

Interview

The issue of *Xylella Fastidiosa* in Italy

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Commissioner for the emergency "Xylella fastidiosa"



Dear 'Generale', let's start with your home region Puglia and olive growing

Puglia is the region which has the greatest number of olive trees in the world, over 60 million. More than half of these are hundreds of years old, and are not only beautiful but are our traditional landscape and witnesses to the successive Norman, Aragonese, Spanish and Piedmontese dominations. The expanse of ancient olive trees is a complex system in which history, nature and agriculture have interacted harmoniously over the millennia.

The principal and most widespread varieties of olive trees in Puglia can be considered autochthonous due to their specific biological adaptation over time. All varieties of olive tree have developed peculiar characteristics in relationship to the soil, climate and cultivation methods, and these characteristics originate from selection of the most vigorous trees, those which are most resistant to pests and which produce the most oil.

Olive growing in Puglia is prevalently directed towards oil production; this is very closely connected with the conditions of local olive cultivation and is one of the most interesting and important areas of Puglia's agro-food sector. Puglia produces approximately 250,000 tonnes of olive oil per year, of which around 40% is extra virgin oil; the region accounts for about 13% of world olive production and is the world leader in terms of volume.

There are about 190,000 olive farms in Puglia, making it the Italian region with the greatest number of olive farms and oil producers (188,554), second only to Sardinia in the number of farms producing table olives (1.943). Puglia accounts for 25% of Italy's olive farms.

Is production homogeneous across the Region?

Not at all. Olive-growing in Puglia is very heterogeneous, both in terms of the different production areas, and in terms of different types of farm. Two distinct kinds of olive cultivation exist in the region: one in the northern area, which includes the provinces of Bari, Barletta-Andria-Trani and Foggia, and the other in the Salento. The differences regard structure and productivity. In the province of Bari, the prestigious varieties, like Coratina and Cima di Bitonto, are widespread and production systems aim to obtain high quality oil. On the other hand, the traditional Cellina di Nardò variety is widespread in the Salento area, where it is difficult and expensive to produce quality oil. The quantity of lamp oil produced in the Salento is relatively high.

The farms themselves also differ greatly: 64% have a surface area of only 2 hectares, 27% between 2 and 10 hectares, and 9% over 10 hectares. Economic results are therefore different, as they depend on crop productivity and the size of the farm. According to studies of farm accounts by ISMEA, the smaller farms operating in marginal areas have the lowest levels of profitability (Salento, Gargano and Subappennine Daunia), whereas farms in the province of Bari have the highest levels.

This was the situation until 2013...

Yes. In summer 2013 the first signs of Olive Quick Decline Syndrome (OQDS) appeared in the Gallipoli area (Lecce). The Plant Health Observatory and CNR researchers from Bari went to work immediately, identifying the cause of the syndrome as the bacterium known as *Xylella fastidiosa*, spp. *pauca*, strain *CoDiRO*. This is a quarantine bacterium on the EPPO (European and Mediterranean Plant Protection Organization) A1 list.

Between the end of 2013 and the first months of 2014, the Regional Plant Protection Service (RPPS) monitored the entire Region by taking and analysing over 16,000 plant samples: subsequently, the RPS identified the areas infected by *Xylella* (Decision 157 of 18.04.2014), and communicated its findings to the Ministry and European Commission. The scenario depicted had an enormous impact and immediately generated predictions of a particularly critical situation. Further monitoring in summer 2014 showed that infection had spread across the whole province of Lecce, and the symptoms observed clearly showed that this was a very serious epidemic. In different areas of Lecce province, many olive trees had symptoms attributable to *Xylella fastidiosa*, and laboratory tests confirmed this diagnosis.

In late July and late August, the Region met twice with the Minister and the Directors of the Ministry of Agriculture, Food and Forestry Policies; it stressed the dramatic nature of the emergency, and the increasing extent of infection, and asked to adopt emergency measures for the containment of the bacterium in Lecce province and across the whole of Puglia. It was stressed that the epidemic had all the characteristics of an emergency, and that all available means were required in order to prevent this quarantine pathogen from spreading further, thereby endangering olive cultivation not just in Puglia but also creating risks for olive production in Italy and the world.

Since then, various emergency measures have been implemented, both with regard to territorial management, and also in response to numerous requests from the European Commission. The Italian Council of Ministers declared a state of emergency (on the 10 of February 2015) due to the spread of *Xylella* in Puglia. This was followed immediately by an Ordinance from the head of the Civil Protection body appointing a Commissioner to deal with the emergency (OCPDC 225 of February 11th 2015).

And what are the duties of the Commissioner?

According to the Ordinance, as Commissioner I was required to publish a plan providing for the rapidest implementation of the mandatory control measures for quarantine pathogens. Subsequently, the plan was adapted several times to provide for more precise and more accurate actions, based on the results of monitoring, which showed daily changes in the limits of the infection area. For example, when the Task Force met in Brussels recently at the EU Standing Committee on Plant Health, it emerged that the 1 km Eradication Zone was not adequate for preventing the spread of the bacterium, therefore it was decided to widen the Eradication Zone to 15 km.

But was an Official Action Plan eventually approved?

Yes. The latest Action Plan was approved on 18th March and will remain in force throughout 2015. The Plan takes account of all the measures listed in Ministerial Decree no. 2777 (26.09.2014) Annex III, Section 2; all quarantine measures, such as the elimination of infected plants, will be taken in order to reduce possible pathogen inoculum. For the same reason all possible host species must be eliminated from the infected areas and from the buffer zone, and efforts must be made to contain the vector insect population.

Can you tell us what needs to be done about the insect vector?

In Puglia, the only confirmed vector of this bacterium is *Philaenus spumarius* (also known as "meadow spittlebug"). However, it may not be the only one, and for this reason research bodies are still monitoring the infected areas by collecting the greatest possible number of insects.

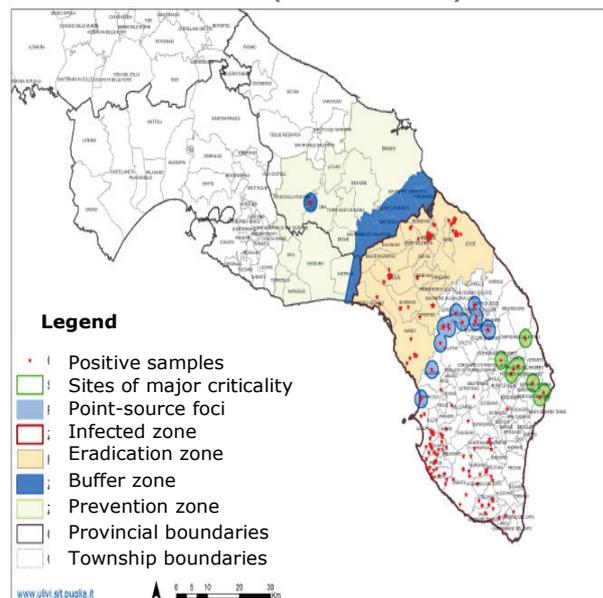
Philaenus spumarius could have an important epidemiological role in spreading the disease, both because of its high population density observed in the Salento and because it is widely polyphagous. This insect is believed to have only one generation per year, developing mainly from spring to autumn, with overwintering eggs. Its biological cycle starts in April when nymphs hatch from the eggs. The nymphs live on the stems of herbaceous vegetation, and cover themselves in liquid foam to maintain their correct moisture level and protect from their natural enemies.

Once they have reached the adult stage, they fly onto the aerial parts of trees and feed on xylem liquid by piercing the leaf vessels with their stylets. Our objective is to reduce the number of nymphs as much as possible, and this requires eradicating all wild herbaceous plants in spring. This can be done mechanically (mowing or harrowing) where possible, or else by burning, using string trimmers or applying insecticides registered for use against phytophagous insects which are effective against the juvenile stages. It is also important not to underestimate the control of the adult stages; this is the most dangerous stage of this insect because as it moves from one tree to another it may spread the bacterium even further. Therefore, phytosanitary treatments must be applied in autumn to the canopies of olive trees and other fruit trees in the affected areas.

Is the action protocol to be applied in the entire zone affected by Olive quick decline syndrome?

The areas infected by *Xylella fastidiosa* have been subdivided into 4 zones: infected, eradication, buffer and prevention zones (Figure 1). All the measures identified provide for actions in all these zones, in the point-source outbreak and in those with greater criticality; they also include treatments in the plant nurseries, in the remaining infected area, and cross-cutting actions.

Figure 1
The areas defined for *Xylella fastidiosa*, according to Decision no. 54 (March 13th 2015)



Looking at the attached map (figure 1) and starting from the North, the first zone is the Prevention Strip. What kinds of actions are planned in this zone?

In this zone, treatments will target the vectors on weeds (in March and April), and adult vectors on olive and fruit trees in spring-summer and in autumn.

What about the buffer zone?

All host plants along the roads, ditches, canals, green areas etc. must be removed, shredded and disposed of, in order to prevent them from acting as vehicles of further transmission (in March and April). In addition, phytosanitary treatments will target both the vectors on weeds and adult vectors on olive and fruit trees.

Then there is the infected zone, further subdivided into 4 areas. What does the action plan envisage here?

The infected zone includes the entire province of Lecce, and within this area we have distinguished 4 areas according to their criticalities. We can begin with the eradication zone, the area south of the 15-kilometre buffer zone. All the interventions of the buffer zone will also be carried out in the eradication zone; in addition, all infected plants -identified by laboratory tests and by symptoms attributable to *Xylella fastidiosa* - will be eliminated, together with plants identified as probably infected.

Eradication has begun immediately, starting from the centre of infection identified at Oria (Brindisi), then spreading to those in the eradication zone and to the remaining point-source outbreak of infection and those with greatest criticality.

Already last year the Regional Plant Protection Service imposed a ban on the movement of *X. Fastidiosa* host plants by plant nurseries in the infected zone. Now it has become necessary to destroy these plants by shredding or controlled burning in loco. The owner or manager of the nursery must do this by the end of April.

Apart from the destruction of all host plants along roads, ditches, canals, green areas etc., and all the other operations will also be carried out in the other areas within the infected zone.*

* Interview conducted in April 2015 by Stefania Lapedota from CIHEAM-Bari.

**Next CIHEAM Ministerial Meeting
in Portugal**



The 11th meeting of the Ministers of Agriculture of the 13 Member countries of CIHEAM is being prepared. It will take place in Cascais on September 22 and 23, 2015, at the invitation of the Portuguese Authorities. It will focus on the theme "Better Mediterranean agriculture and food for better live", addressing the need to implement applied agricultural research models based on Mediterranean networking and partnership.

As expressed by the Portuguese Minister of Agriculture and Sea, Mrs Assunção Cristas, 2015 is very rich in international events linked to the agricultural, food, fisheries and rural challenges. The Expo Milan 2015, the Blue Week in Lisbon, the Climate Conference in Paris or the definition of the agenda post-2015 will be at the core of the 2015 Year. Moreover, 2015 is the 20th Anniversary of the Barcelona Declaration and the Euro-Mediterranean Partnership.

In this perspective, the 11th meeting of the Ministers of Agriculture of CIHEAM's member countries could be an opportunity to reaffirm the Mediterranean issues within the global agenda for development and to reinforce the place of food security for a better Euro-Mediterranean cooperation.