Trans Fatty Acids in the Canadian Food Supply

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Why are trans fats a health concern for Canadians?

• Health effects well known: TFAs raise LDL-cholesterol and lower HDL-cholesterol.
• Coronary heart disease is a leading cause of premature death in Canada.
• Since early 60s, widespread use of hydrogenated canola and soybean oils. By the mid 1990s, Canadians were in taking 8.g TFA/day.
Action: Mandatory Nutrition Labelling

• Introduce mandatory labelling of TFAs Dec 2002. Effective December 2005
• Requires declaration of TFAs on most pre-packaged foods
Estimated trans fat intakes in Canada in 1995 and 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Trans Fat Intake (g/day)</th>
<th>Percentage of Energy (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>8.4g</td>
<td>3.7%</td>
</tr>
<tr>
<td>2005</td>
<td>4.9g</td>
<td>2.5%</td>
</tr>
<tr>
<td>2003</td>
<td>2g</td>
<td></td>
</tr>
</tbody>
</table>

WHO Recommended Level (1% E): 2g
Trans Fat Task Force

• Trans Fat Task Force established in 2005
• Aim: Provide Minister of Health recommendations to effectively eliminate or reduce industrial trans fats in Canadian foods to the lowest level possible.
Trans Fat Task Force Recommendations (June 2006)

- Limit the total amount of trans fat in foods through regulation.
- Vegetable oils and soft margarines: <2% of total fat
- All other foods: <5% of total fat. This limit does not apply to foods for which the fat originates exclusively from ruminant meat or dairy products.
- The recommended limits would enable Canadians to decrease the total trans fat intake to less than 1% of energy.
June 20, 2007 the Minister of Health:

• Gave industry 2 years to reduce trans fat on a voluntary basis to the recommended limits of 2% and 5%.
• To ensure that the industry making progress in meeting the 2 and 5% TFA limits, Health Canada is closely monitoring the TFA levels in retail foods.
• If significant progress has not been made, HC will develop regulations.
• Publish results of the trans fat monitoring program approximately every six months on the HC website.
• Planning to release the fourth set in September 2009.
Trans Fat Monitoring Program

- The Trans Fat Monitoring Program has been analyzing a wide variety of foods since 2005.
- Foods from restaurants and fast food chains
- Pre-packaged foods
- Bakery products
- Lab analysis: AOAC Official Method 996.06 for extraction and AOCS Official method Ce 1h-05 (100 m SP-2560 capillary column) for FA analysis
- A number pre-packaged foods information on TFA and SFA obtained from the Nutrition Facts table.
Summary of results: Percentage of foods meeting the trans limits (2 or 5%) from 2005-2009

Voluntary program has been successful. But 24% of foods still contain High TFA levels. Poorest performers included many bakery products.
Percentage of fast foods from restaurants and fast food chains meeting the 5% TFA limit from 2005-09

- Fried chicken: 79% (75/95)
- Fried fish: 83% (19/25)
- French fries: 79% (71/90)
- Muffins: 89% (25/28)
- Onion rings: 75% (9/12)
- Pizzas: 100% (13/13)
- Ethnic fast foods: 89% (56/63)
Percentage of pre-packaged foods meeting the 5% TFA limit from 2005-2009: Progressing well

- Fried Chicken products: 83% (60/64)
- Crackers: 94% (60/64)
- Frozen desserts: 71% (36/49)
- Baked desserts: 84% (19/25)
- Granola bars: 80% (16/20)
- Muffins: 100% (27/27)
- Instant noodles: 86% (19/22)
- Pre-fried potato products: 90% (19/23)
- Vegetable shortenings: 100% (4/4)
- Snacks: 100% (85/85)
- Popcorn: 92% (18/22)
Many pre-packaged foods still contain high TFAs

% meeting TFA limits

Cookies: 68% (54/80)
Coffee whiteners: 53% (9/17)
Garlic spreads: 33% (2/6)
Tub margarines: 62% (23/37)
Print Margarines: 0% (0/6)
Frozen pizzas: 67% (4/6)
Many baked products, except breads & rolls, are above the 5% TFA limit.
Comparison of mean fatty acid profiles of trans free (<2% trans) and high-trans tub margarines sold in Canada from 2005-2009

TFA replaced by MUFA (high oleic oils)
Mean fatty acid profile of french fries (High trans vs low trans french fries)

TFA replaced by unsaturated fats (mainly MUFA)
Trans fat substitutes: In most pre-packaged trans fats replaced by sats

<table>
<thead>
<tr>
<th>Food</th>
<th>Sampling Date</th>
<th>TFA</th>
<th>SFA</th>
<th>SFA +TFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cookies (Company A)</td>
<td>2005</td>
<td>18</td>
<td>58</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>0.5</td>
<td>72*</td>
<td>73</td>
</tr>
<tr>
<td>Crackers (Company B)</td>
<td>2005</td>
<td>41</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>1</td>
<td>55*</td>
<td>56</td>
</tr>
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How Canadians doing relative to intakes of trans fat

- Reduced overall intake by about 30% compared to 2005
- Average intakes still exceed the 1% energy level recommended by WHO
How Canadians doing relative to intakes of trans fat

- Reformulations did not cause an increase in the SFA content
- Average intake is in line with the WHO recommendation to limit SFA to 1% energy
Summary

• In all food categories we have seen success in reducing the level of trans fats. 76% of the foods analyzed during since 2005 are below the recommended limits.
• In many food categories, except in some brands of crackers, cookies and donuts, the reduction in trans fats has been achieved by finding healthier alternatives and not increasing the levels of saturated fat.
• Further reductions in Canada are needed to fully meet the public health objectives and reduce the risk of coronary heart disease.