mortality among persons with existing CVD.” *Canola oil contains the most ALA of all cooking oils with 1.3 grams per serving (1 tablespoon). This meets 118 percent of the Adequate Intake for women (1.1 grams) and 81 percent for men (1.6 grams). ALA is found in few vegetable oils.*
- Vitamins E and K are shortfall nutrients, according to the DGAC report, with only 7 and 37 percent of Americans getting enough of them, respectively. The Recommended Dietary Allowance for vitamin E is 15 mg and the Adequate Intake for vitamin K is 90 mcg for women and 120 mcg for men. *Canola oil is a good source of both vitamins E and K, providing 2.4 mg and 20 mcg, respectively, per one tablespoon serving.*

- Plant sterols “[result] in reduced cholesterol absorption.” *Canola oil is one of the richest source of plant sterols (800 mg/100 g) of all vegetable oils.*

Moreover, in October 2006, the U.S. Food and Drug Administration authorized the following qualified health claim for canola oil: "*Limited and not conclusive scientific evidence suggests that eating about 1½ tablespoons (19 grams) of canola oil daily may reduce the risk of coronary heart disease due to the unsaturated fat content in canola oil. To achieve this possible benefit, canola oil is to replace a similar amount of saturated fat and not increase the total number of calories you eat in a day.*"

A modeling study included in the qualified health claim petition that was published in the October 2007 *Journal of the American Dietetic Association (JADA)* found that substitution of canola oil for common dietary fats in the U.S. would increase compliance with recommended intakes of SFA, MUFA and ALA. The study examined the effect of substituting canola oil for selected vegetable oils and canola oil-based margarine for other margarines and butter in the diet of nearly 9,000 adult Americans.

Food recall data from the 1999-2002 National Health and Nutrition Examination Survey were used to calculate the effect of substituting canola oil for corn, cottonseed, safflower, soybean and vegetable oils “not further specified” (excluding olive oil) and of canola oil-based margarine for other margarines and butter in the diet at 25, 50 and 100 percent replacement levels. Results showed that SFA intake would decrease by 4.7 and 9.4 percent with 50 and 100 percent substitution, respectively. Complete substitution would increase MUFA and ALA intakes by 27.6 and 73 percent, respectively.

“The results of this study show that fatty acid intake can be influenced substantially through a simple recommendation to change the type of vegetable oil used at the table and in cooking,” wrote co-authors Guy H. Johnson, Ph.D., president, Johnson Nutrition Solutions LLC; Debra Keast, Ph.D., principal, DR Keast Food and Nutrition Database Research Consulting; and Penny Kris-Etherton, Ph.D., R.D., distinguished professor of nutrition, The Pennsylvania State University. “The lack of consumer barriers to such a change with respect to cost, taste, convenience and availability makes canola oil attractive from a practical perspective.”

“The findings are provocative because they suggest that fairly simple recipe modifications and product reformulations could substantially increase the percentage of the population meeting dietary guidelines for saturated fat intake and achieving adequate intakes of α -linolenic acid,” added Jennifer Nettleton, Ph.D., assistant professor of cardiovascular disease epidemiology, University of Texas Health Sciences Center, in an accompanying *JADA* editorial. “Substituting canola oil for other common oils has the potential to reduce the substantial burden of coronary heart disease in the United States.”

Finally, canola oil has the advantage of being suitable for a wide range of culinary applications due to its neutral taste, light texture, high heat tolerance (smoke point of 468 °F) and oxidative stability.

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

Respectfully submitted,

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