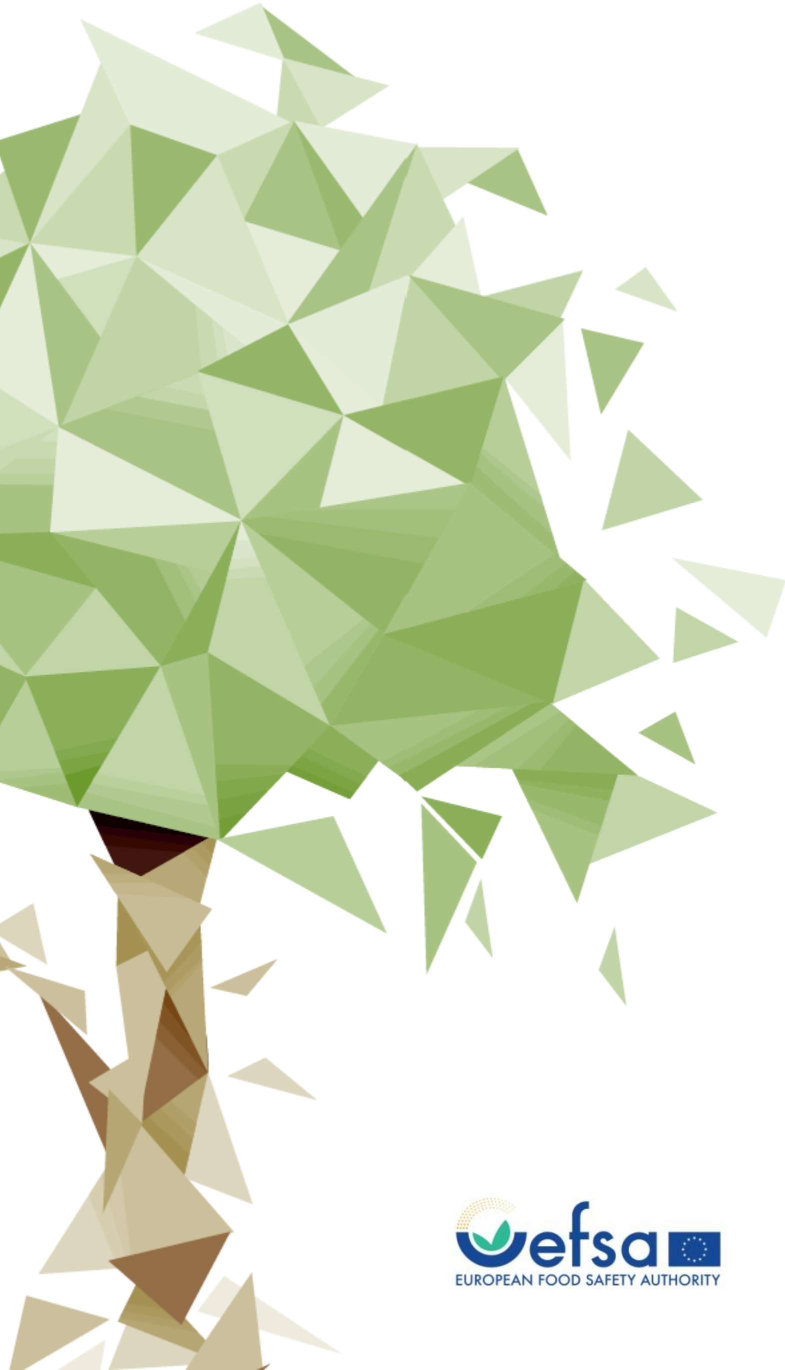

Xylella fastidiosa

5th European conference

Bari, Italy | 22-26 June 2026

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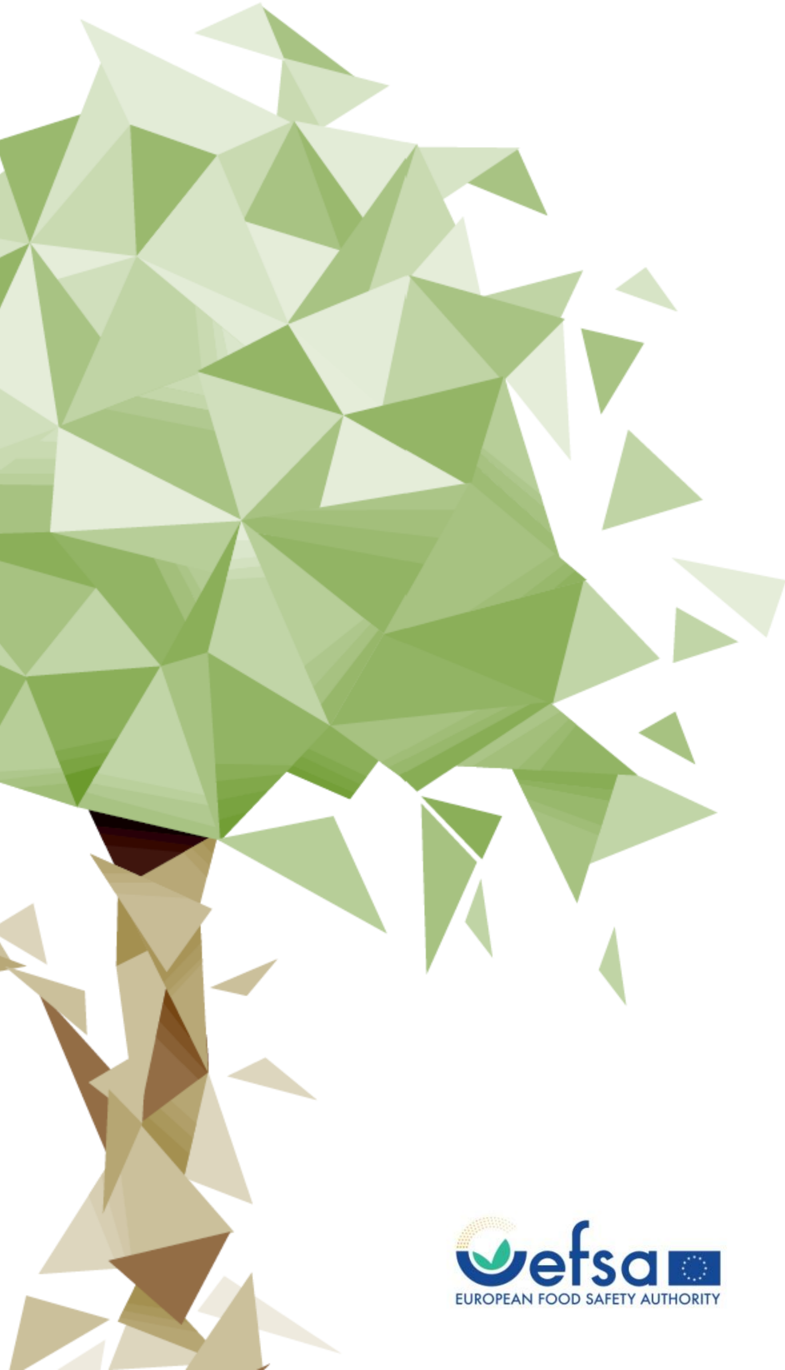
BEXYL BEYOND XYLELLA

EUPHRESCO III

CIHEAM BARI

Consiglio Nazionale delle Ricerche
Istituto per la Protezione Sostenibile delle Piante

REGIONE PUGLIA



From production decline to structural crisis: olive mill dynamics in a *Xylella fastidiosa*-affected area

Pier Paolo Miglietta, Gabriella Epifani, Giulio Paolo Agnusdei, Giovanni Melcarne, Sandra De Iaco

efsa EUROPEAN FOOD SAFETY AUTHORITY

UNIVERSITÀ DEL SALENTO

Università Pegaso

Bari, Italy | 22-26 June 2026

Agenda

1. Olive mill mortality: temporal dynamics and spatial distribution
2. Percentage of olive mill mortality by municipality
3. Evolution of production variables: processed olives and olive oil production
4. Correlation among olive oil supply chain variables
5. Replanting: annual and cumulative spatial evolution
6. Distribution by cultivar
7. Variographic analysis and spatial relationship between replanting and production

Study objective

1

Olive mill mortality

- Quantify the reduction in active olive mills and identify the most affected municipalities.
- Analyze the evolution of their territorial distribution over time.
- Assess trends in the main production variables (processed olives, produced olive oil, purchased olives).

2

Replanting and post-Xylella production recovery

- Measure the spatial association between replanting intensity and olive oil production at the municipal level.
- Estimate the distance beyond which the effect of replanting loses statistical significance.
- Evaluate the contribution of olive grove regeneration to production recovery.

Temporal dynamics of the number of olive mills

OLIVE SEASON	NUMBER OF MILLS
2014-2015	232
2015-2016	247
2016-2017	213
2017-2018	225
2018-2019	182
2019-2020	155
2020-2021	141
2021-2022	129
2022-2023	127
2023-2024	123
2024-2025	116
2025-2026	111

The number of olive mills shows a progressive and marked decline over time, decreasing from 232 to 111

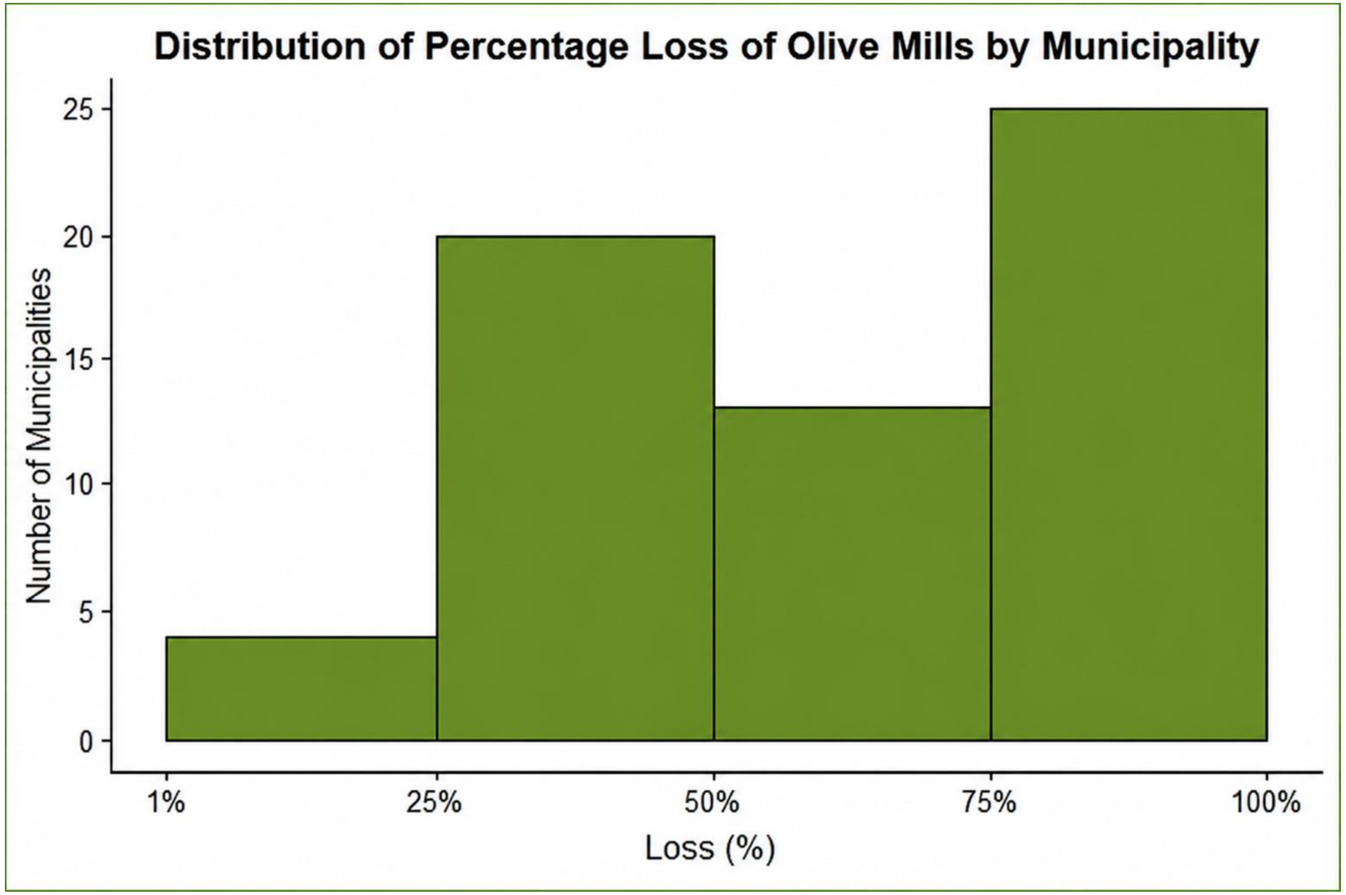
The contraction becomes particularly evident **starting from the 2018–2019 season**, indicating a structural change in the sector

The **2025–2026** figure highlights a dramatic **collapse**, suggesting a severe crisis in the industry

A **persistent negative trend** emerges, consistent with the crisis affecting the olive oil supply chain in the area

Spatial evolution of the number of olive mills

Olive mill mortality percentage



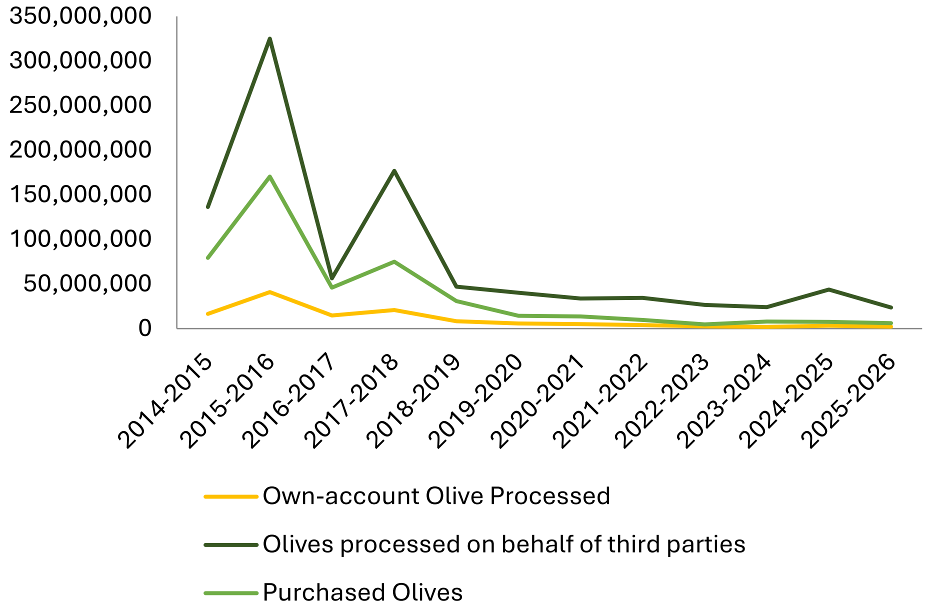
The distribution shows a concentration of municipalities in the highest loss classes, particularly between **75%** and **100%**

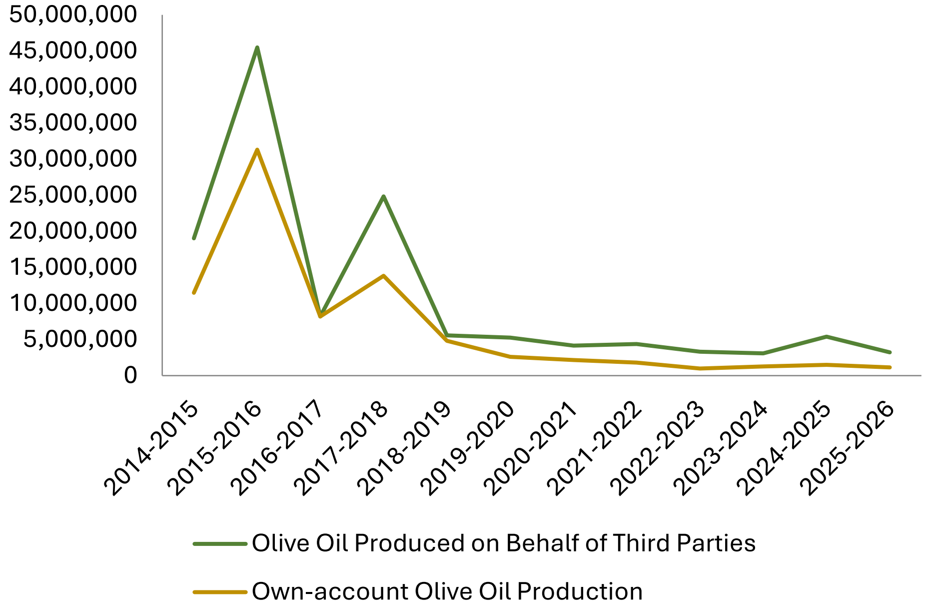
Intermediate classes also show a significant presence, indicating a widespread phenomenon

The **1–25%** class is marginal, suggesting that only a few municipalities experienced limited losses

The results reveal a severe and widespread impact across the territory, with numerous municipalities suffering very high losses

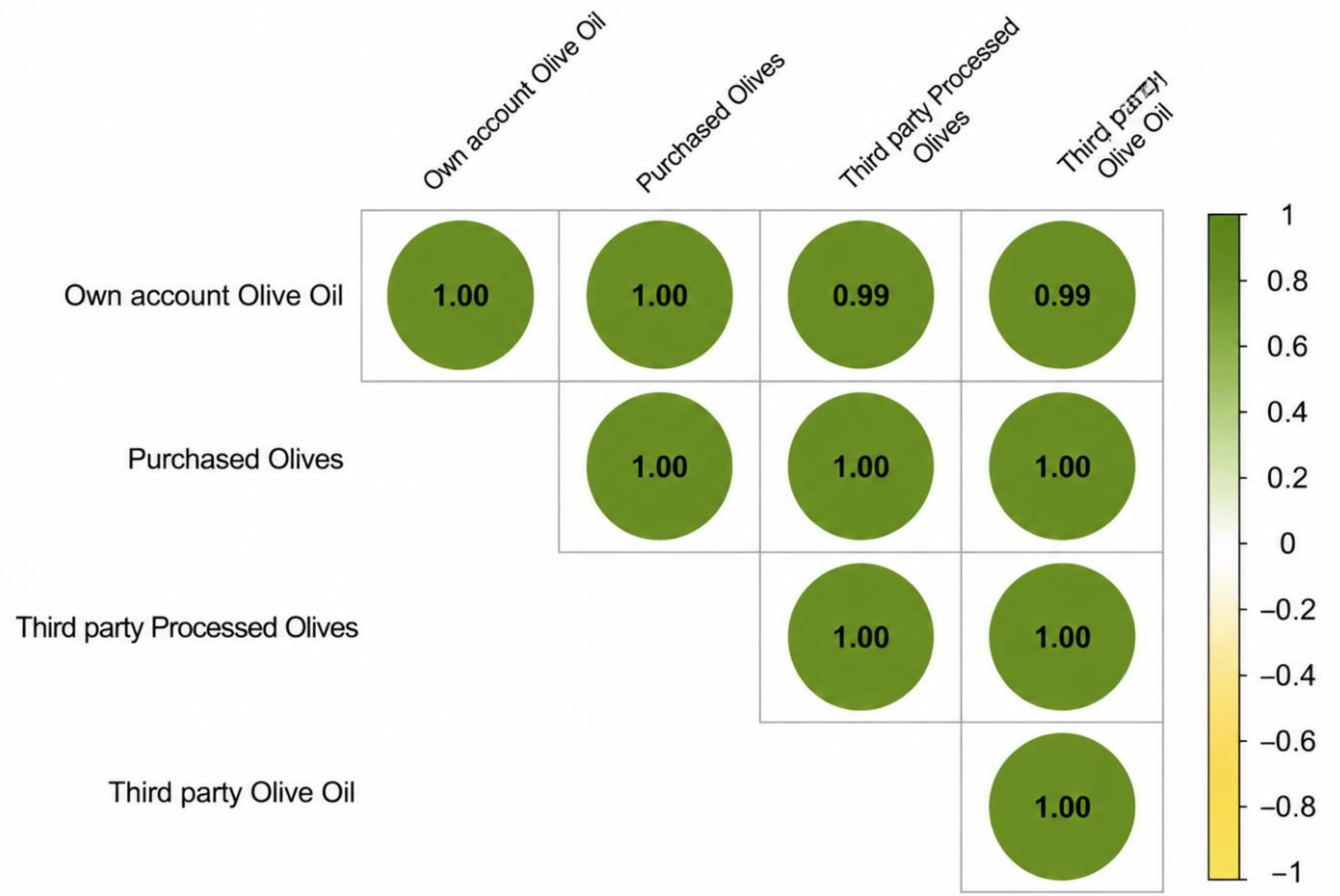
Temporal evolution of processed olives and olive oil production





Monthly aggregated values show **a progressive decline** in the quantities of processed olives (kg) and produced olive oil (kg) over the study period.
Purchased olives and olives processed on behalf of third parties represent the dominant components compared with own-account processing.
The **sharpest decline** is observed **from the 2018–2019** season onward, with production levels substantially lower in subsequent years.
This trend can be attributed to the spread of *Xylella fastidiosa* in Salento, which significantly affected olive availability and olive oil production.

Correlation matrix of olive oil supply chain variables



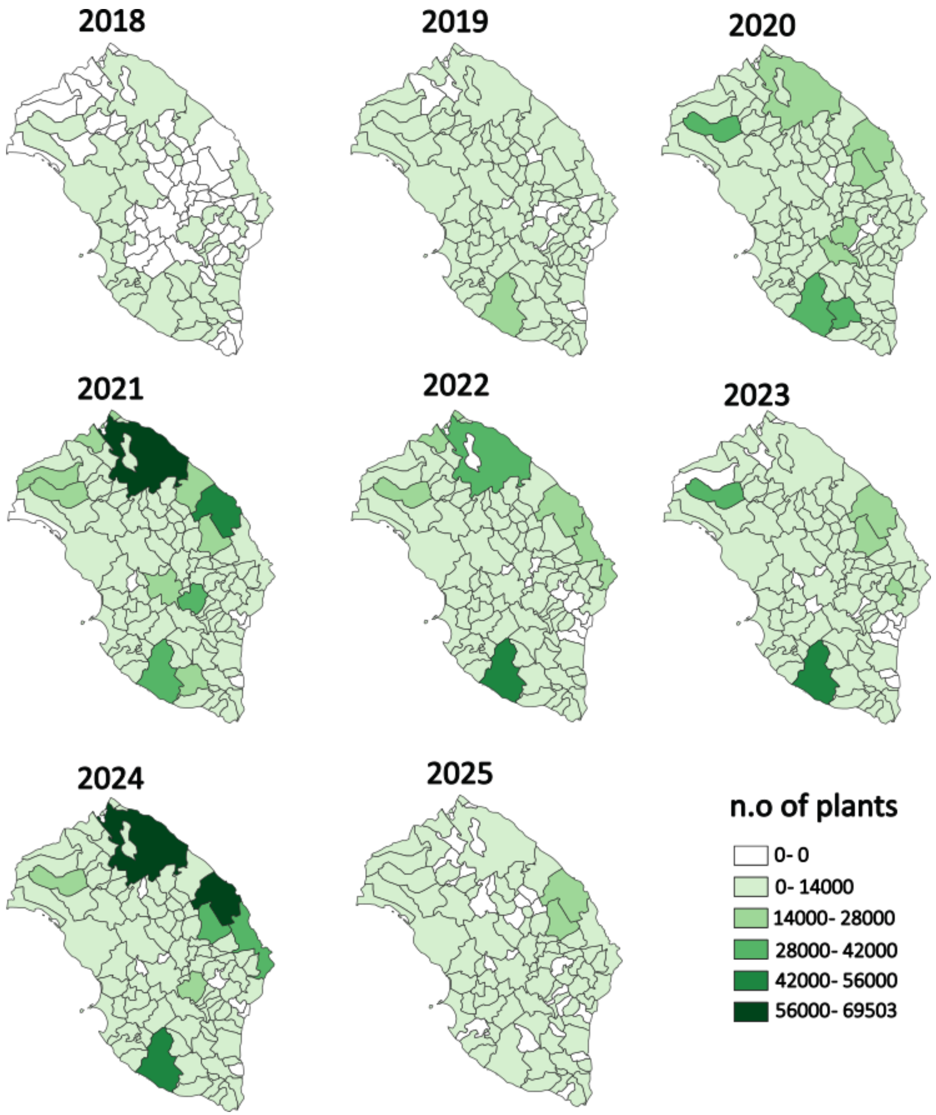
The matrix highlights **strong positive correlations** among all variables

In particular, processed olive quantities and olive oil production display **highly consistent trends over time**

Purchased olives are also strongly correlated with the other variables, indicating a **common dynamic throughout the supply chain**

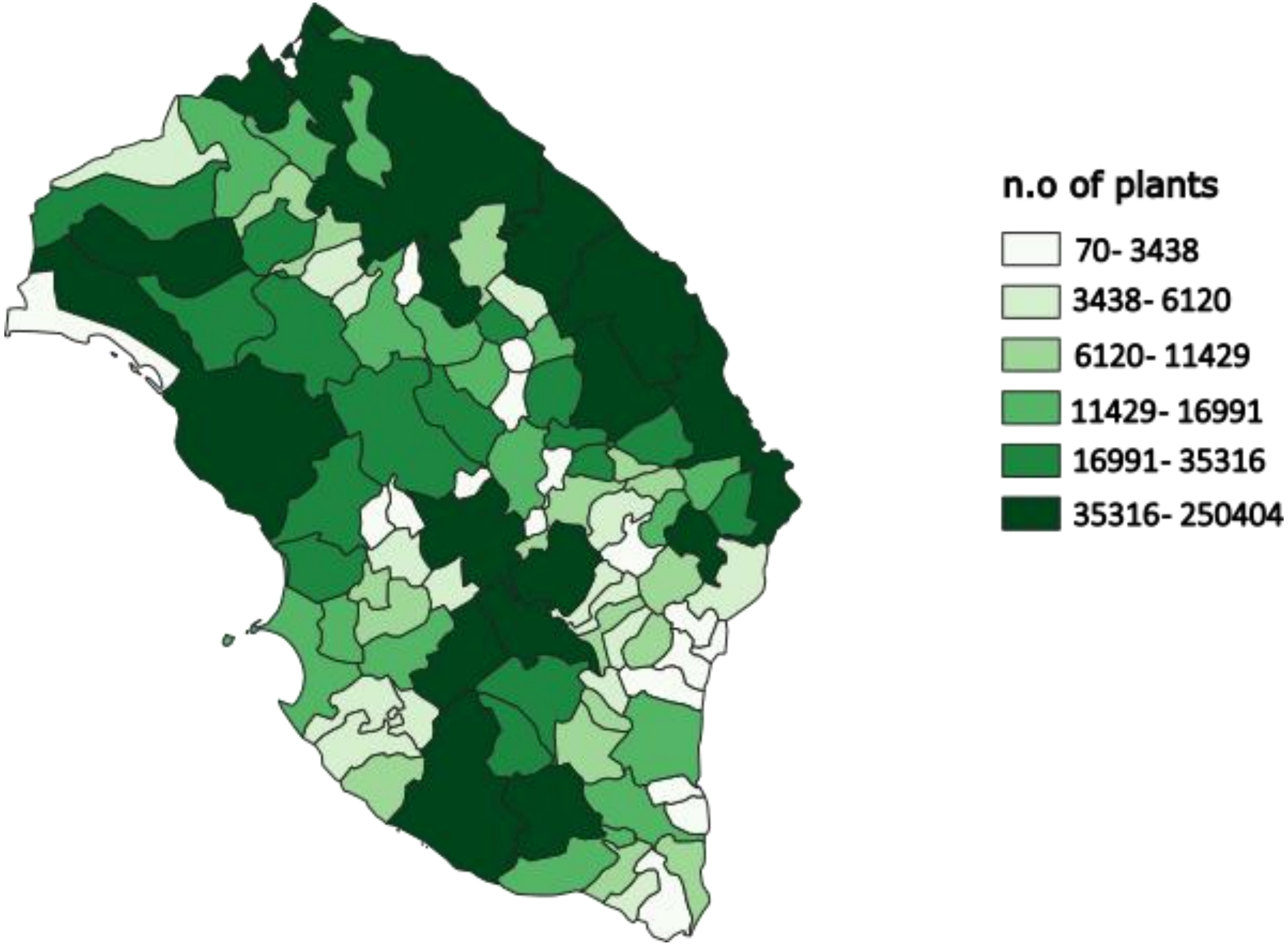
Overall, the results reveal a **high degree of interdependence** among variables, suggesting that observed variations are driven by **shared factors** (e.g., production shocks affecting the territory)

Spatial evolution of replanting activity

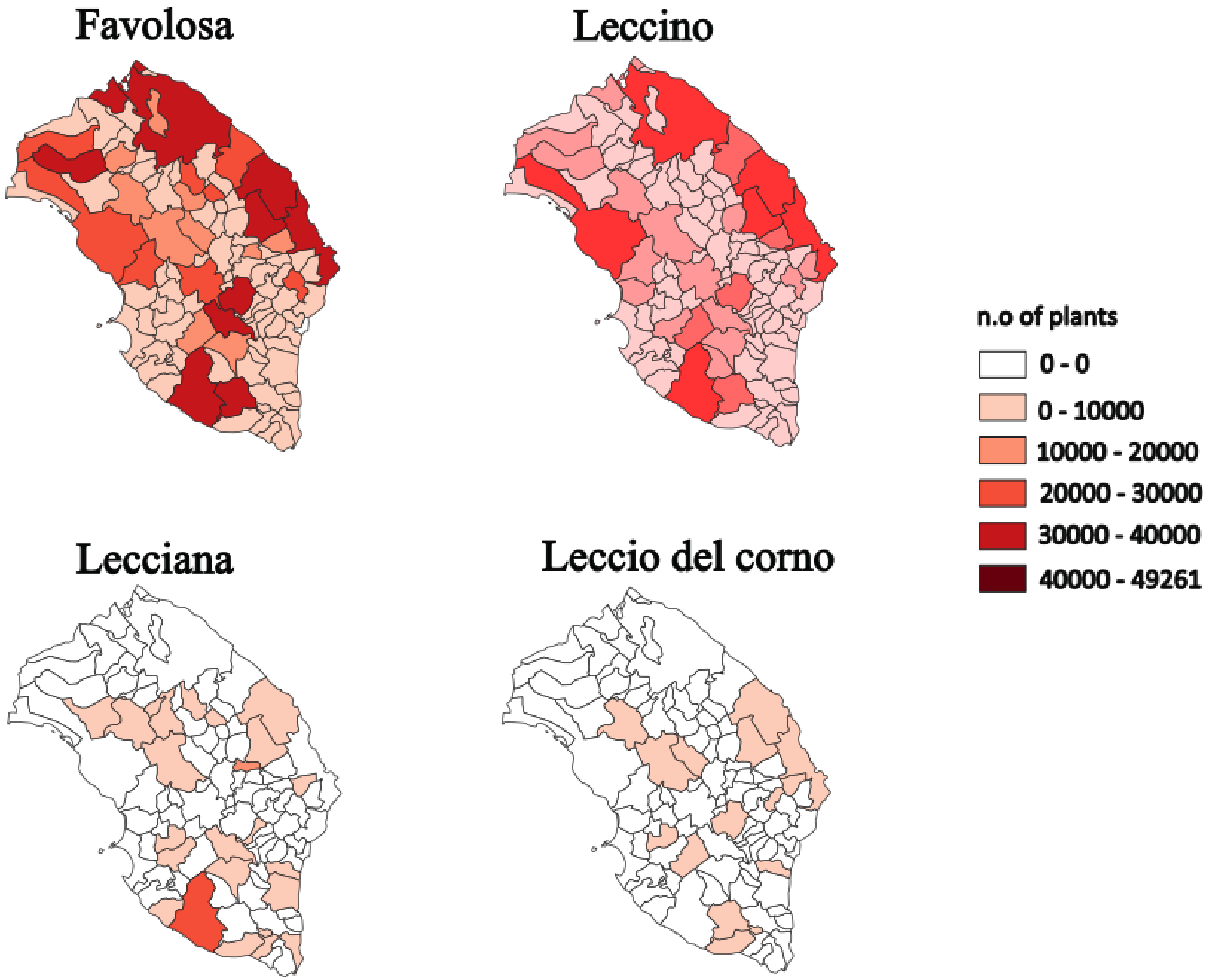


- Between 2018 and 2020, a **gradual spread of replanting activity** can be observed across the territory.
- In **2021**, a **strong acceleration** occurred, with highly concentrated areas of activity, especially in the northern sector.
- After an intermediate phase (2022–2023), 2024 shows a new peak in activity, with an expansion of the most affected areas.
- In 2025, a clear slowdown in replanting progress emerged, with a drastic reduction in both intensity and territorial extent.
- The evidence points to a discontinuous and non-progressive replanting process, characterized by phases of expansion followed by significant slowdowns.

Spatial evolution of the cumulative number of replantings



Spatial evolution of replantings by cultivar type



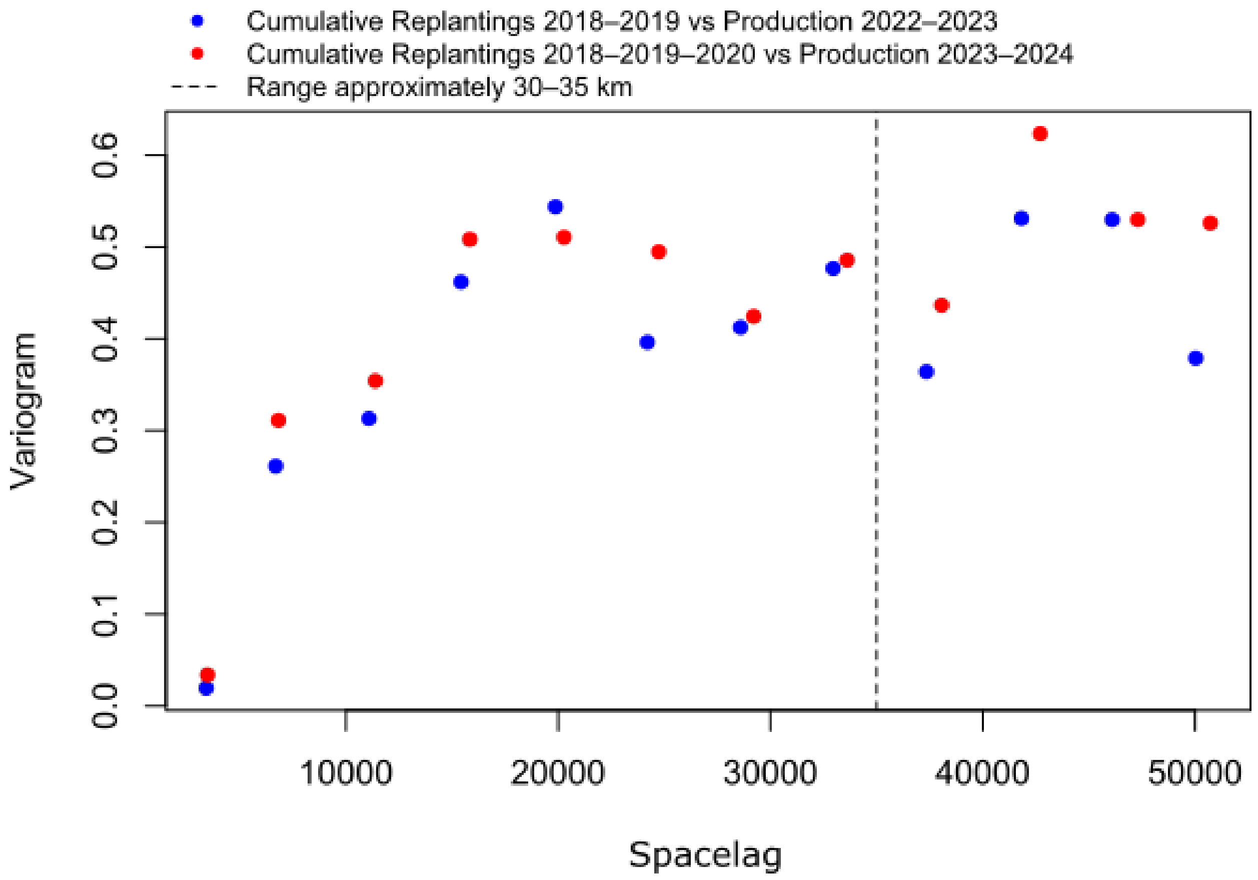
Methodology

- Direct **variographic analysis** of replanting and olive oil production variables to verify the existence of spatial structure.

- Once spatial structure was confirmed, **cross-variograms were calculated** between cumulative replantings and production in the subsequent two-year periods.

- **Estimation of the range**, i.e., the distance within which the spatial relationship between the two variables remains statistically structured.

Cross-Variogram: replanting and *post-Xylella* production



The analysis evaluates the spatial relationship between *post-Xylella* replanting and subsequent olive oil production.

The two cross-variograms show a similar pattern, with spatial correlation disappearing at approximately **30–35 km**.

The strongest co-variation occurs within **15–20 km**, suggesting that replanting effects are mainly concentrated at the sub-regional scale.

These results support the identification of priority areas and the design of territorially targeted recovery policies.

Conclusions

THE XYLELLA CRISIS HAS BECOME A STRUCTURAL SUPPLY-CHAIN CRISIS, NOT ONLY AN AGRICULTURAL PRODUCTION SHOCK

“Olive mill decline threatens the processing capacity required for future production recovery”

“Replanting remains spatially uneven and discontinuous, highlighting the need for stable and coordinated support”

“The spatial association between replanting and subsequent production indicates that recovery dynamics operate at a sub-regional scale, rather than being confined to individual municipalities”

“Recovery policies should integrate olive grove regeneration, mill preservation, and supra-municipal planning”

Thank you for your attention!

Contacts:

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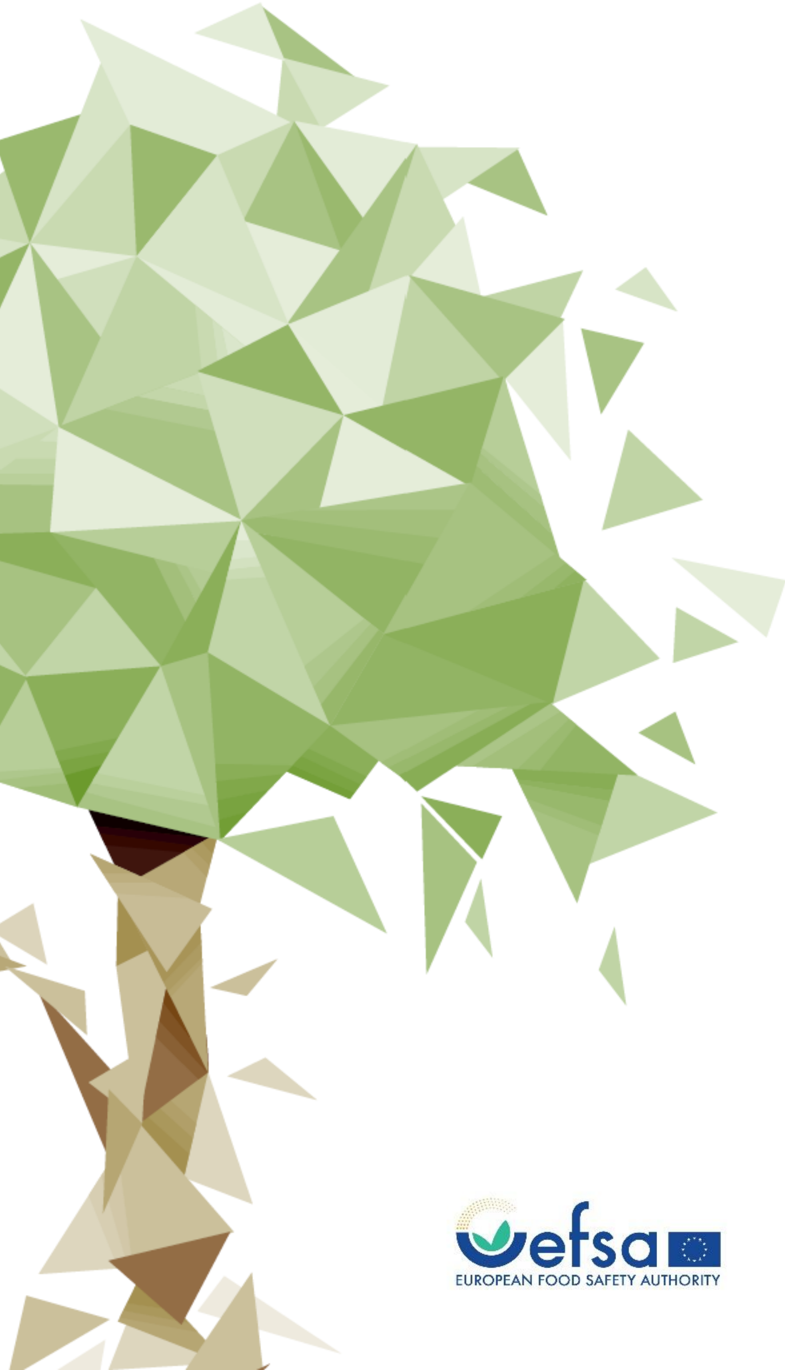

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REGIONE PUGLIA


Coexisting with *Xylella*
an anthropological perspective
Claudio Sopranzetti
Associate Professor of Anthropology, Oxford University

Co-existence









Co-existence

Farmer preferences for Integrated Pest Management strategies against *Xylella fastidiosa*

Evidence from Apulia and Alicante

Viola Di Cori[1] | Jesus Barreiro-Hurle[1] | Jose A. Gomez-Limon[2]
[1]European Commission – Joint Research Centre, Seville
[2]Cordoba University, Spain

5th European Xylella Conference, Bari, 23rd-25th of June 2026

Table of Contents

Study on farmers’ preferences for new technologies to control *Xylella*

Main objective

Elicit and quantify farmer preferences for Integrated Pest Management (IPM) strategies to control *Xylella fastidiosa* in two affected regions.

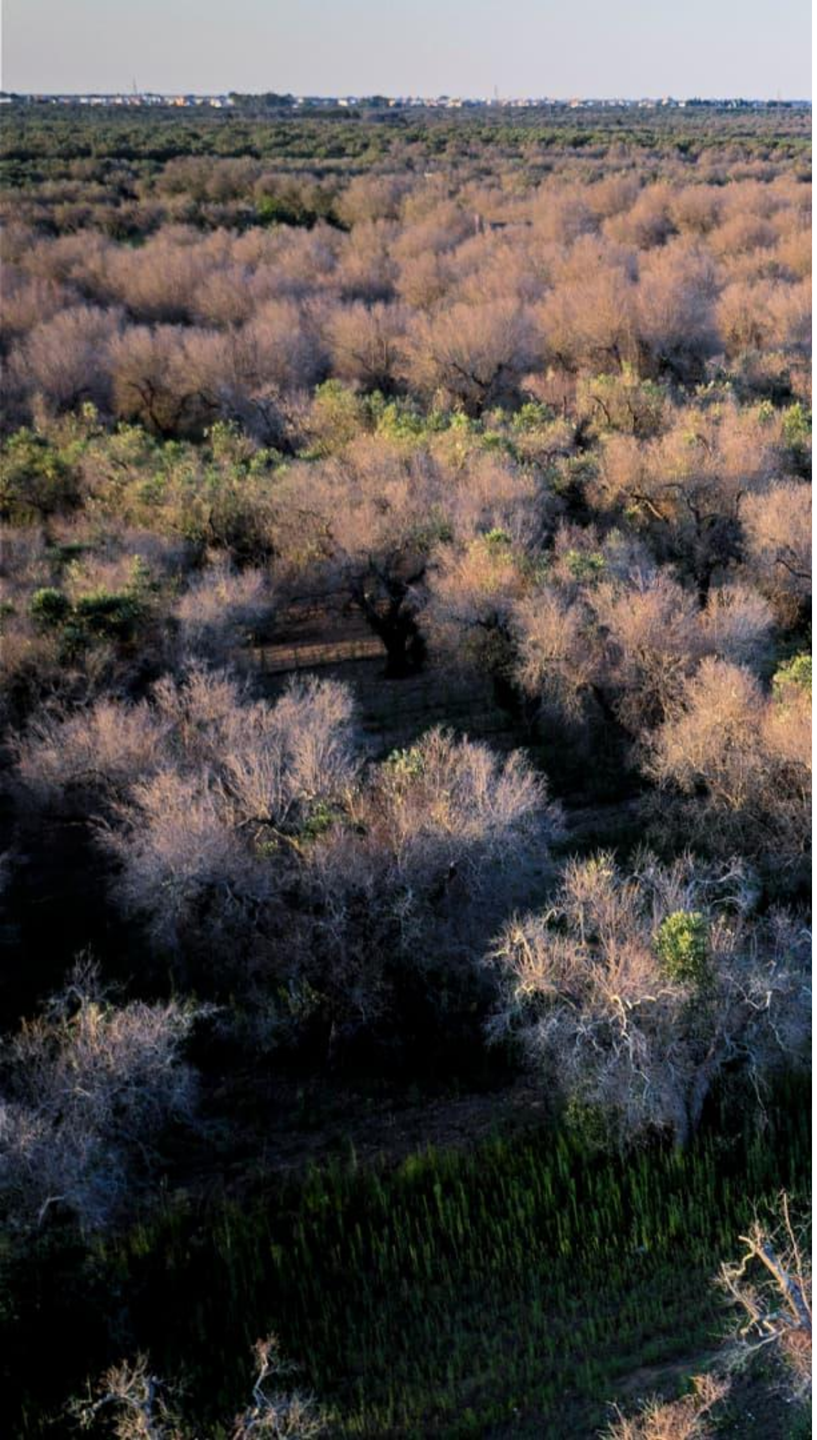
Key research question

Which IPM attributes do farmers value the most, and what level of public subsidy is needed to achieve broad adoption?

Comparative dimension

Do preferences differ between Apulia (olive-focused) and Alicante (almond-focused), and what drives heterogeneity?

This study is part of a comprehensive project on preferences for new technology adoption against Xylella (Bexyl WP8.4.2).



Why farmers' preferences?

It doesn't matter how promising a new technology is: **farmers need to be willing to adopt it.**

The adoption gap

Technical effectiveness alone does not guarantee uptake. Understanding what drives or inhibits farmer decision-making is essential for designing successful IPM interventions.

Behavioral economics

It studies how psychological, social, and cognitive factors influence decision-making, and it models how farmers form preferences under uncertainty.

Eliciting Farmer Preferences For Alternative Integrated Pest Management Practices To Control Xylella Fastidiosa Using DCE With Between-Subject Treatment

Embargo

Registration template: OSF Preregistration

Registry: OSF Registries

Registered: Dec 12, 2025, 11:57:04 PM

Last Updated: Dec 12, 2025, 11:53:15 PM

Contributors: Viola Di Cori, Jesus Barreiro-Hurle, José A. GÓMEZ-LIMÓN

Description: This project aims to understand the preferences of farmers for new Integrated Pest Management techniques to control Xylella fastidiosa in olive and almond groves. These techniques are non-hypothetical as they have been developed under the Horizon Europe BEXYL project for which this activity is undertaken. The project includes a DCE with a between subject treatment where an additional attribute is presented to half of the sample. The project also includes a consequentiality treatment. ...

Read more

View | Continue Update

Study Information

Hypotheses

[A.2 - main research question and/or hypothesis]
Our main research objective is to identify characteristics of integrated pest management solutions that would increase their adoption by farmers. The characteristics are taken from research undertaken by other work-packages in the project that are developing control measures for the vector that spreads Xylella fastidiosa and enhance the resistance of the crops that can be affected by Xylella fastidiosa. We generate IPM packages that focus either on vector control, host resistance, or a combination thereof.

Hypotheses
We put forward two sets of hypotheses. The first one is related to the preferences for the different IPM attributes and the second to the impact of the treatment effects implemented in a between subject design.

Integrated pest management attributes:

• Subsidy - our hypothesis is that farmers will prefer options with higher subsidy payment

• ASC constants – our hypothesis is that farmers will have different preferences for the strategies depending on whether they control vector, plant, or both plant and vector

• Inclusion of effectiveness thresholds – our hypothesis is that famers will prefer strategies that require less adoption by peers to be effective.

Study design & fieldwork

Survey structure

01

Farm characteristics

02

Xylella awareness, knowledge & risk perception

03

Between-subject treatment on consequentiality and collective adoption

04

DCE — 6 choice tasks × 4 alternatives (incl. opt-out), 8 blocks. Heuristics.

05

Socio-demographics

Sample & data collection

Apulia: N = 400 farmers | **Alicante:** N = 200 farmers

CATI-WEB-CATI interviews

Pilot survey

Data collection between Feb and May 2026

Quality controls

- Speeders flagged (<8 min)
- Random choosers identified
- Protest responses screened
- Always-SQ respondents flagged

Discrete Choice Experiment (DCE) Design

A DCE is a survey-based method used to elicit preferences by asking respondents to choose between hypothetical alternatives that differ in their attributes.

Alternative A

Vector control strategy

Alternative B

Increased plant resistance

Alternative C

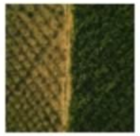
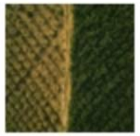
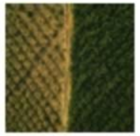
Combined strategy

Status Quo (SQ)

No additional intervention; opt-out at zero subsidy

Attribute	Levels	Reference
Vector control method	Entomopathogenic fungi, Herbaceous cover (push-pull), Parasitoids	Natural enemies
Plant material	Plant extracts, Resistant varieties, Peptides	Peptides
Pesticide reduction (%)	Continuous, -50, –100%	—
Minimum adoption threshold (%)	Continuous, 50%–75%–100%	—
Subsidy (EUR/ha/yr)	Continuous, 25–375 EUR	—

Example of choice card

	Option A	Option B	Option C	Current situation
Control of insect vectors	Controlled herbaceous cover 		Controlled herbaceous cover 	
Increase plant resistance		Adoption of new resistant varieties 	Plant extracts 	
Reduction of chemical pesticides	-50% 	-50% 	-100% 	Continue as usual, without applying the treatments proposed here
Estimated adoption rate for most effective pest control	75% 	50% 	50% 	
Subsidies (per hectare and year)	EUR 25 	EUR 175 	EUR 325 	
I choose	○	○	○	○

Respondents were presented with cards showing three active IPM alternatives and a status quo option. Each alternative displayed all five (four) attributes with a combination of levels, enabling direct comparison and preference elicitation.

ⓘ Control vector and plant resistant technologies are based on the work of Bexyl researchers

BEXYL

Model specification (1/2): Multinomial Logit

All models are grounded in random utility theory (McFadden, 1974). Total utility for respondent n, alternative j, choice task t (MNL assumes i.i.d.):

$$U_{njt} = V_{njt} + \varepsilon_{njt}, \qquad \varepsilon_{njt} \overset{\text{i.i.d.}}{\sim} \text{Gumbel}(0,1)$$

The deterministic utility:

$$V_{njt} = \tilde{\alpha}_{nj} + \beta^{v}_{\text{fungi}}\, x^{v}_{\text{fungi},jt} + \beta^{v}_{\text{herb}}\, x^{v}_{\text{herb},jt} + \beta^{p}_{\text{extr}}\, x^{p}_{\text{extr},jt} + \beta^{p}_{\text{var}}\, x^{p}_{\text{var},jt} + \beta_{\text{red}}\, \text{red}_{jt} + \beta_{\text{adopt}}\, \text{adopt}_{jt} + \tilde{\beta}_{n,\text{sub}}\, \text{sub}_{jt}$$

The choice probability:

$$P_{njt}(j) = \frac{\exp(V_{njt})}{\sum_{k=1}^{4} \exp(V_{nkt})}$$

Model specification (2/2): interaction terms & WTA

Observed heterogeneity

$$\tilde{\alpha}_{nj} = \alpha_j + \sum_{m \in \mathcal{Z}} \gamma_{jm}\, \tilde{z}_{nm}, \qquad \tilde{\beta}_{n,\text{sub}} = \beta_{\text{sub}} + \sum_{m \in \mathcal{Z}} \gamma_{\text{sub},m}\, \tilde{z}_{nm}, \qquad \tilde{z}_{nm} = \frac{z_{nm} - \bar{z}_m}{s_m}$$

where $j \in \{A, B, C\}$ and $\mathcal{Z}$ is the 11-z-scored covariate set

Willingness to accept (WTA)

$$WTA_k = -\frac{\hat{\beta}_k}{\hat{\beta}_{\text{sub}}} \times 375$$

ⓘ The subsidy represents public co-financing per hectare per year provided to adopting farmers. WTA is expressed in EUR/ha/yr equivalent compensation.

BEXYL

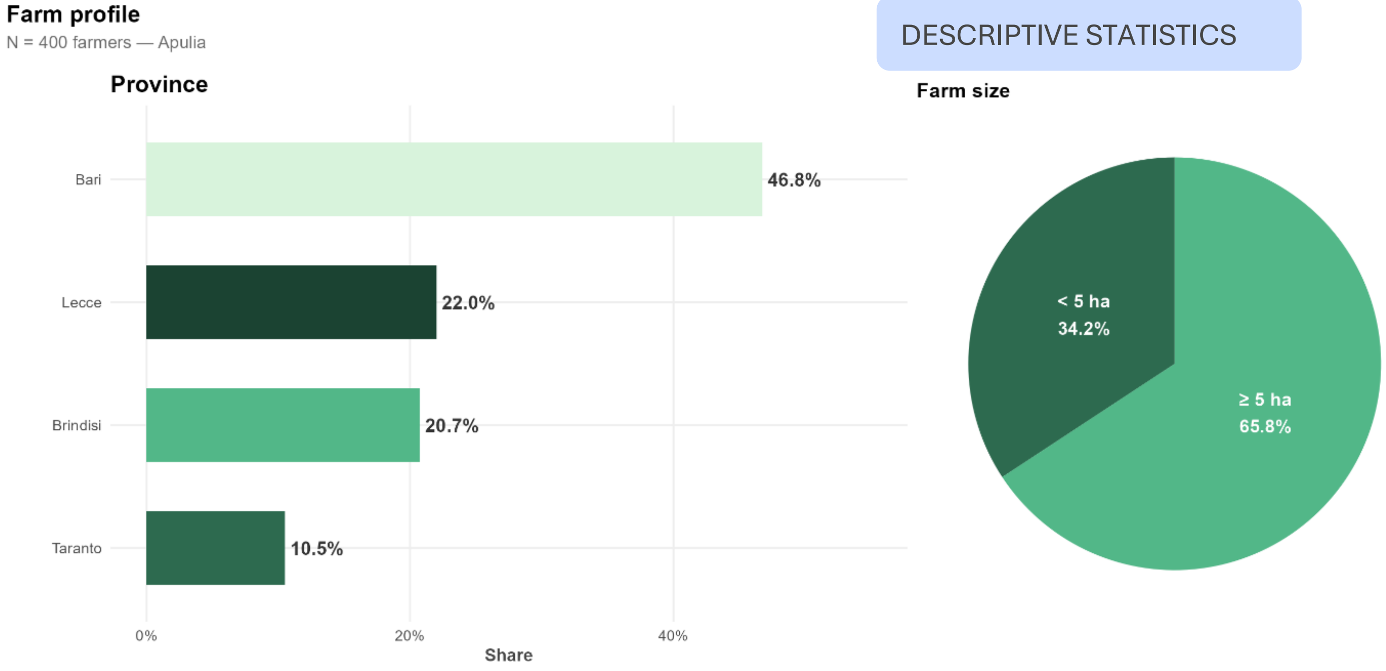
Sample at a glance

Who are our respondents?

96.5%

Xylella Awareness

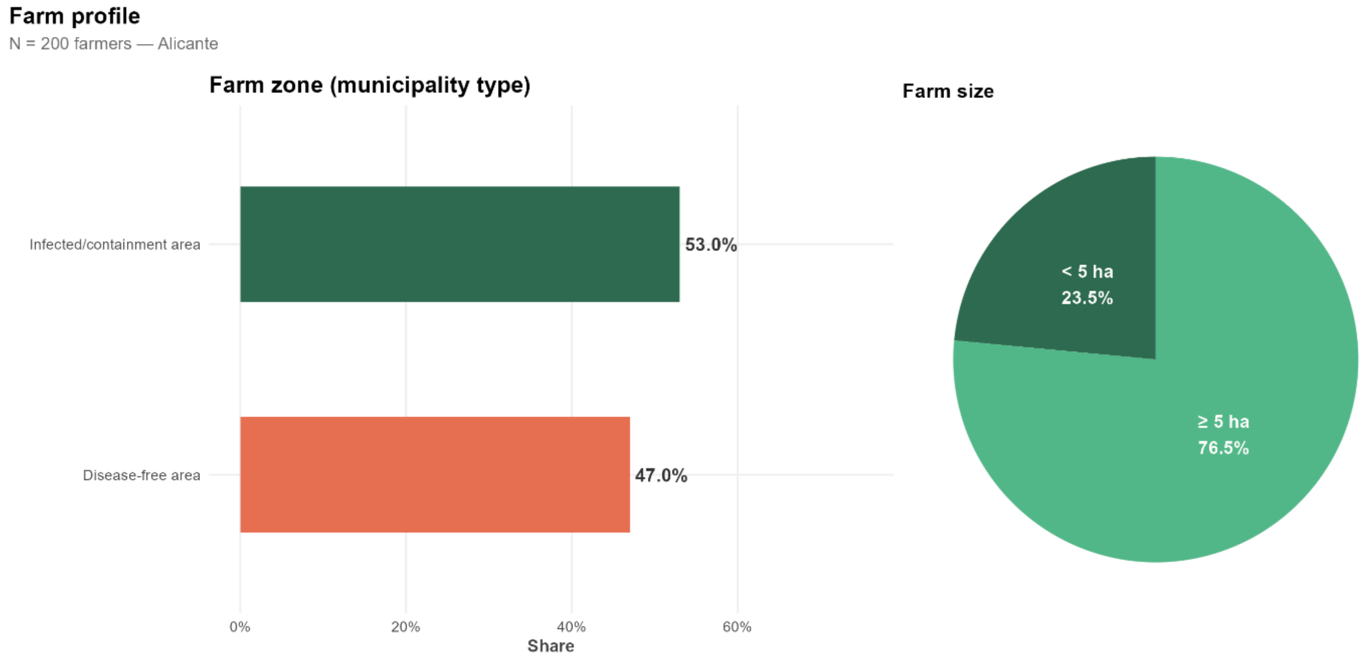
Apulia respondents who had heard about Xylella



78%

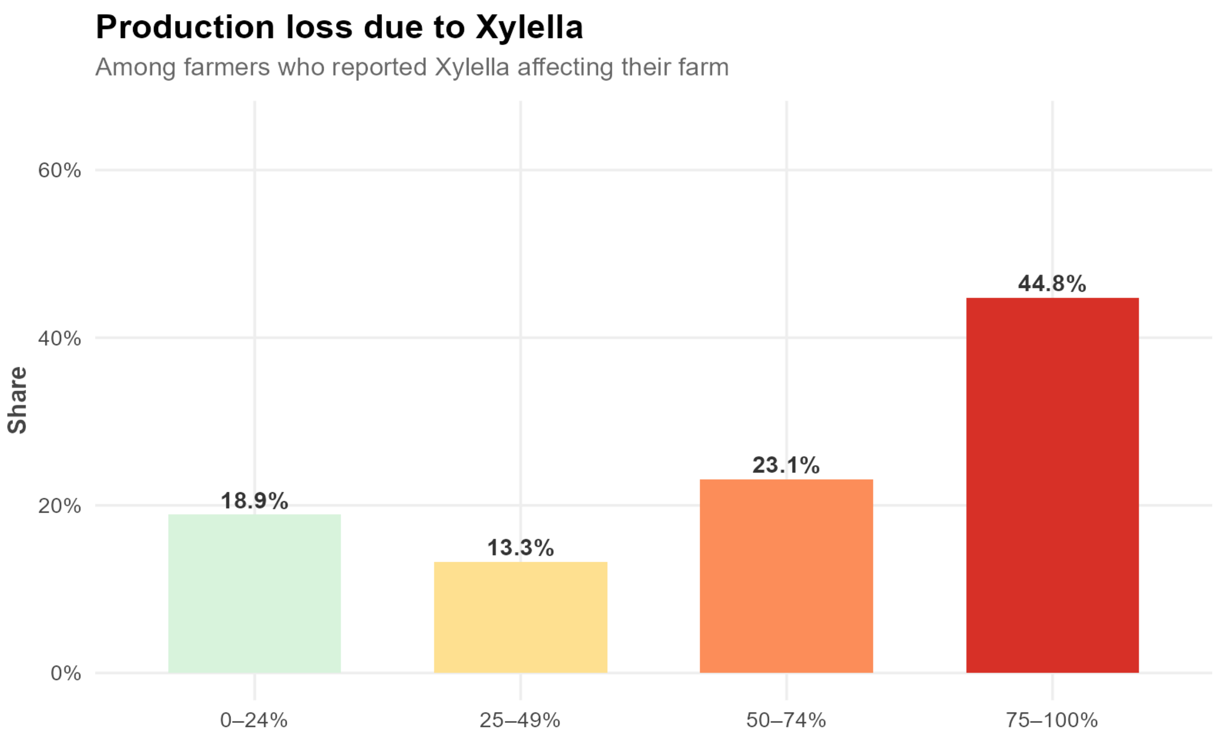
Xylella Awareness

Alicante respondents who had heard about Xylella

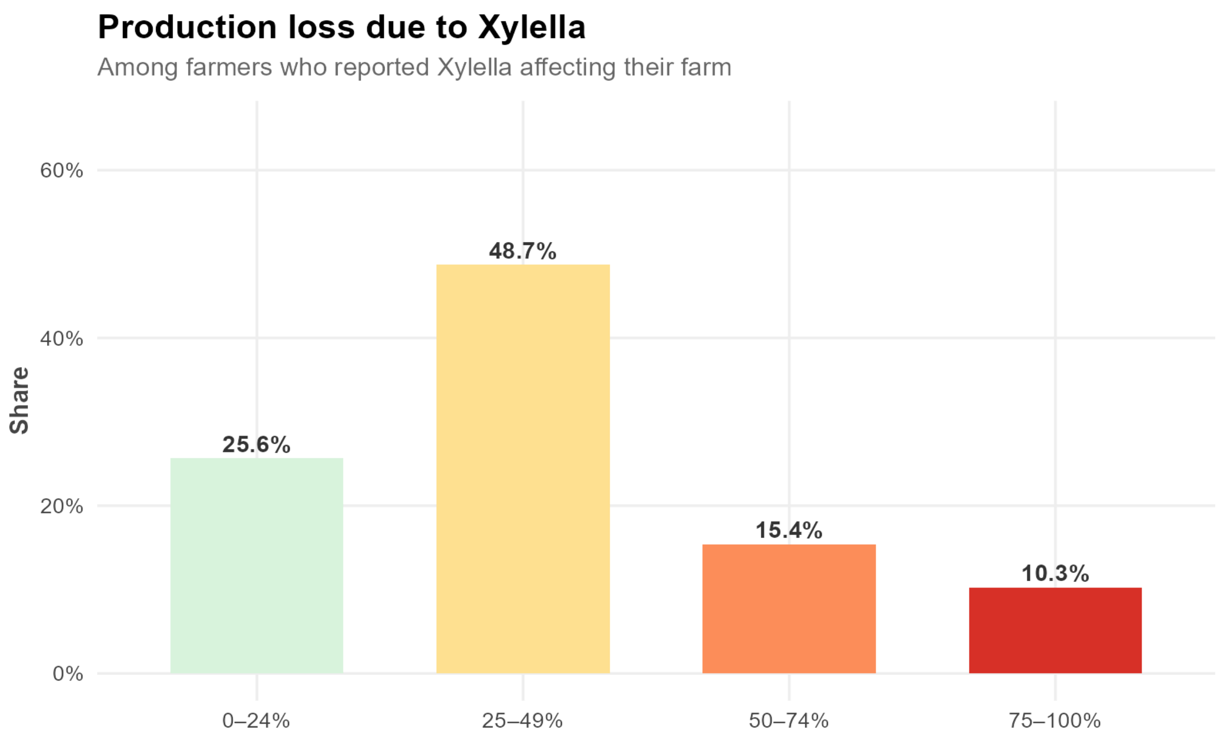


Production loss

Apulia

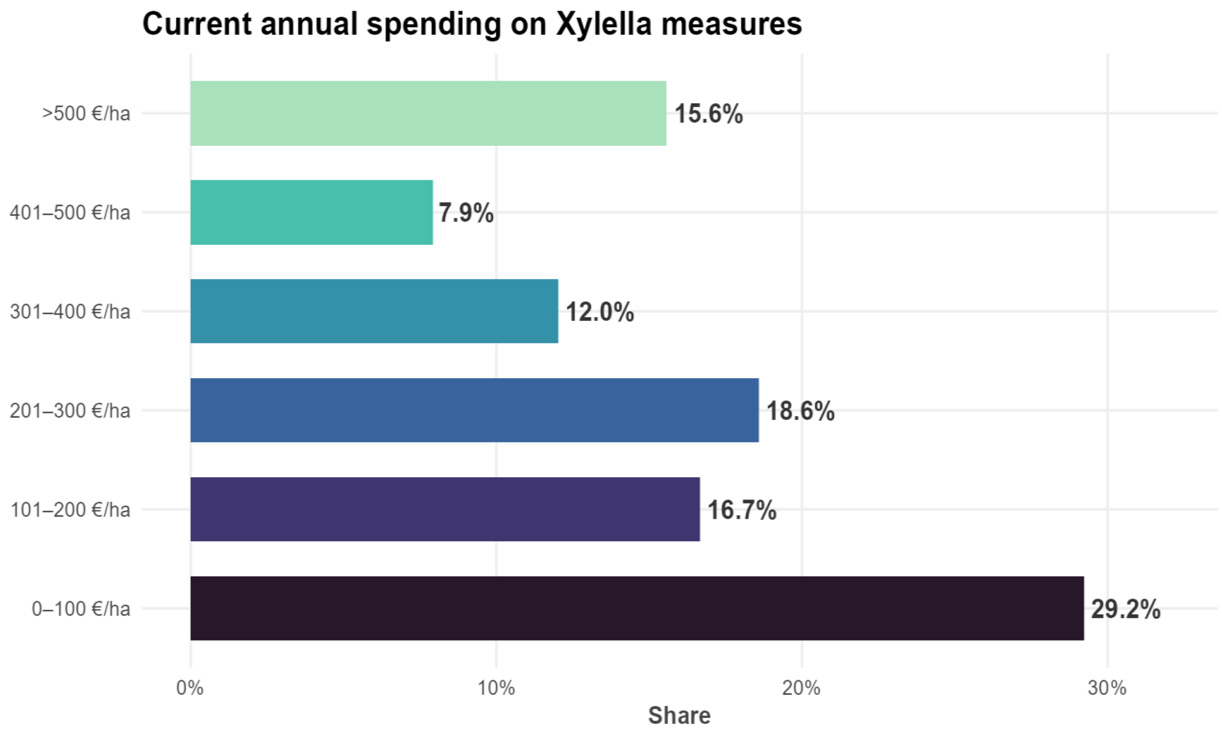


Alicante

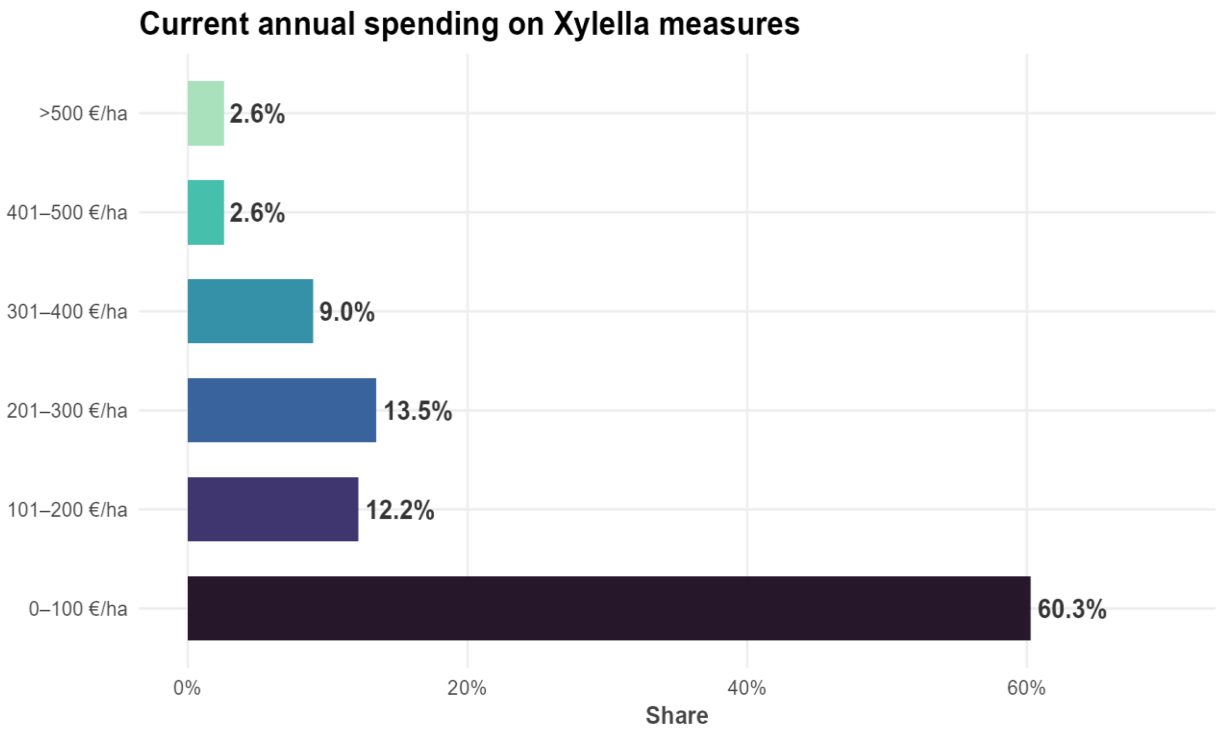


Spending on Xylella measures

Apulia



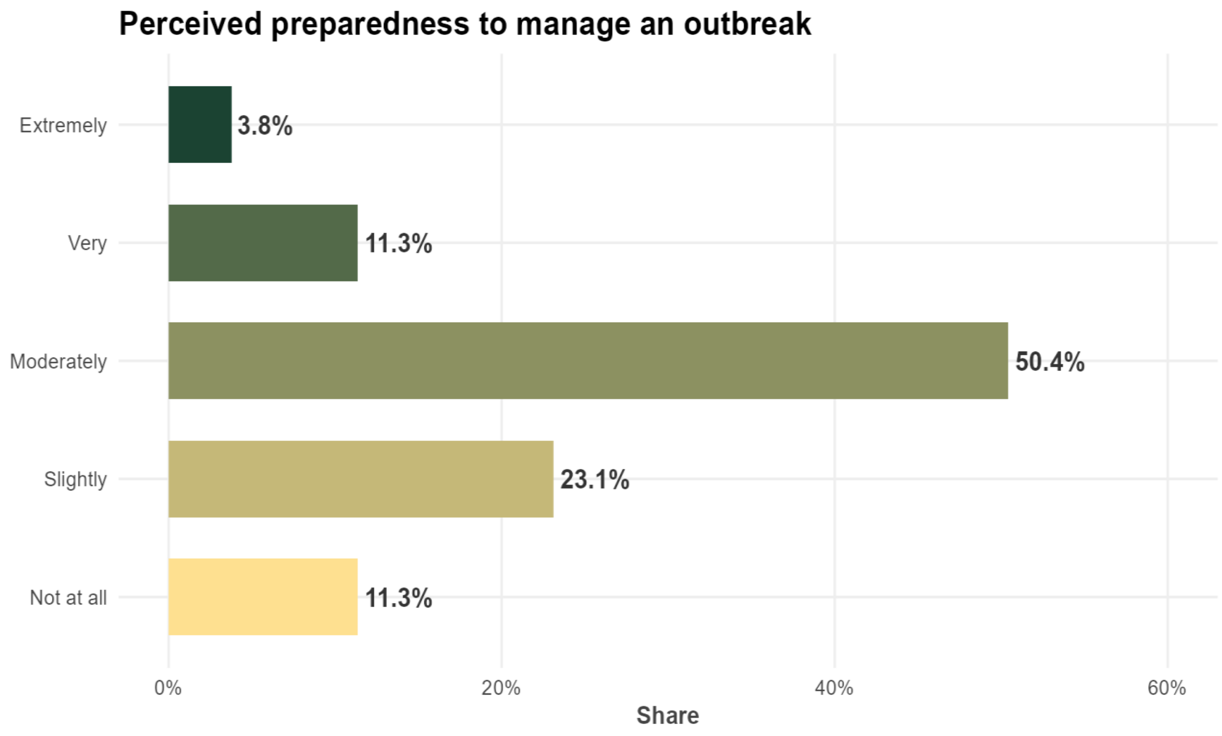
Alicante



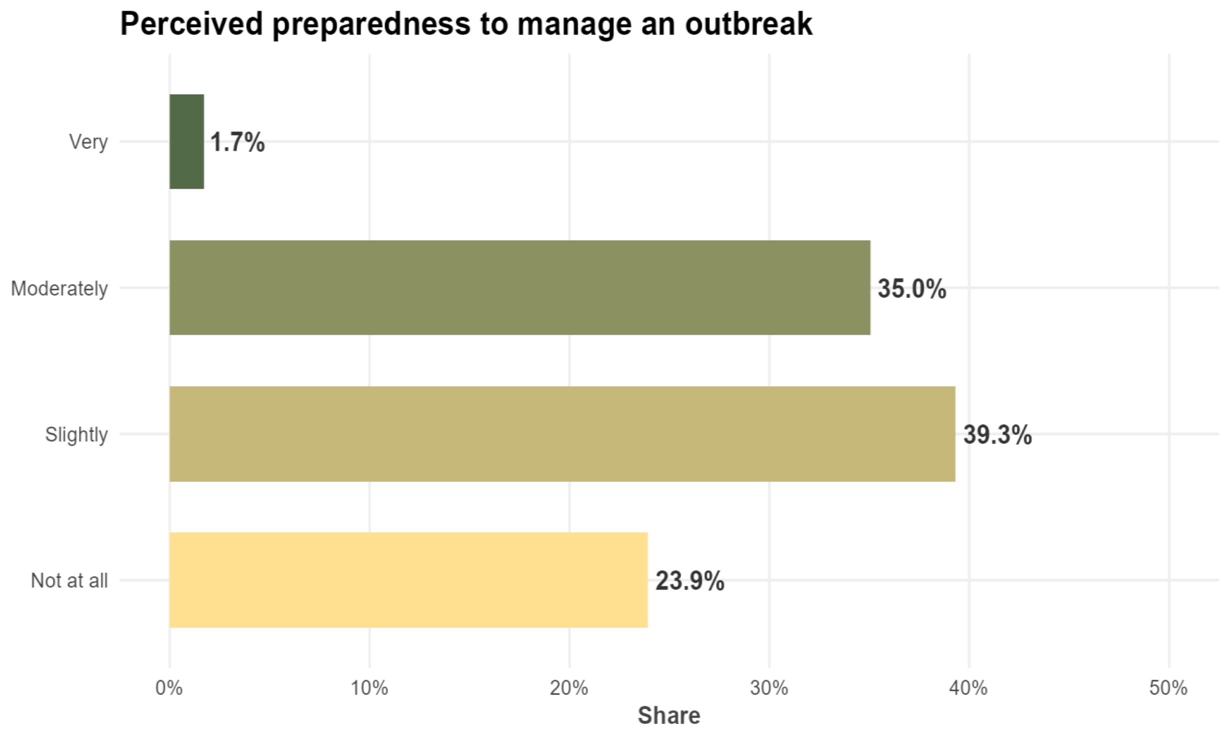
Perceived risk

DESCRIPTIVE STATISTICS

Apulia



Alicante



Results: MNL effect coding Apulia

Respondents: 399 | Choice sets: 2,394 | Parameters: 54

Parameter	Estimate	SE	z	p	Sig	WTA (EUR/ha)
asc_A	1.0086	0.1466	6.879	0.000	***	-602.09
asc_B	1.0147	0.1464	6.930	0.000	***	-605.70
asc_C	1.4893	0.1434	10.385	0.000	***	-889.04
v_fungi_ec	-0.0029	0.0463	-0.063	0.950		1.75
v_herb_ec	0.0794	0.0443	1.791	0.073	.	-47.41
p_extracts_ec	0.0288	0.0453	0.636	0.525		-17.17
p_varieties_ec	0.1679	0.0436	3.852	0.000	***	-100.25
red_prop	-0.0142	0.1111	-0.128	0.898		8.47
adopt_prop	-0.2372	0.1398	-1.697	0.090	.	141.60
subidies	0.6282	0.0938	6.696	0.000	***	—
v_parasitoids	-0.0765	0.0470	-1.628	0.103		45.67
p_peptides	-0.1967	0.0477	-4.120	0.000	***	117.42

Results: MNL effect coding Alicante

Respondents: 200 | Choice sets: 1,200 | Parameters: 54

Parameter	Estimate	SE	z	p	Sig	WTA (EUR/ha)
asc_A	1.6682	0.2481	6.723	0.000	***	-454.24
asc_B	1.4496	0.2507	5.782	0.000	***	-394.71
asc_C	1.8130	0.2475	7.324	0.000	***	-493.68
v_fungi_ec	-0.0684	0.0661	-1.034	0.301	-	18.63
v_herb_ec	0.0194	0.0654	0.296	0.767	-	-5.28
v_parasitoids	0.0490	0.0681	0.720	0.472	-	-13.35
p_extracts_ec	-0.1207	0.0685	-1.763	0.078	.	32.88
p_varieties_ec	0.1472	0.0657	2.239	0.025	*	-40.08
p_peptides	-0.0264	0.0704	-0.376	0.707	-	7.20
red_prop	**-0.7050**	**0.1645**	**-4.286**	**0.000**	***	**191.98**
adopt_prop	-0.2478	0.2087	-1.187	0.235	-	67.47
subsidies	1.3772	0.1419	9.702	0.000	***	—

Observed heterogeneity: similarities & differences across regions

Interactions effect

	Apulia		Alicante	
Covariate	**ASC effect**	**Subsidy**	**ASC effect**	**Subsidy**
Consequentiality belief	+++ (***)	n.s.	+++(***)	-(.)
Preparedness	---(***)	n.s.	-(.)	++(*)
Own farm affected	n.s.	+(*)	++(**)	n.s.
Intensive farming	--(**)	+(*)	n.s.	n.s.
Digital tools	++(**)	n.s.	+(*)	n.s.
Production loss	n.s.	n.s.	n.s.	+(*)
Spending on Xylella measures	++(**)	n.s.	n.s.	n.s.

Key takeaways

→ **Strong preference for active IPM**

Farmers in both Apulia and Alicante strongly prefer any active IPM strategy over the status quo, with the combined strategy (Alt. C) commanding the highest WTA.

→ **Resistant varieties preferred, subsidy sensitivity**

Resistant plant varieties are consistently preferred in both regions. In Alicante, farmers are more sensitive to subsidies.

→ **Pesticide reduction matters more in Alicante**

Pesticide reduction is a highly significant driver in Alicante but non-significant in Apulia — a key regional divergence.

Contact: Viola Di Cori — viola.di-cori@ec.europa.eu

BEXYL

Conservation dilemmas

Xylella fastidiosa and the future(s) of olive farming

Fabio Gatti
Wageningen University (Knowledge, Technology and Innovation group) /
University of Mons, Sociology and Anthropology Department
5th European Xylella Conference – Bari, 23–25 June 2026

Xylella fastidiosa
5th European conference
Bari, Italy | 22-26 June 2026

The Setting: Apulia's Olive Landscapes

60 million olive trees | 277,000 ha | 48% of Italy's olive oil output

- Some trees are centuries old and legally protected as "monumental olive trees"
- Olive farming = livelihood, cultural identity, and landscape heritage

2013: first detection in the EU of Xylella fastidiosa subsp. pauca

- EU phytosanitary emergency declared; activation of eradication measures
- Later association with the Olive Quick Decline Syndrome

But *X. fastidiosa* landed in a sector already under structural pressure:

- Declining profitability
- Labor scarcity: rural outmigration, aging farming population
- Global competition (Spain, Tunisia, Turkey) driving prices down
- CAP decoupling reduced incentives to actively cultivate

Traditional Apulian olive landscape (piana degli ulivi monumentali)

Ancient "monumental" olive tree

The Xylella outbreak: a heated story

A story of distrust toward science

nature > news > article

News | Published: 01 June 2015

Scientists blamed for olive-tree ruin

Alison Abbott

Nature **522**, 13–14 (2015) | Cite this article

nature > news > article

News | Published: 21 December 2015

Italian scientists under investigation after olive-tree deaths

Alison Abbott

Nature (2015) | Cite this article

Saving the Olive Trees?

PERSPECTIVES

ECOLOGY

Can Apulia's olive trees be saved?

An introduced plant pathogen proves difficult to contain in southern Italy

By **Rodrigo P. P. Almeida**

On 21 October 2013, the Italian phytosanitary service notified the European Commission (EC) that the plant pathogen *Xylella fastidiosa* had been detected in olive trees near Gallipoli, a tourist destination in Italy's southern region of Apulia (*1*). This xylem-limited bacterium is spread by insect vectors and causes disease in crops such as grapevines, citrus, coffee, and almond; various ornamentals; and trees such as oaks, elms, and sycamores. Because of the risks of *X. fastidiosa* being introduced, established, and spread throughout Europe, this species is a regulated quarantine pest. Yet, *X. fastidiosa* has been left unchecked and has marched northward, leaving destruction in its wake (see the photo) (*2*). The establishment of *X. fastidiosa* in Italy has been an agricultural, environmental, political, and cultural disaster.

The threat of *X. fastidiosa* to European and Mediterranean agriculture, forests, and ecosystems goes beyond specific crops such as grapevines or citrus. The current host range of this bacterium includes more than 300 plant species (*3*). Most of these species support some degree of pathogen multiplication without expressing symptoms. Susceptible hosts infected with *X. fastidiosa* often show disease symptoms only after months or years, although epidemics can spread fast and be devastating.

A phylogenetic study has shown that the genotype in Italy was likely introduced via contaminated plant material from Costa Rica (*3*). Several *X. fastidiosa*–infected coffee plants from Costa Rica have been intercepted at European ports since 2014, supporting this hypothesis (*4*). As a response, the EC in February 2014 approved European Union (EU) emergency measures aimed at preventing the introduction and spread of *X. fastidiosa*. Since May 2015, the import of coffee plants from Costa Rica and Honduras into the EU has been forbidden. Limiting the introduc-

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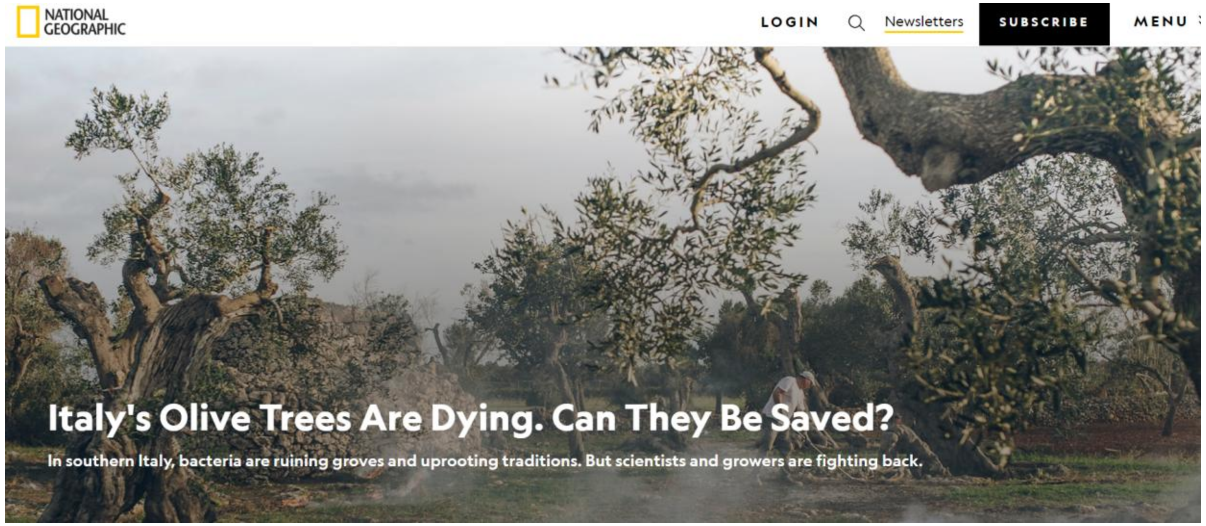

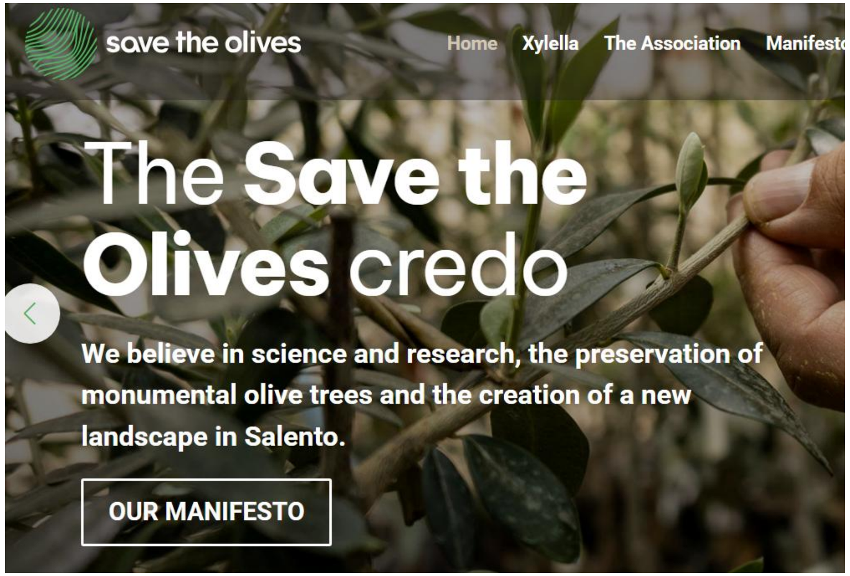

Saving the Olive Trees?

"In the 1990s, just as I was becoming aware of my social, political, and ecological surroundings, salmon runs hit all-time lows, and fishing seasons were canceled. The situation was so dire that several salmon populations hovered on the brink of extinction. Soon, several kinds of salmon – once our town's staple – were listed under the federal Endangered Species Act. It is hard to capture the sense of emergency that these fish declines provoked. Salmon were not just an economic resource; they were the stuff of our lives. Hardly a day passed when the town's newspaper did not have a story about the waning numbers of the fish. Although almost everyone agreed that we needed to "save the salmon" in order to revitalize our region, no one could agree on what to do. A big part of the problem, we soon realized, was that there was no consensus about what should be "saved" – and no consensus about what counted as a salmon"

Swanson, H. A. (2013) Caught in Comparisons: Japanese Salmon in an Uneven World, PhD thesis, University of California, Santa Cruz

Different olive trees interacting on the territory

Production asset

Symbolic and emotional value, family memory, conviviality

Aesthetic/landscape value (cultural heritage, tourism)

Before asking: Can Apulian Olive Trees Be Saved, we need to ask: Which Olive Tree Do We Want to Save? (And importantly, who is this we?)

Production asset

Symbolic, embodied and emotional value, “traditions”

Aesthetic/landscape value (cultural heritage, tourism)

The dilemma: sustaining olive trees as both competitive agricultural crops AND elements of biocultural landscapes entails incompatible trade-offs under current market and policy conditions.

Three Responses to the Disease: Different Visions of Olive Futures

1. Restructuring for Competitiveness

Uproot diseased trees, replant with tolerant cultivars (*Leccino*, *FS-17*)
Super-intensive systems (1,500 trees/ha), mechanical management operations
replanting subsidies; bank financing; agribusiness backing
Saves olive farming as a sector; transforms the landscape; goes hand-in-hand with discourses around precision agriculture/Agriculture 4.0; no mention of unforeseen environmental impacts

2. Reshaping for Preservation

Insert tolerant cultivar scions onto monumental trunks to preserve majestic shapes
€250/tree + €100–150/yr; 3–5 yr non-productive phase
Adopted mainly by affluent owners (e.g., Save the Olives association)
Preserves individual specimens; cannot scale to millions of trees

3. Re-caring for Conservation

Bio-stimulants, (partial) antibacterial treatments, good agronomic practices
Require intensive and frequent interventions;
Mainly based on the proof-of-principle that trees can be kept "alive", but underemphasizing their productive, income-sustaining role;
No public support; mainly part-time farmers/non-farm incomes; low scalability without institutional backing

Who Can Afford to Save the Trees? The Political Economy of Care

- The more a set of practices goes in the direction of (attempting) to preserve traditional landscapes, the more complicated it becomes to generate income with it

“Class differentiation of care”:

- Labor-intensive landscape stewardship concentrates among affluent actors with mainly extra-agricultural income (tourism operators, hobby farmers, philanthropists)

Farmers dependent on olive income face a stark trade-off:

- Restructure (→ survive economically, but lose the traditional landscape)
- Preserve/coexist (→ face often unsustainable additional costs)

Policy gap:

- Subsidies strongly favor intensive replanting
- Grafting and coexistence protocols receive less or no public support

Without serious redistribution mechanisms: traditional olive landscapes will survive only for the few

Some key questions

Even if treatments (or grafting) work, they have a (sometimes very high) cost.
A more *political* question arises: who should/will be able to sustain that cost?

A <u>corollary</u> question arises: **should (ancient) Apulian olive trees (with their low productivity) be saved at all?** If yes, need to start seeing them as *biocultural heritage* (and as such, subsidizing them with instruments that counteract market dynamics) → without public support, traditional Apulian olive landscapes are destined to become a remnant of a (once productive) past instead of active components of agricultural *presents*

Ultimately, the question becomes: **what futures do we imagine for olive farming in Apulia?**
More of the same (olive monoculture, more intensive, more precisely controlled, more attentively managed), or rather something else?

Final (broader) remarks

The Olive Quick Decline Syndrome in Apulia is not only a phytopathology but a socio-phytopathology (Colella et al., 2019) → Need for more sustained collaborations between social scientists and natural scientists (the *X. fastidiosa* story in Apulia is also a story of failed, unsuccessful dialogue).

We as social scientists (and humanists) need to tell better stories → stories that foster dialogue rather than reinforce and exacerbate (existing) polarizations.

As natural scientists → need to abandon the (false) ideal of "neutrality of Science" (if you have it)
Science is political (in both its effects on society and in the social dynamics that shape its production).
Recognizing this does not delegitimize science but rather increases transparency and provides grounds for stronger "objective" claims (Harding, 1995).

Technical responses to X. fastidiosa are necessary, but not sufficient.
The long-term fate of Apulian olive groves depends on the social, political and economic conditions that determine which coexistence practices can be materially (and financially) sustained.

***Saving olive trees is not only about the trees —** it is about the agrarian worlds in which they are embedded, and the political choices that make some socio-ecological futures possible while foreclosing others.*

Featured Publications

Received: 1 August 2025 | Revised: 7 January 2026 | Accepted: 18 January 2026
DOI: 10.1002/ppp3.70176

Plants People Planet PPP

RESEARCH ARTICLE

Epistemic diversity and the politics of knowledge in plant disease management: Insights from the *Xylella fastidiosa* epidemic in southern Italy

Fabio Gatti | David Ludwig | Phil Macnaghten

Geoforum 171 (2026) 104570

Contents lists available at ScienceDirect

Geoforum

journal homepage: www.elsevier.com/locate/geoforum

Saving the Olive Trees? Ontological Politics and Plant Disease Governance in Apulia, Southern Italy

Fabio Gatti, David Ludwig

Knowledge, Technology and Innovation group, Wageningen University, The Netherlands

Plant disease detonators: Lamp oil, agrarian change, and the historical-material making of the Xylella fastidiosa outbreak in southern Italy

Fabio Gatti

2026-05-02 Volume 33 · Issue 1 · 2026

Plants, People, Planet | 2026

Epistemic diversity and the politics of knowledge in plant disease management: Insights from the Xylella fastidiosa epidemic in southern Italy

Fabio Gatti, David Ludwig & Phil Macnaghten

Shows how the X. fastidiosa controversy in Apulia involved competing knowledge claims and was shaped by deeper struggles over who gets to define legitimate science in plant health policy.

Geoforum 171: 104570 | 2026

Saving the olive trees? Ontological politics and plant disease governance in Apulia, Southern Italy

Fabio Gatti & David Ludwig

Examines how different “ontologies” of the olive tree — what it fundamentally is — shaped competing (and conflicting) responses to the epidemic.

Journal of Political Ecology

Plant disease detonators: Lamp Oil, Agrarian Change, and the Historical-Material Making of the Xylella fastidiosa Outbreak in Southern Italy

Fabio Gatti

JPE 33(1): 8341, 2026

Argues that the X. fastidiosa outbreak was rooted in centuries of agrarian history and the result of a broader socio-ecological breakdown: the same political-economic forces that made olive oil a global commodity created the conditions for the epidemic’s spread.

Gatti, F. (under review) Conservation dilemmas: Xylella fastidiosa and the future(s) of olive farming

Thank you!

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‘PLANT HEALTH FOR LIFE’

Filippo Positano

Communication Officer, EFSA

EUROPEAN FOOD SAFETY AUTHORITY

BEXYL BEYOND XYLELLA

EUPHRESCO III

CIHEAM BARI

Consiglio Nazionale delle Ricerche
Istituto per la Protezione Sostenibile delle Piante

REGIONE PUGLIA

CONTEXT: Designed to support risk communication on plant health

COMMUNICATION APPROACH: Making scientific knowledge accessible and actionable

AIM: Turning awareness into informed preventive behaviour

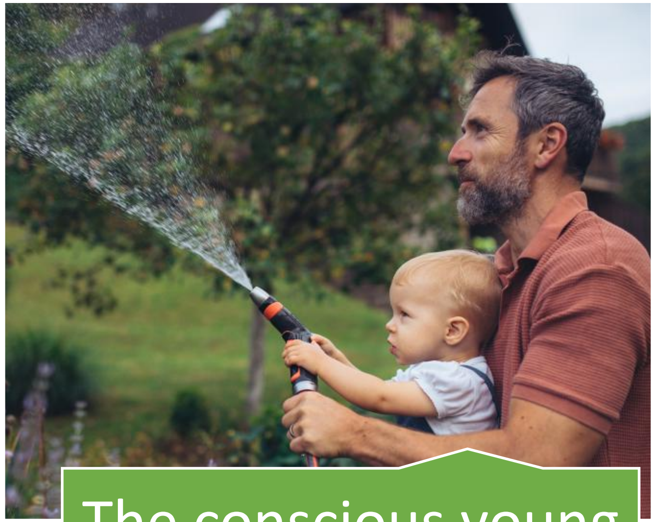
Target audiences

The curious traveller

May unknowingly carry pests across borders through plants or plant products

The home gardener

Influences plant health through everyday gardening and small-scale farming practices



The conscious young parent

Connects plant health with environmental protection and responsible choices

KEY MESSAGES

Everyday relevance

Plant health
affects daily life

Shared responsibility

Everyone
has a role

Preventive action

Protect plants from
pests and diseases

From 12 countries in 2023 to 33 in 2026 — a growing campaign across and beyond the EU

How the approach evolved

From **awareness** to **behaviour-oriented** communication

2023-2024

Awareness & Engagement

2025

Advocacy

2026

Consolidation

ACTIVITIES

2025

732 media hits, including TV, radio and digital media

193 inputs via **54 stakeholders** engaged

52 events engaging with all target audiences

Out-of-Home: 87M contacts in 13 countries

Influencers: 1.2M users reached

5.2% engagement rate

- **Social Media: +30M** users reached

IMPACT 2025

BROAD REACH	CAMPAIGN CLARITY	CAMPAIGN RECOGNITION
• A balanced media mix delivered strong reach, with **social media** and **out-of-home** standing out as the main recognition touchpoints.	• The campaign was seen as **clear and appealing**, with **77% of recognisers** correctly recalling key messages.	• Recognition rose to **39%**, a significant increase from **33%** the previous year.

And after?

Campaign assets remain available

Consider **insights** from evaluation to inform future activities

Capitalise on **collaborations** developed

Continue collaborating with **partners**

Stay connected

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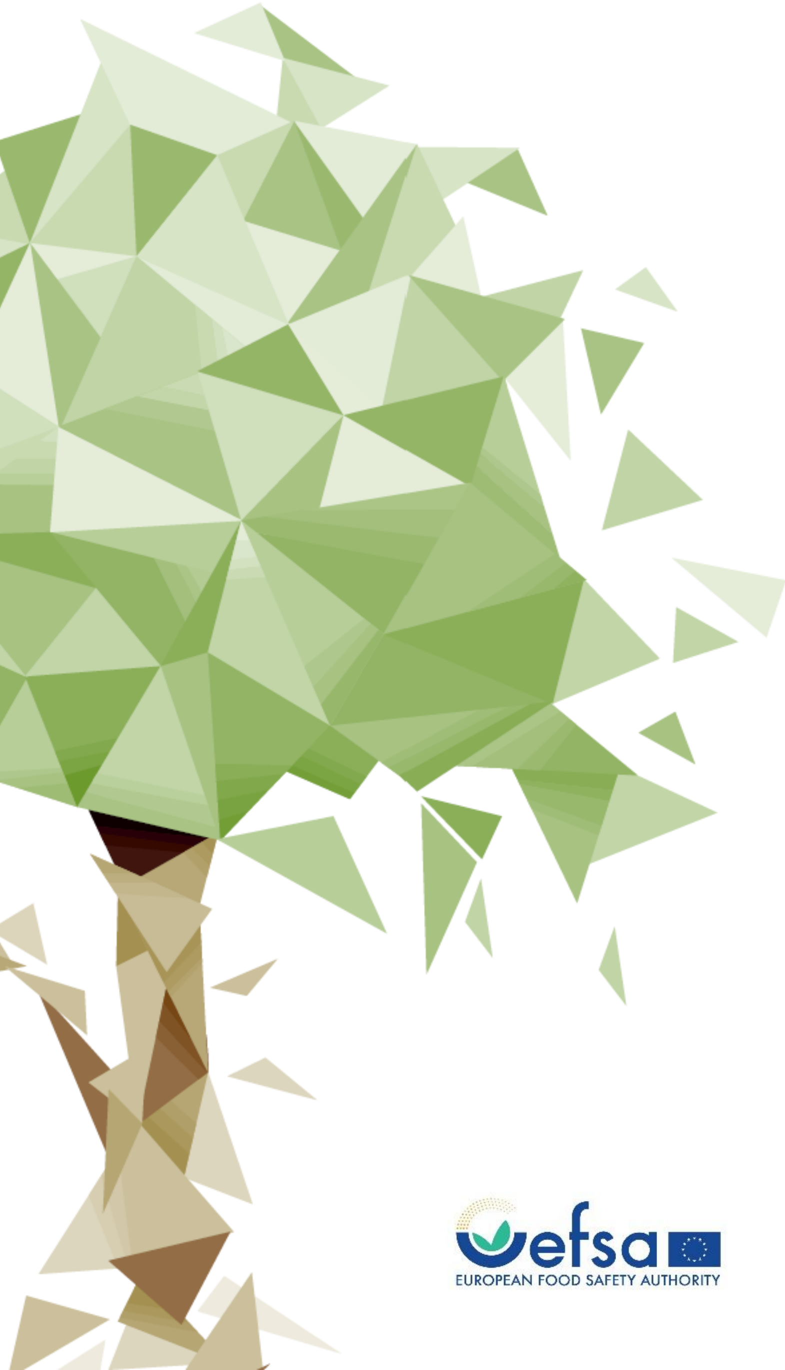

Xylella fastidiosa

5th European conference

Bari, Italy | 22-26 June 2026

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EUPHRESCO III

CIHEAM BARI

IPSP Consiglio Nazionale delle Ricerche Istituto per la Protezione Sostenibile delle Piante

REGIONE PUGLIA

WAGENINGEN UNIVERSITY & RESEARCH
UMONS Université de Mons

MAPPING RESEARCH GAPS ON *XYLELLA FASTIDIOSA*

toward a socio-ecological perspective for Apulia

©Edward Burtynsky

Livia Maltese
Poster number: 112

UMONS
Université de Mons

Methods

Scopus research

- Query: *Xylella fastidiosa* AND Apulia/Puglia/Salento

Categorisation

- Based on the field of study and research questions

Review

- 250 papers (2013-2026)

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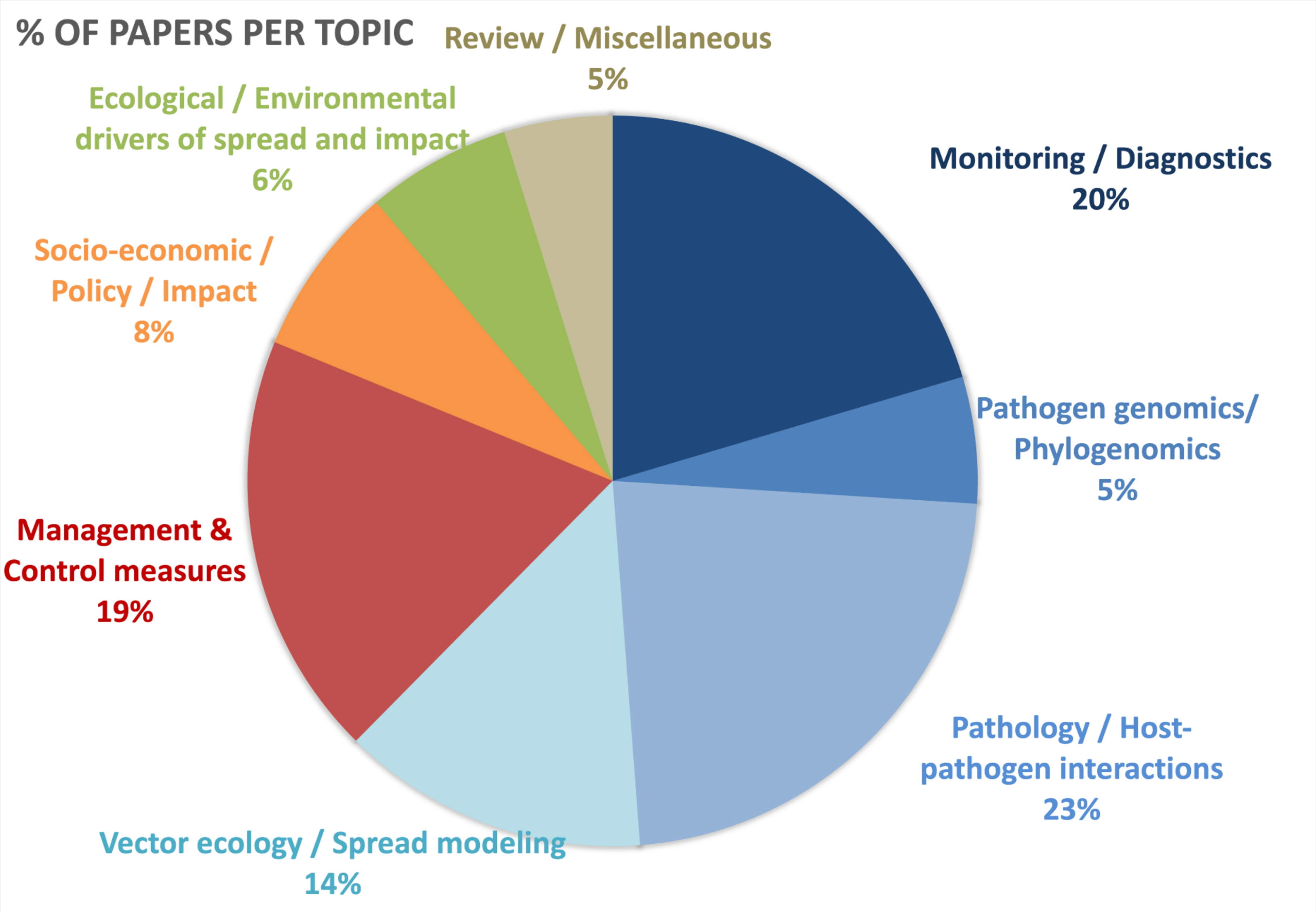
Results



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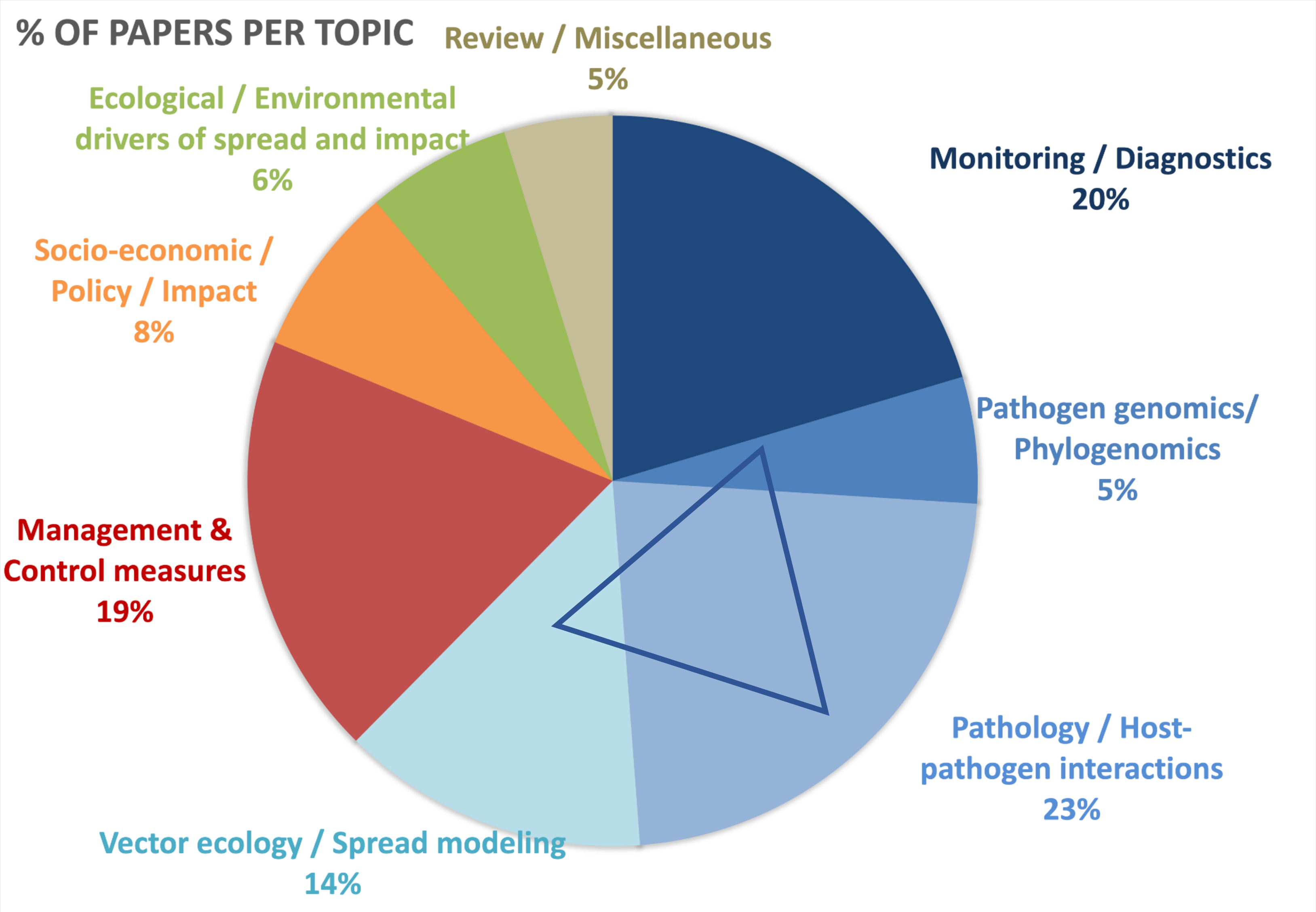
Results



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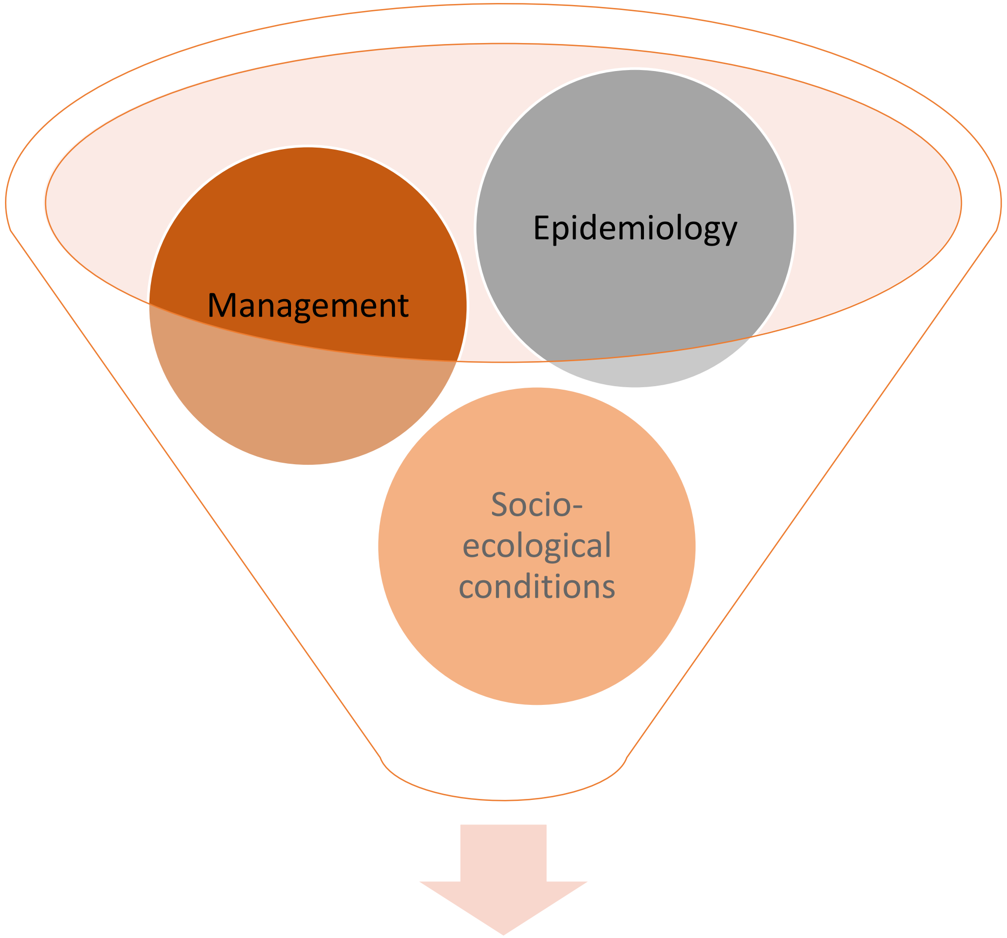
Conclusions



integrated response

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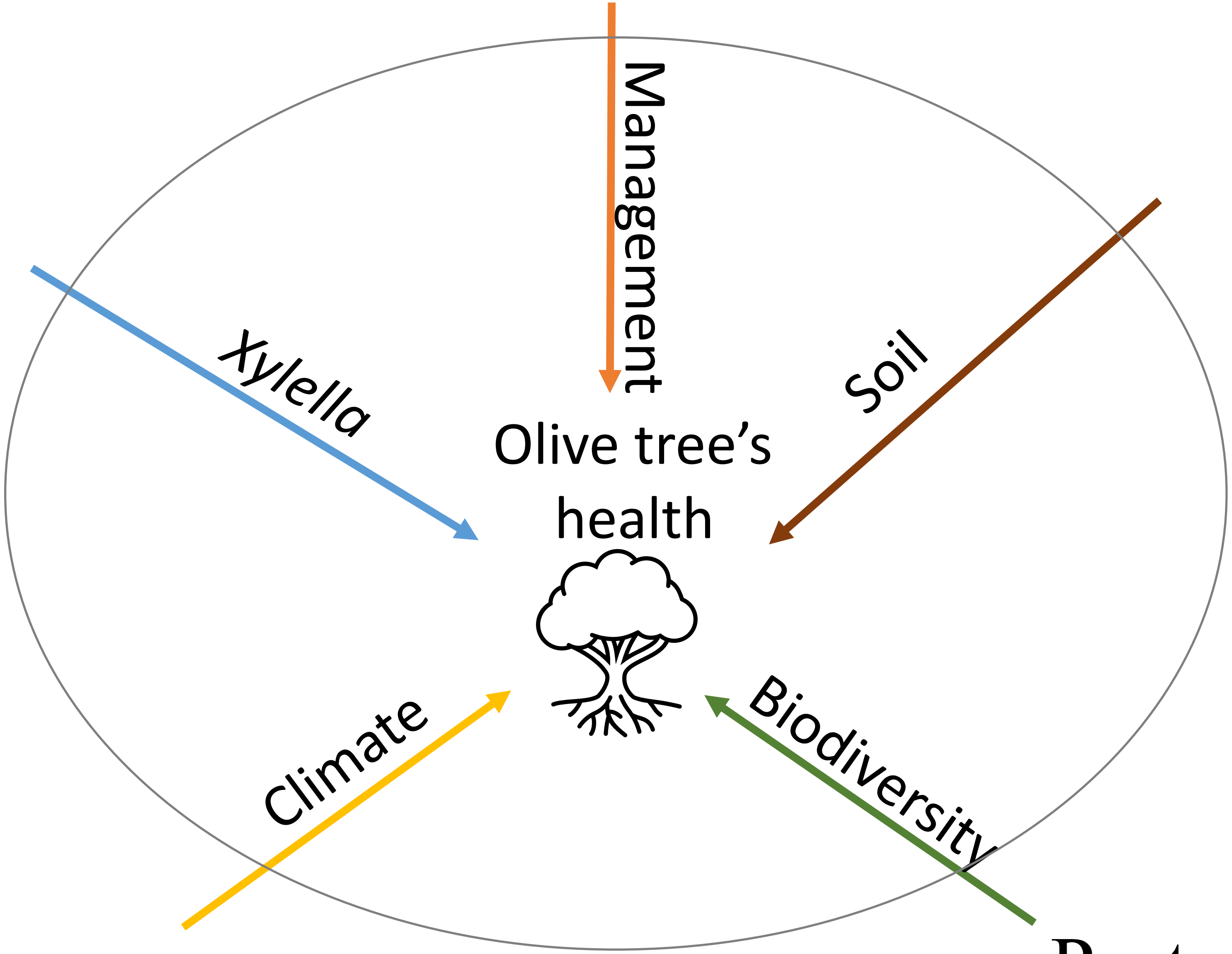
My approach within my PhD (2025-2029)



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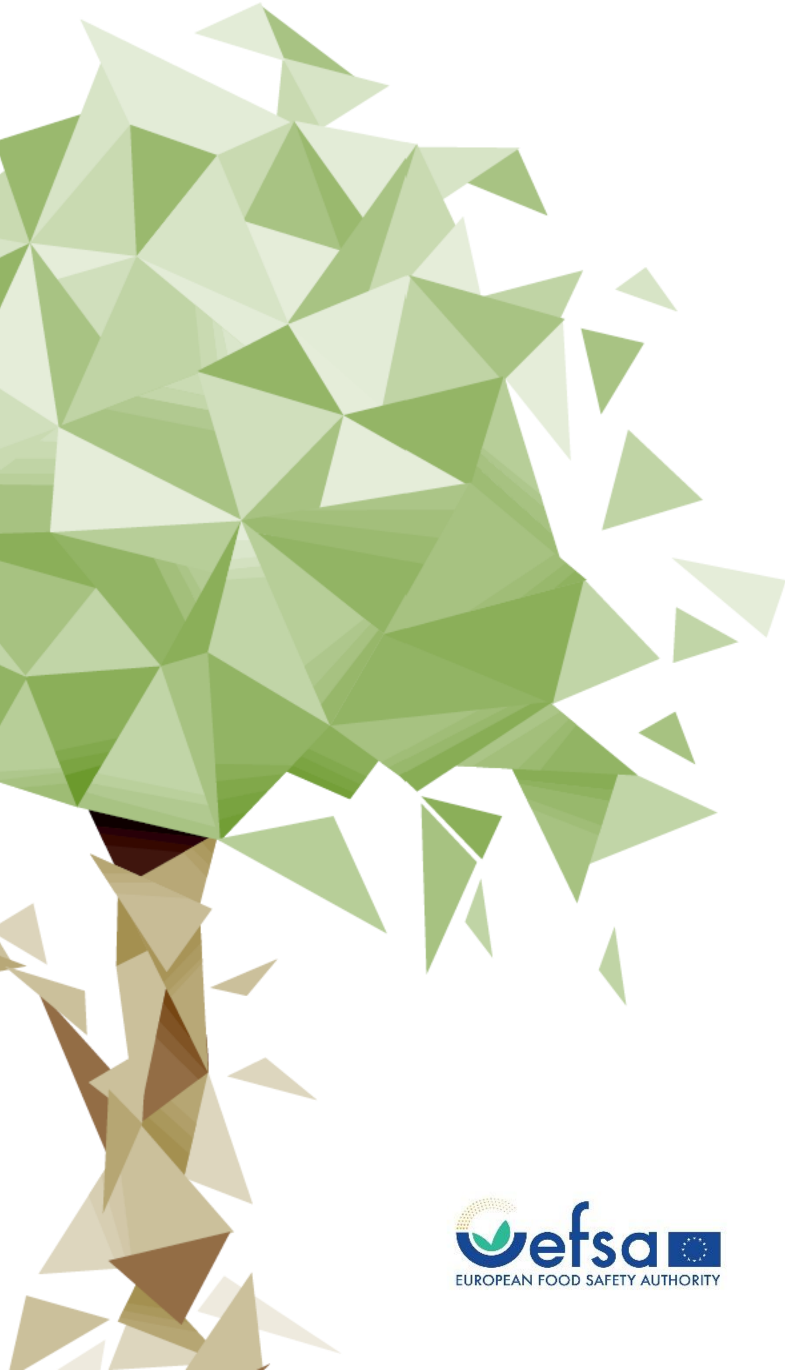

Xylella fastidiosa

5th European conference

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REGIONE PUGLIA

Social Dimensions of managing *Xylella fastidiosa*: insights from stakeholders

H. Marshall, G. Van Der Wielen, R. Orchard, K. Spencer, C. Pollard, M. Marzano

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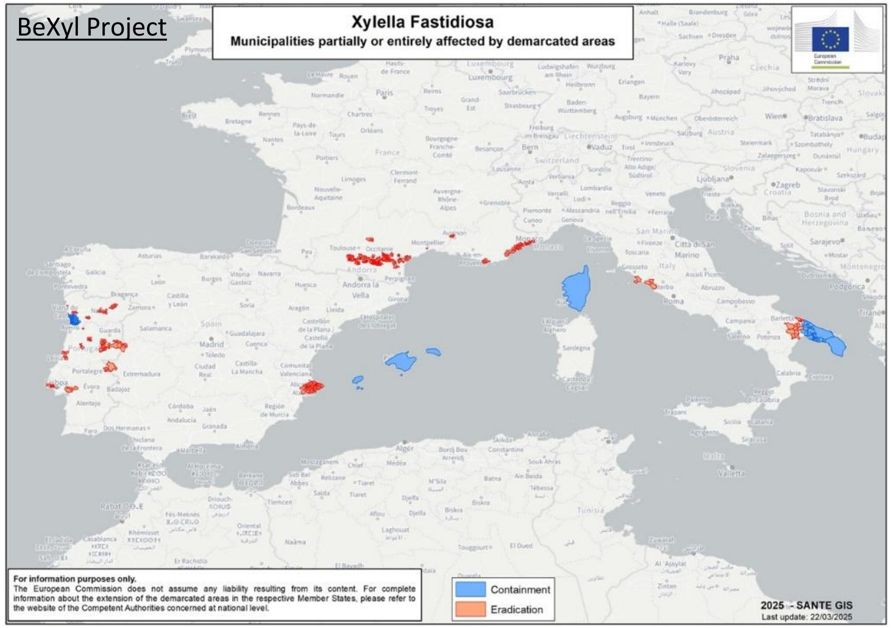
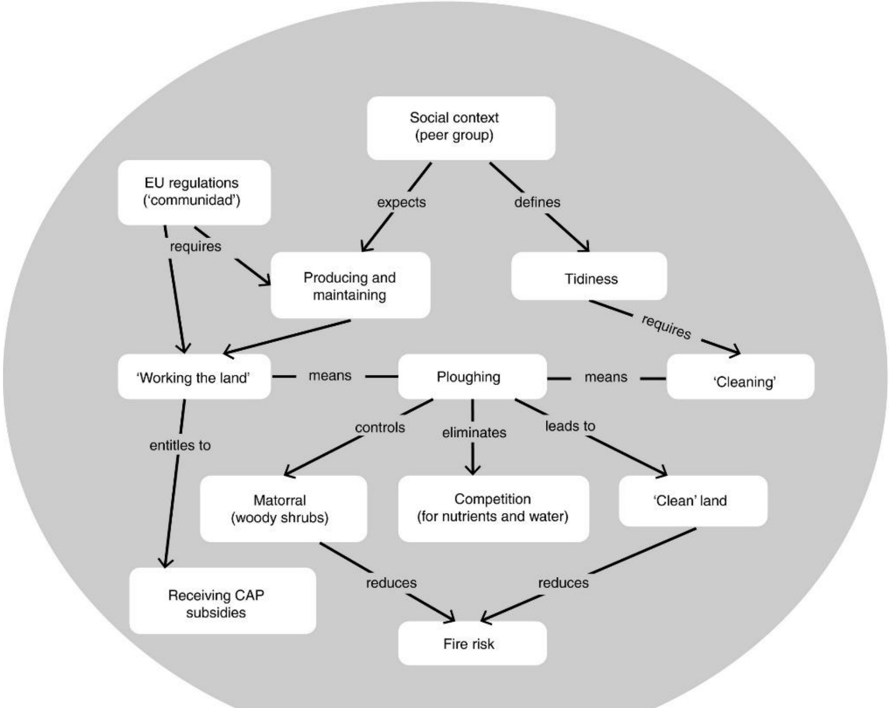
Forest Research

Xylella fastidiosa is one of the most impactful plant pathogens

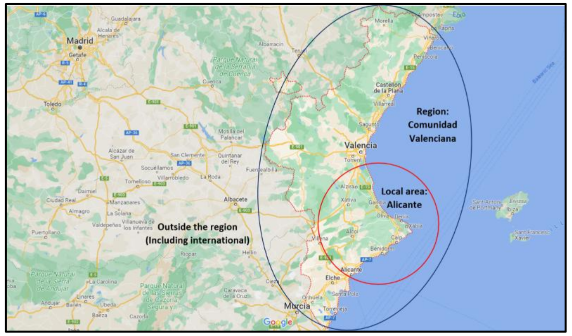


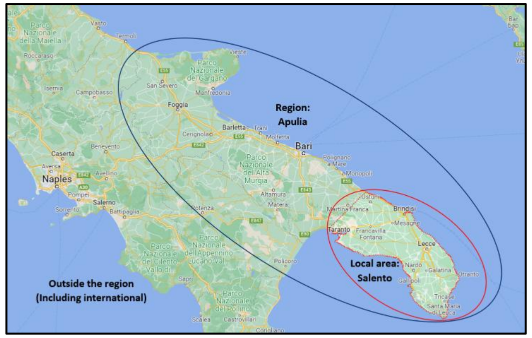
We sought to inform preparedness by mapping stakeholders' mental models



Using mental models to understand soil management - Prager (2016)

Comparative qualitative research across epidemiological stages





	Córdoba	Alicante	Salento
***Xf* status**	Not present	*Xf sub. multiplex* Found in 2019	*Xf sub. Pauca* Found in 2013
Crops at risk/ affected	Olives, almonds	Almonds	Olives
Management of *Xf*	Monitoring	Eradication	Containment
Completed fieldwork	March 2024	February 2025	April 2025
Sample info	N= 48	N= 41	N= 57

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Three distinct perspectives

Córdoba	Alicante	Salento
anticipating potential impacts of Xf	struggling to imagine a future	starting to actively move on to a future

Preparedness is social as well as biological

- One-size-fits-all approaches won’t work
- Preparedness frameworks should integrate social insights early on
- Co-producing IPM solutions

Thank you!

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https://www.uco.es

ENA
ENA – European Nurserystock Association
https://www.enaplants.eu/

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Forest Research

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