

Edible insects: summary

Results available: Results available

Area of research interest: [Novel and non-traditional foods, additives and processes](#)

Research topics: [Novel foods](#)

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Edible insects have been available to consumers in the UK market for several years. The Novel Food legislation covering edible insects was updated in 2018. Since then, all companies placing insects on the market that did not have a history of consumption in the EU prior to May 1997, must submit an application for authorisation of their products. Several applications have been received. Given the future responsibility held by the FSA to conduct the risk assessment of Novel Food applications, FSA risk managers commissioned the production of a risk profile looking to identify the hazards to humans from consumption of edible insects.

This risk profile has been informed by the 2015 European Food Safety Authority (EFSA) risk profile, aiming to serve as an update to that report with relevant information identified in the scientific literature between 2015 and 2020. To this end, a systematic search protocol was designed, to identify studies concerning microbiological, antimicrobial resistance, toxicological, allergenicity and composition variability. The insect species of study include those identified by the 2015 EFSA risk profile, as well as those identified by the UK Advisory Committee for Novel Foods and Processes (ACNFP) from a previous horizon scanning exercise. Out of the 1759 publications initially obtained, 98 remained after sifting to agreed criteria. The relevant information was compiled and summarised in this report, extracting conclusions regarding risk to consumers and control measures.

Several hazards have been identified. Edible insect products can present high levels of microbial contamination if the animals are not reared in appropriate conditions or if the product is not processed by heating to high temperatures for several minutes. Insects also have the potential to accumulate toxic compounds, particularly heavy metals, when fed contaminated substrate. Ensuring hygienic rearing practices and minimising the levels of contamination of the substrate can help avoid accumulation of toxic compounds, but more research is necessary to inform the identified knowledge gaps in this area.

This review has updated the evidence on the allergic cross-reactivity between shellfish and insects, therefore consideration may be given to informing consumers accordingly. De-novo sensitisations are likely to occur in the future, but estimates of the risk are likely to be highly uncertain based on the existing literature. Lastly, there is a high composition variability of insect larvae depending on the substrate. Standardisation of substrates can minimise composition variability.