

C3. New alternative sources of animal feed

Summary

The use of insects as an alternative protein source is a solution to the current and envisaged future situation of global protein shortages, which will have an initial impact on animal feed and subsequently on human consumption, in a context where demand is expected to increase by 50% by the middle of the century, and amount to 60 million tonnes of protein by 2030. Rising world populations and changes in diet have led to an urgent need to provide protein supplements from sustainable sources for inclusion in animal feed.

Insects are rich in protein, and are a natural part of the diets of carnivorous fish and free-range poultry. Some insects can be bred in a wide range of by-products and are a potential way of recovering value from materials discarded by agriculture and the food industry.

Objectives

The main objective of the project "C3. New alternative sources of animal feed" is to study the feasibility of obtaining feed and feed products for poultry based on new alternative sources, in this case insects.

Description of the measures planned in the project

Activity 1. Evaluation and selection of by-products as an insect feed substrate.

Activity 2. Production and breeding of *mealworms*.

Activity 3. Meal/product characterisation of *mealworms*.

Activity 4. Formulation of organic feed and production of organic chickens using the formulated feed.

Activity 5. Validation of the industrial viability of the feed production process.

Expected results and practical recommendations

- Detailed characterisation of the nutrient composition of the by-products to identify and select those that provide maximum efficiency in the breeding of *mealworms*.
- Optimise the breeding of *mealworms* as a high protein ingredient for producing feed with high biological value.
- Formulate animal feed products based on an alternative protein source such as insects.

Leader of the Operational Group

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Coordinator of the Operational Group

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Subject area(s) of application

- Agricultural production system
- Agricultural practice
- Agricultural equipment and machinery
- Livestock farming and animal welfare
- Vegetable production and horticulture
- Landscape / Territorial management
- Pest and disease control
- Fertilisation and nutrient management
- Soil management
- Genetic resources
- Forestry
- Water management
- Climate and Climate Change
- Energy management
- Waste and by-product management
- Biodiversity and environmental management
- Food quality/processing and nutrition
- Supply chain, marketing and consumption
- Competitiveness and agricultural and forestry diversification
- General

Geographical area(s) of application

PROVINCE(S)	REGION(S)
BARCELONA	OSONA
GIRONA	PLA DE L'ESTANY
TARRAGONA	BAIX CAMP

Dissemination of the project (publications, conferences, multimedia...)

<https://www.innovacc.cat/2019/11/21/projectes-presentats-en-la-linia-de-grups-operatius-2019-del-darp/>

<https://www.innovacc.cat/2020/06/29/6-projectes-presentats-en-la-linia-de-grups-operatius-2019-del-darp-obtenen-resolucio-favorable/>

Project website

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More information on the project

PROJECT DATES	TOTAL BUDGET
Start date (month-year): July 2020	Total budget: €151,987.92
Completion date (month-year):	DARP funding: €62,114.31
Current status: Underway	EU funding: €46,858.16
	Own funding: €43,015.45

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Order ARP/133/2017 of 21 June, approving the regulatory bases for grants for cooperation for innovation by promoting the creation of European Association for Innovation operational groups in the areas of agricultural productivity and sustainability and the execution of innovative pilot projects by those groups, and Resolution ARP/1531/2019, of 28 May, announcing the call for the grant.



Generalitat de Catalunya
**Departament d'Agricultura,
 Ramaderia, Pesca i Alimentació**



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