



CORE organic II

Integration of plant resistance, cropping practices, and biocontrol agents for enhancing disease management, yield efficiency, and biodiversity in organic European vineyards.

VineMan.org

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Plant Pathology

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- ☹️ Vine is highly dependent on pesticide use.
 - ☹️ In average, 20 treatments are applied annually in Europe.
 - ☹️ Total dosage of PPPs used in the EU viticulture = 21.4 kg active substances (as)/ha per year (19.5 kg as/ha fungicides).
 - ☹️ ~ 70,000 tons of PPPs employed each year in Europe
 - ☹️ total cost of 1.9 billions € in EU27
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- ☹️ One of the main issues the organic grape-producers face is growing healthy plants.
 - ☹️ Insufficient disease control is often the main reason for growers to abandon organic production.
 - ☹️ The progressive reduction of copper fungicides (Council Regulation (EEC) 2092/91, Annex II) further increases this problem.

😊 Development of new and efficient strategies for controlling grape diseases based on environmentally friendly and durable methods will provide to the EU grape growers new opportunities for entering/remaining in the organic sector.

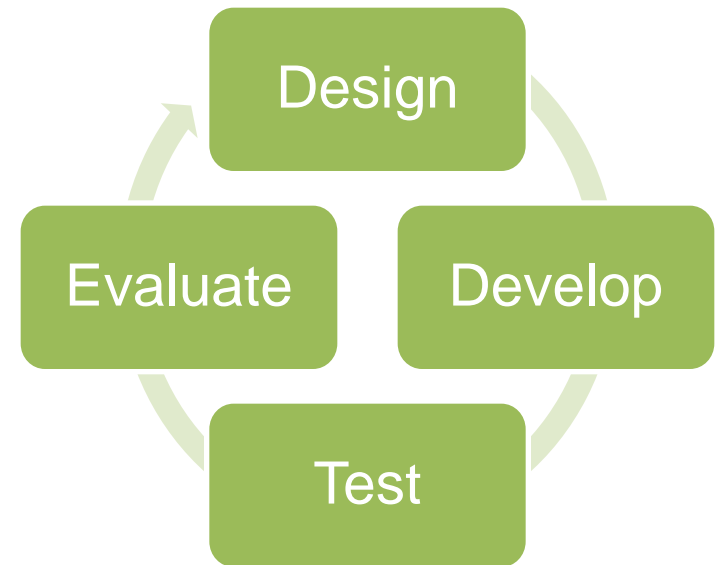


Aim

develop innovative cropping systems for managing organic vineyards

able to:

- improve control of key plant diseases
- enhance grape production
- reduce mycotoxin contamination
- increase microbial biodiversity
- minimize the environmental impact



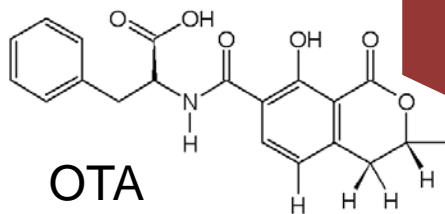
Downy mildew

Powdery mildew

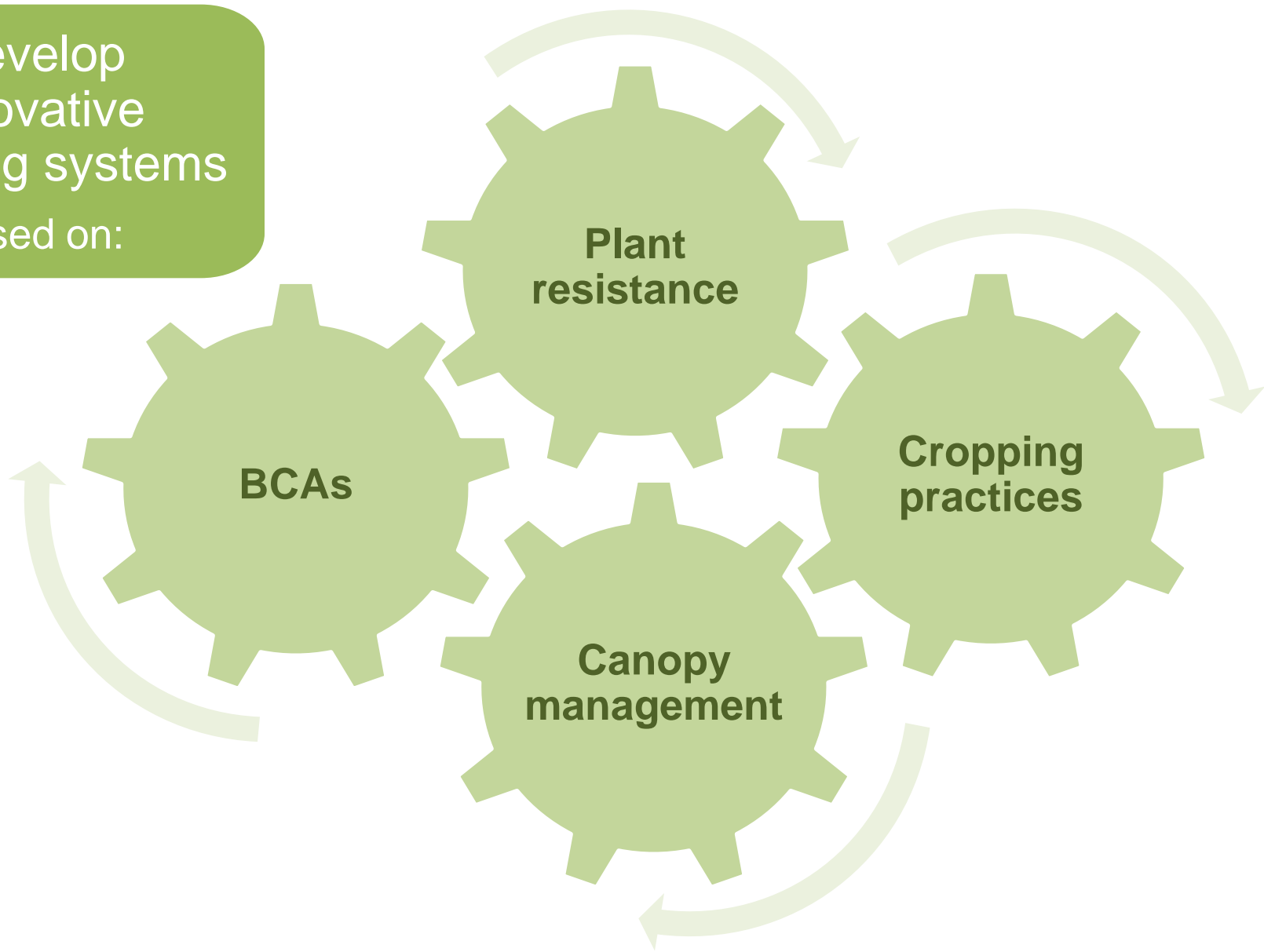
Black rot

Grey mould

Black Aspergilli



Develop
innovative
cropping systems
based on:



Partners

1. Università Cattolica del Sacro Cuore IT (UCSC)
2. Agricultural Research Council, Unit for Viticulture IT (CRA)
3. Agricultural Institute of Slovenia (KIS)
4. Staatliches Weinbauinstitut D (SWI)
5. Austrian Agency for Health and Food Safety AT (AGES)
6. University of Natural Resources and Life Sciences AT (BOKU)
7. Education and research center for Viticulture and Enology AT (LFZ)
8. University of Girona SP (IFAD)
9. University of La Rioja SP (UDLR)



Wok Packages

WP	Title	WP leader	Partner
WP1	Project management and result dissemination	Rossi V.	UCSC (IT)
WP2	Enhancement of plant resistance	Kassemeyer H.	SWI (D)
WP3	Modification of canopy and cluster structure	Rosner F.G.	LFZ (AT)
WP4	Environment and disease development	Rossi V.	UCSC (IT)
WP5	Improvement of fitness & efficacy of BCAs	Reisenzein H.	AGES (AT)
WP6	Design new management strategies	Rossi V.	UCSC (IT)
WP7	Test new strategies	Storchi P.	CRA-VIC (IT)
WP8	Microbial biodiversity in organic vineyards	Schroers H.	KIS (SL)

Pert
diagram

WP1 – Project management & result dissemination

WP2:
Enhancement of plant resistance

WP3:
Modification of canopy and cluster structure

WP4:
Environment and disease development

WP5:
Improve fitness & efficacy of BCAs

WP6:
Design new management strategies

WP8:
Microbial biodiversity in organic vineyards

WP7:
Test new strategies



WP2

- **Enhancement of plant resistance**
- Methods and processes to enhance the plant resistance against the target diseases will be evaluated as induced resistance

WP3

- **Modification of canopy and cluster structure**
- The effect of some viticulture management options on the development of the target diseases will be investigated: canopy structure, cluster and berry morphology.

WP4

- **Environment and disease development**
- Weather-driven, mechanistic, dynamic models for predicting plant disease outbreaks/epidemics will be developed and validated.

WP5

- **Improve fitness & efficacy of BCAs**
- Fitness and efficacy of BCAs representing formulations of bacteria and fungi already registered will be evaluated in relation to grape disease control under organic practices.
- *Bacillus subtilis*, *Ampelomyces quisqualis*, *Lecanicillium lecanii*, *Candida oleophila*.



WP6

- **Design new management strategies**
- New disease management strategies will be designed for organic vineyards following a design-assessment-adjustment cycle.



WP7

- **Test new strategies**
- Innovative management strategies developed in WP6 will be tested in the 2nd and 3rd year, by in-vineyard experiments located in high-quality vine areas of D (Rhine Valley), IT (Chianti), AT (Lower Austria), and SL (Primorska).



WP8

- **Microbial biodiversity in organic vineyards**
- The impact of the disease management strategies implemented in the field trials of WP7 on the diversity of fungi will be explored.

Pillar 1

'within-project audience'

- Partners
- Advisory Board
- Funder bodies
- Meetings: kick-off, intermediate, final
- Project reports: mid-term and final

Pillar 2

Scientific community

- Presentations in conferences
- Publications in peer-reviewed journals
- Final Congress

Dissemination

Pillar 3

Professional users

- Consultants, farmers, etc.
- Project web-site
- Leaflets
- Articles in professional magazines
- Workshops with stakeholders and end-users

Pillar 4

'big audience'

- Articles in popular magazines, newspapers
- Presentations for broadcasting media (TV, radio, Internet magazines)