Bundesinstitut für Risikobewertung

You are here:

Glyphosate: no more poisonous than previously assumed, although a critical view should be taken of certain co-formulants

03/2014, 20.01.2014

BfR symposium on the reassessment of the health effects of glyphosate-containing pesticides

In view of the public discussion of the evaluation of possible health risks posed by glyphosate-containing pesticides, the Federal Office for Risk Assessment (BfR) is organising a scientific symposium to be held at the ICC in Berlin on 20 January 2014. As part of EU testing of active ingredients, the BfR has reassessed the health risks associated with glyphosate. In addition to the documents already incorporated in the first test series of active ingredients, more than 1000 new studies were examined and evaluated. These new studies do not suggest that glyphosate has carcinogenic or embryo-damaging properties or that it is toxic to reproduction in test animals. "The data do not warrant any significant changes in the limit values of the active ingredient", says Professor Dr Dr Andreas Hensel. "The large volumes of evaluated literature suggest, however, that the toxicity of certain glyphosate-containing pesticides is, due to co-formulants, higher than that of the actual active ingredient." An example of such co-formulants is the group of POE - tallowamines. The BfR has included a toxicological assessment of these tallowamines in the report.

Worldwide, glyphosate is one of the most common active ingredients in pesticides used to prevent unwanted plant growth in plant cultivation or to accelerate the ripening process of crops (desiccation). Glyphosate inhibits an enzyme which is essential for the biosynthesis of certain amino acids. This enzyme is not found in animals and humans.

As part of EU testing of active ingredients, it is currently being investigated whether it will be possible in future to give approval for the active ingredient gyphosate for use in pesticides. Germany is the reporting member state within the EU procedure. The draft for the report is complete, and the Federal Office of Consumer Protection and Food Safety (BVL) has, in its capacity as the competent authority, submitted it to the European Food Safety Authority (EFSA). As the agency responsible for the health assessment, the BfR, in addition to the reassessment of the documents already included in the first test series of active ingredients, has examined and evaluated 150 new original studies conducted in accordance with the OECD guidelines and the Good Laboratory Practice (GLP) standards. In addition, over 900 studies that have recently appeared in scientific journals were taken into account.

The analysis of the numerous new documents does not suggest that glyphosate has carcinogenic or embryo-damaging properties or that it is toxic to reproduction in test animals. Nor do they provide any compelling reason why health-based limit values, notably the Acceptable Daily Intake (ADI), should be changed in any major way. Existing maximum residue limits continue to be safe for consumers. The chronic intake of consumers is lower than 2

% of the ADI. This estimation cover both applications for weed control and use as a desiccation agent. If needed, individual limit values for glyphosate could be raised without posing any risk for consumers, if this became necessary due to changed professional practice, new application areas, or newly requested import tolerance levels.

However, the numerous documents assessed show that the toxicity of certain glyposate-containing pesticides can be higher than that of the active ingredient - on account of inert ingredients such as tallowamines. This is taken into account by the BfR in its approval of glyphosate-containing pesticides.

Moreover, a research project initiated by the BfR and executed by the University of Veterinary Medicine Hanover has, for the first time, studied the influence of glyphosate and tallowamine-containg pesticides on the metabolism of the microbial population in the gastro-oesophageal vestibule of ruminates. The results of this study show that the active ingredient glyphosate and inert ingredients have no negative influences on the microfolora of the gastro-oesophageal vestibule. Nor is there any indication that bacteria of the species clostridium multiply more quickly under the influence of glyphosate.

Apart from the BfR, other institutes involved in the new assessment of glyphosate were the Federal Environment Agency, the Julius Kühn Institute and the Federal Office of Consumer Protection and Food Safety, the latter as risk management authority.

The German draft of the report on the overall assessment of glyphosate is the basis for the public consultation with all interested stakeholders and also for the subsequent discussion with the experts of the member states in the so-called peer review process. Both are controlled by the EFSA and will probably be completed by the end of 2014. All assessment reports and scientific opinions which are intended for the public consultation are available for viewing and posting comments on the EFSA website.

About the BfR

The Federal Institute for Risk Assessment (BfR) is a scientific institution within the portfolio of the Federal Ministry of Food, Agriculture (BMEL). 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.

KEYWORDS

pesticides

