Italy

- Bari
- Gagliano del Capo
- Ugento
- Parabita
- Gallipoli
- Brindisi
- Fasano
- Ostuni

Surveillance/Project Team:

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- Dr Maria Saponari
- Team at ISSP-CNR (Istituto per la Protezione Sostenibile delle Piante, Bari, Italy
- Dr Blanca Landa

Bari, Italy

- *Xylella fastidiosa* first detected in 2013, first known occurrence in olive
- *Xylella fastidiosa* subsp. *pauca*, sequence type (ST) 53
- Traced to a coffee plant imported in 2008
- *Philaenus spumarius*, meadow spittle bug, is the primary vector
- *Philaenus spumarius* can infect the same tree multiple times, these insects can cause a super spreading event, which is what occurred in Italy

- In the infected zone there is a 50 m removal of suspectable hosts
- Old olive trees are more suspectable
- In old trees first symptoms to death is ~ 2 years
- The spittlebug will continually feed on infected trees and keep reinfected them, increasing the infection rate
- The weather is impacting the insect load and the bacteria’s performance in the plant


GALLIPOLI 8
Mancaversa 6
MATINO 8
LECCE 45
LIDO PIZZO
Marina di Gallipoli





Diagnostics

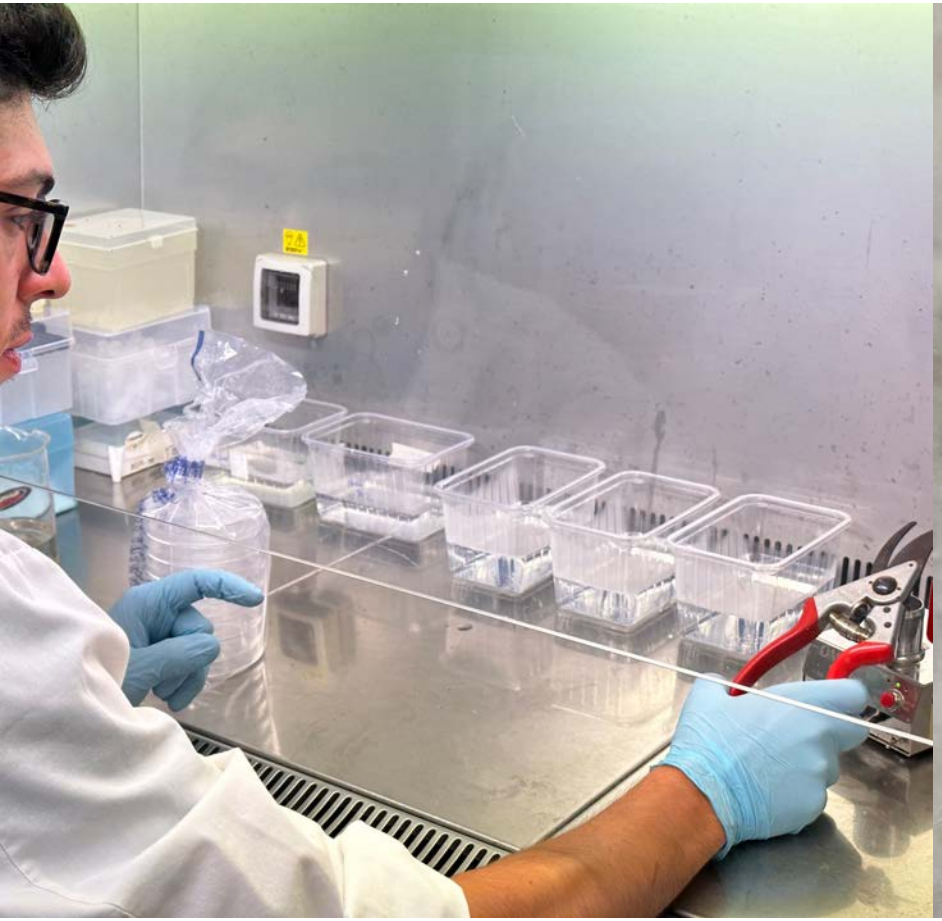
- LAMP & RPA are only used on symptomatic material
- Vectors are only processed with molecular assays, never for isolation
- 5 insects can be pooled
- Asymptomatic testing they collect 4-10 branches per tree
- Process 0.5-0.8 g xylem tissue
- Wash samples with soap and water before processing and dry with paper towel
- Can store homogenate up to 5 days in the fridge for reprocessing

Research into Resistant Varieties

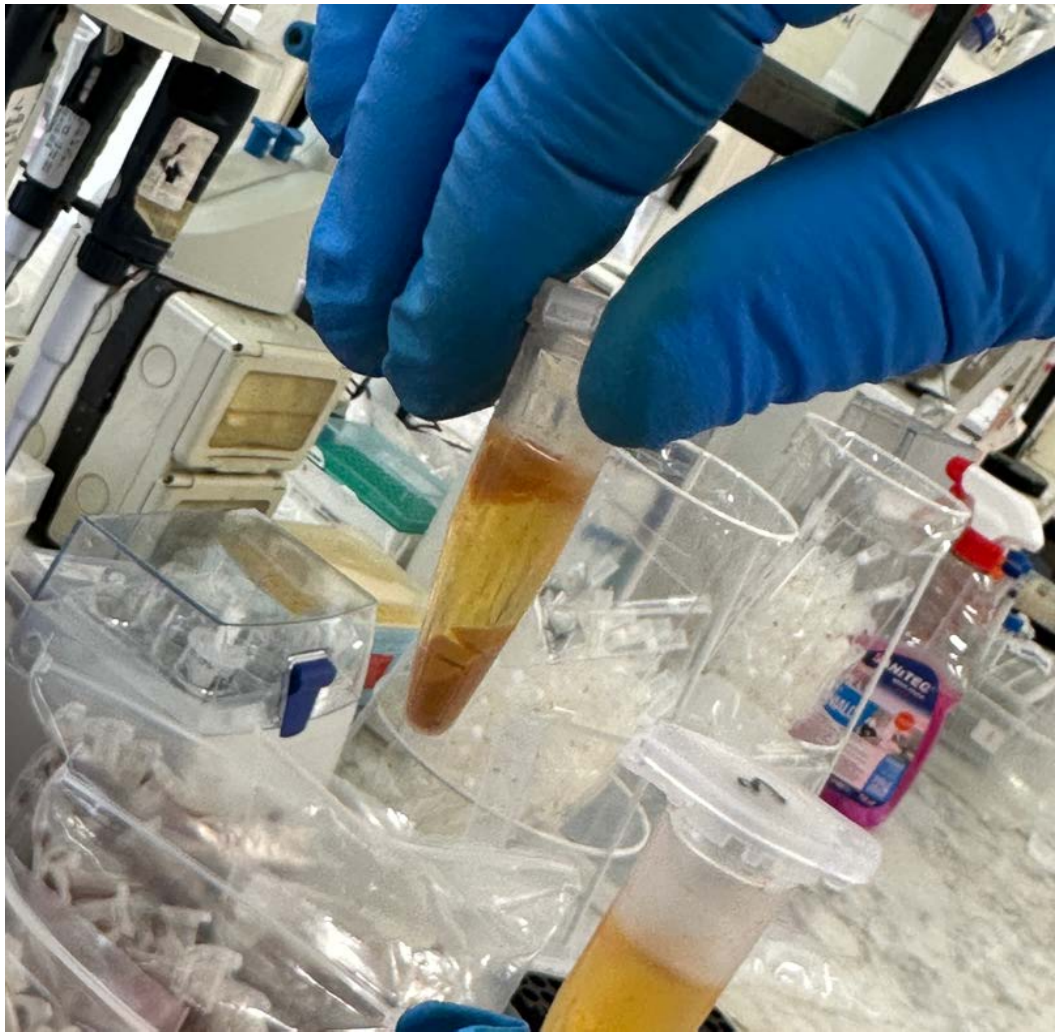
– Note these still contain *Xylella fastidiosa,* but at reduced levels and no symptoms

Diagnostics

Isolation from olive stems



Promega Maxwell – automated extraction



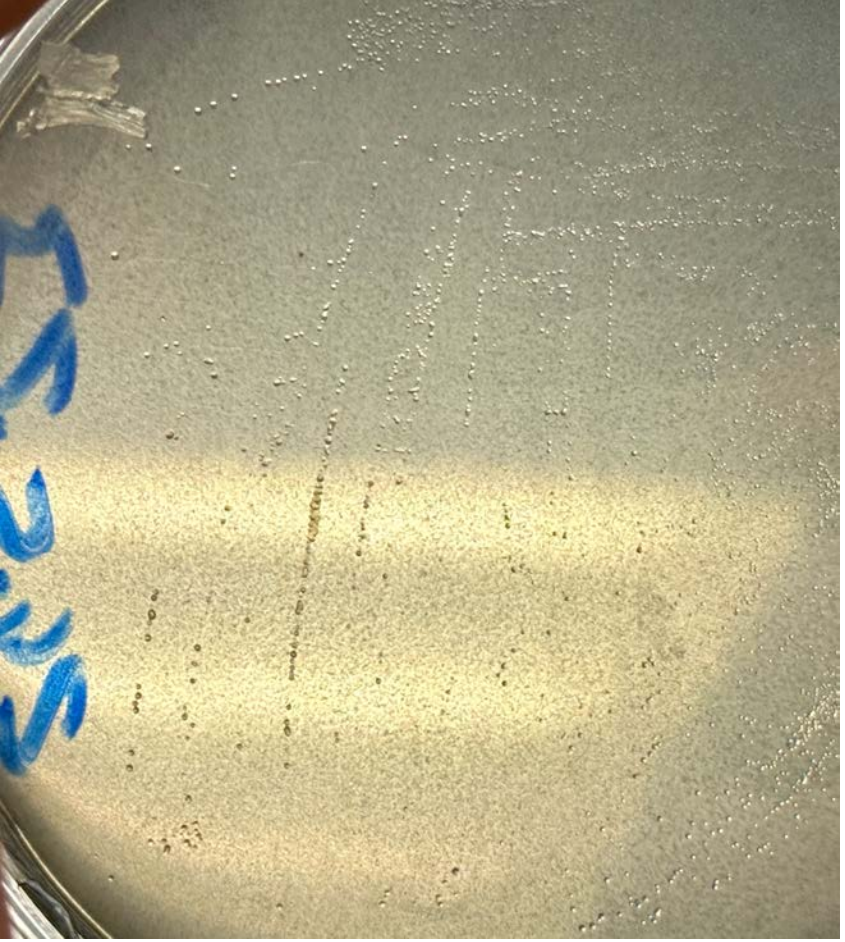
Spain - Alicante

- First detected in 2017
- All *Xylella* subspecies are present in Spain e.g. Mallorca fastidiosa & pauca, Alicante – multiplex
- *Philaenus spumarius*, meadow spittle bug, is the main vector, but Neohilanenus campestris can also transmit *Xylella fastidiosa*. It is currently believed that this is a less efficient vector (5-7% carriage), however it is distributed widely across Spain.
- *Neohilanenus campestris* can infect hosts like oleander, which are in large numbers in Europe
- All hosts within 50 m are being removed
- Herbicide is then applied to the trunks and insecticide used on the vectors

Spain - Alicante

- Almond trees tested positive for *Xylella fastidiosa* subsp *multiplex*
- Olive and citrus trees are not affected in Alicante
- ST is driving host range in the different countries
- *Xylella fastidiosa* in Alicante was a sleeper pathogen
- Tree ring testing shows that *Xylella fastidiosa* was introduced in 1993, propagation is the main mode of transmission in this area
- Spread has occurred through vegetative propagation of infected material

Spain – Almonds, Golden Death



Valencian Institute for Agricultural Research (IVIA)

- Also using Promega Maxwell
- RPA assay
- Sonication for DNA extraction!
- Experimental work with bacteriophage