

Residues of veterinary medicinal products in foods of plant origin

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In Germany and Europe veterinary medicinal products are subject to strict regulatory requirements. As part of the authorisation procedure, active substances are investigated in regard to their effects on humans, animals and the environment. The acceptable daily intake (ADI) for humans of each active substance is derived on the basis of scientific studies. The ADI serves to determine maximum residue levels (MRL) for foodstuff of animal origin (meat, kidney, fat, milk, eggs and honey). The MRL are determined so that the daily intake of veterinary medicinal product residues up to these levels is not expected to endanger the health of the consumer.

In light of the discovery that plants are able to take up veterinary medicinal product residues from soil, the Federal Institute for Risk Assessment (BfR) carried out an expert panel in December 2009. The aim of the panel was to reveal the current state of scientific knowledge on the potential carry-over of veterinary medicinal product residues in foods of plant origin and its effects.

It was determined that results from model experiments and modelling have provided initial indications for the behaviour of some active substances and their metabolites (transformation products) in slurry, in soil and in the plant. Yet current data do not allow a reliable estimate for the extent of intake of veterinary medicinal product residues through foods of plant origin. Overall experts agree, however, that based on the present data on antibiotics residues (e.g. sulfonamides, tetracyclines and fluorochinoloni) in foods of plant origin no risk is expected for consumers from a toxicological perspective.

Furthermore it was determined that the question of the spread and development of resistance under the influence of individual or several antibiotics at low concentrations and over prolonged periods of time has not been investigated sufficiently. The experts thus concluded that no final assessment could be made on the risk of developing resistance to antibiotics through long-term exposure to low amounts of antibiotics through foodstuff of plant origin.

The need for research remains considerable in order to improve knowledge on the extent of intake of veterinary medicinal product residues through foods of plant origin by humans as well as on the potential effects of long-term exposure to low concentrations of antibiotics.

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