**General Objectives:**

- Provide the wine industry with specific highlights on issues at stake on pesticides and wine.
- Determine the tasks that must be done before getting to agreements.
- Recommendations on management of pesticides, to satisfy the market rules in relation to residues in wine.
- Explore possible agreements.

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**Application of chemical products in viticulture**

**Where are we?**

- It is a matter of food safety but also sustainability.
- Consumers, industries and governments are each day more concerned about the effects on food safety and more interested in a sustainable world.
- The requirements -privately and governmentally established- are more specific and mundane, day by day.

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**Application of pesticides, wines, and consumers,**

**What do we want?**

- We all want safety; and we are all conscious about the need of having a sustainable wine industry.
- These are no “trendy” issues. Food safety and sustainability got here to stay.
- The requirements will be increasing and consumers, industries and governments have different responsibilities.

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**Application of chemical products**

**What is the situation for the Wine Industry?**

- We have different regulations on food safety; MLR’s are specific for each economy.
- We don’t have homologation of laboratory methods. Methods to examine wine differ from economy to economy. Examining the same wine may get to different results depending on the lab method.
- We don’t have scientific studies specific to wine and grape wines on MRL’s though Grape fruit has been studied but studies differ.

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**Application of chemical products**

**Which are the implications?**

- Access barriers.
- Higher costs: laboratories and certification, samples.
- Partial Information which is not science based; problems for decisions in viticulture.
- Information coming from the Chemical industry not necessarily true for all grape viticultural realities.
- Different methodology of laboratories to measure the same element in equal wines.
Application of chemical products
What each actor can do?

- More R&D+++ a goal for industries together with governments and can be done in a cooperative basis.
- More homologation or mutual recognition in regulations: a task for governments.
- More sustainable practices in the broad sense: environmental, social and economic convergence, a task for industries.

Application of chemical products
A basic proposal for R&D+++!

The Chilean wine industry has been trying to develop together with the universities a project for studying the degradation curves to the wine and wine to avoid this blindness in which we are of not knowing how much of those chemicals applied in viticulture, could remain in wine.

Specific Objectives of the Project

1. Determine the presence and levels of residues of the main pesticides used in the production of wine grapes at harvest time and wine production, to establish which are the most dangerous pesticides and define the sampling frequency in trials to develop.

2. Determine degradation curves of the main pesticides used in the production of the main wine grapes varieties grown in Chile for two different Valleys in terms of climate.

Specific Objectives of the Project

3. Establish waste transfer rates of major pesticides from the fruit harvested to the wine

4. Let consolidated skills and human resources in the area pesticides for the production of wine in the research and development to give permanence to the research and future development in this area, considering the permanent changes in regulations on pesticides.

5. Sharing and transfer of results and recommendations of investigations made in the field of consortium partners.

Project stages

- Determine the residue levels in grapes and wine to make a preliminary diagnosis through a multi-residue analysis.
- Determine the degradation curve monitoring applications in vineyards by indicating the appropriate period and optimal sampling for 1 variety.
- Set Degradation curves for selected pesticides and residue levels in concentrates, considering the analysis of information obtained during the first year of the project.
- Third to fifth year: Determine the additive effects of a second application made in the same environment and considering the number of applications on the residue levels in grapes and wine.

Winery commitments

- Plants district to test pesticides
- Wine grapes
- Machines and people for the application
- People for the technical committee
- Founds
Proposed pesticides - 19

<table>
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<th>Code</th>
<th>Name</th>
<th>Trade Name</th>
<th>Concentration</th>
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<td>Atrazine</td>
<td>Roundup</td>
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<tr>
<td>9</td>
<td>Mancozeb</td>
<td>Donagan</td>
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</tbody>
</table>

Objective for year one

Determine the presence and levels of residues of the main pesticides used in the production of wine grapes at harvest time and wine, to establish the most dangerous pesticides and define the sampling frequency in trials to develop.

- 18 Pesticides
- 3 Grape variety
  - 2 Valleys in Santiago and 2 in Tales (Casablanca and Maipo / Colchagua and Maule)
- Year in Grape and Wine
- 4 monoresidue tests
- 1 multiresidue test
- 50 multiresidues

Objectives for years two to five

- Determine degradation curves of the main pesticides used in the production of wine grapes in two different climates Valleys for the main varieties grown in Chile.

  - 8 pesticides per year
    - 1 valley per climate zone (Casablanca y Maule)
    - 2 kinds of grape Chardonnay and Cabernet Sauvignon
    - 3 Repetitions
    - 5 sample points

Conclusions:

- Define list of chemicals used in viticulture among producing economies.
- Examine in different areas the degradation curves for each one of them.
- Incorporate Chemical industry to collaborate.
- Make government interested and aware of these needs.
- Get governments to agree on international treaties that avoid barriers, to trade rooted most of the times, in ignorance of the scientific truth involved in Chemicals and wine.
- Examine governmental laboratories methods and those of the private sector laboratories, to determine differences in those methodologies and opportunities to harmonize procedures in wine examination.

THANK YOU