

Cooking for science - BfR MEAL study celebrating its 2nd birthday

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With the formal opening of the study kitchen two years ago, the starting gun was fired for the experimental phase of the BfR MEAL study (*Mahlzeiten für die Expositionsschätzung und Analytik von Lebensmitteln* – Meals for the Exposure Estimation and Analysis of Foods). Ever since, more than 300 kilograms of food have been prepared every month so that they can be examined subsequently in the laboratory for desired and undesired substances. The goal of the BfR MEAL study is to be able to better recognise possible food risks for the German population. To this end, up to 2021 the BfR MEAL team will be examining the most commonly consumed foods in Germany for a total of nine substance groups, including heavy metals, nutrients and additives.

The BfR MEAL study is celebrating its 2nd birthday, which means two years of shopping, cooking and analysing in order to better recognise possible food risks in future. For the shopping alone, the BfR MEAL team has already covered more than 80,000 kilometres in four different regions of Germany to purchase food from various shopping outlets, taking into account seasonal and regional peculiarities. The study comprises more than 90 percent of the foods eaten in Germany, along with some rarely consumed foods known to contain high levels of undesired substances.

To date, two chefs and two assistants have prepared eight tonnes of food in the kitchen, which has been set up especially for the BfR MEAL study. Each dish is prepared in the manner in which it is typically served in Germany. In order to determine average levels and limit the extent of the study in a sensible way, the BfR MEAL team combines several foods of the same type into representative pools. 762 of these pools have been prepared for analysis up to now in a total of nine laboratories, where they are examined for various substance groups. In the current initial field phase of the study, these are substances from the base module, which include heavy metals, methylmercury and dioxins, as well as nutrients, mycotoxins, polycyclic aromatic hydrocarbons (PAH), perfluorinated tensides (PFAS) and mineral oil saturated and aromatic hydrocarbons (MOSH/MOAH).

The evaluation of the first field phase is set to begin in 2019 with the results for methylmercury and organic tin compounds. The second field phase will start parallel to this and will comprise the substance groups process contaminants, plant protection product residues, additives, pharmacologically effective substances and substances which migrate from food contact materials.

The BfR MEAL study is the first total diet study (TDS) for Germany and currently the most comprehensive TDS study ever conducted anywhere in the world. A total diet study is an internationally recognised method to determine the concentrations of substances which occur on average in ready-to-eat food. Total diet studies are currently being conducted in more than 50 countries all over the world. The German Federal Ministry of Food and Agriculture (BMEL) is sponsoring the study, which has been set to run for seven years, with a sum of around 13 million euros. The results of the BfR MEAL study will serve among other things as a basis for better recognising possible risks posed by the consumption of food. Existing limit values can be validated and consumption recommendations derived on the basis of the data acquired. The data also form a good basis for comparison, so that the levels of undesired substances can be estimated quickly and reliably in the event of a crisis.

You will find more information at: <http://www.bfr-meal-studie.de/en/meal-homepage.html>

Photo gallery: The BfR MEAL study from shopping to exposure estimation
<http://www.bfr-meal-studie.de/en/meal-homepage.html>

Infographic: The BfR MEAL study: What's in your food
<http://www.bfr-meal-studie.de/cm/349/bfr-meal-study-infographic.pdf>

Frequently asked questions on the BfR MEAL study
<http://www.bfr-meal-studie.de/cm/349/frequently-asked-questions-on-the-bfr-meal-study.pdf>

About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. It advises the Federal Government and Federal Laender on questions of food, chemical and product safety. The BfR conducts its own research on topics that are closely linked to its assessment tasks.

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