

HORIZON-CL6-2026-01-CIRCBIO-01: Improving circularity of multilayer flexible plastic food contact packaging

CNTA is an agri-food R&D center with consumer & food service datasets and research, and expertise in the characterization and validation of food packaging. We can bring:

1. Consumers' acceptance and literacy on correct disposal of food packaging

- Assess how well consumers understand sorting and recycling guidelines.
- Identify barriers and motivators influencing correct disposal behavior.
- Use MundoSabor® to evaluate consumer responses across regions and groups.
- Conduct workshops and awareness activities to improve recycling literacy and participation in circular packaging.

2. Safety and compliance for recycled food contact materials

- Full food contact compliance testing and risk assessment for recycled polymers.
- Analytical characterization of contaminants, additives, and degradation products in both recycled and virgin films.

3. Functional and barrier performance evaluation

- Evaluation of properties of new packaging, and its food preservation/interaction performance

4. Food-industry TRL8 packaging validation

- Validation of packaging design in real food products and processing environments

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CNTA is a food R&D center specialized in sustainable food packaging:

- **Facilities:** Pilot packaging lines, lab of barrier and functional property analysis, lab food-packaging interaction and shelf-life
- **Food Safety Dept.** advise on implementation and improvement of compliance with legal requirements in Spain and the EU (HACCP*, sectorial and horizontal legislation). Design and optimization of control plans for the verification of product quality and safety. Surveillance of emerging food safety risks.
- **Consumer Research Dept.** applies Mundosabor® online consumer community, to perform qualitative and quantitative online methodologies to monitor habits, perceptions and preferences of consumers.
- **Digital Dept.** develops AI-based analytical models based on NIR, hyperspectral, or metabolomic fingerprinting to classify and trace packaging materials
- **EU Projects** related to sustainable food packaging in [BIOSNAP](#), [SISTERS](#), [MANDALA](#) and [NEWPACK](#); and food losses and waste [Wasteless](#) and [Chorizo](#).



We're CNTA

NATIONAL CENTER FOR FOOD
TECHNOLOGY AND SAFETY.



Team especie CNTA

- +250 Professionals
- +500 Associated companies
- Governing board
Institutional and associated companies



6 working centers:
San Adrián,
Alesón, Calahorra, Logroño, Madrid, Pamplona

Facilities and equipment

- 14 Labs
- 12 Pilot plants for food processes
- 3 Platforms for advanced characterization :
Metabolomics, cell culture and C. elegans

*Cutting-edge
knowledge and
technology.*



CNTA in 2025

Research

Reports

Consumer studies

Analytical services

Consulting

Training

Events

47

Knowledge uptake
projects

172

Contractual R&D
projects

97

Training
actions

88.961

Technological services
reports for companies

480
Associates

+

813
Clients

=

1293

**Companies
trust CNTA**

Our R&D capabilities

	<h2>Circular food ingredients</h2> <p>New upcycled ingredients Isolation of bioactive compounds Encapsulation Sustainable proteins</p>
	<h2>Food product development</h2> <p>Smart formulations Clean label Novel foods Alternative proteins Extrusion & texturization Sensory evaluation</p>
	<h2>Innovative preservation strategies</h2> <p>Thermal & non-thermal treatments (UV, plasma, HPP, etc.) Antimicrobials & biopreservatives Chlorine alternatives</p>
	<h2>Food biotechnology & fermentation</h2> <p>Strain collection Microbiome characterisation Pre/pro/postbiotics Process optimisation Precision & biomass fermentation</p>
	<h2>Sustainable food processes & packaging</h2> <p>Active coatings Food contact product validation Biomass stabilisation & conditioning Post-harvest solutions</p>
	<h2>Digital & AI tools</h2> <p>Artificial vision (NIR, Spectral tech) Data science & AI Process modelling & simulation Process efficiency & quality</p>
	<h2>Advanced food characterisation & 'omics'</h2> <p>Ingredient & product functional evaluation (<i>in vitro</i> & <i>in vivo</i> platforms, e.g. <i>C. elegans</i>) Metabolomics</p>
	<h2>Consumer studies & acceptance</h2> <p>EU-wide surveys, in-depth interviews & focus groups Market strategy SSH Online platform (>5k consumers)</p>

Our pilot equipment



Formulator | Autoclave | UHT lane and aseptic packaging | Microwave treatment. | Cold plasma

- Post-harvest treatments and operations
- Ready-to-eat products and cooked meals
- Manufactured meat and dairy products
- Fluid bed coater/dryer for encapsulation
- Active and smart packaging, ecodesign

- High-Pressure processing unit (HPP)
- Extrusion technologies (dry & HME extrusion)
- Fermentation processes (solid, liquid, precision) – from 50 ml up to 150 L bioreactors
- Sidestream valorisation (stabilisation, extraction, purification)



Controlled atm. storage & drying rooms | Packaging and thermoforming eq.



Dry/HME/cooking extrusion: 4x pilot extruders

- In vitro* digestibility platform
- HPLC and metabolomics platform
- ISO-compliant tasting rooms (sensory booths)
- Laboratories and whiterooms



Ultrasounds | Sidestream valorisation | 150L bioreactor



Extensive EU R&D funding expertise





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