



Testing of net based protection systems of olive trees against the vector of *Xylella fastidiosa*

**Castellano S.¹, Di Palma A. M.¹, Germinara G. S.¹,
Lippolis M.², Scarascia Mugnozza G.³, Starace G.⁴**

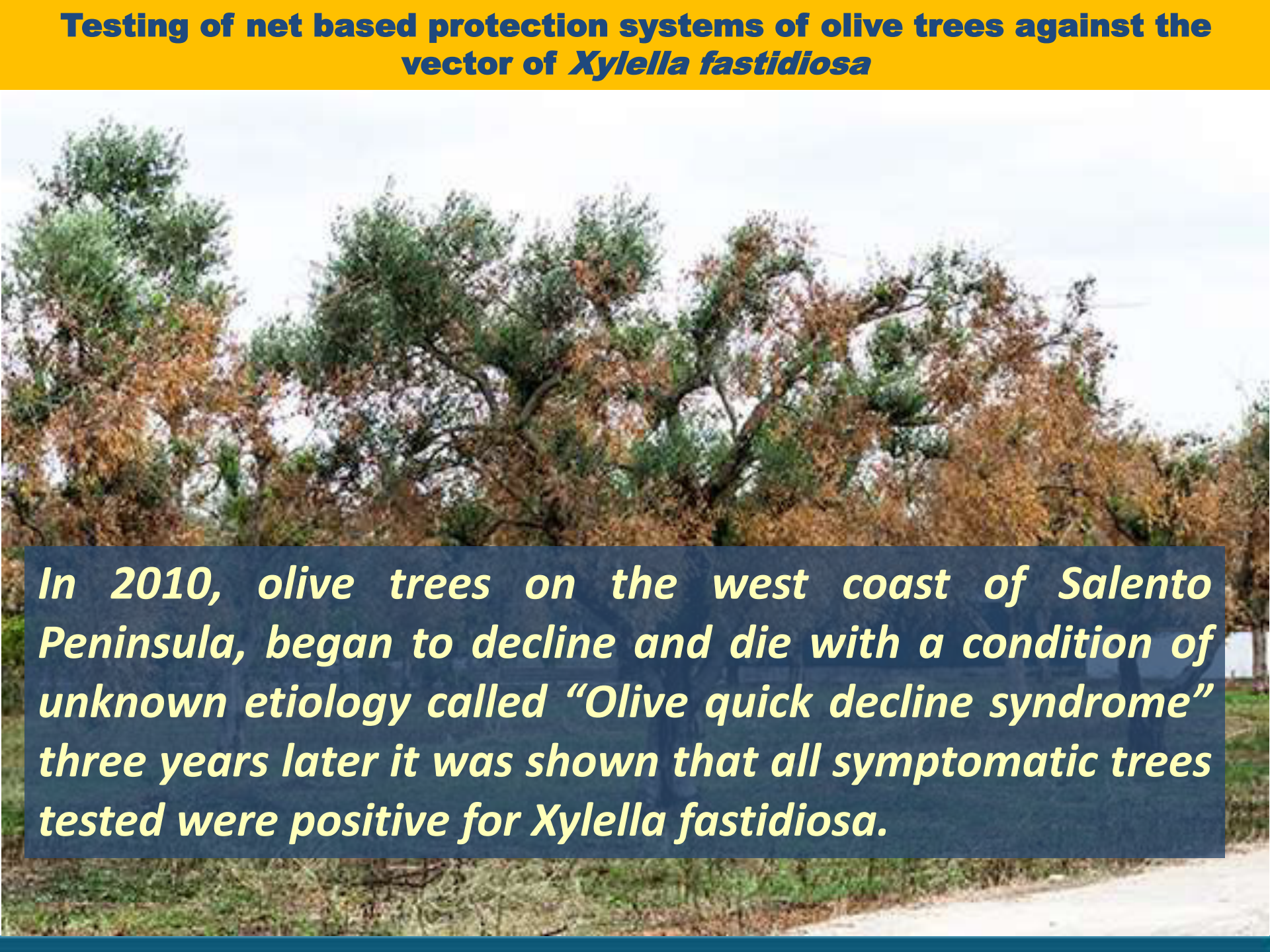
¹ **University of FOGGIA – Italy**

² **SACHIM SRL- Italy**

³ **University of BARI - Italy**

⁴ **University of SALENTO - Italy**

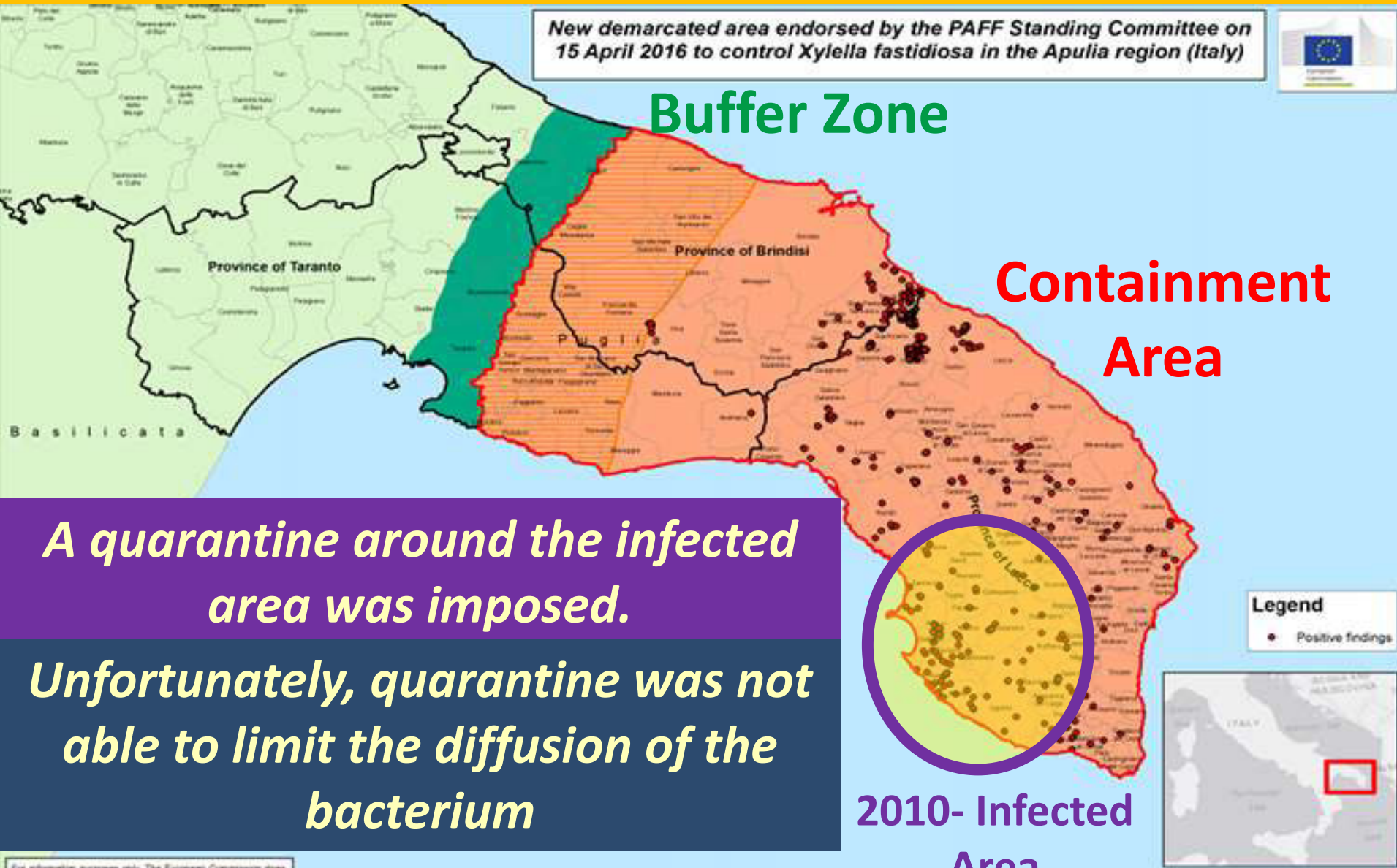
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*In 2010, olive trees on the west coast of Salento Peninsula, began to decline and die with a condition of unknown etiology called “Olive quick decline syndrome” three years later it was shown that all symptomatic trees tested were positive for *Xylella fastidiosa*.*

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New demarcated area endorsed by the PAFF Standing Committee on 15 April 2016 to control *Xylella fastidiosa* in the Apulia region (Italy)



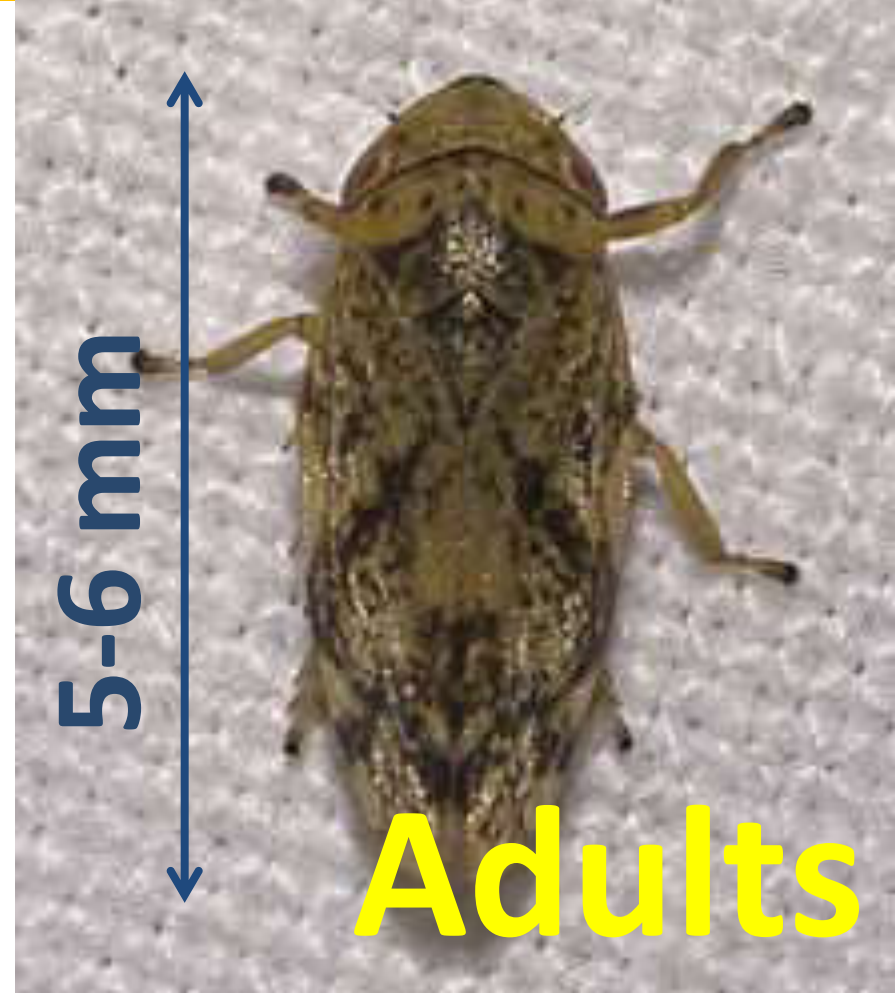
A quarantine around the infected area was imposed.

Unfortunately, quarantine was not able to limit the diffusion of the bacterium

For information purposes only. The European Commission does not assume any liability resulting from its content. For complete information, please refer to Commission implementing Decision (EU) 2015/738 of 18 May 2015 as regards the official measures to prevent the introduction into and the spread within the Union of *Xylella fastidiosa* (Wells et al.)



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X. fastidiosa is transmitted by the meadow spittlebug, *Philaenus spumarius* L. from infected to uninfected olive trees

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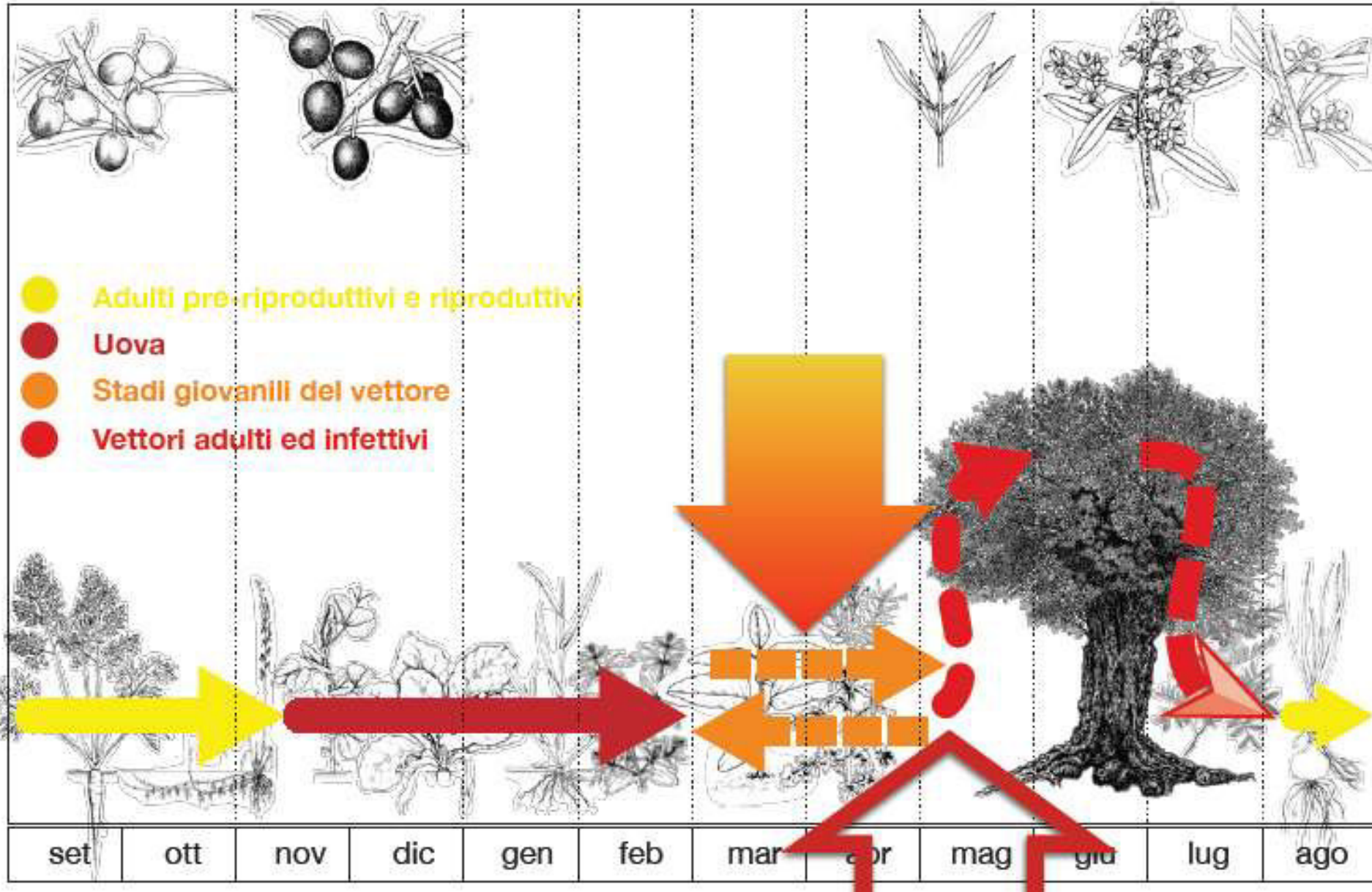
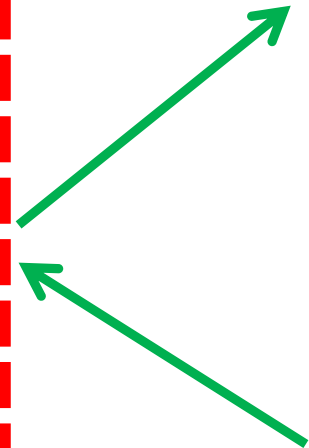


Image from F. Porcelli «Il Philaenus spumarius, l'insetto vettore di Xylella Fastidiosa Pauca CoDiRo»

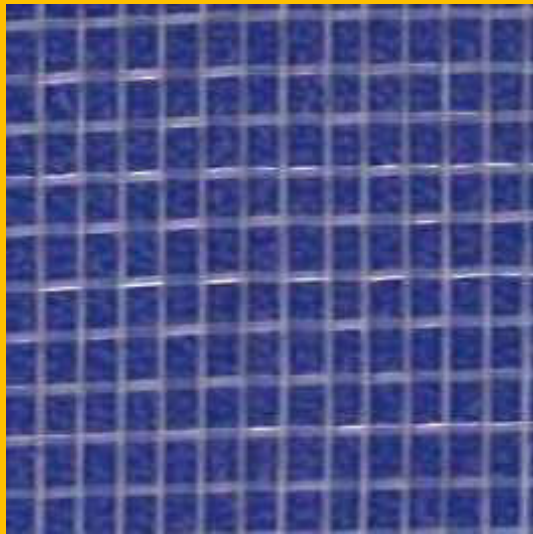
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It seems that the only way to preserve plants from the X. fastidiosa is to physically avoid the contact with its vector, the P. spumarius.



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*Aim of this research was to study a net protection system- for in field cultivations and nurseries- specifically designed against the *Philaenus Spumarius**



Flat woven net thermally stabilized



Knitted net made by strips and wires



Knitted net made by wires

For each net three different dimensions of mesh

d1= 1.2 mm

d2= 1.8 mm

d3= 2.4 mm

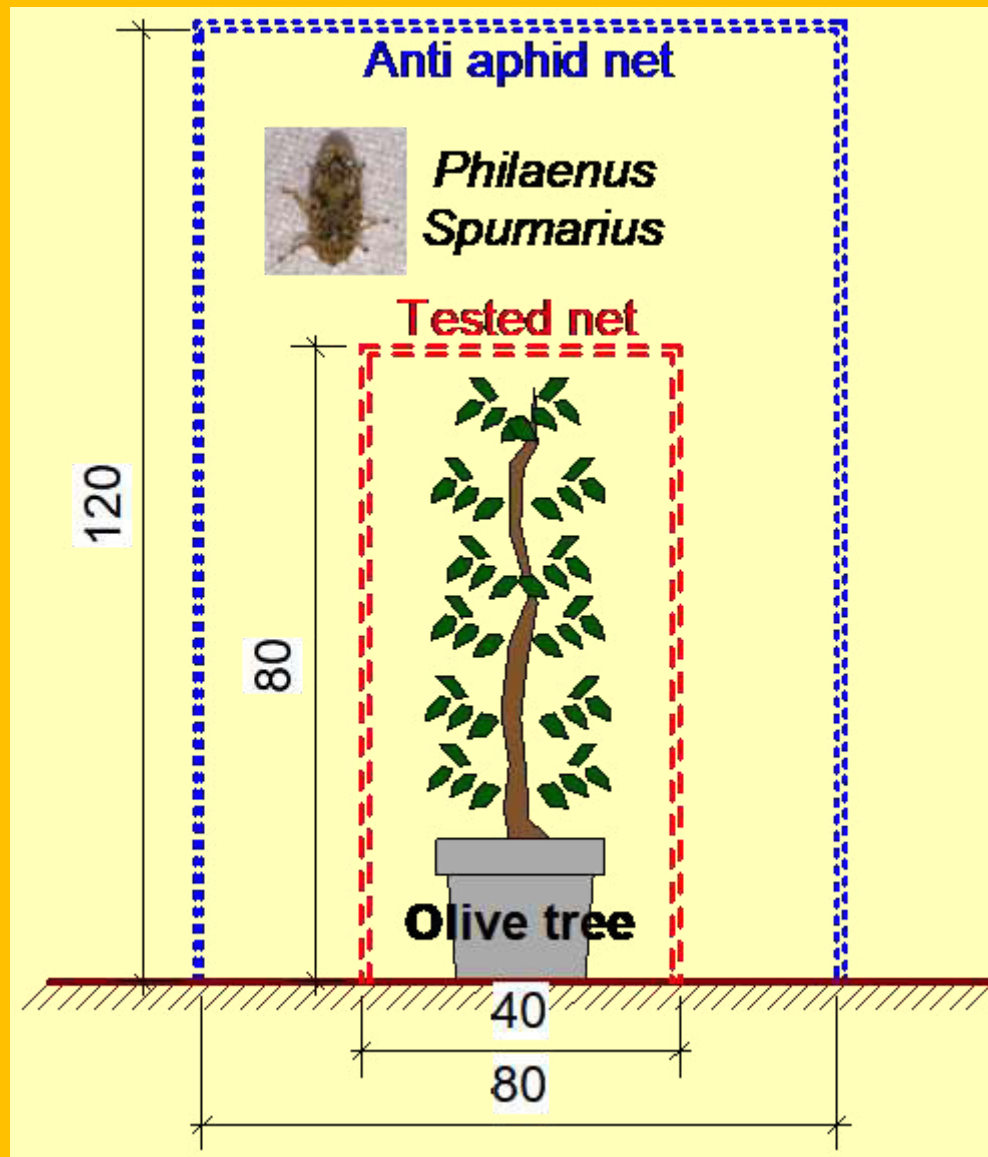
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Performances required to the netting system

- *Avoid* the adult forms of *P. spumarius* **passing through the net**
- net with a **mesh as wider as possible** in order to minimize the **visual impact** of in field installed nets, to reduce the **wind loads** on the supporting structures and the impact of the net on growth conditions such as **temperature** and **air humidity**

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Experimental tests



Measures
in cm

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Experimental test



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Experimental test- RESULTS

All (100%) the insects, in absence of water and food, died after few hours (6-24h).

Flat woven nets showed the damage of some thermal connections and the consequent sliding of wires

The best performer was :

HDPE knitted monowire net

Mesh size $d_3=2.4\text{mm}$

