

Improving the quality of meat products with inline optical sensors

Summary

This is a project that is divided into three working groups, all of which work on the development and validation of inline optical sensors.

Objectives

WP1. Reduction of cooking losses in the manufacture of Frankfurter sausages using an inline optical sensor (EmulsoScan). The aim is to calibrate and validate the proposed optical technology for emulsification control.

WP2. Development of a low cost NIR system to establish: food quality and safety parameters during the curing process of cured raw sausages; physical/chemical parameters for cured raw sausages at different stages in the process.

WP3. Optimisation and improvement of the preparation process for preparing extra cooked ham with an FO-NIRS optical sensor, to obtain a high quality product with no organoleptic shortcomings and increase cooking and slicing yields.

Description of the measures planned in the project

WP1.

- Debugging and adjustment of the technology in situ.
- Selection of parameters to create a range of cooking losses, calibration and industrial validation of prediction algorithms.

WP2.

- Identification of the company's meat products most appropriate for NIR control.
- Implementation of the product control procedure during the preparation, sampling and composition parameter analysis process.
- Study of the mathematical models that relate the physical/chemical parameters with the spectra of the product in the various stages and validation of the methodology.

WP3.

- Integration of the FO-NIRS system in the sorting line.
- Characterisation of the raw material with the current methods and with the FO-NIRS system.
- Comparative study of raw material selection methods.
- Analysis of results, reports and dissemination

Expected results and practical recommendations

The results expected will be the validation of the various technologies developed in each company.

Leader of the Operational Group

ORGANISATION: ARGAL ALIMENTACIÓN, SA

CONTACT E-MAIL: enric.eroles@argal.com

Coordinator of the Operational Group

ORGANISATION: INNOVACC

CONTACT E-MAIL: innovacc@olot.cat

Other members of the Operational Group (grant recipients)

ORGANISATION: EMBOTITS SALGOT, SA

CONTACT E-MAIL: jparareda@salgot.com

ORGANISATION: BOADAS 1880, SA

CONTACT E-MAIL: jordibuxeda@boadas1880.com

ORGANISATION: JOAQUIM ALBERTÍ, SA

CONTACT E-MAIL: jvila@laselva.es

Other members of the Operational Group (not recipients of the grant)

ORGANISATION: AUTONOMOUS UNIVERSITY OF BARCELONA

CONTACT E-MAIL: manuel.castillo@uab.cat

ORGANISATION: IRTA

CONTACT E-MAIL: josep.comaposada@irta.cat

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)
LLEIDA BARCELONA GIRONA	EL PLA D'URGELL EL GIRONÈS LA GARROTXA EL VALLÈS ORIENTAL EL BARCELONÈS

Dissemination of the project (publications, seminars, multimedia, etc.)

<https://www.innovacc.cat/2019/07/19/ajuts-obtinguts-per-a-7-projectes-pilots-de-grups-operatius-del-darp-2018/>

<https://www.innovacc.cat/2019/07/19/millora-de-la-qualitat-de-productes-carnis-amb-sensors-optics-online-3/>

https://www.innovacc.cat/wp-content/uploads/2019/06/0-Presentaci%C3%B3-AG-10juny2019_compressed.pdf

Project website

<https://www.innovacc.cat/2019/07/19/millora-de-la-qualitat-de-productes-carnis-amb-sensors-optics-online-3/>

More information on the project

PROJECT DATES	TOTAL BUDGET
Start date (month-year): July 2019	Total budget: €212,000.00
Completion date (month-year):	DARP funding: €86,640.00
Current status: Underway	EU funding: €65,360.00
	Own funding: €60,000.00

With funding from:

Project funded through Operation 16.01.01 (Cooperation for Innovation) through the Catalan Rural Development Programme 2014-2020.

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/1282/2018, of 8 June, announcing the call for the grant.



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



Fons Europeu Agrícola
de Desenvolupament Rural:
Europa inverteix en les zones rurals