

THE INTERNATIONAL PLATFORM OF INSECTS FOR FOOD AND FEED

‘Harnessing the potential of the European insect sector in supporting EU food security challenges: an overview of the European insect producing sector agenda’

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IPIFF Annual Conference, 15 November 2023, Brussels

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Introduction: EU Agri-food Challenges



59 million tons of food waste / year in the EU, the equivalent of **131 kg/inhabitant** (*Eurostat, 2020*)

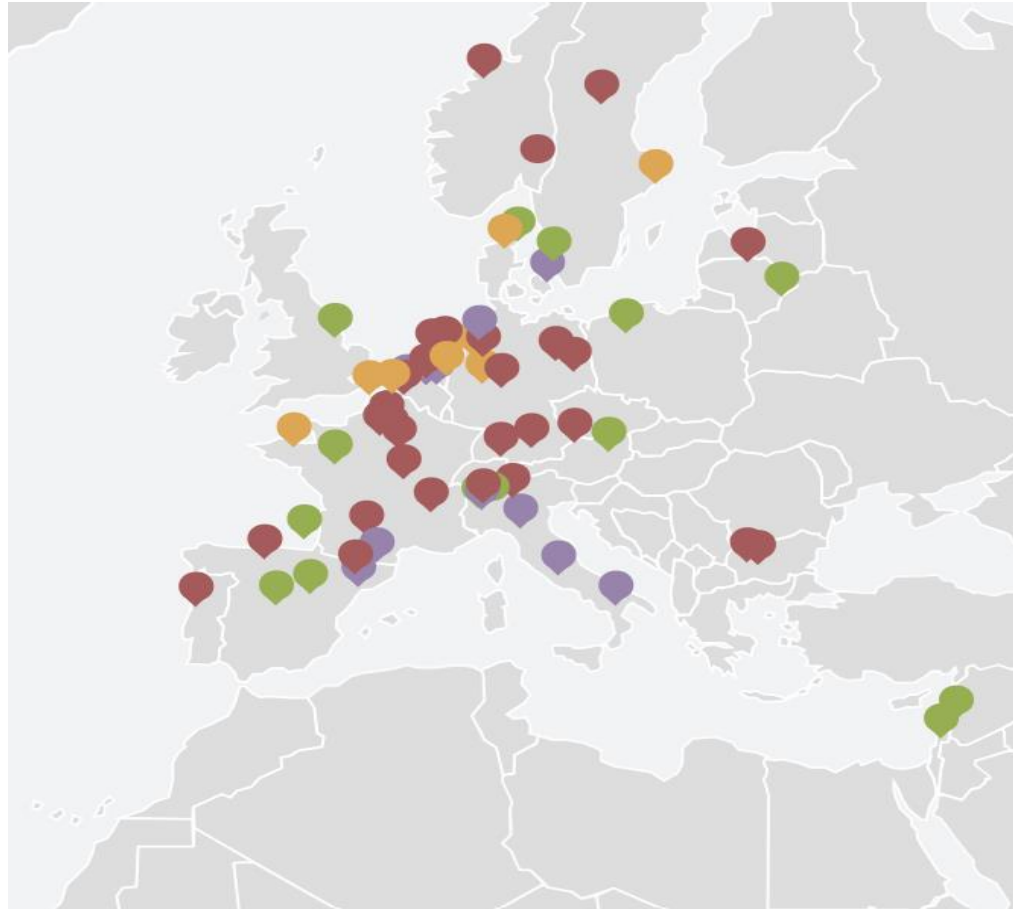


The COVID-19 pandemic and the Russian aggression in Ukraine highlighted **vulnerabilities in EU food supply chains** (e.g. fertilisers)

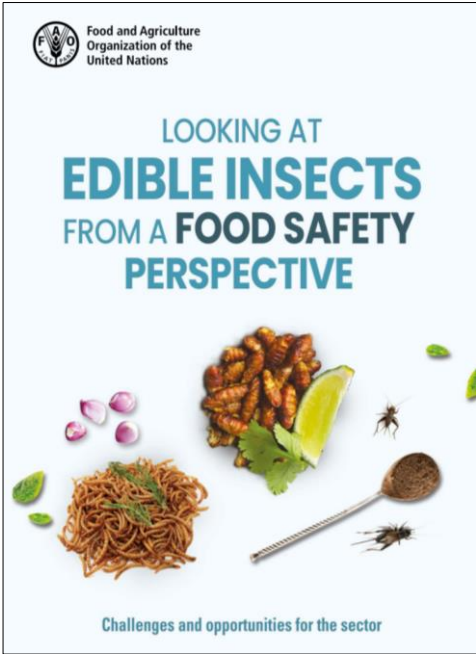
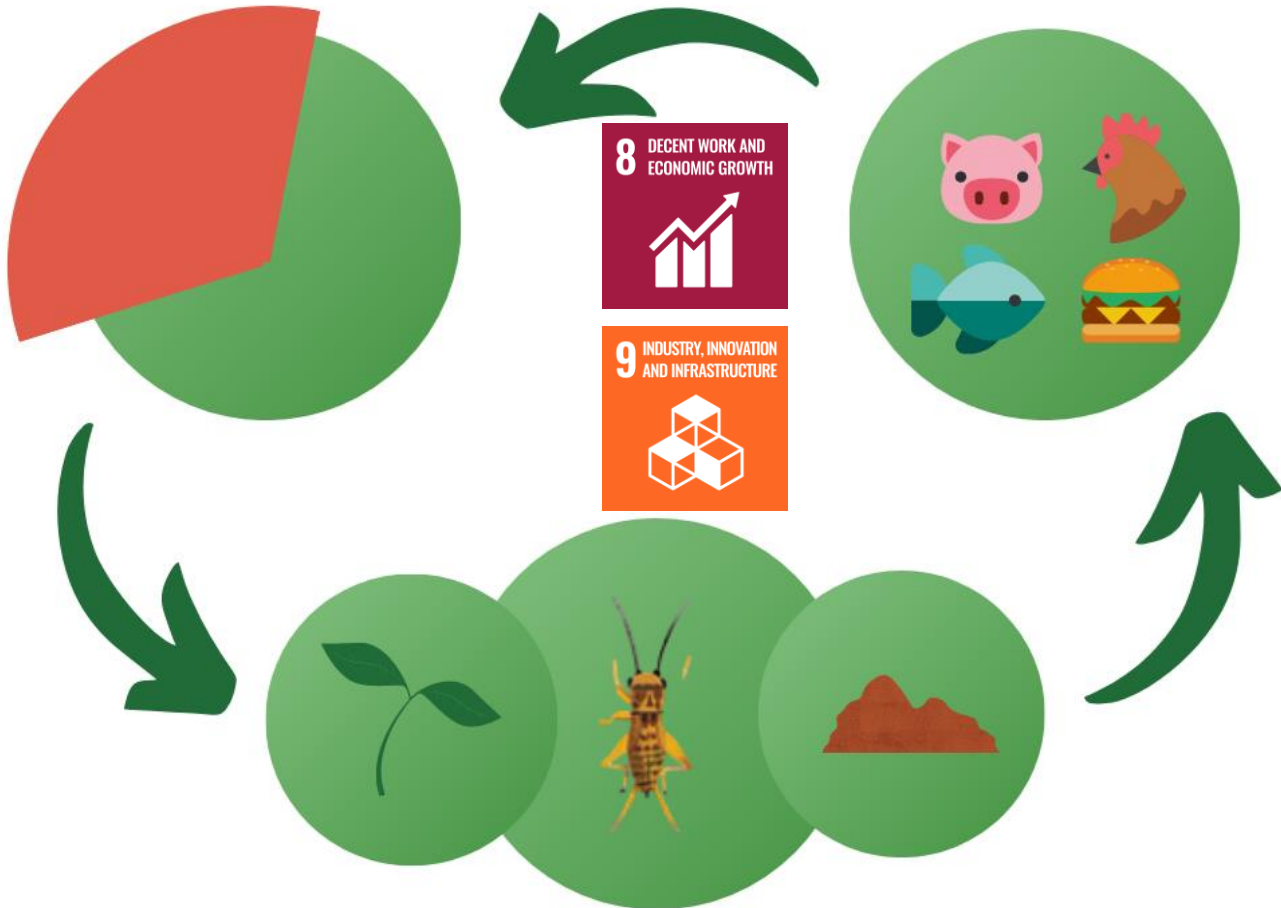


Efforts are necessary to **accelerate the transition** towards **more sustainable** diets and **increase domestic production** of key commodities

I. Introduction: IPIFF and its members



Circular farming systems have great potential to contribute to global challenges



Connecting local agricultural supply chains



Farmed insects generate highly nutritional products, using local untapped resources, that can ultimately improve EU's self-sufficiency in terms of high protein feed materials and improve circularity in agriculture



Insect farming has a low environmental footprint, especially in terms of land and water use, and has positive impact on the preservation of biodiversity, by reducing the use of traditional protein sources, which have damaging consequences on our ecosystems



By connecting agricultural supply chains and bringing diverse opportunities for farmers involved in animal husbandry and crop cultivation alike and contribute to boosting rural economies.

Edible insects have the potential to reconnect the agri-food chains - from 'farm to fork' and beyond

01 farmed insects not only reduce the dependency on imported sources of protein - they generate local products, using local underutilized resources.

02 insect farms aim at diminishing the burden of food waste - in line with the waste hierarchy.

03 insects are highly versatile, feeding on a wide spectrum of products - thus, by optimising the use of former foodstuffs as animal feed, insects can safely upcycle materials that are not suitable for poultry, swine or ruminant species.

The European insect sector is committed to reducing EU's food waste burden. In order to maximise the circularity potential of insects, IPIFF aims at...

- facilitating the wider use of former foodstuffs
- diversifying the spectrum of authorized former foodstuffs
- further exploring the added value of catering waste

By-products from insect farming activities, such as insect frass, could play a key role in providing local solutions to improving soil fertility.

the land application of insect frass is consistent with circular economy's principles, by reintroducing valuable materials into the food production chain - as alternative to linear models that would end with its disposal - while offering sustainable solutions to European farmers and / or gardeners.

Source: IPIFF Contribution Paper on Frass

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Source: IPIFF factsheet 'Connecting local agricultural supply chains through insect farming' (February 2020)

Current state of development of the European insect sector

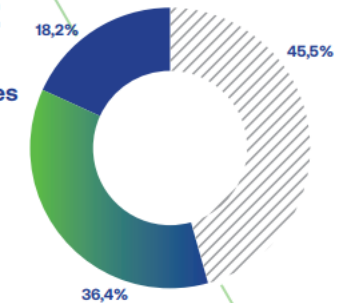
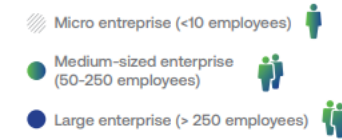
- More than **EUR 1,5 bln investments** until now: the sector is predominantly composed of SMEs.
- The sector has passed a **critical threshold** and has set its mark to **be commercially interesting**.
- **Production is scaling up** to meet the needs of food-feed-plants markets, while building up **know-how**.
- **Diversity in types of farms, operational sizes and production models** (e.g. 'full liners' vs. decentralized models)
- **Higher level of integration** with several other **production systems** (e.g. 'colocation' with agro-industries, partnerships with farmers)

- **3,5 thousands jobs created until today** (incl. above 1,000 direct jobs).

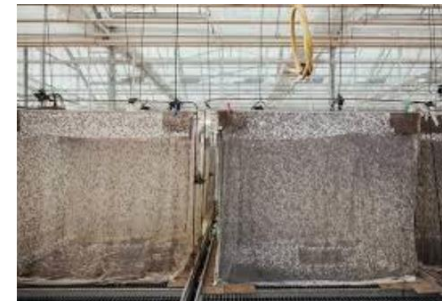


Insect feed producing companies' profiles and employment

Insect feed producing companies by size (in 2023)



(Source: IPIFF questionnaire - February 2023)



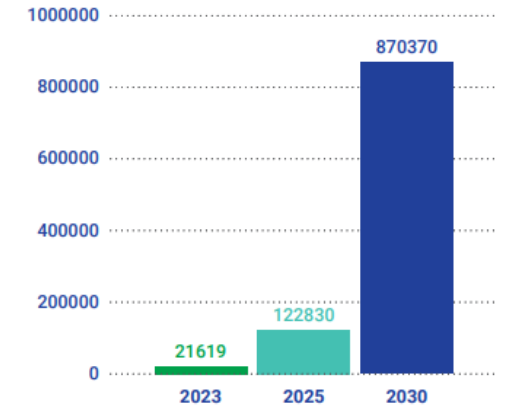
II. Perspectives on the development of the European insect sector towards 2030

The recent evolutions experienced by European insect producing companies are now shaping their ability contributing to **addressing the current deficit in EU domestic protein production** (both for food and animal feed).

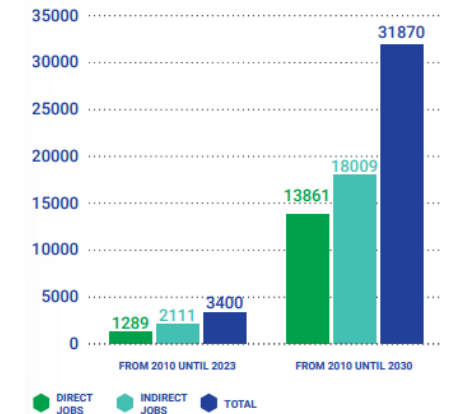
- by the end of the decade, there will be a significant spike in the **number of insect farms producing above 10,000 tonnes per annum**, thereby developing large-scale operations;
- The number of **European livestock farmers, who decide to diversify their commercial activities towards insect production**, will be increasing.



EVOLUTION OF ALL INSECT-DERIVED FEED PRODUCTS



TONNES OF INSECT PROTEINS PRODUCED BY IPIFF MEMBERS IN 2022



JOBS (I.E. DIRECT & INDIRECT JOBS) CREATED BY INSECT-PRODUCING COMPANIES SINCE THEIR INCEPTION AND FORECASTS FOR 2030

(Source: IPIFF Questionnaire—February 2023)

Main challenges ahead of the sector

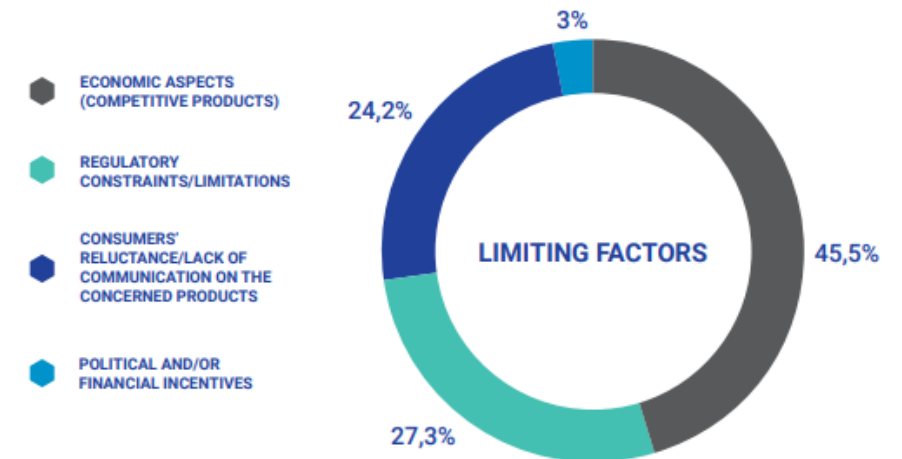
Although insect-producing companies have created a lot of critical mass over the last few years, the sector is **far from having achieved its full potential**.

According to the IPIFF Treasurer Heinrich Katz, 'the European insect sector is at a crossroads (...) before, insect producers were challenged by legislative barriers that were inhibiting them from selling their products as food, feed for aquaculture, poultry, and pigs. This challenge is now in the past. However, several other challenges are laying in front of the sector, including on the legislative side' (source: IPIFF brochure, November 2023)



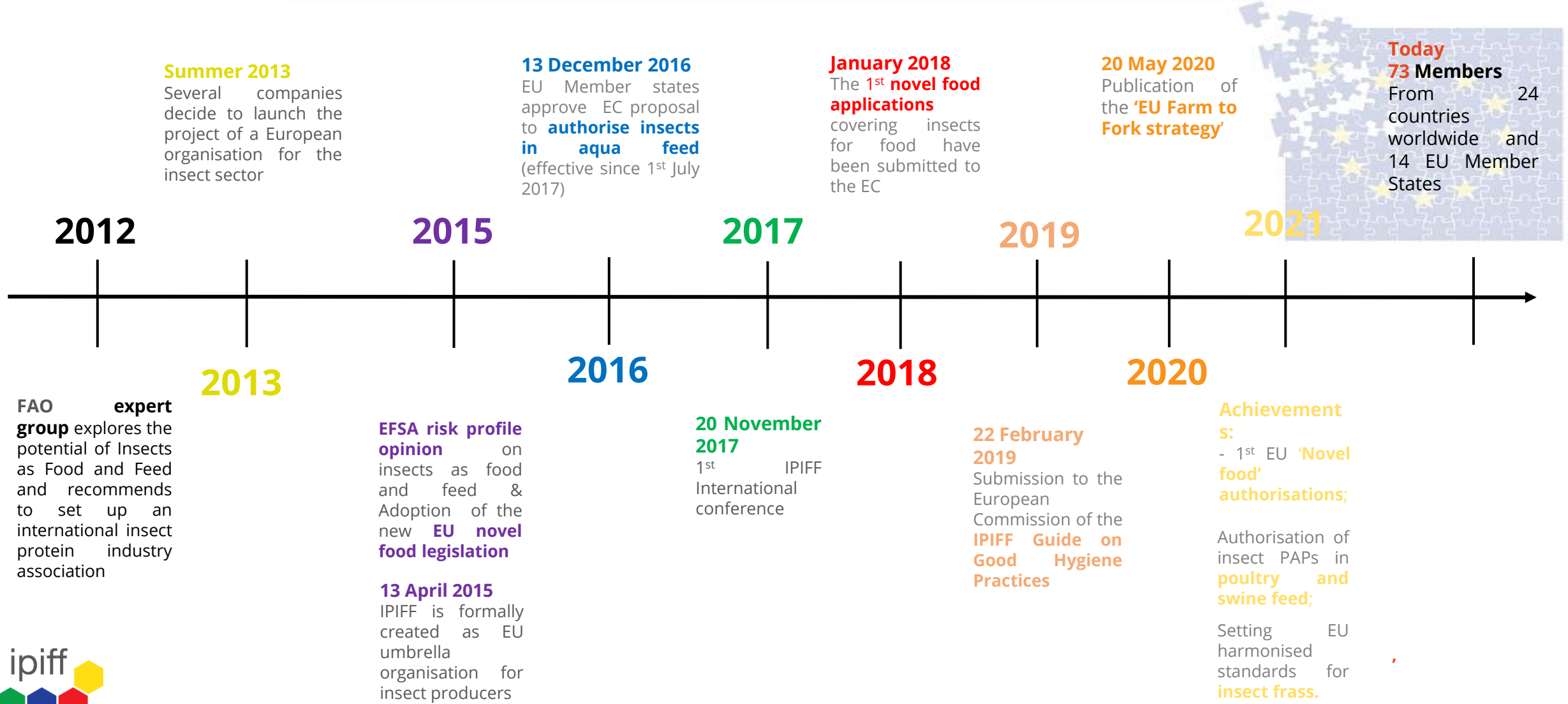
Main challenges ahead of the sector (II)

- **Scaling up of production** remains the **main challenge of the insect sector** at the moment.
 - Economy of scale shall be fuelled through substantial investments in breeding and processing technologies
- Efforts to **document and communicate on insect production credentials** should be stepped up.
 - Such efforts would provide an incentive for European feed manufacturers, farmers and consumers to prioritise the use of such food or feed sources.
- **Regulatory constrains (...)**



(Source: IPIFF Questionnaire—February 2023)

III. EU Regulatory bottlenecks and opportunities milestones for the European insect sector



Supporting the EU 'Farm to Fork' Strategy

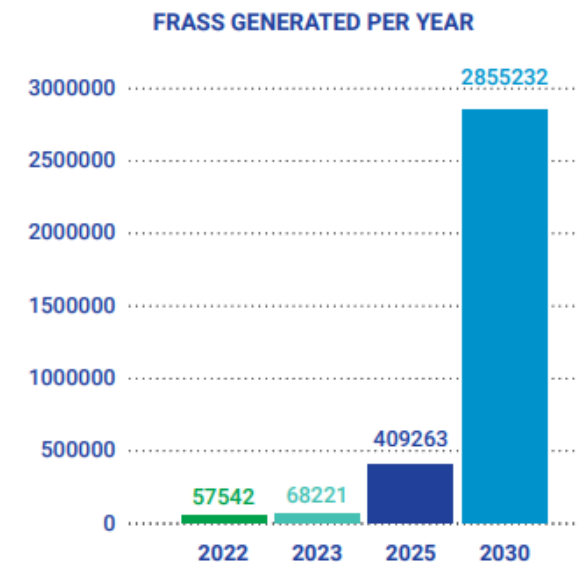
- The EU 'Farm to Fork' strategy (published in May 2020) aims to make Europe the global **pioneer of a food system that is fair, healthy and environmentally-friendly**.
- The strategy lays down the following **targets**:
 - Reducing the use of **fertilizers** by **20%** by **2030**;
 - Reducing food waste by **50%** by **2030**;
 - Reducing **nutrient loss** by at least **50%** by **2030**;
 - Ensuring that **25%** of agricultural land is under organic farming by **2030**
- ...'fostering EU-grown plant proteins as well as alternative *feed materials such as insects*' ...;
- *A key area of research* will relate to (...) increasing the availability and source of alternative proteins such as plant, microbial, marine and *insect-based proteins*.' ...;



Maximising the contribution of the insect sector towards a decarbonized economy: insect frass

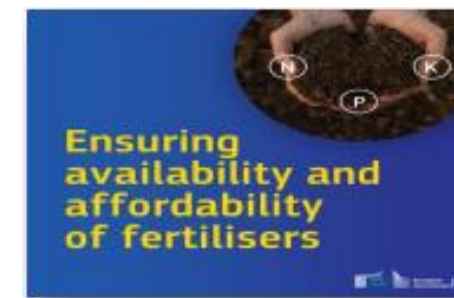
'The Commission will furthermore look into measures that can help make green fertilisers competitive in the market during the transition to a fully decarbonised economy (...)' The forthcoming definition of end-points in the manufacturing chain under the ABP Regulation - a pre-condition for the market access granted by FPR - will constitute important further progress (...)'. [EC Communication – 09 November 2022](#)

The European Parliament considers that frass is *'currently not used to the fullest (and) 'calls on the Commission (...) to incentivise the use of frass by removing unnecessary legislative and administrative burdens as soon as possible'* ([EP Resolution 16 February 2023](#))



QUANTITIES OF INSECT FRASS IN TONNES FROM 2022 UNTIL 2030

(Source: IPIFF Questionnaire—February 2023)



Insect production is a reliable solution to improve EU's self sufficiency

*'The European Parliament stresses that **insects**, provided they meet high safety standards, could be regarded a **useful circular alternative source of protein**, particularly for organic and conventional animal nutrition, contributing to reducing the EU protein deficit and increasing the circularity of agriculture (...) recognises that undue regulatory burdens hinder the development of circular and sustainable agriculture, such as the ban on using biodegradable waste as feed for insects - [European Parliament resolution of 19 October 2023 – European protein strategy](#)*



Addressing current bottlenecks

IPIFF Policy Roadmap (I)

- Registration of processed insect frass under the EU fertilisers legislation, thereby giving full EU market access for the use of insect dejecta as a fertilising product (reform expected by end of 2024-1st half of 2025);
- Setting EU regulatory standards for insect organic production and authorisation for using conventional insect proteins in organic aquaculture (new rules could be in place as from the end of 2024 - 1st half of 2025);
- European Commission proposal in view of including more feeding substrates to be legally applicable for insect farming (e.g. meat and fish containing former foodstuffs, depending on the final conclusions of a future food safety assessment to be conducted by the European Food Safety Authority; the European Commission may table a regulatory proposal by early 2026).

Main bottlenecks and IPIFF roadmap (II)

*According to the IPIFF 2nd Vice President, Antoine Hubert, 'the realisation of these policy objectives will be instrumental in unleashing the potential of our industry' (...) Not only, these are a game changer for insect producing companies, but these will also **condition the possibilities of the European insect industry to keep its leading role globally and to compete on equal terms with operators from third countries, who are often not subject to the same legal restrictions**' (source: IPIFF brochure, November 2023)*



IV. Key drivers towards unleashing the potential of the European insect sector

- Is there is a **'recipe'** for establishing a **'future-proof'** agri-food industry?



Recipe for success

- Is there is a 'recipe' for establishing a 'future proof' agri-food industry?



Be ambitious and committed

IPIFF President, Adriana Casillas 'The European insect sector has the potential to tick both boxes: Our members are committed to contributing to the realisation of the EU sustainability targets, whilst meeting its newly defined objectives towards achieving greater food security' (source: IPIFF brochure, November 2023)



Think outside the box

- The European insect sector is committed to the **realisation of EU strategies** (F2F, Protein Strategy, Organic Action Plan, Common Agricultural Policy)
- Devise **future-oriented projects**, where insects can bring added value in addressing key challenges (e.g. food waste, soil fertility, human and animal health)
- Inform and document **insect production activities credentials** (e.g. nutritional benefits, environmental credentials)



Create bridges and build trust

HOW?

- Fill the gaps in scientific research, through the development of **transdisciplinary** and **inter-sectorial** research projects.
- Strengthen **collaboration with agri-food sectors** (e.g. farmers' associations, food and feed industry)
- **Engage** in research or business partnerships with **like-minded sectors** (e.g. *IPIFF collaborates with the algae and the yeast sectors*)



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