

## **Chemical decontamination procedures: no substitute for integrated hygiene concepts**

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On the surfaces of fresh poultry meat bacteria such as salmonella or *campylobacter*, which can cause gastrointestinal diseases in humans, are regularly detected. The pathogens can be transferred to the meat, if they already populated the live animals. In addition, germs can be transferred through cross-contamination during slaughtering, when cutting the meat into pieces and during treatment of the carcasses.

In order to avoid infections transferred through contaminated foods, an integrated hygiene concept must be applied throughout the entire meat production process, i.e. from rearing and slaughtering down to the point of sale. Since these measures are, especially for poultry, effective only to a limited extent, a discussion is currently taking place within the European Union on the use of antimicrobial substances such as chlorine dioxide and peroxy acid for the purpose of removing germs from poultry carcasses.

So far the use of such chemical substances for the decontamination of poultry carcasses is banned in the EU, because questions of resistance formation and environmental impact have not been conclusively answered. In addition, there is a lack of knowledge of unwanted health effects which may result from the fact that apart from the pathogenic germs, bacteria naturally occurring on the surface of poultry meat are killed as well.

In the opinion of the Federal Institute of Risk Assessment (BfR), chemical procedures cannot replace the necessary integrated hygiene concepts. However, under certain circumstances they can supplement such concepts. The requirement for the use of chemical procedures is that their safety in terms of their health effects must first be established.

In principle, EU law (Regulation (EC) No. 853/2004) provides for substances other than drinking water to be used for the removal of surface contaminants in foods derived from animals. However, such substances and procedures must be permitted under EU law. In the EU, only the use of lactic acid is so far permitted for the purpose of reducing bacterial contamination on beef carcasses populated with zoonitic pathogens.

The suggestions of the European Commission for allowing contamination-reducing substances such as chlorine dioxide and peroxy acid for removing surface contaminants from poultry carcasses have been rejected so far. The reason for this rejection is that certain questions regarding resistance formation and environmental impact have not been conclusively settled and that they conflict with the integrated safety concept covering all steps from farm production to slaughtering.

The European Food Safety Authority (EFSA) has not as yet voiced any specific safety concerns in connection with the use of chlorine compounds on poultry meat. The Federal Institute for Risk Assessment (BfR) reached the same conclusion in 2006. However, the BfR emphasises that there is a lack of knowledge about unwanted health effects. Thus by using decontamination agents not only pathogenic but also naturally occurring bacteria found on the surface of the meat are killed. This means that if the meat is recontaminated with pathogenic bacteria, there are no longer any other bacteria in competition with the pathogens which would limit the growth of the unwanted microorganisms.

The exclusive use of chemical substances for the purpose of achieving low contamination levels in foods in order to increase food safety is not sufficient. Rather, it must be seen as the last step in a chain which starts with poultry flocks with low bacterial counts which are then slaughtered under optimal hygienic conditions.

#### **Further information**

Assessment of the current situation and future perspectives: improving meat hygiene through decontamination? Report on the 12<sup>th</sup> BfR Consumer Protection Forum taking place on 4 and 5 June 2012.

<http://www.bfr.bund.de/cm/343/standortbestimmung-und-perspektiven-verbesserungen-der-fleischhygiene-durch-dekontamination.pdf>

Requirements for chemical decontamination of poultry meat. BfR opinion No. 016/2006, 21 January 2006.

[http://www.bfr.bund.de/cm/343/anforderungen\\_an\\_die\\_chemische\\_dekontamination\\_von\\_gefluegelfleisch.pdf](http://www.bfr.bund.de/cm/343/anforderungen_an_die_chemische_dekontamination_von_gefluegelfleisch.pdf)