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## OBJETIVES

\* To reduce the number of applications against grapevine downy and powdery mildew in endemic areas, by different strategies:

- 1) Meteorological and phenological parameters monitoring
- 2) spore concentration monitoring
- 3) Using different kind of phytochemicals
- 4) Automatic detection before disease symptoms appear.
- 5) Efficient application process by good calibrated machinery and beneficial inspections of it.

\* To analyze the impact of this reduction in environment and on human health.

Disease	Treatments	Items to analyze
<p>DOWNY MILDEW</p> 	<p>1: Goidanich, grower's criterion, conventional chemicals</p> <p>2: Residue zero phytochemicals</p> <p>3: Risk emission by weather station, conventional chemicals</p> <p>4: Control (no treatment)</p> <p>5: Automatic detection</p>	<ul style="list-style-type: none"> <li>- Risk disease</li> <li>- Spore concentration</li> <li>- Disease incidence</li> <li>- Phytochemicals effect and effectiveness</li> <li>- Number of applied phytochemicals</li> <li>- Phytochemicals in Water and soil</li> <li>- Phytochemicals in berries, juice and wine</li> <li>- Disease automatic detection effectiveness</li> <li>- Growers' machinery conditions</li> </ul>
<p>POWDERY MILDEW</p> 	<p>1: grower's criterion, conventional fungicides</p> <p>2: Residue zero phytochemicals</p> <p>3: Risk emission by weather station, conventional fungicides</p> <p>4: Grade-day summatory and phenology, conventional fungicides</p> <p>5: Control (no treatment)</p>	



Gerlach box for water sampling



Device for spore trap



Soil sampling



Weather station

## EXPECTED RESULTS

- Decrease number of applications
- Assessment of the used phytochemicals
- Effect in human health
- Impact in environment
- Increase of growers' knowledge
- Application machinery calibrated

