

## INNOVINE. Combining innovation in vineyard management and genetic diversity for a sustainable European viticulture

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#### ▶ To cite this version:

Anne-Francoise Adam-Blondon, Serge Delrot, Stefano Poni, Vittorio Rossi, Reinhard Topfer, et al.. INNOVINE. Combining innovation in vineyard management and genetic diversity for a sustainable European viticulture. XI. International Congress on Grapevine Breeding and Genetics, Jul 2014, Pékin, China. 2014. hal-02799794

### HAL Id: hal-02799794 https://hal.inrae.fr/hal-02799794v1

Submitted on 5 Jun 2020

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# INNOVINE. COMBINING INNOVATION IN VINEYARD MANAGEMENT AND GENETIC DIVERSITY FOR A SUSTAINABLE EUROPEAN VITICULTURE

Within the next decade, climate change will affect the suitability of the present grape varieties to their terroir and will change the impact of pests and diseases in vineyards. Growers and wine producers will have increasingly to take into account environmental issues while competing with other producing countries. In this context, the goal of the Innovine European project (www.innovine.eu; 27 partners from 7 countries) is to develop knowledge to support eco-friendly production methods and vinegrowers technical needs in a context of climate change (CC).

## IT ADDRESSES THREE COMPLEMENTARY AXES:

- Reduction of the use of pesticides in vineyards. Research is carried out to improve disease models and support the development of durably resistant grapevine varieties. Research is also carried out to understand how cultural practices can improve indirect tolerance to pests therefore reducing the use of phytochemicals.
- ◆ Effect of climate change on berry composition. Research is carried out to model the effect of climatic parameters on berry composition and to support the development of adapted genotypes. Practices aiming at mitigating the effect of climate change are experimented.
- ◆ This and other knowledge will be integrated and implemented through the development of Decision Supports Systems and of monitoring tools for viticulturists and through the proposition of new management systems.





Effects of vineyard practices and environment on berry quality in relation with climate change

Common phenotyping procedures

- Test of non destructive phenotyping tools
- Modelling berry composition
- Experiment practices that mitigate the effect of CC

Design of optimized vineyard practices to reduce pesticides

- Common phenotyping procedures
- Knowledge on durability of resistance genes
- Modelling disease and its incidence on berry composition
- Experiment practices reducing disease incidence

Exploitation of the genetic diversity in grapevine

- Common phenotyping procedures
- Screening genetic resources for downy mildew, powdery mildew, black-rot resistance and tolerance to drought
- Developping markers for screening for phylloxera resistance



Implementation of decision support systems towards a sustainable viticulture

- Improvement of two Decision Support Systems (DSS) vite.net® and EPIcure/PTO
- Improvement of monitoring tools (Multiplex, SmartGrape, aerial images) and Agriciencia information collection systems and integration in DSS
- Test the new functionalities



Test of innovative viticulture practices or systems in representative case studies across Europe

- Experimentations mainly in private vineyards
- Design of new viticulture systems



