

## TITLE: FOOD QUALITY AND SAFETY (CSA)

### DESCRIPTION OF THE TECHNOLOGICAL CAPACITY

The technological capacity of our research team consists of:

#### FOOD QUALITY

- Promotion of the use of sensory evaluation in the agro-food industry.
- Training of sensory panels.
- Conducting affective studies with Spanish and International consumers.
- Development of new products and estimation of their shelf life.
- Studying the effect of agricultural practices on the quality of fruits and vegetables.
- Development of marketing strategies for special products, for example, hydroSOSustainable products.
- Studying the effect of unit operations on the quality of complex products.
- Comprehensive advice to agro-food companies.
- External Quality Control Department for small agro-food companies.

- Advising restaurants on the application of Food Science and Technology in the modern cuisine.
- Specialized on-site training for agro-food companies.

#### FOOD SAFETY

- Evaluation of the occurrence of chemical contaminants, especially inorganic arsenic in rice-based foods.
- Estimation of the intake of chemical contaminants in segments of the population with special risk, for example, children, and consumers with the celiac or autism.
- Evaluation of the effects of the presence of heavy metals and metalloids on the health of special patients.

### SECTORS OF BUSINESS APPLICATION

- Small and medium-sized agro-food companies, with the need of developing new products and evaluate their potential adaptation to targeted markets.
- Regulatory Councils with the need of establishing which the benefits of their products are, and what makes them different from the rest of the products in the same segment.
- We have wide expertise and know-how in the following business sectors:
  - Wine, including wineries and regulating councils of wine DOs and DOPs.
  - Chocolate and nougat, including industries and regulating councils of *turrón* IGPs.
  - Tomatoes (cherry and traditional varieties).
  - Almond and pistachios.
  - Table olive and olive oil.
- Chefs with the need of having scientific support to use new raw materials, ingredients, and/or developing new dishes.

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**TECHICAL ADVANTAGES AND BUSINESS BENEFITS**

The CSA team has access to a wide spectrum of analytical equipment, which allows us to fully characterize (composition and functionality) very diverse and complex matrices. But, in addition, we have wide expertise in conducting sensory studies; in this way, we are able to optimize or develop new products based on consumers' needs and demands, by conducting affective studies in the national and international markets.

Through our extensive network of international partners, (we have research partners worldwide), we are fully informed and updated on innovations at international market and on the current demands.

Therefore, we perfectly combine physical-chemical, nutritional, functional and sensory aspects in a coordinated way (i) to fully support the needs of the agro-food industries from Spain willing to export their products internationally, but also (ii) to conduct consumers' studies in Spain and the Mediterranean countries for international companies willing to introduce their products in this region.

**CURRENT STATE OF THE TECHNOLOGY DEVELOPMENT**

Currently, this group is working on the following research lines:

- Projects evaluating in table olives, olive oil, and almonds, the effect of water stress on (i) content of bioactive compounds, and (ii) their functionality.
- Development of the quality mark "hydroSOStainable products".
- Characterization and development of new products based on pomegranate and other dehydrated vegetable products.
- Creation of a Center for Sensory Analysis and Consumer Behavior at the Miguel Hernández University in Elche in close collaboration with the Sensory Analysis Center of Kansas State University.

**COLLABORATION SEARCHED**

The CSA group is looking for European and International partners and projects, that allows us to develop all the scientific, technical and research potential of our team of young researchers, and pushes us to new research challenges.

We are looking for companies in the agro-food sector needing advice in the optimization of their farming practices, the optimization of their production process (unit operations), development of new products, sensory characterization of their products and adaptation of their products to international markets, etc. We are opened to new challenges in Food Science and Technology research.

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RELATED PICTURES

**Picture 1:** CSA team members conducting an on-site training at a chocolate company.



**Picture 2:** Products being studied and supporting the hydroSOSustainable concept.



CONTACT DATA

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