



What's BIOPROINSECT?






In recent years the demand for highly nutritive foods has increased. Thus, the sector has turned its scope on new protein sources capable of satisfying this demand: the mealworm. Recently authorized for its commercialization as newly food, the protein in these insects is joined together with a structural component, chitin, considered an anti-nutrient, reducing the protein's potential.

The pilot project **BIOPROINSECT** will develop an innovative enzymatic process, comparable to a bio-refinery, which will allow the extraction of chitin from the insect. Thus, the insect will be fractioned into three highly valued products: high quality and easily digestible proteins, fatty acids, and chitin derivatives, with feed production applications.



Who is BIOPROINSECT aimed to?

The **BIOPROINSECT** project focuses its results towards all the agents of the agri-food sector:

-  Insect breed companies.
-  Veterinaries, consultants and technicians.
-  Public Administrations.
-  Investigation centres.
-  General public.

To maximize the impact of the results and the transfer of the solutions to be developed, intense dissemination work at regional, national and European levels will be carried out.



Biopr^{insect}

Do you want to know more about BIOPROINSECT?

To know more about **BIOPROINSECT**, you can send us an email at info@galinsect.es/biotecnía@uvigo.es or call **+34 637 03 54 36/+34 988 38 74 16**.



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Biopr^{insect}

Insect bioprocessing to obtain value added products

Total budget: 181.468,56 € Total grant: 145.174,85 € UE co-fund: 75% FEADER

BIOPROINSECT is funded by the grants to support pilot projects, develop of new products, processes and technologies in the agri-forestry scope, cofunded by the European Agricultural Fund for the Rural Development (EAFRD), in the framework of the 2014-2020 Galician Rural Development Program (RDP). The Consellería do Medio Rural is the Galician Administration authority responsible for proposing and executing the general guidelines in the rural scope, and it encompasses powers in agriculture, livestock, rural development and regional planning, rural structures, agri-food and forestry industries, mountains and prevention and defence against forest fires.



Which are BIOPROINSECT objectives?

BIOPROINSECT's main objective is to obtain new high-added-value products through the bioprocessing of insects: proteins, fatty acids, and chitin derivatives, with feed applications. More specifically:



To develop a new biologic process to fraction the insects, committed with circular economy and environmentally respectful.



To transform the extracted chitin into compounds with prebiotic, antimicrobial, and antioxidant activity.



To obtain the needed enzymes for the process from by-products obtained from the breed of the insects.



Which are the expected results?

With the development of this innovative process, **BIOPROINSECT** will obtain, from mealworms:

Proteins with high nutritional value and high digestibility



Chitin derivatives



Poli-unsaturated fatty acids



Enzymes



Who are the members of BIOPROINSECT?

BIOPROINSECT is comprised of a multidisciplinary team coordinated by Galinsect and counts with the participation of the Universidade de Vigo (through the Industrial Biotechnology and Environmental Engineering Research Group, BiotechnIA) and the Galician University-Enterprise Foundation (FEUGA).



BIOPROINSECT activities

1



Insect breeding for the studies of the project

2



Raw materials preparation and characterization

3



Production of the enzymes for the bioprocessing of mealworms

4



Bioprocessing of the insects

5



Preparation of the product for its commercialization

6



Techno-economic and lifecycle analysis of the process

7



Product market research



Transfer of the results



Development of dissemination activities

