



Vinelink Autumn Workshop

(October 2012, 25th)

**Strategies for Reducing Inputs to
Winegrowing and Results**

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Strategies for reducing inputs to winegrowing and results

- **Participants :**

- **Australia:** Peter Hayes (*GWRDC*)
- **France:** Marie Luccioni (*Ministère Agriculture*), Laurence Mercier (*Moët & Chandon*), Marie-Anne Simmoneau (*Syndicat Saumur-Champigny, Val de Loire*), Michel Boulay (*Vinelink*), Thierry Coulon (*Institut Français Vigne et Vin*), Gérald Ferrari (*BNIC, Cognac*), David Lafond (*Institut Français Vigne et Vin*), Jean-Pierre Mégnin (*Vinelink*), Laurent Panigai (*CIVC, Champagne*), Pierre Rouquié (*Ministère Agriculture*)
- **Italy:** Michele Borgo (*Conegliano*)
- **Spain:** Esmeralda Payan (*Torres SA*), Vicente Sotes (*UPMadrid*)

Successive presentations that deal with strategies and results obtained in different situations

- **At national level:** Australia, France (Ecophyto, Ecoviti), Italy, Spain
- **By production basin:** Cognac, Champagne, Saumur-Champigny
- **By industrial group:** Torres, Moët et Chandon, GWRDC

Debates oriented on two reflection axis

- **New techniques that end up to progress and short-term solutions**
- **Investments oriented on long-term and to strategies comparison**
- **New equipments, precision viticulture at mid and long-term**

1– The national policies (Australia, France, Italy, Spain)

- **Countries define strategies and programs that answer to the following issues:**
 - Reduction of phytochemical inputs
 - Adaptation to climatic change
- **With priority modulations according production context:**
 - High importance on inputs reduction under temperate climates
 - Dominant climate concerns in countries exposed to thermic and hydric stresses
- **These policies are declined at state level (Federal countries) or at regional level (Regionalized countries)**

II-Strategies of production basin

- They relay national orientations
- They adapt in front of technical and economic goals and typical product

III – Strategies of industrial groups

- The aims are to favor reduction of phytochemicals in company vineyard and in contracting winegrowers
- Initiatives for biodiversity preservation
- Strategic priorities linked with wine economy (consumers and markets, environment and sustainability, Improving brand products and process, ...)
- Initiatives to preserve viticulture capital and heritage (ex.: R and D on Grapevine trunk diseases)

IV– Working axis of mutual interest:

Integrated pest management rules implementation (IPM)

- Prophylaxie
- Risks forecast
- Biological and biotechnical controls
- Optimal agronomical management/ Diseases sensitivity
- Optimizing use of phytochemical products (according to toxicity, ecotoxicity, mode of action, climatic conditions...)
- Optimizing spraying techniques
- Phytochemical dose adaptation to vegetative development, to risk level, to the actual planted area,

This implementation is based on:

- Regional operating manuals and public or private warning systems validated locally through R&D
- Experimental platforms to demonstrate the practicability of the proposed measures

IV– Working axis of mutual interest (next):

Research on alternatives to phytochemicals :

- Natural defense stimulating products or natural plant defense stimulators (not efficient at vineyard level at the moment)
- Agro meteorology and precised disease risks modeling
- Testing « natural » fungicide or fungistatic preparations
- Works on pathogen competitors or antagonists ex. *Ampelomyces*/Powdery mildew
- Zero herbicide strategies or low herbicide use
- Others.

Precision viticulture

- To have a better knowledge on variability in grapevine physiology
- As an aim to manage plot heterogeneity (in the plot and between plots)
- To adapt input supply
- To optimize strategies for diseases control, soil maintenance, fertilization, ...

IV– Working axis of mutual interest (next):

Grapevine improvement

- Tolerant and/or resistant to pathogens varieties
- Varieties adapted to water and nitrogen or thermal stresses (in view of climatic change)
- Varieties bringing qualitative potential « raw material » required by markets demand.

Numerous works are in progress on wine grapes, table grapes and rootstocks

And also

global approaches on production systems combining diverse available methods and tools to avoid inputs while keeping the needed product characteristics

IV– Working axis of mutual interest (next):

Identified problems in development of new practices and innovations

- Scattered viticulture production structures (traditional countries) with numerous participants and not easy to contact; They have often few resources to rapidly adapt
 - Gaping technical dead-ends, in particular no real alternatives to fungicides
 - Knowledge's to be strengthened on functional biodiversity, impacts of viticulture practices on general biodiversity (including in soils, the role of landscape,...
- **Discussions on different work axes and possible breakthrough to be made have then permitted to identify the more likely progresses on a time-related scale (short, mid and long-term).**

Conclusions

1-Progresses to be made at short-term

Spraying :

- **Equipment: nozzles, no drifting, tuning, etc.**
- **Plant targeting: adaptation to foliage area, dose adaptation, etc.**

Training:

- **Optimizing phytochemical use**
- **Risk level estimations,**

All these recommendations being taking in account at regional level by different public or private organizations (governmental, inter-professional, etc.)

Conclusions (next)

Progresses to be made at long-term

Grapevine improvement :

- New cultivars with polygenic resistance and/or tolerance to pathogens (and/or abiotic stresses)
- Introducing polygenic resistance in common cultivars

These developments will depend on :

- Vulgarization of the new cultivars and quality of produced wines
- Effort to develop common cultivars having polygenic resistance
- Resistance or tolerance sustainability
- Ongoing plantation

Conclusions (next)

Progresses to be made at mid-term

To have a better knowledge in plant and planting physiology to:

- **Improve decision tools: disease risk models at local and plot level, etc.**
- **Use techniques having partial efficiencies: Plant defense resistance stimulations, antagonists, biological control, etc.**

To develop precision viticulture:

- **New sensors**
- **Software to implement all the acquired parameters,**
- **Equipments that are able to modulate treatments locally, etc.**