

Survey of acrylamide and furan in UK retail products

Research programme: Chemical hazards in food and feed

Study duration: 2014-01-01

Project code: FS102075

Conducted by: Premier Analytical Services (PAS)

Background

The 2018 survey of process contaminants concludes a multiannual surveillance programme which has been running since 2014.

Process contaminants are chemical substances that are produced naturally in food during manufacturing or home-cooking. They are absent in the raw foods or raw materials used to make the food, and are only formed when components within the raw foods or materials undergo chemical changes during processing.

Acrylamide and furans may be formed at high temperatures during cooking. Both substances have the potential to raise the risk of cancer, which will then increase with regular exposure to higher levels, over a lifetime.

The European Food Safety Authority (EFSA) has concluded that current levels of dietary exposure to acrylamide, furan and its methyl analogues such as 2-methyl furan and 3-methyl furan indicate a potential human health concern.

Research Approach

The 275 UK retail product samples primarily represented food groups from those specified in Commission Recommendation (EU) No. 2010/307 on the monitoring of acrylamide in food.

For the 2018 sampling year some changes were made to the sampling plan. The number of samples taken for categories for which sufficient data had been collected (such as 'pre-cooked French fries for home cooking') was reduced. Additional samples were taken for other categories including some products not covered by the monitoring Recommendation, such as battered fish, prunes, vegetable crisps and liquorice, to get a broader picture of acrylamide in the diet.

Acrylamide analysis was carried out on 275 samples taken from the following categories:

- French fries sold as ready to eat
- Potato crisps
- Soft bread
- Breakfast cereals
- Biscuits and crackers
- Coffee
- Baby food other than processed cereal-based
- Processed cereal baby food
- Others e.g. popcorn, cakes, pastries and chocolate

- Other products not based on cereals, potatoes, cocoa and coffee e.g. battered fish, canned black olives and prunes, vegetable and plantain crisps/fries and liquorice

Furan and methylfuran analysis was carried out on 134 samples taken from several of these categories.

The acrylamide and furan results from this survey have been shared with the European Food Safety Authority (EFSA) for collation and analysis with survey data from other European countries.

Results

The levels of acrylamide and furans obtained over the period of January 2018-November 2018 do not increase our concern about the risk to human health. The Agency has therefore not changed its advice to consumers.

Due to the nature of the survey and the limited dataset, it is important to be cautious when drawing conclusions from the reported data. It is important also to consider the variety of different ways that manufacturers may process similarly branded products resulting in different levels of process contaminants being found.

Research report

England, Northern Ireland and Wales

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