The DFG Senate Commission on Food Safety (SKLM): Its tasks and its role in coping with emerging challenges in the risk assessment of food

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Introduction

To achieve sustainability and ensure a high food quality in a constantly growing world population, the entire food chain has to be considered. In this context and besides making sure that environmental and animal health or welfare standards are complied with, it is also essential to take into account food safety aspects. Therefore, a particular focus of the Senate Commission on Food Safety (SKLM) of the DFG is to ensure that established processes improving sustainability do not affect food safety.

SKLM – way of working within a network

The SKLM provides scientific advice to the Senate of the DFG as well as to parliaments, government and public authorities on various food safety aspects. Thereby, the SKLM works independently and is not bound to any sort of directives regarding choice and prioritization of subjects in its working field.

Topics may be proposed by the SKLM, if they are considered to be of particular importance for consumer health protection, or may result from requests issued by the German Federal ministries. These topics include for example the safety and nutritional benefit of food ingredients and additives, of novel and functional food, as well as of novel food technologies.

They are worked out in special working groups, whose role it is to elaborate preliminary outlines or drafts, which are then further discussed and finally adopted in the plenary meetings.

At present, the SKLM has set up three working groups: “WG Food constituents”, “WG Food technologies and safety” and “WG Genotoxic carcinogens” (in collaboration with the MAK-Commission* of the DFG) (Figure 1).

Members of the working groups and the plenum are highly qualified experts from Germany and other European countries with expertise in a range of fields, which are relevant for the risk assessment of food (e.g. toxicity and pharmacology, (food) chemistry, biochemistry and nutrition sciences, human and veterinary medicine, food technology and microbiology as well as immunology) (Figure 2).

The SKLM prepares and adopts scientific opinions on topics with high impact and points out research needs and knowledge gaps. These scientific opinions are published on the DFG homepage (http://www.dfg.de/sklm) and/or in peer-reviewed scientific journals.

The SKLM is part of the scientific expert network dealing with all aspects of food safety. At the national level, there is an extensive exchange with the Federal Institute for Risk Assessment (BfR), the Federal Institute for Drugs and Medicinal Devices (BfArM), the Paul-Ehrlich-Institute (PEI) and the Max Rubner-Institute (MRI). The SKLM is additionally in close contact with international scientific expert committees such as various panels of the European Food Safety Authority (EFSA) and the Joint FAO/WHO Expert Committee on Food Additives (JECFA) (Figure 3).

Food safety and sustainability

In the light of a constantly growing world population a sustainable food production is gaining more and more importance.

Increasing need for foodstuffs causes e.g. intensified international trade, increase in agricultural productivity and the development of new technological methods to improve food production. These developments need to be sustainable due to limited availability of resources and a potential impact on the world’s ecosystems. To achieve sustainability and ensure a high food quality the entire food chain has to be considered.

A particular focus of the SKLM is to ensure that processes improving sustainability do not affect food safety. At present, the SKLM is discussing the use of insects as an alternative source for a large-scale production of foodstuffs and food ingredients such as protein.

Due to the potentially simpler cultivation in comparisons to conventional food sources (e.g. beef, pork, chicken, grain or vegetables) they are discussed as a “forward-looking” source. At first glance it might appear that the production of foodstuffs from insects might offer various advantages (less space required, high number of progeny within a short life cycle). However, it is not clear whether this source is actually more sustainable and will confront institutions dealing with food safety with a high variety of new sources and technologies in food production (Figure 4).

Emerging questions for the SKLM:

- Will sustainability and food safety influence each other?
- How is it possible to reconcile sustainable food production and food safety?
- Could ecological changes (e.g. climate change) affect food safety?
- e.g. increased amounts of contaminants in food upon flooding
- Should new technologies in or sources for food production be evaluated by taking into account sustainability issues respectively the ecological footprint?

* Senate Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area.