

GROUP NAME: NEW FOOD PROCESSING TECHNOLOGIES

CODE: A03_23R



The activities of the “New Food Processing Technologies” research group aim to improve the competitiveness of the food and biotechnology industry by developing sustainable processing systems for safe, high-quality foodstuffs and ingredients through the following general approaches:

-Applying non-thermal processing technologies to optimize processes in the food and biotechnology industries with the aim of improving overall yield, along with the microbiological, sensory, and nutritional quality of foodstuffs and of saving energy within the framework of the circular economy.

-Studying the microbial mechanisms of inactivation, resistance, and adaptation to traditional and novel preservation methods, with the aim of designing more efficient processes and of introducing innovative biotechnological applications.

LINES OF RESEARCH

FOOD PROCESSING VIA THERMAL AND NON-THERMAL TECHNOLOGIES

- Optimizing procedures employed in the food and biotechnological industries by introducing new processing technologies.
- Revaluing food industry residues: extracting high-added-value products; microbial fermentation of industrial residues.
- Improving the process of obtaining wine and oil.
- Inactivating parasites in foods through the use of new technologies.

ASPECTS OF MICROBIAL PHYSIOLOGY AND GENETICS THAT ARE OF INTEREST FOR THE FOOD AND BIOTECHNOLOGY INDUSTRIES.

- Improving food preservation procedures by studying microbial physiology.
- Developing and improving tools that predict the risk and/or shelf life of foodstuffs.

NOTABLE PROJECTS

- “Inactivation of *Anisakis* and *Toxoplasma gondii* in fish and meat via Pulsed Electric Fields”, Gobierno de Aragón, Skanfisk S.L., Naturuel S.L., PARAFree-LMP170_21, 01/01/2022 – 30/09/2023
- “Analysis of the impact of sporulation history on germination and resuscitation dynamics of *B. subtilis* spores”, Agencia Estatal de Investigación, PID2019-104712RA-I00, 01/06/2020 – 31/05/2024.
- “Implementing Pulsed Electric Fields technology to revalue the potential role of yeast in the brewery and wine-making sectors”, PID2020-113620RB-I00, Agencia Estatal de Investigación, 01/09/2021 - 31/08/2024.
- “New technologies to improve the extraction of second-generation bioethanol via microbial fermentation”, Agencia Estatal de Investigación, TED2021-129779B-I00, Fecha: 01/12/2022 – 30/11/2024.
- “Developing new tools to improve the evaluation of *Salmonella* risk”. Agencia Estatal de Investigación, PID2021-125609NB-I00, 01/09/2022 - 31/08/2026.

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