

Pseudomonads have caused spoiled mozzarella cheese

Updated BfR Opinion No. 010/2011, 14 March 2011*

In June 2010 consumer complaints in Italy were reported concerning mozzarella cheese which was discoloured after opening. According to Italian authorities, the discolouration was caused by the bacteria *Pseudomonas (P.) tolaasii* and *P. libanensis*, of which high microbial counts were detected in the cheese. The Italian Ministry of Health assumes that the bacteria result from contaminated water which was used as brine for the cheese. The Federal Institute for Risk Assessment (BfR) has provisionally assessed the presence of the bacteria *Pseudomonas (P.) tolaasii* and *P. libanensis* in mozzarella and the potentially related health effects on humans. According to present knowledge, these pose no human health hazard, they can, however, spoil the food and render it unfit for consumption.

Pseudomonads are bacteria that can be present nearly everywhere in the environment. These spoilage bacteria that can multiply even at low temperatures have long been documented. The Committee for Biological Agents (ABAS) has classified the bacteria in question *Pseudomonas (P.) tolaasii* and *P. libanensis* in the lowest risk level, as they are not expected to constitute a health risk for humans. BfR is neither aware of information concerning food-borne diseases caused by these bacteria nor are studies available concerning the transmission of microorganisms to humans. Research studies on the presence of pseudomonads in mozzarella with such discolouration have been carried out chiefly by Italian scientists.

From a hygienic perspective, mozzarella cheese is a sensible food. BfR recommends that the cheese is stored in the refrigerator at less than +7 degrees Celsius. Manufacturers should determine the best before date with great care in order to maintain the quality of the cheese until date of minimum durability is reached. Diligent hygienic conditions should be maintained in the production process of mozzarella including milking, production, storage and transport in order to reduce the entry of these bacteria as much as possible.

The full version of this BfR Opinion is available in German on http://www.bfr.bund.de/cm/208/pseudomonaden_fuehrten_zum_verderb_von_mozzarella_kase.pdf