RÉPUBLIQUE FRANÇAISE
Liberté Égalité Fraternité

INRAE

MICROVARIOR

EXPLORATORY PROJECT

2020-2022

Organic wines made from resistant grape varieties: analysis of the microbiota of grape berries and their potential for spontaneous fermentation in pesticide-free organic agriculture

Coordination

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French organic wine production has considerably increased over the past ten years, but the enthusiasm of producers is dampened by a wide range of constraints and an increased risk of crop loss due to fungal diseases. The use of resistant varieties is a possible solution in the context of organic practices guided by the limitation of inputs, both in the vineyard and in the wine cellar.

Spontaneous fermentation is frequently used in organic wine-making, but its success is partially dependent on the presence of fermenting flora on the mature grape berries.

Since no data is available about the microbiota of resistant varieties, we propose to study it here on a set of varieties grown under pesticide-free organic conditions.

METABIO

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Participating INRAE units

MAIAGE, Jouy-en-Josas
Oenology, Bordeaux
Pech Rouge, Gruissan
SAVE, Bordeaux
SPO, Montpellier
UEAV, Colmar
Vigne, Bordeaux

Partners

Château Coupe-Roses wine estate
IFV

Two experimental INRAE domains and a private one were chosen in three wine regions in order to assess the impact of regional environmental factors in relation to disease pressure.
The project brings together expertise in microbiology, molecular biology, bioprocesses, wine-making, sensory analysis, ecophysiology, bioinformatics, biostatistics, system design and viticulture. It has two main goals:

- To characterize the microbial communities of grape berries depending on the type of grape variety (resistant or not) and the agricultural approaches (untreated or organic).
- To determine the impact of the variation of microbial communities on the kinetics of spontaneous fermentation and final wine quality (analytic and sensory).

The results should make it possible to propose improvement measures for the control of spontaneous fermentation in the organic sector and the final quality of wines developed from these new varieties.

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