



How I implement IPM

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



ΕΤΟΣ ΙΔΡΥΣΗΣ 1920 - ESTABLISHED IN 1920
ΓΕΩΠΟΝΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
AGRICULTURAL UNIVERSITY OF ATHENS

My farm



Spiridon Karahalios
Korinthos
Greece

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

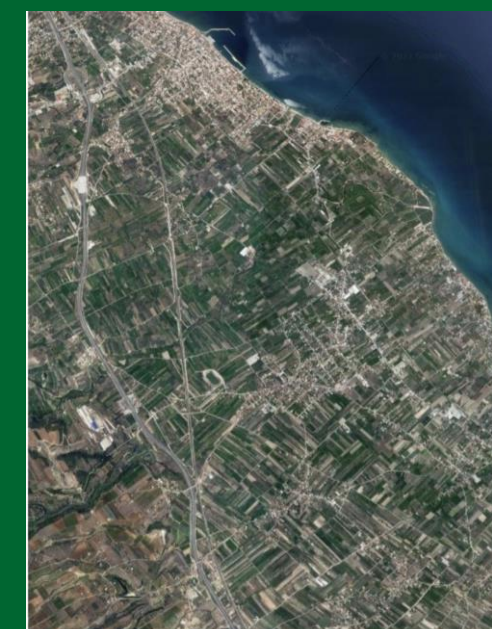
Grapevine varieties: Crimson, Thompson
Utilised agricultural land: 5.5 ha
Field preparation: No rotation
Use of conventional mist blowers

SOCIO-ENVIRONMENTAL CONTEXT

Seasonal workforce
Vineyards in PDO
100% of vineyard can be mechanised

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.



N: Inter-row tillage and thinning.

Treatments on a copper base at reduced doses on downy mildew and chemicals on powdery mildew. Spray based on observations and warnings.

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

Good airflow and aeration between the rows and providing adequate light to the crop

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

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

Use of resistant varieties

Legend



New solution

~~Solution~~ Abandoned solution



Non systematic solution



My results

Evolution trend on the farm

Pests control

<u>Very good</u>	<u>Medium</u>	<u>To improve</u>
Weeds	Crimson	Thompson

Evolution of use of pesticides

<u>Very good</u>	<u>Medium</u>	<u>To improve</u>
	Fungicides	Low risk PPPs
Overall, 18 spraying applications need to be improved for all the pests.		

Key conclusions

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

Plant protection products: affect the environment negatively 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 pests are becoming more and more resistant to the chemical compounds.

Sustainability indicators

<u>Very good</u>	<u>Medium</u>	<u>To improve</u>
<ul style="list-style-type: none"> ↘ 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 	<ul style="list-style-type: none"> ↗ Use of fossil energy = Use of sustainable energy ↗ Workload ↗ Distribution of work over the year = Standardized operating expenses ↗ Actual mechanization load 	<ul style="list-style-type: none"> = 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

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 feedback



“ My dedication to continuous learning and my commitment to integrating IPM principles, particularly for cover crops, exemplify my motivation for sustainable agriculture

Spiridon Karahalios (Greece)



“ This collaborative approach ensures that the needs and interests of all participants are met

Kalliopi Kounani (Greece)

“I am a conventional producer of table grapes, following traditional methods, and I have proudly contributed to the IPMWORKS initiative of the Greek Hub since 2021. My dedication to continuous learning and my commitment to integrating IPM principles, particularly for cover crops, exemplify my motivation for sustainable agriculture.”

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