

International Platform  
of Insects for Food and Feed

# Overview of the European insect feed market

Factsheet developed by IPIFF  
(version 2 – November 2023)



## SECTION I

# General introduction

## 01\_ The insect-producing industry is growing in Europe:

The production of insects for animal feed and pet food is growing rapidly across the globe. In the European Union (EU), innovative businesses - newly established, or previously active in biocontrol activities or the production of feed for exotic animals - diversified their operations by targeting the pet food market. Gradually, following the EU authorisation of processed animal proteins derived from farmed insects (insect PAPs) in aquaculture feed (i.e. July 2017), the aquafeed market became the main animal feed market (i.e. feed for food producing animals) for the producers of insects as feed.

In light of the authorisation of insect PAPs for poultry and pig nutrition (September 2021), this factsheet presents an overview of the current status of the market for insects as feed and its forecasted growth by 2025 and 2030. Market projections developed throughout this document take into account recent forecasts published by reputable entities in the field of economic and modelling research - as well as a recently conducted survey which included the majority of the insects as feed operators active in Europe.

## The European insect sector: facts & figures

The European insect sector presently employs **above 1 000 FTEs**, coming from companies which are active all across the continent. The sector may generate close to 30, 000 jobs (including direct and indirect jobs) by 2030. The European insect sector has attracted investments of **more than 1,5 billion EUR** to date. The insect industry has now **passed a critical threshold**: production is scaling up to meet the needs of food, feed and plants markets, while building up capital and know-how.

It also takes account of the changing geo-political context and economic turmoil experienced at global level (e.g. as a result of the COVID pandemics and the invasion of Ukraine by Russia), which led to the delay of several insect projects (e.g. due to inflated energy and construction materials costs), on top of the administrative burdens several operators have experienced when they would seek authorisation to build their production facilities.

## Adaptations of the EU regulatory framework will facilitate the development of the insects feed sector

With approximately **4,000 tonnes of insect PAPs** and almost **10,000 tonnes of insect feed products** generated in 2022, the production of insects for feed is expected to increase rapidly in the coming years. Building on the total investment to be raised by the mid-2020s, the sector may reach a total turnover of c. 2 billion euros/year by the end of the decade. This growth will materialise following the construction of new facilities and/or the expansion of existing infrastructures

(1 - logistical considerations). Consequently, the production capacity of the sector may also be increased thanks to new legislative developments (2 - regulatory context), as well as consumer readiness (3 - awareness raising).

## SECTION II

# Key economic figures

## 01\_ Main markets targeted by insect Feed Business Operators' (FBOs)

The market of insects as feed is dynamic and depends on a series of factors. Among these, the regulatory context played an important role in the European Union. Notably, the recent authorisation of insect PAPs in aquaculture followed by the authorisation in poultry and pig feed offered new opportunities for insect feed operators - starting with the incorporation of such ingredients into the nutrition of such animals, the subsequent use of insects in organically farmed chicken and pigs, implicitly strengthening partnerships between insect and animal farms.

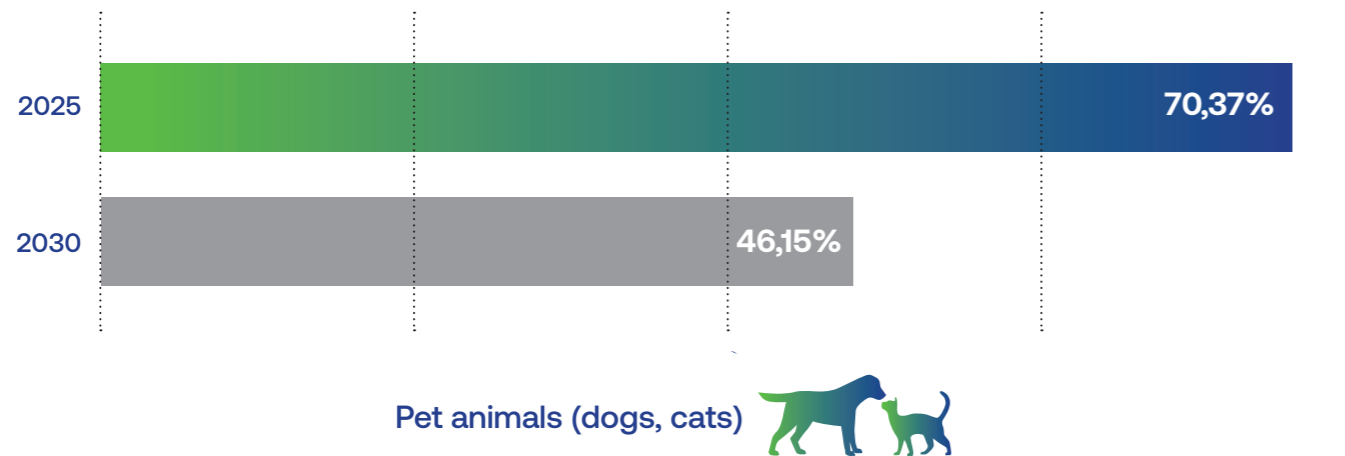
Such trends will also be stimulated by consumer choice (e.g. growing consumption of lower footprint animal-derived products, such as eggs, fish, chicken or pig), the growth of certain niche markets (e.g. free-range poultry, organic production value chains, etc.).

The graphs below indicate the expected growth of the main markets targeted by FBOs. In addition, this visual reflects a possible distribution of these markets by 2025 and 2030.

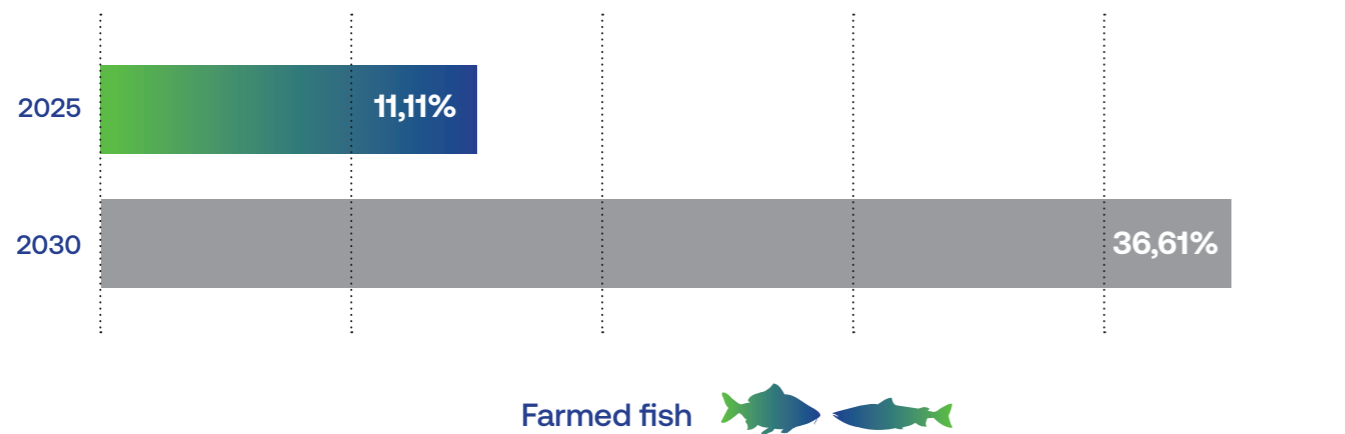




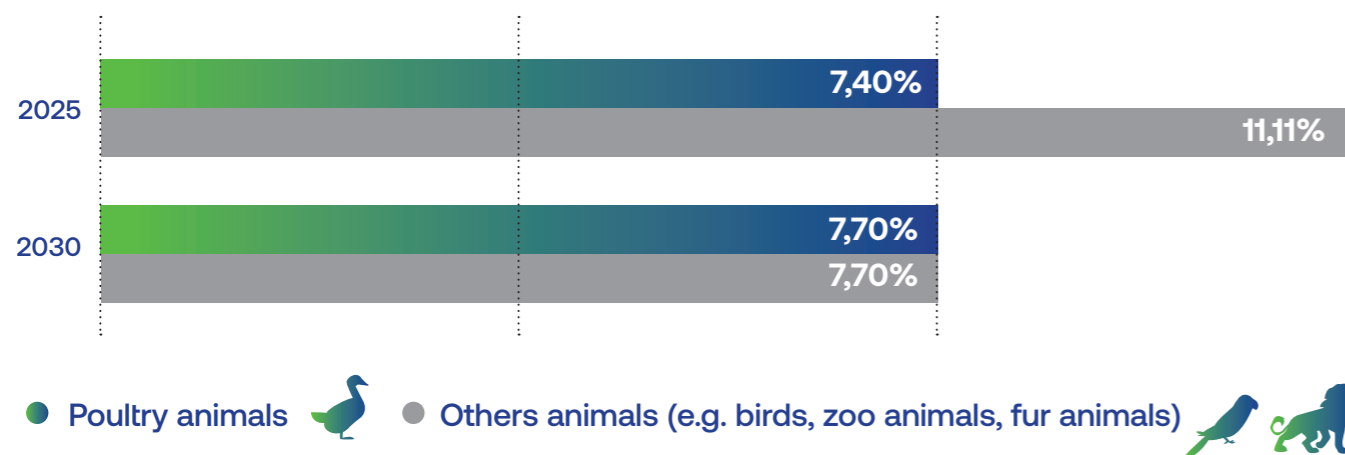
## 1st most promising market segment for insect feed products 2025-2030



## 2nd most promising market segment for insect feed products 2025-2030



## 3rd most promising market segment for insect feed products 2025-2030



Legend: Through an internal survey developed in 2023, IPIFF's members were requested to identify, by order of importance, the market segment(s) for insect feed products both in 2025 and in 2030. The above graphs reflect the answers provided by 25 respondents, who represent the leading insect feed-producing companies in Europe.



By the end of the decade, possible new regulatory developments (e.g. authorisation of new substrates as feed for insects) are expected to play a key role in upscaling the production of insects and their derived ingredients - implicitly leading to a decrease in prices.

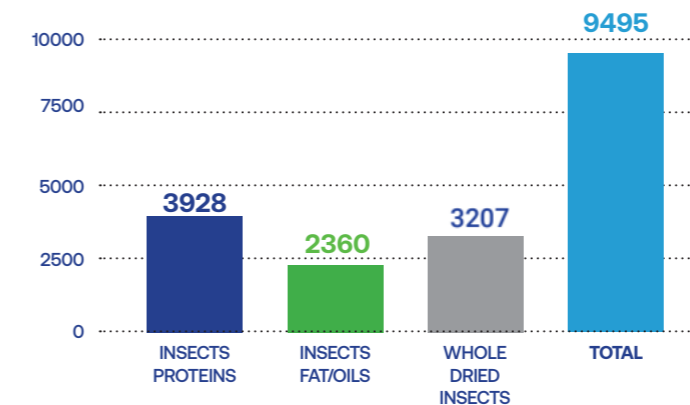
At the time when this document was drafted, it is worth noting that these forecasts reflect the current agrifood trends with respect to

consumer demand (e.g. growing demand for lower-footprint meat products), relevant EU initiatives (e.g. EU Protein Plan, 'Farm to Fork' Strategy, Organic Action Plan), as well as the latest scientific and industrial developments (e.g. insect farming technologies, animal nutrition formulations).

## 02\_ Production forecasts - reaching 650 000 tonnes of insect PAPs by 2030

According to the IPIFF Members, the total production capacity of the European insect sector may reach c. 650.000 tonnes of insect PAPs by 2030 (i.e. including feed for food-producing animals and other applications), if the appropriate conditions are met.

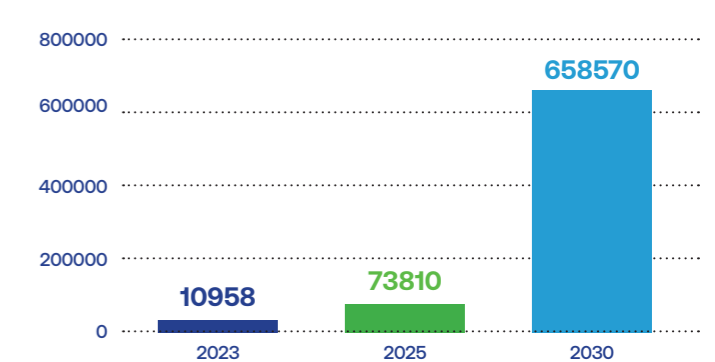
2022 - Insects Feed Products (in tons)



How many tons of insect proteins were produced by the IPIFF members in 2022? (Source: IPIFF questionnaire - February 2023)

Until now, several reports developed forecasts or models that anticipate the future capacity of the insect sector. Such analyses take into account market demand and economic indicators (i.e. Rabobank report), or projections that assess the possible technical limitations (e.g. the quantity of substrates that may be bioconverted by insects, as presented in the EU Agricultural Outlook report). This factsheet also incorporates economic indicators (e.g. decrease of input costs) including funding opportunities, political factors (e.g. support from national competent authorities), technical considerations

Evolution of all insect protein/PAPs

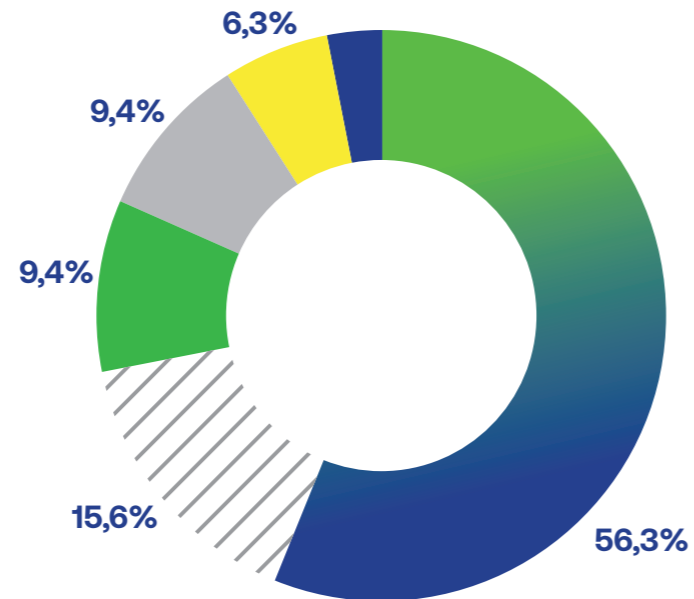


Forecasts for the production of insect feed products in 2023 vs 2025 vs 2030? (Source: IPIFF questionnaire - February 2023)

(e.g. technological advancement of the sector), as well as possible future EU regulatory authorisations, as reported by IPIFF (see graph below for further details). However, we acknowledge that the main limitation of EU regulatory factors is the absence of a precise timeline for the possible 'unlocking of remaining EU barriers' (e.g. authorisation of new substrates).

## Positive External Factors

- Unlocking of remaining EU barriers
- ▨ Improved marketing position
- Political cooperation
- Decrease of input costs
- Funding opportunities
- Technological advancement



(Source: IPIFF questionnaire - February 2023)

Legend: Through the aforementioned questionnaire, IPIFF's members were consulted on the **'positive factors'** which would contribute to the growth of the European sector over the next few years. The above pie reflects the answers provided by 33 respondents, who represent the leading insect food and feed producing companies in Europe.

## IPIFF however anticipates that meat and fish containing former foodstuffs could be authorised as substrates for farmed insects (at EU level) by 2026-2027.

The diversification of the inputs authorised as insect substrates is seen as a catalyst to upscale insect farming. Notably, up to a third of the food waste generated presently in the EU may be used as insect substrate - before it is classified as 'waste'. Specific examples of such products are former foodstuffs containing meat and fish or catering waste, that could be safely bioconverted by insects into protein and lipids - as well as insect frass. The approval of **meat and fish containing former foodstuffs** in insect farming establishments producing insects for the feed markets - by 2026-2027 - would play a **key role in accelerating the growth of the sector** by significantly decreasing input costs for operators.

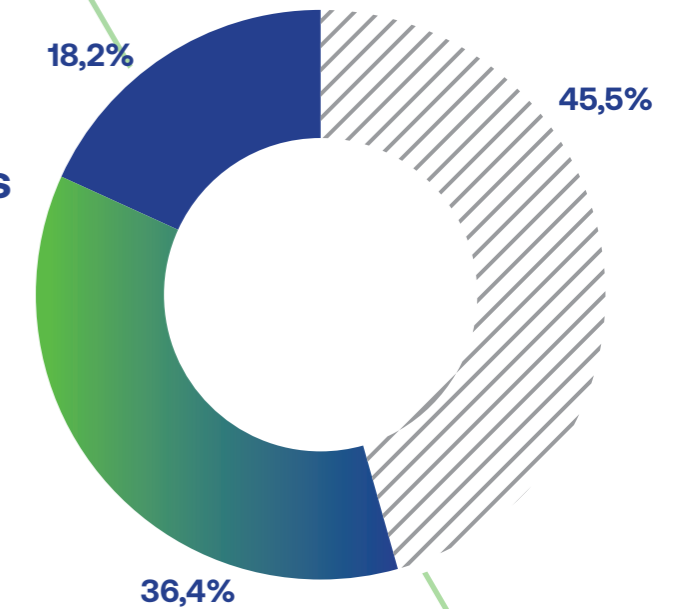


## SECTION III

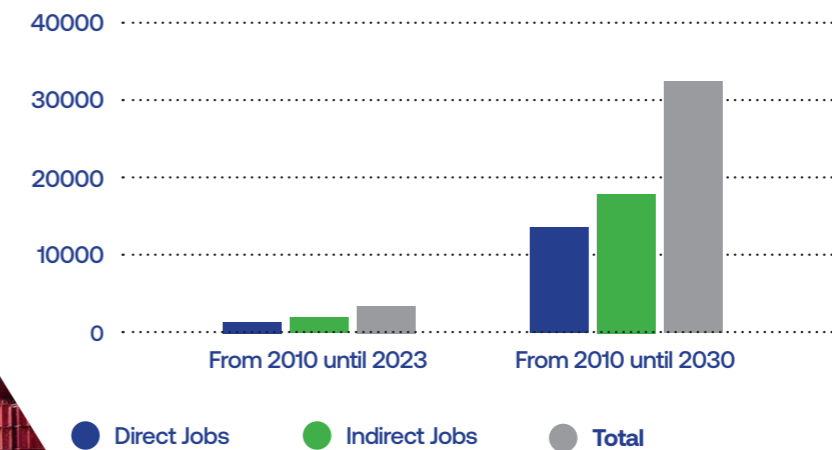
# Insect feed producing companies' profiles and employment

## Insect feed producing companies by size (in 2023)

- ▨ Micro enterprise (<10 employees)
- Medium-sized enterprise (50-250 employees)
- Large enterprise (> 250 employees)



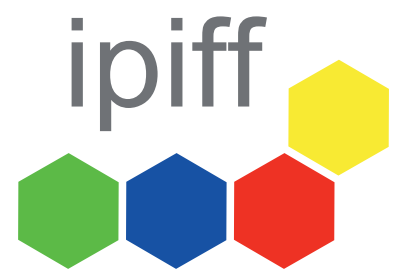
(Source: IPIFF questionnaire - February 2023)



**Jobs (i.e. direct and indirect jobs) created by insect-producing companies since their inception and forecasts for 2030** (IPIFF questionnaire - February 2023).

According to IPIFF members, the number of jobs generated by FBOs will increase gradually. Notably, almost a **ten-fold increase in the number of direct jobs is expected by 2030**. A steady increase in the number of **direct jobs** is also noted - by the end of the decade, direct jobs will represent almost 45% of total jobs generated by FBOs (from a bit more than one third until today). Insects as feed operators will have generated almost 32 000 jobs (including direct and indirect jobs) by 2030.





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