

ALEHOOP project shows innovative advancements in algae and legume protein research

After four years of dedicated research and development, the ALEHOOP project has achieved significant milestones in the field of sustainable protein innovation. ALEHOOP (Biorefineries for the valorisation of macroalgal residual biomass and legume processing by-products), aims to revolutionize the **production of low-cost alternative proteins for high-value food and feed applications**. This project is crucial in addressing the market demand for **sustainable protein** solutions while reducing Europe's reliance on traditional plant-based proteins like soy.

Recent achievements include the successful completion of multiple tasks and the establishment of a new research focus on red seaweed. Adjustments made to the lupin extraction process have effectively **resolved prior issues with bitterness in protein samples**. These enhancements have facilitated successful trials of lupin powder in cereal bars, shakes, meat replacers... highlighting the potential of these plant-based proteins in various sustainable food applications.

Additionally, substantial progress has been made in **validating macroalgae proteins for animal feed**. Various scenarios have been explored, leading to the selection of optimal approaches for integrating seaweed-derived proteins into animal diets. Simultaneously, the **nutritional benefits of lupin have been underscored**, revealing enhanced anti-nutrient removal, improved solubility in water and promising capabilities as an emulsifier within the food industry. Consumer tests are set to begin in late August 2024, focusing on high-protein, nutrient-rich products derived from algae and legumes. These tests aim to **refine product formulations and ensure they meet consumer expectations**. Upcoming products include meat analogues, meal replacement shakes, high-caloric instant potato puree, and healthy snacks.

In terms of regulatory compliance and market access, ALEHOOP has achieved significant milestones. **Testing has confirmed that protein extracts meet stringent safety standards**, including concentrations of heavy metals below limits set by Codex Alimentarius and absence of pathogens. Additional studies have demonstrated no genotoxicity or cytotoxic effects, ensuring product safety for consumers. Ongoing tasks include **further regulatory approvals and market readiness assessments to facilitate product commercialization**.

Active collaboration with other projects dedicated to sustainable protein sources underscores ALEHOOP's commitment to expanding industry knowledge and fostering collective impact. The importance of enhancing public awareness and disseminating research findings through extensive partner networks is key to amplify project visibility and influence.

Looking ahead, focus will be on finalizing critical deliverables and continuing to refine exploitation and intellectual property strategies. The upcoming final General Assembly meeting between the consortium promises to catalyse further collaboration and dissemination efforts.



About the project: **ALEHOOP** is an EU-funded project, which started in June 2020 and which counts on a consortium of 16 partners from 6 different countries: Spain, Germany, Belgium, Norway, Ireland and Czechia. It is an Innovation Action that **received funding from the BBI-JU**. The project will last until February 2025.

About **BBI-JU**: the Bio-Based Industries Joint Undertaking (BBI-JU), now known as **Circular Bio-Based Europe Joint Undertaking (CBE-JU)**, is **a partnership between the European Union and the Bio-Based Industries Consortium (BIC)** to fund projects advancing competitive circular bio-based industries in Europe.

For more information:

ALEHOOP Coordination team: alehoop@contactica.es

Irene Benito (Communication and Dissemination): irene.benito@contactica.es