2024 - İstanbul Global Innovation Summit

WINEDRYYEAST/E13371

EXPLOITATION OF LOCAL BIODIVERSITY OF YEASTS FOR WINE PRODUCTION

Aim of the Project

The main objective of the WINEDRYYEAST project was to isolate, characterize, and utilize indigenous yeasts to enhance the sensorial profile of wines produced at Pietroasa vineyard. The project aims to exploit the microbial diversity in the Pietroasa vineyard (Romania) to obtain innovative active dry yeasts to produce wines by controlled fermentation. Pietroasa geographically belongs to Dealu Mare region, which is one of the most renowned vineyard in Romania for both red and white wines.

Challenges

The selected yeast cultures were tested for the fermentation of Fetească regală wines both as single inoculations of *Saccharomyces cerevisiae* and co-inoculation with *non-Saccharomyces* yeasts. Our proposed solution to use yeast strains selected from the Pietroasa area for maintaining the typicity of wines, in line with the *terroir* concept, is in progress to be validated.

Scientific Background

The project aims to create a wine "fingerprint" that reflects the natural microbial diversity of the Pietroasa vineyard, in particular how different strains and concentrations of *Saccharomyces cerevisiae and non-Saccharomyces* impact the wine's aromatic profile. This highlights the significance of accurate dosage of yeast biomass to achieve the desired sensory quality of wine. The aromatic changes of wine due to the produced yeast cultures were measured with newly developed electronic nose methodology. This methodology was also used for the detection of compounds causing wine defects such as cork taint or brett wine.

Impact

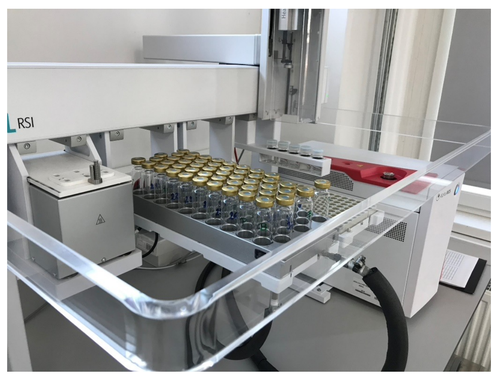
For market success, it is essential that the developed wines have good consumer acceptance in terms of improved sensorial qualities. The developed rapid analytical methods can be used widely in wine making industry to evaluate the sensory properties of wines produced with different technologies, and to detect wine defects in due time, during production, commercialization or consumption.

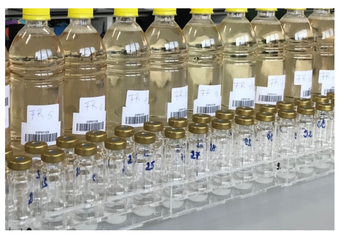
Project Coordinator

SC ICA RESEARCH & DEVELOPMENT SRL (Romania)
ica@ica-rd.ro

Project partners:
Partner 1: PHARMACORP INNOVATION SRL (Romania)
Partner 2: University of Agronomic Sciences and Veterinary Medicine of Bucharest (Romania)
Partner 3: ADEXGO Ipari, Kereskedelmi és Szolgáltató Kft. (Hungary)
Partner 4: Széchenyi István University (Hungary)

Key persons:
Mihaela BEGEA (project manager - m.begea@ica-rd.ro), Iuliana Diana BARBULESCU (team leader P1 - barbulescudia@yahoo.com), Razvan Ionut TEODORESCU (team leader P2 - razvan.iteodorescu@gmail.com), Tamás TÓTH (team leader P3) , Erika LAKATOS (team leader P4), György BÁZÁR, Hajnalka HINGYI, Cornel BANITA,Camelia Filofteia DIGUTA , Mihai FRINCU, Alexandru CIRIC, Simona Ioana MARCULESCU, Corina DUMITRACHE





Project Budget

- 720,000 Euro

Project Timeline

September 2021-August 2024

ICA R&D, Pharmacorp Innovation and USAMV Bucharest were involved in the development of technology for obtaining yeasts biomass and wine, as well as in the phisico-chemical and microbiological characterisation of the developed products.
ADEXGO Kft. is an SME with state-of-the-art laboratory running and developing correlative analytical technologies, while Széchenyi István University adds classic analytical know-how to the project.

WINEDRYYEAST Project meeting at USAMVB and Pietroasa Winery

https://www.pietroasaveche.ro/