

Voluntary Report – Voluntary - Public Distribution

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Report Name: Edible Insects Invade the German Food Sector

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Report Highlights:

The German edible insect industry welcomes the first edible insect to be approved for food use in the European Union (EU) as a big step towards a more transparent legal environment and marketing opportunities for the relatively new industry sector. On May 3, 2021, the EU's European Food Safety Agency approved a novel food application for dried yellow mealworm (*Tenebrio molitor*) and thereof derived products.

What's for dinner? Edible Insects find a Potential Market in Germany

Summary

On May 3, 2021, the European Union's European Food Safety Agency (EFSA) approved a novel food application for dried yellow mealworm (*Tenebrio molitor*) and thereof derived products. Mealworms are the first edible insect to be approved for food use in the member states based on [\(EU\) Regulation 2015/2283](#) "REGULATION (EU) 2015/2283 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Novel Foods".



Photo credit: Katerinavulcova, [Pixabay](#)

This decision allows the commercialization of this item as a novel food across the European Union market for the applicant, a French insect producer. EFSA published its [safety assessment](#) of dried yellow mealworm on January 13, 2021.

While this particular novel food authorization grants a five-year commercialization period for the applicant only due to the EU Novel Food legislation data protection component, other companies utilizing the approved ingredient may benefit as well. According to the International Platform of Insects for Food and Feed (ipiff)¹, the approved applicant may also decide to share their protected scientific data with other producers of dried yellow mealworm. Ipiff is the umbrella association of the European edible insect industry.

Under the new Novel Food Law, authorizations for new products are generic and apply to the product and not the applicant. However, as in this case, applicants have the option to choose data protection.

Background

In 2018, the EU Novel Food Regulation established that products containing insects are classified as novel foods and require authorization by the EFSA prior to marketing.

Despite the required authorization, various products containing edible insects have been available on the German market for quite some time. The reason is that the rule allows for a transition period for products that were lawfully put on the market prior to 2018 and are currently undergoing the EFSA novel food approval process. This transition period is based on [Commission Implementation Regulation \(EU\) 2017/2469](#), Art. 8 Abs. 5², and applies until EFSA's final decision on the applications.

¹ [Press Release](#) by the International Platform of Insects for Food and Feed (ipiff) of May 4th, 2021 "IPIFF welcomes EU Member States' green light to the authorization of the first insect food products at European level"

² COMMISSION IMPLEMENTING REGULATION (EU) 2017/2469 of 20 December 2017 laying down administrative and scientific requirements for applications referred to in Article 10 of Regulation (EU) 2015/2283 of the European Parliament and of the Council on novel foods.

According to the European Union's summary of novel food authorizations, eleven applications are currently subject to a safety evaluation by EFSA³. The applications were submitted for various insects in food use by companies and food associations from the Netherlands, Belgium, France, Finland, and Vietnam.

Active applications for approval include⁴:

- Tropical house crickets, (*Grylloides sigillatus*)
- Lesser mealworm/buffalo worm, whole or ground (*Alphitobius diaperinus*)
- House cricket, whole and ground (*Acheta domestica*)
- European migratory locust, whole and ground (*Locusta migratoria*)
- Honey bee drone brood (*Apis mellifera* male pupae)
- Black soldier fly larvae (*Hermetia illucens*)
- Mealworm, whole, ground and dried (*Tenebrio molitor*)

So far, German insect producers have not applied for a novel food authorization.

The German Edible Insect Market

In Germany, products made from edible insects are a niche product. However, interest, curiosity, and a growing understanding of the broad benefits of this industry are increasing. Industry stakeholders welcome this first novel food authorization as an important step toward providing a more transparent legal environment for the relatively new industry sector and increased marketing opportunities for insect products.

A small number of German companies specialized in edible insect production are making use of the transition period option. The majority of insect producing companies sell directly online. Additionally, some retail stores may place various products containing insects on their shelves, and organic stores may have a limited offer. As a relatively new trend, some German high-end restaurants extended their menus to include dishes containing insects.

To reach a broad clientele, international trade shows and special food events, such as street food markets and food festivals, present great platforms to showcase products containing insects. Companies can seize these opportunities to introduce potential new clients to their products and provide an understanding of the nutritional and environmental benefits of adding insects to the human diet. Tasting opportunities are key to overcome the initial fear factor some consumers may possess.

According to market surveys conducted by the German consumer association *Verbraucherzentrale*⁵ in 2020, only about 40 different products were spotted. These products included cereal bars, snack

³ European Commission website: [Approval of First Insect as Novel Food](#)

⁴ European Commission website: "[Novel Food Summary of Applications and Notifications](#)"

⁵ Market check Verbraucherzentrale [Marktcheck-Speiseinsekten-2020.pdf \(verbraucherzentrale.de\)](#)

foods, insect burgers, protein flours, pasta, burgers, and bakery items. Many products are placed on the market in the scope of promotional events.



Source: [Verbraucherzentrale](https://www.verbraucherzentrale.de)

Benefits of Edible Insect Farming

According to the Food and Agriculture Organization of the United Nations (FAO) edible insects report⁶, over 1,900 species of insects are consumed worldwide. While developing countries represent the largest share, the demand is increasing worldwide.

Edible insects offer a high-quality and nutritionally valuable diet for humans, cattle, poultry, and fish. They are high in protein and essential amino acids, highly digestible, and provide a good source of unsaturated fats, such as Omega 3 and 6 at a favorable ratio. They are packed with vitamins and minerals (vitamin A, B, B12, magnesium, iron), and their prebiotic fibers (chitin) provide nutrients for probiotic gut bacteria. Lastly, consumers often describe them as quite flavorful.

Insect farming is considered sustainable and climate friendly. By using agricultural by-products and unsold products from the food industry as substrates for feeding their insects, farmers can contribute to

⁶ FAO Report “[Edible insects: future prospects for food and feed security](#)” of 2013

reducing organic waste material. Since insects are cold-blooded, they have a high efficiency of feed conversion.

Production Forecast

In their recent market report on the European Edible Insect Sector⁷, ipiff describes the sector as a new industry with an unmatched potential and reports over 6,000 tons of insect protein produced for food and feed use in 2019.

According to [Lebensmittelzeitung](#), one of the major German trade journals for the food sector, the global market for edible insects has been growing by about 26.5 percent annually and is expected to continue to gain momentum. The world production value of edible insects and derived products is expected to reach a value of US\$4.63 billion by 2027⁸.

There is currently no comprehensive data available for the German market due to its small size.

Conclusion

Entomophagy is a strange concept for the average German consumer. There is often a psychological and ethical barrier to eating insects, and a high tendency for Germans to stick to the food they know. However, the potential environmental benefits of introducing insects into human diets plays an important role as well. For consumers, it may take some getting used to this trend.

The animal feed sector, however, already shows much greater potential. The need for alternative protein sources is increasing, and insects have the potential to play a larger role in animal feed in the future.

Feeling brave? Check out this Chocolate Chip Recipe

If you feel intrigued and brave, check out this recipe for chocolate chip cookies made with mealworms. The author recommends this recipe as an excellent way to introduce others or yourself to entomophagy⁹.

Bon Appétit!

[Mealworm-Chocolate Chip Cookies](#)



Photo credit: mmalcom1, [Pixabay](#)

⁷ Ipiff Market Report: “The European Insect Sector Today – Challenges, Opportunities and Regulatory Landscape”

⁸ Lebensmittelzeitung [Novel Food: Massives Wachstum für essbare Insekten \(lebensmittelzeitung.net\)](#)

⁹ Allrecipes: “[Mealworm-Chocolate Chip Cookies](#)” by Bizzar Recipes

Note

FAS Berlin is in the process of compiling a comprehensive market report for the edible insect sector in Germany. Please stay tuned and adventurous.

If you have questions or comments, please contact our office at [AgBerlin\(at\)usda.gov](mailto:AgBerlin@usda.gov).

Attachments:

No Attachments.