C3-BIOECONOMY
Circular and Sustainable Bioeconomy

EDITORIAL

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In a world increasingly aware of environmental and economic challenges, scientific research is emerging as a crucial tool to address the problems facing modern society. Four leading scientific articles offer insightful and enlightening views on key issues related to sustainability, the bioeconomy and the circular economy.

The first article, "Favorable Environmental and Economic Effects of Corn Ethanol Coproducts in Brazil", highlights advances in the production of ethanol from corn and its impact on the Brazilian environment and economy. This study offers valuable insights into how innovation in biofuel production can contribute to the mitigation of environmental problems and sustainable economic development in the region and has useful lessons beyond Brazil.

The second article, "From Georgescu-Roegen's Bioeconomy to the Andean-Amazonian Bioeconomy", explores the evolution of the bioeconomy from Georgescu Roeguen's theories to its application in the biodiversity-rich Amazon. This historical and geographical journey highlights the importance of adapting economic theories to specific environments, especially in biologically diverse regions such as the Amazon.

The third article, "Food loss and waste: One of the great challenges of the circular economy", sheds light on the urgent issue of food loss and waste. Tackling this challenge becomes essential in the context of a circular economy, where

resource optimisation and waste reduction are key. This article provides a detailed analysis of the barriers and solutions to effectively address this critical issue.

Finally, the fourth article, "Strategic analysis of the implementation of Circular Bioeconomy in Andalusia through SWOT analysis", takes us to a more localised exploration. It studies the implementation of the circular bioeconomy in the region of Andalusia. This strategic approach is essential to adapt policies and practices to the specific realities of a community.

Taken together, these four articles represent a significant contribution to the advancement of knowledge in areas critical to a sustainable future. They invite us to reflect on the interconnectedness between science, economics, and the environment, pointing the way towards innovative and sustainable solutions to the global challenges we face. Interdisciplinary collaboration and practical application of these findings are crucial to transform this knowledge into concrete actions that drive positive change in our world.

The issue also includes a monograph on the confluence of the Circular Bioeconomy, Biorefineries and Sustainable Development Goals in the olive sector, which reviews the main contributions of olive biomass-based biorefineries to the SDGs, both from an industrial point of view and from the point of view of cooperatives, which represent most olive production structures in Spain.

This 4th issue of our magazine also includes two outstanding success stories that offer an in-depth look at how the circular economy can transform not only the way we grow our food, but also how we make use of agricultural by-products.

The first of these cases, "Circular economy case study: the development of a new physiological biostimulant from olive by-products", presents an example of the production of biostimulants from olive oil production residues. This novel approach demonstrates that agricultural by-products, far from being waste, can become valuable resources to boost productivity and sustainability in agriculture. This success story highlights the importance of closing the life cycle of agricultural products, transforming what used to be discarded into an essential tool for improving crop yields.

The second case, "Mushrooms for enhanced agriculture sustainability – the *MUSA* concept", presents a unique perspective on how mushrooms can play a key role in promoting sustainability in agriculture. This case illustrates how nature itself can be a valuable ally in the search for ecologically and economically viable solutions. Thus, mushrooms not only offer innovative solutions for agricultural waste management, but also present significant potential for transforming agriculture towards a more sustainable and regenerative model.

Both success stories not only represent significant advances in agricultural research and development, but also offer a paradigm for the widespread adoption of more sustainable practices.

Sincerely,

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Scientific Director of the Journal, ceiA3 researcher and Professor of the University of Cordoba