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7. Innovative green reactions: synthesis and catalysis.

DEVELOPMENT OF A SUSTAINABLE MEDITERRANEAN-INSPIRED SNACK: GREEN EXTRACTION OF BIOACTIVE COMPOUNDS AND BIOPOLYMER PACKAGING

Lopes J.K.[1,2,3], Heleno, S.A.[1,2], Roriz C.L.[1,2], Prieto M.A.[3], Carocho M.[1,2]

[1]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal
[2]Laboratório Associado para a Sustentabilidade e Tecnologia em Regiões de Montanha (SusTEC), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal
[2] Nutrition and Bromatology Group, Department of Analytical Chemistry and Food Science, Instituto de Agroecoloxía e Alimentación (IAA)–CITEXVI, Universidade de Vigo, 36310 Vigo, Spain

Abstract

The Mediterranean diet, well known for its health benefits, is characterized by high consumption of plant-based foods, along with low to moderate amount of seafood and animal products. In contrast, life in the 21st century is marked by a fast-pace, making the consumption of nutritious foods challenging, as ultra-processed foods have become the default option for their convenience, despite their negative impact on health.

The *MedSnack* project appears as an alternative, by developing a minimally processed and sustainable ready-to-eat snack, incorporating the nutritional value of the Mediterranean diet by using olives and dates, sweetened with honey, and enhanced with natural colorants and bioactives. The wrapper of the snack will be produced from algae-based polymers, infused with volatile protective compounds obtained from the bioresidues of olive and date trees, through innovative and sustainable processes like ultrasound and microwave assisted extractions.

A key innovation of *MedSnack* is its sustainable and circular solution by using Mediterranean products and their residue to create a ready to eat, healthy, and sustainable product. This project is included in a wider funded PRIMA project, FoWRSaP – Agro Food Waste Recovery: New Processing Technologies for Food Safety and Packaging, aimed at adding value to residues to develop new packaging and improve food safety in several food products.

Keywords: Mediterranean diet, ready-to-eat, sustainable packages, bioresidue

Corresponding author email: mcarocho@ipb.pt

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