


Trans-fats. Partial hydrogenation

The FDA ‘ban’ – questions remain

Access November 2013 US FDA tentative determination on trans fats
Access January 2014 Gyorgy Scrinis commentary on the trans-fats fiasco here
Access February 2014 Geoffrey Cannon Inspiration on Fred Kummerow here
Access February 2014 Fred Kummerow Feedback letter here

From Gyorgy Scrinis

WN in January carried a commentary by me largely concerned with the trans-fats fiasco (1). Here I comment further on the announcement by the US Food and Drug Administration (FDA) of its proposal to remove the ‘Generally Recognized as Safe’ (GRAS) designation previously granted to partially hydrogenated oils – the main source of industrially produced trans-fats in the food supply (2). This has been accompanied by a detailed ‘tentative determination’ to that effect (3).

The FDA action was reported as heralding the ‘banning’ of trans-fats. The FDA decision should result in removal of the bulk of the trans-fats remaining in the US food supply. However, there are many questions not being asked about the limitations of this move, or about what is not being admitted. In any case, industrial trans-fats themselves are not being ‘banned’ in the US – not yet, at any rate. Nor are trans-fats levels in foods to be directly regulated. Nor are other minor sources of trans-fats being banned or regulated.

Further, few questions are being asked as to the safety and health implications of the processing techniques and ingredients that will replace trans-fats and partially hydrogenation, such as the use of full hydrogenated oils and other processing techniques that chemically reconstitute fats.

Regulatory initiatives

Despite the scientific consensus regarding the harmfulness of trans-fats dating back to the early and mid 1990s (4-6), governments around the world have either failed to act, or have taken many years to introduce measures to reduce the presence of trans-
fats in food supplies. The delay in action may have given manufacturers ample time to reformulate their products, but this has been at the expense of the public’s health.

In 2004 Denmark introduced a trans-fat limit of 2 per cent of fats and oils. In 2006 New York City introduced a limit of 0.5 grams trans-fats per serving, which is still a significant amount. Canada and the US introduced trans-fat labelling regulations in 2005 and 2006 respectively. However the US labelling regulations permit products containing up to 0.5 grams per serving to be labelled as ‘0 grams trans-fats’, which is clearly misleading – well, untrue. Despite such flawed regulations, trans-fat labelling has prompted manufacturers to reformulate those of their products which have contained high levels of trans-fats.

So, such regulatory initiatives have been successful in reducing levels of trans-fat consumption in a number of countries, up to a point. Other countries such as Australia and the UK have imposed no mandatory regulations, but manufacturers have nevertheless voluntarily reduced the trans-fat levels in many foods. Yet in the US and elsewhere, the continued presence of trans-fats in some foods – typically cheaper, highly processed, poorer quality products – means that people who eat a high proportion of these foods may still be consuming high levels of trans-fats. The situation in countries in Asia, Africa and other regions and countries where regulation is erratic or notional, is another story.

It is in this context that the FDA proposes to remove the ‘generally recognised as safe’ status of partially hydrogenated vegetable oils, and thereby classify these oils as potentially hazardous additives and as such not permitted to be used in food products. The regulation will probably be effective in removing the bulk of the remaining trans-fats in the US food supply.

The FDA may be only targeting partially hydrogenated oils because, by now, most large food manufacturers should have developed alternative processing techniques and additives, having been given over a decade’s warning to do so. But this new regulation is also likely to be phased in over a long period, thereby in that time continuing to expose the US population to what the FDA has now admitted to be a health hazard.

However, having finally acknowledged that industrial trans-fats are hazardous, and that there is no recognised ‘safe’ level of consumption of trans-fats, the FDA is not yet placing any bans or limits on trans-fats levels in foods per se.

**Other sources of trans-fats**

Also, the FDA acknowledges that there are two other sources of industrial trans-fats that it does not intend to regulate or ban.
One is the initial process of extracting and refining vegetable oils using extremely high temperatures, such as during the deodorisation process. This may produce \textit{trans}-fats of the order of 1 to 4 per cent. While these quantities may be relatively low compared with those produced by the partial hydrogenation process, there are enormous quantities of these unhydrogenated vegetable oils now flowing through the food supply and through our bodies.

Vegetable oil producers certainly would not want the public to know that there may be \textit{trans}-fats in their oils, nor to have any restrictions placed on their processing methods or use. Similarly, nutrition and public health experts and organisations that promote vegetable oils high in polyunsaturated fats would find it difficult to present these unhydrogenated oils as ‘healthy oils’ if the continued presence of \textit{trans}-fats was more widely known. It is therefore no surprise that we see little discussion or analysis of this source of \textit{trans}-fats.

\textbf{Other techniques}

Another source of industrial \textit{trans}-fats is the technique of fully hydrogenating vegetable oils, which is used to transform all of the unsaturated fats into saturated fats. Yet this process of chemically transforming fats is usually incomplete, resulting in levels of \textit{trans}-fats in the end product of up to 2 per cent. Thus, the same technique that chemically transforms fats into \textit{trans}-fats will continue to be permitted for use as long as the process is continued to the point where low-levels of \textit{trans}-fats are formed. But are even fully hydrogenated oils safe? Have their health effects been studied separately from partially hydrogenated oils?

Few nutrition experts or government regulators seem to be questioning what partially hydrogenated vegetable oils will be substituted with, other than being concerned that \textit{trans}-fats aren’t replaced with saturated fats. But food companies are now using a range of old and new food processing techniques, additives, and vegetable oil varieties that achieve the same functionality as \textit{trans}-fats, such as a long shelf life, processing stability, mouth-feel, and the crunchy texture that has made \textit{trans}-fats so profitable. Blending fully hydrogenated and unhydrogenated vegetable oils is one strategy being used to produce a low \textit{trans}-fat product.

Another technique increasingly now used to chemically reconstitute fats is interesterification. Since the 1990s many margarine producers have been subjecting vegetable oils to a combination of full hydrogenation, fractionation and interesterification techniques in order to produce a low \textit{trans}-fat product. Few studies have examined the health effects of consuming interesterified fats, or what I call \textit{i}-fats. Some have suggested possible harmful effects.

So the \textit{trans}-fats fiasco may be repeated, by allowing and encouraging the use of novel and inadequately tested fat processing technology.
A step forward, but…

The FDA’s proposed ban of partially hydrogenated oils from the US food supply is an important step forward. But the FDA, and regulatory bodies in other countries, could do more to regulate trans-fats and other potentially hazardous fats and oils. They could ban all oil processing techniques that produce industrial trans-fats. They could ban or set very low limits on the presence of industrial trans-fats in food products. And they could remove the ‘generally recognised as safe’ status from all processing techniques that chemically reconstitute fats, until such time as they have been proven safe and healthful.

In the meantime nutrition experts could stop referring to trans-fats as a ‘bad fat’ on a par with saturated fats, and cease using the language of good and bad nutrients. Instead they could characterise industrial trans-fats as hazardous food additives.

The trans-fats fiasco, for this is what it has been and still is, also points to the need to shift away from a reductive interpretation of the nutrient composition of foods, a key feature of what I identify as the ideology of nutritionism. We instead need to develop our understanding of the way various processing techniques are transforming and in some cases degrading the quality of foods. Nutrition experts, and indeed the public, need to develop their food quality literacy, not just their nutritional literacy.

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References

2 US Food and Drug Administration. FDA takes step to further reduce trans fat in processed foods. Press release, 7 November 2013. Access pdf here