

Restricting industrial trans fats: one step closer to a healthier diet?

Written on 20/01/2014

The American agency responsible for promoting human health and food safety, the Food and Drug Administration (FDA), recently moved one step closer to banning trans fats in processed food products. This decision is in keeping with increasing awareness worldwide of the relationship between diet and health. This move by the American government is a positive sign for actors in the Agro-food industry that have best positioned themselves as improving the nutritional profile of products.

On November 7 2013, the FDA, as the US Department of Health and Human Services agency responsible for regulating food safety as well as tobacco products, supplements and medications, announced its intention to remove partially hydrogenated oils (PHOs)—a primary source of artificial trans fats—from its list of products ‘generally recognized as safe’ (GRAS). Should the preliminary determination be confirmed, these substances would be considered food additives,¹ and food manufacturers would no longer be permitted to sell PHOs, either directly or as ingredients in food products, without prior FDA approval.

There are two primary sources of trans fatty acids (TFAs) in today’s diet:

- Naturally occurring trans fats, small amounts of which are found in certain meats and dairy products
- Artificial trans fats, which result from the industrial process of partially hydrogenating vegetable oils. This procedure became widespread in the agro-food sector as it makes possible the inexpensive solidification of liquid oils (soy, canola) and lends products both a moist texture and prolonged shelf-life.

Artificial TFAs are behind the ban on PHOs, which can be found in many types of industrial foods, from frozen pizzas and

fried foods to chocolate bars, certain margarines and industrial cakes or cookies.

“ Further reduction in the amount of trans fat in the American diet could prevent an additional 20,000 heart attacks and 7,000 deaths from heart disease each year.

Margaret A. Hamburg, FDA Commissioner

A proven impact on health

Industrial trans fats have no nutritional value. On the contrary, since the 1990s, mounting evidence from numerous scientific studies has forged a broad consensus as to their harmful effects, even when consumed in small amounts. Without going into details, trans fats demonstrably contribute to increased LDL (‘bad’ cholesterol) and lowered HDL (‘good’ cholesterol). In this way, they are suspected of contributing to an increased risk of heart disease. Some studies have identified a link between trans fats and certain cancers, but this remains a topic of debate within the scientific community. However, there is no evidence that the consumption of naturally occurring

¹ Food additives are subject to section 409 of the Federal Food, Drug, and Cosmetic Act (FD Act) ([21 U.S.C. 348](#)).

trans fats at current dietary levels is associated with any health risks.

This preliminary determination appears at a time when the consumption of trans fats by Americans has already been considerably reduced. According to the FDA, average dietary intake of TFAs already dropped from 4.6 grams per day in 2003 to a single gram in 2012, in part thanks to the labelling requirement introduced in 2006.

Nonetheless, the Department of health continues to see trans fats as a public health issue. According to FDA Commissioner Margaret A. Hamburg, the ban on PHOs would prevent thousands of deaths from heart disease annually.

Is such regulation on the rise worldwide?

Despite the scientific community's general agreement as to the harmfulness of trans fats, there are few legislative measures concerning them. In the last few years, a small number of European states have pioneered legislation that bans or severely limits trans fats. Among these are Denmark, Switzerland, Austria and Iceland. However, there is no common basis to their approaches, and some countries have established different types of controls. The Netherlands enforces labelling, while the United Kingdom relies on voluntary self-regulation for reducing TFAs; yet other governments have merely published non-binding recommendations aimed at reducing consumption (France, Japan etc.).

Figure 1. Trans fat policies around the world, 2005-2012

Policy toward TFAs	Countries
Voluntary TFA limits	United Kingdom, Brazil, Costa Rica, Canada
Mandatory trans fat labeling	United States, Brazil, Uruguay, Paraguay, South Korea, Canada, Taiwan, Hong Kong
Trans fat ban	Iceland, Denmark, Austria, Switzerland, some states and municipalities in the USA

Source : WHO/Mirova 2013

The US is thus among the vanguard of states legislating this topic, and could influence the policies of other countries. Meanwhile, given the lack of national regulations, the WHO

(World Health Organisation) has issued a recommendation that total TFAs constitute no more than 1% of daily energy intake, and suggests that member states take policy steps to eliminate industrial trans fatty acids.

Indeed, in a study published by the WHO in 2013 (Downs, Thow & Leeder) on the efficacy of public policies, researchers found that both local and national regulations aimed at curbing TFAs in foods have produced significant reductions and appear considerably more efficient than voluntary measures.

In light of this, we may see the topic of legislation raised at the level of the European Union. In fact, the European Parliament's Regulation 1169/2011 concerning consumer information on foodstuffs, adopted in 2011, calls for a report to be submitted by the Commission on TFAs by December 2014, which could lead to a proposed regulation regarding labelling or use.

Many alternatives to PHOs available

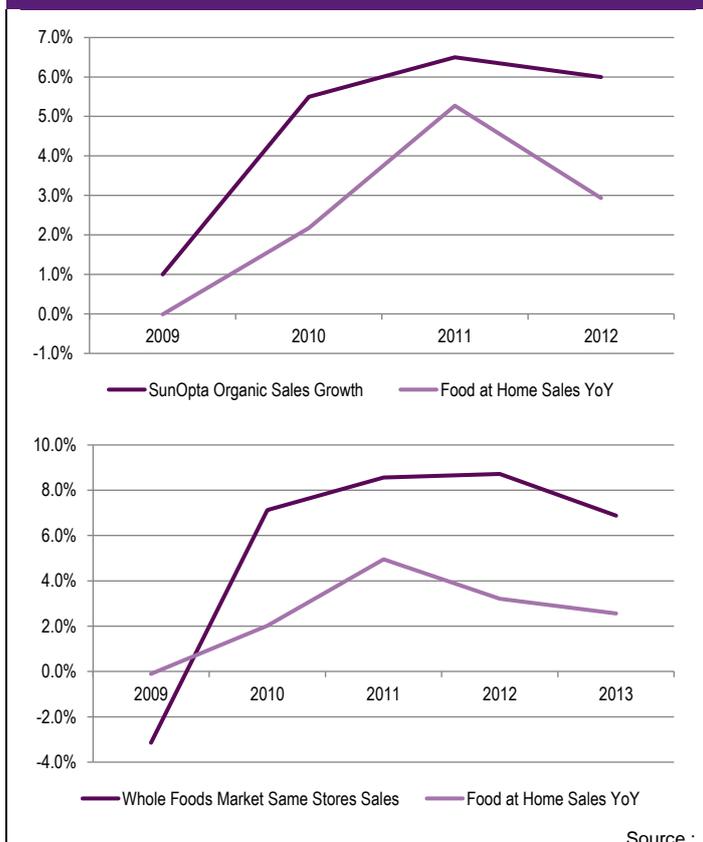
All restrictive legislation aside, the various campaigns designed to promote public awareness of TFAs have already pushed corporations to drastically reduce their use of hydrogenated vegetable oils.

While the FDA's proposed withdrawal of PHOs from their GRAS list does challenge the food industry considerably, as witness a prolongation of the FDA's comment period until 8 March 2014, there exist a number of alternatives to partial hydrogenation. Because the issue for companies is offering products that meet public health standards without compromising taste, texture and product safety. Palm oil, due to its high saturated fat content, does not present itself as a desirable alternative. However, possible substitutes that we do believe hold promise include:

- Use of 'improved' oils (especially development of cultivars with a high proportion of oleic acid) allowing for a better oxidative resistance. These should be available for cultivation on an industrial scale by 2016.
- Alternative methods of modifying fats (including interesterification, fractionation and mixture)
- Combination of substitute ingredients with useful properties: cellulose and other fibres, starches, proteins and emulsions, etc.

The elimination of trans fats from food products is a major issue that concerns all actors in the agro-food supply chain, from cultivar developers and seed producers to final product distributors. A company's concern for public health risks and a proactive policy of continuously improving the nutritional profile of products are two important criteria in our investment choices. The development of legislation concerning TFAs is a source of opportunities for both producers and distributors that have favourably positioned themselves on this topic. Whole Foods Market, for instance, has eliminated all trans fats since 2003. Producers of ingredients, such as SunOpta (which specializes in organic and/or natural foodstuffs and ingredients) that can roll out healthier alternatives to partially hydrogenated vegetable oils stand to benefit as well.

Figure 2. Organic sales growth for Whole Foods Market and SunOpta compared to aggregate 'Food at Home'



More broadly speaking, companies' positioning vis-à-vis 'eating healthy' is an issue Mirova has identified and taken into consideration as part of our 'Sustainable Consumption'

theme. We believe that the organic growth exhibited by both retailers that focus on health, like Whole Foods Market, and ingredient providers such as SunOpta is revealing of consumers' underlying expectations in our societies.

Glossary

Hydrogenation: Hydrogenation is the process by which hydrogen atoms are added to unsaturated sites on the carbon chains of fatty acids, in the presence of catalysts, reducing the number of double bonds. Partial hydrogenation describes incomplete saturation. This procedure increases resistance to oxidative damage and guarantees a creamy texture at room temperature.

Saturated fatty acids: these fatty acids are most frequent in animal fats (milk, cheese, butter, meat, lard etc.), but are also found in coconut and palm oils. They are largely solid at room temperature. In excess, their consumption has been linked to increases in LDL ('bad') cholesterol and heart disease, in addition to contributing to obesity.

Unsaturated fatty acids (mono- and poly-): Reputedly better for health than their saturated counterparts, these fatty acids are said to improve HDL ('good') cholesterol levels. They constitute the major part of most vegetable oils, including soy, sunflower, canola and olive oil. In particular, *Cis* fatty acids from the omega-3, omega-6, and omega-9 series are believed to ward against heart disease.

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