



**“Valorization of natural vegetable resources.  
Development of new healthy products and  
process digitalization to improve the sustainability  
and competitiveness of the production sector”**

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UNIVERSIDAD DE EXTREMADURA



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**CICYTEX** is a public research centre for Food and Agriculture based in the Extremadura region, Spain. It is composed of four Institutes:

- ✓ **FINCA LA ORDEN.** Focused on Crops and livestock production.
- ✓ **ICMC.** Devoted to Mediterranean silvopastoral systems.
- ✓ **CAEM.** Organic and Mountain Agriculture Center.
- ✓ **INTAEX.** Focused on food processing technology.

**Our goal is to develop applied research to the Extremadura agroecosystems, to work in a participatory approach with local stakeholders and to transfer them the scientific knowledge**



## AGRIFOOD TECHNOLOGICAL INSTITUTE OF EXTREMADURA (INTAEX) Vegetable Area

The **Vegetable Area** provides scientific and technological support to the fruit and vegetable sector.





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- ✓ **New healthy and sustainable food products and processes (HORIZON-CL6-2024-FARM2FORK-01-2).**
- ✓ Regional ecosystems of innovation to foster food system transformation (HORIZON-CL6-2024-GOVERNANCE-01-2).
- ✓ Promoting minor crops in farming systems (HORIZON-CL6-2024-BIODIV-02-3-two-stage).
- ✓ Impact of the development of novel foods based on alternative sources of proteins (HORIZON-CL6-2024-FARM2FORK-01-7).

**Objective:** Valorization of minority and emerging crops with high nutritional and bioactive value, and development of healthy and sustainable products. Improvement and optimization of processes.



- Tasks:**
- Agronomic study of traditional and emerging crops of quality and high nutritional value (quinoa, stevia, ancient wheat, lupins, amaranth, chia, fruits, etc.).
  - Nutritional and bioactive characterization and classification of crops. Digitalization using NIR technology and electronic sensor systems.
  - Development of innovative and healthy foods (with high protein value, bioactive and heart-healthy profile).
  - Nutritional, functional, digestibility and shelf-life studies of final products. Sensory analysis and implementation of electronic devices for digitalization.

## PARTNERS SOUGHT

- **Public or private research organizations:** complementary studies of emerging and minor crops with high nutritional and bioactive value.
- **Public or private organizations:** *in vitro* and *in vivo* digestibility studies.
- **Public or private entities:** development of electronic devices for the digitalization of processes.
- **Entities representing end users:**
  - Companies and Business Associations for the development of products acceptance and market studies.
  - Companies and Business Associations for the implementation of the results obtained.



## Skills and expertise offered

- Use of **natural antimicrobial agents**.
- Use and valorization of **by-products**.
- Nutritional, microbiological, functional and sensory **characterization**.
- **Establishment of useful life**.
- Characterization of **emerging and minor crops**.
- **Sensory analysis of foods**.
- Application of **electronic systems**.
- Application and development of **innovative processes**.
- Works with **industries** in the agri-food sector.

## Infrastructure

- **Advanced chromatographic systems**.
- **Pilot plants**: High hydrostatic pressure equipment, IV range processing room, packaging machines, freeze dryer, experimental chambers with humidity and temperature control.
- **Standard tasting room** for sensory analysis of food.
- **Experimental stations and farms**.
- **Physical-chemical, instrumental and microbiological analysis laboratories**.

## 16 European projects participated

- ❖ **4 LIFE**: LIFE RENATURALNZEZB, LIFE4DOÑANA, LIFE STEPAS, LIFE ZIMBRAL
- ❖ **2 PRIMA**: MoreMedDiet, FIGGEN
- ❖ **1 HORIZON 2020**: MYRIAD-EU
- ❖ **3 HORIZON EUROPE**: MARGIN UP, GOOD, AGROECOLOGY
- ❖ **1 DIGITAL EUROPE**: Tech4EfficiencyEDIH
- ❖ **5 POCTEP**: RAT\_EOS\_PC, TID4AGRO, BGREENER, SOS\_PRODEHESAMONTADO, CI Montado-Dehesa





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**Thank you for your attention**



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Consejería de Educación, Ciencia y Formación Profesional