



Project 101074362 – LIFE21 – ENV – IT – SEEDSPRO2WINE

Circular-based alternative protein extraction from grape seeds for the wine-making process

Abstract

- 40% of **grape pomace** produced in EU wine industry is destined to a low waste-hierarchy stage (fertilizer or fuel) although the grape seeds are rich in **proteins** that shall be extracted and revalorized during winemaking process.
- SEEDSPRO2WINE implements one **circular business model** based on a pioneering & mature-R&D-results industrial process for the extraction of proteins from de-tannified grape to be exploited as a **fining agent** in the wine industry and to replace the traditionally-used protein gelatin of animal origin and protein extracts from food crops.
- The system will produce 24 tons/y of proteins by end of the project while 120 tons/y are planned by 2031, covering 17% of Italian protein demand (5% EU).
- A reduction of **GHG emission** is expected comparing our process with the animal and vegetal-based proteins.

Project Consortium

- Project Leader: CAVIRO
- Academic/Research partners: Università degli Studi di Padova, Universitat Rovira I Virgili, Institut Français de la Vigne et du Vin
- Business/Industry partners: Caviro Extra, Ever, Vinidea

Main project goal

- Promoting one circular-based industrial process, environmentally and economically sustainable and technically feasible, finalized at the **extraction of proteins from grape seeds** (currently considered as waste and destined to fertilization and fuel purposes) to be re-valorized as **fining agent** in the **wine clarification** in place of raw materials currently used, such as the traditionally-used protein gelatins of animal origin and proteins extracts from food crops.

Specific objectives

- Development, upon the available R&D studies carried on by Università degli Studi di Padova, of one **small-scale industrial plant to integrate the extraction process of grape seed proteins into a tannin extraction process** already present in CAVIRO company to obtain a final product that can be firstly applied as fining agent for wine industry.
- **Reduction of the overall environmental burden / footprint of winemaking process** in the transition from traditionally-used protein gelatin of animal origin and protein extracts from food crops to grape seed proteins. In specific, the goal is to find the optimal balance between high-quality protein contents and resources used in the extractions (water, energy, chemicals, etc.).
- **Replication of the circular business model experienced by CAVIRO at larger European scale** to demonstrate that the technology/approach for proteins extraction and revalorization is – upon certain conditions disclosed by the project - technically feasible and economically sustainable by most of the European winemakers, environmentally less impacting than animal-base proteins clarification process and - overall – in line with healthy and sustainable dietary patterns streamlined by the Farm-to-Fork strategy.

Project duration

48 months - from 01/08/2022 to 31/07/2026

Project website

<http://www.seedspro2wine.eu>

Total Eligible Budget

€ 4,091,892.00

EU Contribution

€ 2,445,135.00

Contact persons

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