

INFO SHEET

THE COMMERCIALISATION OF EDIBLE INSECTS IN THE EUROPEAN UNION

EDIBLE INSECTS: A SECTOR

- ✚ According to the FAO, insects are part of the diet of more than two billion people around the world. Currently, edible insects still represent a niche market in western societies, but as more and more insect food products become authorised as Novel Food, this sector is presenting itself as a unique business opportunity, representing a sector that is to grow substantially in a near future.
- ✚ Consumers' willingness to try insect-based food is increasing. This trend is supported by positive media coverage and greater availability of insect products as they are now becoming formally authorised for human consumption in the entire EU market.
- ✚ Their nutritional benefits and lower environmental footprint further boost the trend (e.g., flexitarians, organic food consumers or those following a paleo diet are generally paying more attention to sustainable food sourcing and/or to the health effects of what they eat). This change in attitudes around food creates new opportunities for the edible insect sector.

A GROWING APPETITE FOR INSECTS FOOD PRODUCTS

- ✚ The growing demand for high-protein food for sports nutrition, dietetic food, or food supplements creates further opportunities. Currently, the use of insect-derived ingredients in such specialised products still constitutes 'niche markets' today, but those are forecasted to develop rapidly in the next few years. Furthermore, the development of insects as a food market in Europe is driving its accessibility and acceptance by the consumer, which represents a new sociocultural evolution.

THE HEALTHY BENEFITS OF EDIBLE INSECTS

- ✚ The high-protein content of edible insects makes them a potent complement to diets with reduced meat and dairy consumption. They also contain numerous vitamins, minerals, and fibres. They are also high in monounsaturated fatty acids and/or polyunsaturated fatty acids (MUFA, PUFA) - certain of which cannot be produced by the human body. Prebiotic fibres found in edible insects, such as chitin, also assist in ensuring a healthy human gut.

INSECT FOOD PRODUCTS CONTRIBUTE TO AN EU SUSTAINABLE FOOD SYSTEM

- ✚ Insect farming contributes to a real circular food system: Up to a third of the food waste generated today could be suitable for insect farming - before it is classified as 'waste'.
- ✚ Insect farming implements sustainable practices in agriculture, without using pesticides, antibiotics or growth hormones.
- ✚ Like other farming practices, insects generate by-products that can be applied as organic fertiliser in agriculture.
- ✚ Insect production, through its vertical farming practices reduces, significantly the land needed for protein production, contributing to fighting biodiversity losses.

A REGULATED MARKET FOR INSECT FOOD PRODUCTS

- ✚ In the context of the growing interest for edible insects on the European market, prompt regulatory response was generated. In the European Union (EU) 'whole insects and their parts' and their derived ingredients are included under Regulation (EU) No 2015/2283 on novel foods. The Regulation came into force on 1st January 2018 and requires insect producer to obtain a pre-market authorisation before commercialising their products across the EU market. Several products have already been authorised as Novel Food already. The assessment of several novel food applications is currently underway (European Commission and European Food Safety Authority - EFSA)

WHAT IS THE APPLICABLE LEGISLATION FOR INSECT FOOD PRODUCTS PRODUCERS IN THE EU?

- ✚ In addition to the ‘general food hygiene requirements’, the production and marketing of insects as food in Europe is governed by the ‘Novel Foods’ legislation - i.e., Regulation (EU) No 2015/2283. This legislation applies to all categories of foods that ‘were not used for human consumption to a significant degree within the European Union before 15 May 1997’, which is the case of insects. Whole insects and their parts’ and their derived ingredients can be lawfully placed on the EU market - but require a pre-market authorisation.
- ✚ The market authorisation is granted following the submission of an application to the European Commission (EC), the safety evaluation of the novel food by the European Food Safety Authority (EFSA), and a favourable vote given by the EU Member States (MS). Edible insects are regulated under the ‘new’ EU novel foods legislation - Regulation (EU) 2015/2283 which applies from 1 January 2018.

NOVEL FOOD AUTHORISATIONS ARE PRODUCT-SPECIFIC

- ✚ Insect food products are assessed and then, potentially, authorised based on the applications submitted by insect producers (or other stakeholders) that concern a specific product made from insects. For each authorised edible insect food product that formed the basis of a novel food application, the European Commission adopts and publishes an Implementing Regulation that authorises its commercialisation. Such a regulatory act shall be based on a ‘positive’ opinion adopted by the European Food Safety Authority (EFSA) regarding the safety of its product and following a qualified majority from the representatives of the Member States.

WHO CAN SUBMIT AN APPLICATION FOR AN EDIBLE INSECT NOVEL FOOD?

- ✚ The definition of ‘placing on the market in the ‘General Food Law’ (i.e. Regulation (EC) 178/2002), provides ‘indications’ on those actors whom the legislator sees as responsible for applying for authorisation, namely the first food business operator that places a novel food on the EU market (i.e., the first actor in the supply chain). Consequently, the main responsibility of submitting applications will generally lie on the insect primary producers (breeders and primary processors), as they determine the composition / intrinsic characteristics of the product that forms the subject matter of the application.

- ✚ The actors who have submitted applications so far are mostly insect primary producers/insect breeders who sell insects as ‘ingredients’ (e.g. whole insects or insect meal) to a subsequent processor (operators involved in the preparation of insect-based ingredients or end-consumer products) and/or directly to consumers through an intermediary or distributor. However, several applications were also submitted by national associations.

SUBMITTED APPLICATIONS FOR EDIBLE INSECTS AS NOVEL FOOD

- ✚ Since January 2020 there have been over **20 edible insect novel food applications** submitted for authorisation. IPIFF Members, were additionally, informed that other applications are in the process of being submitted.

AUTHORISED EDIBLE INSECTS PRODUCTS AS NOVEL FOOD AS OF OCTOBER 2022¹

- ✚ Presently (Q3 2022), **4 Novel Food authorisations have entered into force for edible insects, covering 3 different insect species.**
1. The first authorised insect novel food product corresponds to the **dried yellow mealworm (*Tenebrio molitor*)**, from an application submitted by the SAS EAP Group Agronutris company.
 - The European Food Safety Authority (EFSA) published the respective ‘positive’ opinion on the safety of the product on the 13th of January 2021.
 - The related European Commission (EC) Implementing regulation authorising its commercialisation entered into force on the 22nd of June 2021.
 2. The second authorised insect novel food product is **dried and frozen migratory locust (*Locusta migratoria*)** from an application submitted by Fair Insects’ (a Protix company)
 - The corresponding EFSA ‘positive’ opinion was published on the 2nd of July 2021
 - The Commission Implementing Regulation for this product entered into force on the 3rd of December 2021
 3. The third authorised insect novel food product **frozen, dried, and powder yellow mealworm (*Tenebrio molitor*)** from an application submitted by Fair Insects’ (a Protix company).

¹ This is a reference document that is subjected to regular updates.

- EFSA published its positive opinion on the product on the 25th of August 2021.
 - The co-related EC implementing regulation entered into force on the 1st of March 2022.
4. The fourth authorised insect novel food product was the **dried, ground, and frozen house cricket** (*Acheta domesticus*) from an application submitted by Fair Insects' (a Protix company).
- EFSA's related positive opinion was published on the 17th of August.
 - The corresponding Commission Implementing Regulation entered into force on the 3rd of March 2022.

THE EU MEMBER STATES GAVE GREEN LIGHT TO OTHER TWO OTHER EDIBLE INSECTS NOVEL FOOD APPLICATIONS

- 🇺🇪 On the 19th of October, 2022, the European Commission Directorate General on Health and Food Safety (DG SANTE) Standing Committee on Plants, Animals, Food and Feed (PAFF Committee), Section on Novel Food and Toxicology Safety, presented two other edible insects' applications as Novel Food for a vote by the EU Member States, which concluded on a Positive Opinion from this Technical Committee for:
- **Frozen and freeze-dried formulations of lesser mealworm** (*Alphitobius diaperinus larva*) - an application submitted by Ynsect.
 - The EFSA respective Positive Opinion was published on the 4th of July, 2022
 - **Partially defatted house cricket** (*Acheta domesticus*)- an application submitted by Cricket One. (a company from Vietnam)
 - The EFSA related Positive Opinion was published on the 13th of May, 2022

Following the positive vote on the two above-mentioned applications by the EU Member States, the respective European Commission Implementing Regulations are expected to be adopted by mid-December of the same year.

EDIBLE INSECTS' PRODUCTS THAT ARE CURRENTLY BEING ASSESSED BY THE EFSA

- ✚ Currently, there would be 8 other novel food applications covering edible insects which are being assessed by the European Food Safety Authority.
- ✚ These applications cover at least 2 additional insect species: **black soldier fly** (*Hermetia illucens larvae*) and **honeybee drone brood** (*Apis mellifera male pupae*).

THE EDIBLE INSECTS MARKET IS EXPECTED TO HAVE A GROWTH RATE OF 28.3% WORLDWIDE IN THE PERIOD 2022-2030.

- ✚ The rapid growth of this segment is driven by the rising food shortage worldwide, the increasing consumption of processed whole insects as food, and the increasing demand for high-quality alternative protein and amino acid sources among end users. The large market share of this segment is attributed to the rising demand for insect-based foods to feed the growing global population, the high nutritional value of insects in human nutrition, and the growing demand for environment-friendly alternative sources of protein.