# How to cultivate grape without pesticide, the VITAE project

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# MONTPELLIER VINE & WINE SCIENCES INTERNATIONAL SEMINAR

## Sharing Knowledge & Designing Research Programs to Address Key Challenges Of the Vine-Wine Sector

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# SEMINAR PROCEEDINGS

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# INTRODUCTION

In cooperation with scientists from USA (University of California Davis, Cornell University), South Africa (Stellenbosch University) and Chile (Universidad de Chile, INIA La Platina), the Key Initiative (KIM) **Montpellier Vine & Wine Sciences**, supported by the University of Montpellier, and its partners INRAE and Institut Agro Montpellier, organized a 3-days scientific seminar on the campus Institut Agro-INRAE of Montpellier in October 2022.

This event, which follows the remote seminar organized in June 2021, brought together involved world-class scientific speakers from local and international institutions with the aim of sharing knowledge to design cooperative research programs tackling some of the current challenges of the wine industry.

One hundred and twenty scientists and staffs from fourteen countries participated in conferences and workshops, organized around four key topics:

- Adaptation and mitigation of climate change issues;
- Reduction of chemical inputs;
- Building wine quality;
- Biodiversity, microbiomes and ecosystems.

Several initiatives were formalized to combine international expertise and construct international research partnerships.

# CONFERENCES

# Climate Change: adaptation and mitigation

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Growing vine without chemical pesticides is a big challenge for this emblematic crop. Eliminating pesticides requires multiple management solutions – biological regulation, plant immunity stimulation, genetic resistance, for example – each of which yields only partial effects. The goal is to move to an agroecological approach based on prophylaxis, monitoring and better resilience of winegrowing systems. These control methods must be integrated into new protection strategies that maximize their combined effects while adapting them to local environmental factors, socio-economical contexts, and market issues.

VITAE is an interdisciplinary project that adopt a pesticide-free paradigm to address economic and technological conditions that will favor the transition in winegrowing systems. Founded by the National Research Agency (3 M€, 2021-2026), research fronts addressed in Vitae are related to four strategies: (1) mobilizing microbiota and diversifying biocontrol strategies, (2) broadening the scope of grape breeding towards durable resistance (3) redesigning cropping systems to enhance prophylaxis and biodiversity (4) elaborating the structural alternatives and economic/regulatory incentives that will support the transition. VITAE also carries out foresight studies with stakeholders to generate scenarios for pesticide-free vine growing at the regional level. These scenarios will help organizations and policy makers to implement pesticide-free strategies with appropriate incentive programs.