



# INNOVATION DRIVEN AGRIFOOD BUSINESS

## Abstract Book

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Colaborado por



Authors: Ana Patrícia Sousa, Ana Sanches Silva, Alexandra Pedro, Joana Calmeiro, José Evaristo, Miguel Teixeira, Paulo de Jesus Carvalho

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E-mail: [info@dare2change.com](mailto:info@dare2change.com)

Phone: +351 936 268 137

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# Sustainability and Circular Economy

[S&amp;EC 14]

## Integrative and sustainable strategy for the valorization of pumpkin by-products

**Maria G. Leichtweis<sup>1,2,3</sup>, Adriana K. Molina<sup>1,2</sup>, Tânia Pires<sup>1,2</sup>, Carla Pereira<sup>1,2,\*</sup>, M. Beatriz P.P. Oliveira<sup>3</sup>, Isabel C.F.R. Ferreira<sup>1</sup>, Lillian Barros<sup>1,2</sup>**

<sup>1</sup>Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Bragança, Portugal

<sup>2</sup>Laboratório Associado para a Sustentabilidade e Tecnologia em Regiões de Montanha (SusTEC), Bragança, Portugal

<sup>3</sup>REQUIMTE - Science Chemical Department, Faculty of Pharmacy, University of Porto, Porto, Portugal

\*e-mail: [carlap@ipb.pt](mailto:carlap@ipb.pt)

The food industry has sought to meet consumers' demand for practical, ready-to-eat foods capable of meeting daily nutritional needs and providing pleasure and satiety. However, the industry still relies on artificial additives to preserve and improve food properties, due to the lack of effective natural analogues, which face stability and availability limitations [1]. Aiming at the objectives of the circular economy and the promotion of more sustainable agro-industrial processes, the ambition of this project is to develop a new pumpkin fruit pulp formulation functionalised with a biobased preservative extracted from pumpkin by-products. For that purpose, production protocols will be established to ensure high agronomic performance and high-quality pumpkins. Meanwhile, pumpkin pulps will be evaluated in terms of nutritional value and the by-products, as seeds, peels, and fibers, will be assessed for their content in preservative compounds. The recovered, refined, and stabilized preservative compounds will further be incorporated in the pumpkin product formulated with the pumpkin elite cultivars. In addition, the quality assessment of pumpkin fruit pulp during shelf-life and the waste and wastewater management are targeted. The proposed project involves multidisciplinary research groups (IPB/PT, MORE/PT, UTH/GR, GFV/GR, CBBC/TN, ATB/DE, CRAPC/DZ, BU/EG) with various expertise in the food and farming sector, and the company DECORGEL/PT, which will further process the pumpkin pulp to be "market ready", within the consortium PRIMA Section 2 - Multi-topic 2019: PulpIng (PRIMA/0007/2019). The described aims are in line with the EU Biodiversity Strategy of 2020 and 2030 Agenda for Sustainable Development, and intend to address food safety/security issues and promote circular food systems in Mediterranean regions.

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