Total Diet Study

Area of research interest: Chemical hazards in food and feed
Study duration: 2011-11-01
Project code: FS241031_32
Conducted by: Fera/Ventress
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Background

Total diet studies have not been carried out since 2000 for polycyclic aromatic hydrocarbons (PAHs) and 2001 for dioxins/ furans, polychlorinated biphenyls (PCBs). Regulatory controls have since been introduced so there is an expectation that dietary exposure should have fallen. Total diet studies were carried out for polybrominated diphenyl ethers (PBDEs), hexabromocyclododecanes (HBCDDs) and perfluorinated substances (PFAS) in 2004 and, although no controls have been introduced for food, manufacture and use of PBDEs and PFAS has been phased out but there is no information about the impact his has had on levels in food.

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Research Approach

About 1,000 samples were purchased and prepared as for consumption by the contractor Ventress. These samples were supplied to Fera, which composited them into 19 food groups and analysed them for the following range of contaminants:

- dioxins/ furans
- polychlorinated biphenyls
- polycyclic aromatic hydrocarbons
- polybrominated diphenyl ethers
- hexabromocyclododecanes
- perfluorinated compounds
- polychlorinated naphthalenes
- mixed halogenated dioxins/furans/biphenyls

A set of duplicate diet samples were also tested, to evaluate an alternative approach.

A total diet study has several objectives: to verify that controls introduced since the previous total diet study have been effective and determine the need for further tightening (eg dioxins and PCBs, PAHs); to establish trends and levels of current exposure for contaminants for which the European Commission may wish to introduce limits (PBDEs, HBCDDs, PFAS); and to establish a baseline for newly emerging contaminants for which knowledge of dietary exposure is unknown (polychlorinated naphthalenes, mixed halogenated dioxins).

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Results

Dioxin and PCB levels in food have fallen slightly since 2001. There is no evidence for significant changes in levels of BFRs. Polychlorinated naphthalenes and perfluorinated compounds are widespread in food groups but at low levels.

Exposure assessment results will be published in due course.

Research report

England, Northern Ireland and Wales

PDF
View Organic Environmental Contaminants in the 2012 Total Diet Study Samples as PDF(Open in a new window) (1.75 MB)