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## ***JOURNÉES ANNUELLES LIEN DE LA VIGNE***

***VINELINK ANNUAL DAYS***

**PROGRAMME 2018**

### **Prédiction, Détection et Prévention des Risques en Viticulture : Maladies, Ravageurs et Climat**

*Predicting, Detecting and Preventing grapevine risks: Diseases, pests and climate*

Prédiction, Détection et Prévention des  
risques en Viticulture : Maladies, Ravageurs et  
Climat/ *Predicting, Detecting and Preventing  
grapevine risks: Diseases, pests and climate*

**Inventaire des outils et modèles/ Inventory of  
tools and models**

# Main results of the survey

- Received answers: 21
- Distribution according countries: 5 covered countries
  - Australia: 5
  - France : 9
  - Germany: 1
  - Italy: 4
  - United Kingdom: 2
- Tools and models collected: 43 sensors, tools or models

# Details on collected tools and models

- **Sensors:** 10, some including applications allowing links to image analysis software
- **Tools:** 8, some including applications giving meteorological data
- **Decision making tools (DMT):** 19 many focusing on grapevine diseases management
- **Models :** 4, with 3 concerning grape berry moth modeling
- **Others:** 2, one based on environmental impact analysis of wine-farming management and another for an experimental data-base system

# Sensors List

- 10 identified: France: 5 (including 2 for France and USA), United Kingdom: 1 and Australia:4
- Detection and monitoring diseases incidence and even vigor: 6
- Missing plants and frost assessments: 1
- Plant and canopy architectures assessments: 1
- Water stress assessment: 1
- Grape maturation and ripening image analysis: 1

# Tools List

- 8 identified: France 6, Italy 1 and Australia 1
- Weather radar: 2 (rain or hail)
- Weather forecasts: 6, some being technological platforms (linked with data issued from model systems) even giving plot geo-localized forecasts

# *Decision making tools (DMT) List*

- 22 identified: France: 14, Australia: 3, Italy: 3, United Kingdom: 1 and Switzerland: 1,
- Plant quality management: 1
- Water stress management: 3
- Grapevine diseases management: 16 some being associated with mapping and monitoring diseases or phenology or applicable to chemical treatment plans or for optimizing chemical products sprays
- Grapevine disease modeling: 3 (grape berry moth)

# Others

- 2 identified: France: 1 and Australia-France: 1
- Experimental data-base system (experimental data analysis managed by INRA Montpellier)
- Environmental impact analysis of wine-farming management (collaboration between Queensland University and ESA from Angers)



# Conclusions

- Most of these sensor, tools, decision making tools and models are at commercial stage some being in development.
- State of the art is not complete (many grapevine diseases modeling systems are missing) and some countries have not been questioned
- Other problem: some cited sensors (for plant quality or maturation and ripening assessments by example) should be included in last year inventory on plant and grape qualities
- *PS : the first and incomplete draft of the inventory will be soon available. It will be improved this year by request to targeted scientists and professionals. We ask for your help*