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Hygiene for chicken eggs – protection from *Campylobacter*

BfR Opinion No 011/2018 of 11 May 2018

Campylobacter is a species of spiral bacteria which are widespread in the gut of warm-blooded animals, especially poultry. Whereas the germ usually has no effect on livestock, it can lead to an infectious bowel inflammation in humans. The result is stomach ache, diarrhoea and fever and in exceptional circumstances, autoimmune disease, such as rheumatoid arthritis.

Roughly 70,000 cases of intestinal inflammation through *Campylobacter* are reported every year. This makes it the most commonly registered food-related bacterial disease in Germany, with a slightly increasing tendency expected. About 50 to 80% of all cases can be attributed to chickens as the reservoir of *Campylobacter*.

Fresh poultry meat is the most frequent source of human *Campylobacter* infections, but chicken eggs can also transmit *Campylobacter* to humans, especially if they are visibly contaminated with chicken excrement. The risk of infection through eggs can be minimised by taking the following measures, however.

Chicken excrement can adhere to the shell of chicken eggs during production and packaging. The probability of contamination should be reduced by taking suitable measures, such as ensuring good stable hygiene, advises the German Federal Institute for Risk Assessment (BfR) in its opinion on the subject "*Campylobacter* on chicken eggs". It recommends that consumers store raw chicken eggs separately from other foods, that they thoroughly clean kitchen utensils after contact with eggshell and raw eggs and that they wash their hands thoroughly after touching chicken eggs.

Only clean chicken eggs should be used for the production of raw egg dishes. As a general rule, eggs and egg dishes should only be eaten after being properly heated to protect especially sensitive groups against food infections such as persons whose body defences are not fully developed (small children) or weakened due to advanced age or previous illness.

BfR Risk Profile: Campylobacter on Chicken Eggs (Opinion No. 11/2018)						
A Affected groups	General population and sensitive groups (persons with not fully developed or weakened immune system e. g. young children, elderly and ill persons)  					
B Likelihood of health impairment after contact with Campylobacter on egg shells	<table border="1"> <tr> <td>Practically excluded</td> <td>Unlikely</td> <td>Possible</td> <td>Probable</td> <td>Certain</td> </tr> </table>	Practically excluded	Unlikely	Possible	Probable	Certain
Practically excluded	Unlikely	Possible	Probable	Certain		
C Severity of health impairment due to Campylobacter infection	<table border="1"> <tr> <td>No impairment</td> <td>Slight impairment</td> <td>Moderate impairment</td> <td>Severe impairment</td> </tr> </table>	No impairment	Slight impairment	Moderate impairment	Severe impairment	
No impairment	Slight impairment	Moderate impairment	Severe impairment			
D Reliability of available data	<table border="1"> <tr> <td>High: The most important data are available and free of contradiction</td> <td>Moderate: Several important data are missing or contradictory</td> <td>Low: Numerous important data are missing or contradictory</td> </tr> </table>	High: The most important data are available and free of contradiction	Moderate: Several important data are missing or contradictory	Low: Numerous important data are missing or contradictory		
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E Controllability by the consumer	<table border="1"> <tr> <td>Control not necessary</td> <td>Controllable through precautionary measures</td> <td>Controllable through avoidance</td> <td>Not controllable</td> </tr> </table>	Control not necessary	Controllable through precautionary measures	Controllable through avoidance	Not controllable	
Control not necessary	Controllable through precautionary measures	Controllable through avoidance	Not controllable			

Boxes highlighted in dark blue indicate the properties of the risk assessed in this opinion.

This text version is a translation of the original German text which is the only legally binding version.

The full version of this BfR opinion is available in German on:

<http://www.bfr.bund.de/cm/343/nahrungsergaenzungsmittel-mit-anthranoidhaltigen-aloeganzblattzubereitungen-bergen-gesundheitliche-risiken.pdf>

About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. It advises the Federal Government and Federal Laender on questions of food, chemical and product safety. The BfR conducts its own research on topics that are closely linked to its assessment tasks.

The BfR is celebrating its 15th anniversary this year. To mark the occasion, the institute has published a jubilee brochure (in German) which can be downloaded or ordered free of charge at: <http://www.bfr.bund.de/en/publication/brochures-61045.html>