

Residues of formetanate in cucumbers do not constitute a health risk

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The official control of foodstuffs of the federal state of Brandenburg has found residues of the pesticide formetanate in a sample of cucumbers from Spain at a level of 0.13 mg/kg (maximum residue level by law is 0.05 mg/kg). The Federal Institute for Risk Assessment has assessed whether the detected residue level is a health hazard for consumers.

Based on various food consumption data, the Institute has estimated how much formetanate would be taken in by consumers through the consumption of cucumbers with this residue. The exposure assessment has shown that the acute reference dose (ARfD) for children is exceeded. The ARfD is defined as the amount of a substance in food which a consumer may ingest during one day (spread over one or several meals) without appreciable health risk. Yet, an exceedance of the acute reference dose on its own is not enough to conclude a health risk. In order to assess potential health risk, toxicologists rely on the margin of safety (MOS). The MOS indicates the margin between the NOAEL (no observed adverse effect level) obtained from animal experiments and the estimated amount of the substance taken in by consumers. In the case at hand, though the acute reference dose is exceeded, the margin of safety is wide enough so that the consumption of cucumbers with 0.13 mg/kg formetanate residues is unlikely to be a health hazard – even for children.

The estimation of the degree to which the acute reference dose is reached reveals whether a health hazard is possible. Yet even if the exhaustion of the complete reference dose does not constitute a health hazard, the product has to be removed from the market if maximum residue levels of pesticides have been exceeded.

In general, the number of food samples from Germany or the EU in which exceedances of maximum residue levels of pesticides are found continues to decrease. In 2009, the rate of non-compliant samples from Germany and the other EU Member States reached a uniform low for the first time. This is the main conclusion of the national report on pesticide residues in food for 2009 published by the Federal Office of Consumer Protection and Food Safety (BVL).

The full version of this BfR Opinion is available in German on http://www.bfr.bund.de/cm/343/formetanat_rueckstaende_in_salatgurken_stellen_kein_gesundheitsrisiko_dar.pdf