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Beautiful and dangerous at the same time

Round, colourful, exotic – because of their attractive appearance, plant seeds are used in some countries to produce jewellery or for the decoration of musical instruments. The problem: the "natural beads" of plants like the castor oil plant or the jequirity bean (see picture) contain toxic substances. Severe diseases are possible if chewed or damaged seeds are consumed. Abrin, for example, is one of the most potent phytotoxins and is contained in the seeds of the jequirity bean, which has even accidentally appeared in spice mixtures at bazaars. Ricin is contained in the seeds of the castor oil plant, which is often to be found in parks or gardens as ornamental plant. Even low doses of abrin and ricin cause severe poisoning. A single seed of the jequirity bean may contain doses of abrin lethal to infants. The BfR advises to pay special attention when buying products made from or decorated with these kinds of plant seeds in exotic countries.

More information:
Communication No. 024/2019 by the BfR dated 3 July 2019

Bacteria in cookie dough

Raw cookie dough is a topic on everyone's lips right now. We have always gladly eaten cookie dough before putting it in the oven. But raw dough has health risks – even without eggs. Flour may contain pathogens such as shiga toxin-producing Escherichia coli, or STEC for short. It is a slightly processed natural product that should be heated before consumption. This is why professional cookie dough manufacturers use specially treated flour suitable for raw consumption. In North America, several outbreaks have already been reported, which can be ascribed to STEC in flour. STEC was also found in flour during routine checks in Germany. The BfR is investigating these kinds of isolates and, in doing so, came across STEC, which is associated with various illnesses. These STECs are currently being analysed in more detail at the BfR and genetically characterised. This should clarify where the STECs in the flour come from and how contamination can be prevented.

More information:
Mäde, D. et al. 2017. Detection and isolation of Shiga-toxin producing Escherichia coli in flour in Germany between 2014 and 2017. J Verbrauch Lebensm 12, 245–253

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Targeting adulterated feed

Feed fat contaminated with dioxins in Belgium in 1999 and in Germany in 2010; simulated high feed quality by addition of melamine in China in 2007: manipulated feed can have potentially harmful consequences for the health within the food chain. Detecting adulterations is therefore all the more important. Non-targeted analytical methods are suitable for detecting unknown additives that may be harmful to health. In this context, a team from the BfR department "Safety in the Food Chain" is working on a project establishing the conditions for a database. It is founded on data describing the "normal" composition of feed using spectral information. In case of an incident, this reference data can be used to identify anomalies and possible entry pathways for adulterations or contaminations. The goal is an expandable instrument for the German federal states' ("Laender") monitoring authorities to determine possible risks.