

Food supplements containing piperine

Piperine is a natural compound of different pepper varieties. It is added to certain food supplements, i. a. with the intention of improving the bioavailability of other ingredients. As opposed to ingestion via the normal diet, people who use these supplements ingest piperine in isolated form all at once (as a bolus), without the simultaneous intake of other pepper ingredients. The BfR has assessed health risks of administration of isolated piperine boluses and recommends that adults should not ingest more than 2 milligrams of isolated piperine per day via food supplements. The BfR advises pregnant women not to use products of this kind because embryotoxic effects were observed in animal studies after high bolus doses had been administered over several days. In other studies, test animals' ability to reproduce was impaired following administration over several weeks. In human studies involving lower bolus doses, interactions with drugs occurred. Such interactions may increase the risk of excessive, detrimental enhancement of effects of certain concomitantly administered pharmaceuticals.



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Opium alkaloids in food poppy seeds

Poppy seeds have a typical taste and are rich in fat and protein. For this reason, they are often used for the production of bread rolls, cakes and cooking oil. Analyses conducted by food monitoring authorities revealed that food poppy seeds can contain larger quantities of the opium alkaloid thebaine. The health risk posed by the consumption of poppy seeds cannot yet be conclusively assessed by the BfR because, among other things, there is a lack of reliable data on the toxicological effects of thebaine. The BfR recommends the investigation of the hazard potential of thebaine and other opiates that occur in poppy seeds in addition to morphine and codeine. As a basic principle, levels of pharmacologically active opium alkaloids in poppy seeds should be reduced as far as technologically feasible. Mature poppy seeds used for food production do not naturally contain any opium alkaloids, however, during mechanical harvesting they can become contaminated with alkaloid-containing latex stemming, for example, from the capsules.

More information:
BfR Opinion No. 018/2018 of 5 June 2018



Robust insects

Supplying the growing world population with high value protein poses a great challenge. Edible insects could be an answer, but how safe is consuming beetles, locusts & Co? In a joint project with the University of Bremerhaven, the BfR found that larvae of the flour beetle do not accumulate toxins produced by mould fungi (mycotoxins) from their food and that they can even excrete these health-damaging substances. In the study, insect larvae were fed with a cereal-based diet containing the mycotoxin zearalenone. Zearalenone is one of several mycotoxins of significance in cereal. To excrete mycotoxins almost completely would be an advantage of insects over cattle and pigs for which a transfer to meat and milk is observed. Whether these findings are an indication of general detoxification processes is being examined in other studies.

More information:
Niermans et al. 2019. Feeding study for the mycotoxin zearalenone in yellow mealworm (*Tenebrio molitor*) larvae – investigation of biological impact and metabolic conversion. *Mycotoxin Res.* doi: 10.1007/s12550-019-00346-y (Open Access)