

SUSTAINABLE SOLUTIONS

"Exploring protein recovery in the bioeconomy"

Revalorisation of animal by-products in plant biostimulants and organic-based fertilisers

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BYPROTVAL



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About Prospero & Partners



- Prospero & Partners works in partnership with agrifood actors to catalyse, enable, and enact the transition to a more sustainable agrifood system.
- In 2011, we worked with industry to create the **European Biostimulants Industry Council (EBIC)**.



- In 2014, we were requested to create the **European Consortium of the Organic-Based Fertiliser Industry**.



European Consortium
of the Organic-Based Fertilizer
Industry

- We continue to provide strategic consulting and management to both associations.



Animal by-products in plant biostimulants



European Biostimulants Industry Council



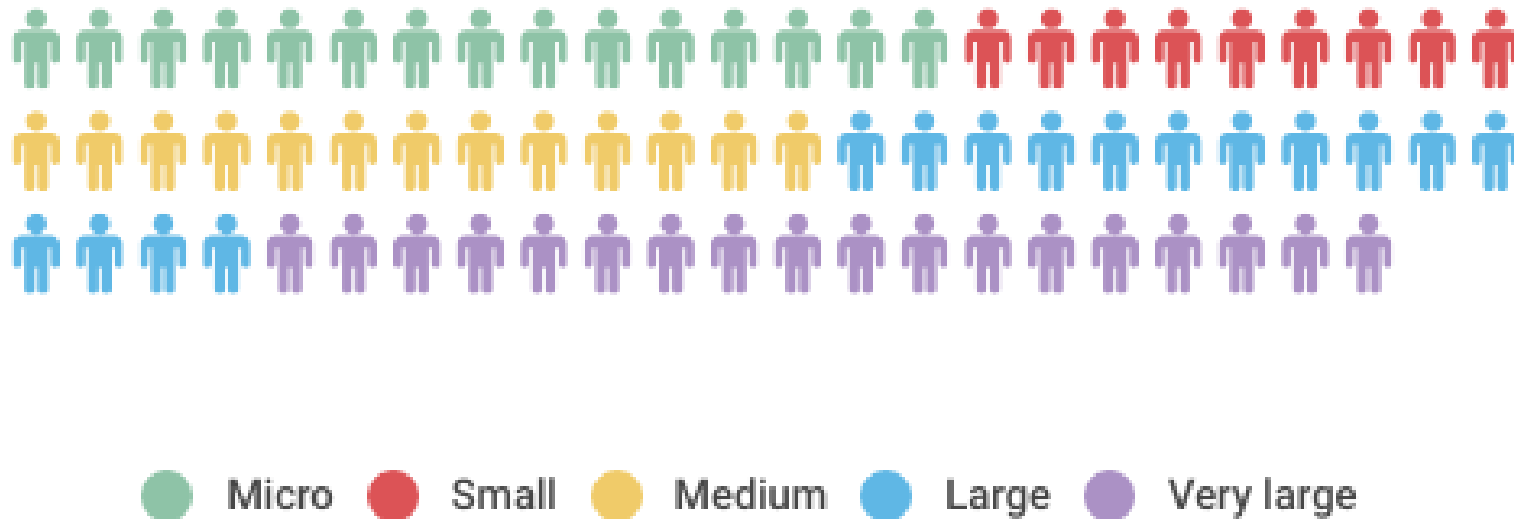
EBIC's mission

To ensure biostimulant technologies are valued as integral to sustainable agriculture, while securing an enabling regulatory framework for all of them.



EBIC currently has 70 member companies

Breakdown by size (based on global turnover and headcount)



As of January, 24 2024

Full list can be found at <https://biostimulants.eu/members/>



Legal definition of plant biostimulants

“Plant biostimulant means a product **stimulating plant nutrition processes** independently of the product's nutrient content with the sole aim of improving one or more of the following characteristics of the plant or the plant rhizosphere:

- **nutrient use efficiency;**
- **tolerance to abiotic stress;**
- **quality traits;**
- **availability of confined nutrients in soil or rhizosphere.”**

PFC 6 (A): Microbial plant biostimulants Microorganism or consortium of microorganisms referred to in CMC 7 (*Azotobacter* spp., mycorrhizal fungi, *Rhizobium* spp., *Azospirillum* spp.)

PFC 6 (B): Non-microbial plant biostimulant



Two types of animal by-products have been identified to provide plant biostimulant effects

- **Insect frass** (by-product of insect breeding composed of feedstock, insect excrements and cuticles) has been reported to “show potential as a biostimulation agent, due to its content in chitin/chitosan, beneficial microbes, and other bioactive components” ([Caron-Garant et al. 2023](#)).

According to the Commission Delegated Regulation (EU) [2023/1605](#), insect frass **will shortly be able to be included** in EU Fertilising Products.

- **Protein hydrolysates** (mixtures of polypeptides, oligopeptides and amino acids obtained through a combination of chemical, enzymatic and/or thermal hydrolysis) have been shown to improve plant shoot and root biomass, to increase Fe and N metabolism, nutrient uptake, nutrient use efficiency, water use efficiency and tolerance to abiotic stress, especially heat and drought. Protein hydrolysates can be obtained from leather, viscera, feathers, and blood, from plant biomass, and as by-products from treating plant materials ([Colla et al. 2015](#)).

The **requirements and mitigation measures** imposed on hydrolysed proteins under the FPR currently look like **few, if any, will be incorporated into EU Fertilising Products** in the foreseeable future, despite a long history of safe use and effectiveness.



Animal by-products in organic-based fertilisers



European Consortium
of the Organic-Based Fertilizer
Industry



About ECOFI

The European Consortium of the Organic-Based Fertilizer Industry (ECOFI) is the representative voice of European producers of organic fertilisers, organo-mineral fertilizers and organic soil improvers.

ECOFI promotes the contribution made by the organic-based fertilisers sector to the emergence of a knowledge-intensive, environmentally sustainable and high-employment economy in Europe.



European Consortium
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ECOFI Members



Knowledge grows



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Organic-based fertilising products may incorporate several types of animal by-products

- **Processed manures and insect frass** have both been **granted end-point status without mitigation measures** for use in EU Fertilising Products. Seabird guano is generally grouped together with these two sources, at least with regard to identifying appropriate forms of processing, but it has not been explicitly mentioned in [Delegated Regulation \(EU\) 2023/1605](#).
- **Processed animal proteins (PAPs) of Category 3 materials and Meat-and-bone Meal of Category 2 materials** have been **granted end-point status** by [Delegated Regulation \(EU\) 2023/1605](#) so that they can be used in EU Fertilising Products, **subject to strict mitigation measures** that include the size of packages and inclusion of “mixing materials” to help render them unappetising to animals, and thus prevent accidental contamination of the feed chain. Unfortunately, most products containing these materials in Europe today do not satisfy the mitigation measures, especially the size restrictions.
- For **protein hydrolysates**, which are often sold in bulk and in pure concentrations, the mitigation measures are prohibitive, as mentioned previously. Furthermore, the [COM’s delegated regulation determining the end points](#) appears to impose processing methods and other restrictions that are normally only applied to feed materials from ruminants, even if the protein hydrolysates are destined for fertilising products and may be made solely from non-ruminants.



The EU's approach to products derived from animal origin is not fit-for-purpose for a bio-based, circular economy



How to modernise the EU's regulation of materials derived from animal origin

- The current regulatory framework was **designed in the aftermath of the Mad Cow crisis**. Understandably, regulators wanted to ensure that such a crisis would never occur again, leading to a **culture of excessive precaution**.
 - Today, we can draw on several **decades of safe use of products and processing materials**. Sustainability imperatives create pressure for the revalorisation of as many secondary raw materials as possible.
 - The old approach evaluates materials separately, depending on whether they are destined for human consumption, animal feed, nationally authorised fertilising products, or EU Fertilising Products. Often the same actors are mobilised, but under different procedures, leading to an **inefficient use of institutional resources and an undue administrative burden for industry** (contrary to the [European Commission's framework for Better Regulation](#)). The fragmentation of these evaluations means that the architecture for regulating materials derived from animals is not suited to support a [One Health approach](#).
- EBIC, ECOFI and other organisations are preparing **an open letter to call on the Commission to include a work item in its 2024-2029 work program to review the European Union's approach to materials from animal origin**, so that a better regulatory system can be designed to promote innovation in the revalorisation of materials of animal origin in line with the Circular Economy and the European Green Deal, while ensuring high levels of protection of people, animals, and the environment
 - If you are interested in **co-signing the open letter**, please contact Kristen Sukalac at Kristen@prospero.ag to receive a copy of the draft letter and be included in discussions of potential co-signatories.





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cultivate change, harvest value



For more on ECOFI activities

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**For more on EBIC's activities related to
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Thank you for your attention

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