

Mould fungus toxins and adulterated food: Students visit the BfR during MINT Week

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What are plant toxins? Why is it important to check the authenticity of foods? How do you discover mycotoxins in foods? Female students at the Technical University (TU) Berlin visited the German Federal Institute for Risk Assessment on 16 January 2019. As part of MINT Week at the TU Berlin, the young ladies got acquainted with several areas of research at close quarters. Scientists at the BfR guided the students through various laboratories of the department *Safety in the Food Chain*.

MINT stands for Mathematics, Informatics, Natural Science and Technology. During MINT Week, students can get to know various institutes in Berlin and Potsdam for a week.

Several plants contain toxins (poisons) which may pose health risks after consumption. The plant toxins include solanine (in potatoes, tomatoes) and coumarin (in woodruff and several cinnamon varieties). The BfR scientists demonstrated to the MINT Week participants how to analyse plant toxins in foods with a mass spectrometer.

Olive leaves instead of oregano, stretching or feigned high quality through the addition of prohibited ingredients: food fraudsters attempt to trick consumers and can harm them in the process. The BfR develops and assesses analytical methods to test the authenticity of foods and feeds within the scope of its main field of research “supply chains”. During their trip to the BfR, the visitors also got to know fingerprinting methods. Using this approach, the experts at the BfR can take a characteristic physicochemical fingerprint of a food and check with the help of a reference library whether it actually is what it is supposed to be or a fake.

The female students also got acquainted with another BfR task – the analytics of mould fungus toxins (mycotoxins) as one of the activities of the national reference laboratory for mycotoxins in food and feed. Mycotoxins are formed by mould fungi and can be ingested by humans and animals via contaminated food and feed. The visitors to the BfR also gained an insight into the preparation and processing of samples and various analytical methods based on high-performance liquid chromatography (HPLC). With its research on the analysis of mycotoxins, the BfR helps to make it possible to detect mould fungus toxins in foods and feeds and minimise them to the reasonably greatest possible extent.

The “proScience” project at the TU Berlin is organising MINT Week for the first time in winter term 2018/19 in order to offer the students at the university insights into the various fields of research and institutes. The young ladies can participate in excursions to various research institutes in line with the motto “Taste Science”.

ProScience is aimed at female students and doctoral candidates at the TU Berlin. The proScience team advises the young ladies in their career planning and offers further training, networking options and insights into research through mentoring programmes, workshops and the mediation of internships.

More information on the subject of plant and mycotoxins at the BfR website

https://www.bfr.bund.de/de/bewertung_von_kontaminanten_in_lebensmitteln-54447.html

https://www.bfr.bund.de/en/assessment_of_mycotoxins_in_food_and_feed-54450.html

BfR App “Poisoning accidents among children”

https://www.bfr.bund.de/de/apps_vergiftungsunfaelle.html



BfR “Opinions app”

More information on MINT Week at the TU Berlin

https://www.proscience.tu-berlin.de/menue/unser_programm_im_ws_1819/mint_week/

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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