

ABSTRACT PROCEEDINGS

II Conference FoodWaStop



CA22134

Sustainable Network for agrofood loss and waste prevention, management, quantification and valorisation

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Rectorate of the University of Córdoba, Spain



FoodWaStop COST OVERVIEW

The **FoodWaStop COST**, is a scientific cooperation network, “CA22134 – Sustainable Network for agrofood loss and waste prevention (FLW), management, quantification and valorisation » funded by COST ACTION programme that addresses the following challenges and aims to: (i) build an interdisciplinary and multi-actor European Network that will also connect with non-EU Mediterranean countries, to promote knowledge on FLW beyond the state of the art; (ii) determine incidence of FLW in the critical points of the fruit and vegetable value chain; (iii) foster technological innovations and sustainable management strategies to reduce and prevent FLW; and (iv) valorise agrofood waste to promote a circular bio-economy.

The experience of the Coordinators and Participants gained from other related projects (e.g., PRIMA, H2020), the background from diverse EU and extra-EU countries, and the involvement of stakeholders and industry partners will contribute to increase awareness of this problem, to determine its incidence, to seek strategies for its management through exploitation of the potential of innovative technologies, and to define good practices to prevent FLW.

The **FoodWaStop** Network will provide benefits to various stakeholders and end-users, including all actors in the agrofood value chain, from farmers (Farm) to consumers (Fork). Moreover, **FoodWaStop** will create a knowledge platform that will promote innovation, deliver guidelines, and favour dialogue with policymakers, to focus their attention on the social and economic implications of FLW.

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POSTER PRESENTATIONS

P4.16. Eco-Friendly Extraction Method for Recovering Bioactive Compounds from Plant-Based Waste

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Pea pod waste is a valuable agricultural by-product, rich in bioactive compounds such as phenols, chlorophylls and carotenoids, with potential applications in nutraceuticals and functional foods. Although this biomass is commonly discarded, it offers opportunities for sustainable utilization. The aim of this study was to optimize ultrasound-assisted extraction (UAE) to maximize the yield of these bioactives using environmentally friendly methods and support the development of sustainable bioproducts. Dried pea pods were subjected to UAE under various conditions, including different ethanol concentrations, extraction times and solvent-to-sample ratios. The optimization process used statistical models to determine the ideal parameters for efficient extraction. The optimized conditions resulted in significant recovery of total phenols, chlorophylls and carotenoids, demonstrating the effectiveness of UAE in the processing of agricultural waste. This research emphasizes the potential of UAE as an environmentally friendly and efficient method of extracting bioactive compounds from pea pod waste. By transforming an underutilized by-product into a source of valuable compounds, this approach promotes waste reduction and resource efficiency. These results emphasize the importance of integrating agricultural waste management into sustainable production systems to achieve both environmental and economic benefits.

Keywords: pea pods, ultrasound-assisted extraction, optimization