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THESIS

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Study of factors affecting microbiota in resistant grape varieties and its impact on wine quality

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Using interspecific hybrid varieties (IHVs) of grape berries that are resistant to diseases such as downy and powdery mildew could reduce the need for chemical inputs in vineyards by up to 80%. However, this resistance could favor the growth of non-fermentative fungi and yeasts, including emerging phytopathogens and microorganisms responsible for wine alteration.

Meanwhile, wines produced through spontaneous fermentation, which relies on indigenous microorganisms, are attracting growing interest, particularly in organic farming. Most of these microorganisms originate from the surface of grape berries or wine cellars. In this context, it is important to characterize spontaneous fermentations from IHV grapes and their impact on the quality of the wine.

Within the framework of the *MicroVarioR* project, supported by METABIO (2020-2022), this thesis aims to characterize the microbial communities of grape berries and the fermentation of 30 grape varieties (including IHVs and traditional grapes) grown in four experimental organic and pesticide-free vineyards using a metagenetic approach. It evaluates:

- The effect of varieties and abiotic factors on the microbial composition of grape berries;
- The link between the physicochemical composition of grape skins and variety;
- The impact of microbiota composition on the aromatic potential of wines.

METABIO

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