How I implement IPM

Details of a holistic IPM strategy with low pesticide input in a European farm

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ΓΕΩΠΟΝΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
AGRICULTURAL UNIVERSITY OF ATHENS

My farm

Spiridon Karahalios
Korinthos

PEDO-CLIMATIC CONTEXT

Quaternary and Pleistocene parent material, neutral pH 6.8

Climate conditions: mean annual precipitation 750 mm and mean annual temperature 20.6oC

MAIN PESTS

- Weeds
- Botrytis (Black rot)
- Eudemida
- Pseudococcus
- Thrips
- Powdery mildews

AGRONOMICAL CONTEXT

Grapevine varieties: Crimson, Thompson

Utilised agricultural land: 5.5 ha

Field preparation: No rotation

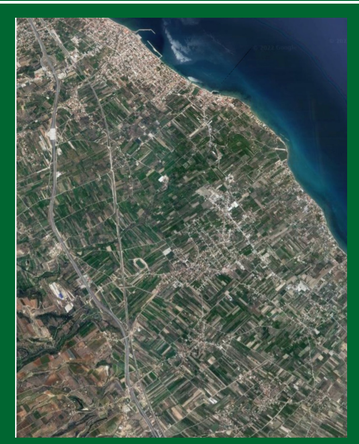
Use of conventional mist blowers

SOCIO-ENVIRONMENTAL CONTEXT

Seasonal workforce

Vineyards in PDO

100% of vineyard can be mechanied



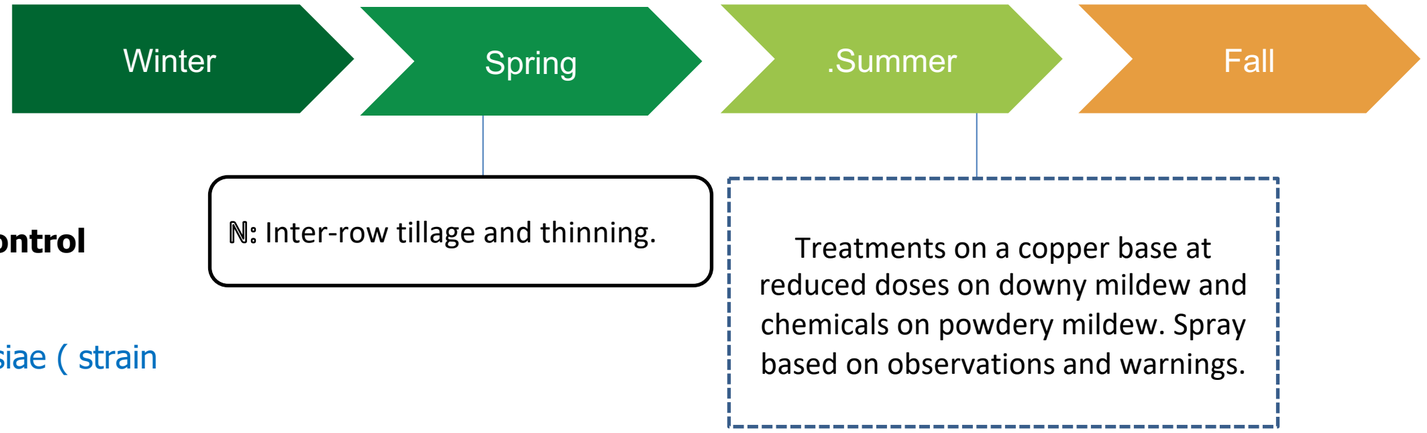
OBJECTIVES AND MOTIVATIONS OF THE FARMER

Limit the use of pesticides to enhance sustainability.

My strategy

Alternative solutions

Agronomical	Effective management practices, including pruning, weed control, and optimal nitrogen fertilization, are essential for maximizing yields and ensuring crop health.
Genetics	Use of a resistant cultivar for the Crimson variety to deal with botrytis.



Chemicals and biocontrol
Fungicides*

Saccharomyces cerevisiae (strain LAS02 and LAS 117)

Copper-based formulations

*In green = low risk PPPs
* In blue = biocontrol agents

Key measures

Key measures implemented with some explanations and justifications

Good airflow and aeriation between the rows and prive adequate luminocity.

Keep relative humidity in low levels based on optimal irrigation schedule.

Management practices, such as pruning, weed control and optimum levels of N fertilisation.

Legend ℕ **New solution** ~~**Solution**~~ **Abandoned solution** **Non systematic solution**

My results

Evolution trend on the farm

Comparison with standards

Pests control

Very good	Medium	To improve
Weeds	Crimson	Thompson

Evolution of use of pesticides

Very good	Medium	To improve
	Fungicides	*Low risk PPPs*

Overall,18 spraying applications need to be improved for all the pests.

Sustainability indicators

Very good

- ↘↘ Use of products that are dangerous or toxic to the environment
- ↘ Use of chemical fertilizers
- ↘↘ Use of dangerous or toxic products for the user
- ↗↗ Level of overall satisfaction of the farmer and his entourage
- = Labour employment
- ↘ Pesticides costs

Medium

- ↗ Use of fossil energy
- = Use of sustainable energy
- ↗ Workload
- ↗ Distribution of work over the year
- = Standardized operating expenses
- ↗↗ Actual mechanization load

To improve

- = Use of conservation biological control [landscaping]
- = Establishment of grass cover or multi-annual crops
- ↗ Equipment usage time
- = Real gross product with self-consumption
- ↗ Energy costs

Key conclusions

18 spraying applications are proved to be very expensive for the farmers

Plant protection products: affects negatively the environment due to chemical application

The consumers add pressure to the farmers, while the government does not support the transition to reduce the use of chemicals products.

The enemies are becoming more and more resistant to the chemical compounds.

Legend

In green = positive trend
In red = negative trend
In black = comparable

= Comparable

↗ Increase

↘ Decrease

↗↗ Significant increase

↘↘ Significant decrease

Environmental indicators
Social indicators
Economical indicators

Our feedbacks

Farmer testimony (technical results and interest for IPMWORKS network

Spiridon Karahalios (Greece)

He is a conventional producer of table grapes, adhering to conventional methods, and proudly contributing to the IPMWORKS initiative of the Greek Hub since 2021. His dedication to continuous learning and commitment to integrating IPM principles, particularly for cover crops, exemplify his motivation for sustainable agriculture.

Hub coach testimony (technical results and interest for IPMWORKS network

Kalliopi Kounani (Greece)

Taking into account the insightful feedback provided by both the farmer and fellow members of the hub, the timeline for demo events within the Greek Hub will now feature dedicated demonstrations and presentations. This collaborative approach ensures that the needs and interests of all participants are met.

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION' HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT N. 101000339