

People with normal cholesterol levels should refrain from eating food fortified with plant sterols

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Foods like margarine, milk, yoghurt drinks or bread, which have been fortified with plant sterols, are for sale on the German market. A health assessment of these foods was undertaken in accordance with the provisions of the Novel Foods Regulation. From this assessment we know that a maximum reduction in the plasma cholesterol level can generally be achieved by 1-2 g plant sterols daily and that raising the dose not markedly increases this effect. Furthermore, the daily consumption of effective amounts of plant sterols inhibits the intake of certain carotenoids and fat-soluble vitamins from food and leads to an increase in the plant sterol level in blood plasma. As it still cannot be reliably estimated whether long-term adverse health impairments result from these two effects, the European Food Safety Authority (EFSA) has recommended limiting the daily consumption of plant sterols to 3 grams.

Low levels of plant sterols are to be found in all fat-containing foods of plant origins like oils, nuts, seeds and cereals as well as products made from them. They are not essential for humans and are scarcely used at all in human metabolism.

Research findings from animal experiments from 2006 indicate that the consumption of large amounts of plant sterols may have a negative impact on health. The Federal Institute for Risk Assessment (BfR) has evaluated the results with regard to their importance for the health risk from phytosterols admixed to food. According to the Institute there are, in principle, no new risks linked to plant sterols. The work does, however, highlight for the first time that the consumption of large amounts of plant sterols in the space of a few weeks leads to signs of vascular damage in laboratory animals. The establishment of dose-effect relationships concerning the onset of cardiovascular disease caused by the elevated intake of plant sterols is not possible on the basis of the available studies. Nothing is known about the underlying mechanisms of action either.

For precautionary reasons BfR continues to recommend the consumption of food fortified with plant sterols only in the case of a proven elevated cholesterol level.

The full version of this BfR Opinion is available in German on http://www.bfr.bund.de/cm/208/menschen_mit_normalen_cholesterinwerten.pdf