Evaluation of winery by-products to develop optimal valorisation procedures

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- VitalityWine -

1as Jornadas do Projeto INTERACT
Winery Industry

Portugal

> 800,000 Tons of grapes

By-products > 30% (w/w)
Winery Industry

- Industrial use of these materials
- The development of innovative applications
SAMPLING

Grape Varieties

Tinta Barroca - Cima Corgo

Sousão - Douro Superior

Syrah - Douro Superior
Task 5.1. Quantification of pesticides, toxins, and antinutrients present in winery by-products.

Methods

- Spectrophotometric methods
- Immuno-affinity assays
- Chromatographic methods
  (HPLC-PDA and GC-MS)
Task 5.2. Identification of the major bioactive phenolic compounds in grape pomace, grape stems, and wine lees.

Methods

✓ Spectrophotometric methods
✓ Chromatographic methods

(HPLC-PDA)
▪ **Task 5.3.** Assessment of the changes in the identified and quantified compounds during storage and processing.

**Sampling**

- Grape stem → 3 months of sampling
- Grape pomace → One week
- Wine lees → Vinification procedure
▪ **Task 5.4.** Development and validation of a multivariate based approach, allowing the straightforward determination of the composition of these residues by solely FTIR (NIR/MIR).

**Methods**

- Spectroscopic techniques (FTIR – NIR/MIR)
- Chemometric approaches

To immediately evaluate the optimal destination and timing for valorising of these residues.
CONCLUSIONS

✔ To design and develop of optimal valorisation procedures, according to the specific constitution of each residue;

✔ To support rational innovative applications for these materials by food and cosmetic industries.
Thank you for your attention

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