

## **Obtaining Multifunctional Natural Ingredients for the Beverage Industry**

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### **Abstract**

The project Bio4Drinks aims to respond to the constant demands for safer, healthier, and functional natural agents. The beverage industry is limited to the use of artificial additives to preserve their products and maintain their quality over the shelf life. Therefore, the development of natural alternatives with the same efficiency, but healthier, is a real challenge to both academia and industries. Bearing this in mind, the Bio4Drinks project intends to promote innovation in the natural extracts and beverage industries through the development of multifunctional natural ingredients, for application in beer and flavoured water, through the use of by-products from wine and chestnut production. In this project, several goals are aimed to achieve: (i) characterized the by-products of the chestnut and wine industries; (ii) obtaining extracts from the by-products of the same materials and subsequent identification and quantification of bioactive compounds; (iii) evaluation of the bioactive properties and toxicity of extracts; (iv) determination of the bioavailability and bioaccessibility of extracts and suitability for storage, production and preservation processes; (v) application of extracts in the production of beer and flavored water and monitoring of microbial, physicochemical and sensory characteristics during storage; (vi) evaluation of the final products regarding the bioactive effects of the applied extracts and the accelerated shelf life. Thus, the project intends to investigate natural bioactive compounds with potential added value extracted from by-products of the chestnut and wine production sectors, to be later added in the production of beer and flavored water, giving rise to higher quality products with stable properties throughout the storage time. The Bio4Drinks project will be developed by a multidisciplinary consortium with proven experience within the scope of the project, composed of three companies, the leading co-promoter Tree Flower Solutions Lda., the

co-promoter FermentUM and the partner Super Bock Group, and two non-profit entities companies of the R&I System, MORE - Collaborative Laboratory Mountains of Investigation, and Polytechnic Institute of Bragança, which provide all the technical-scientific knowledge necessary for its success.

**Keywords:** beverages industry, flavouring fixation, natural preservatives, sulphites elimination.

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