

Mediterranean farmers face *Xylella fastidiosa*

Ignacio Fernández de Mesa

President of ASAJA (Asociación Agraria Jóvenes Agricultores), Cordoba, Spain



More information available at:
www.asajacordoba.es

As President of ASAJA Cordoba, a young farmers' association in the province of Cordoba, southern Spain, with nearly 350,000 ha of olive groves, I am very concerned about the effects of the bacterium *Xylella fastidiosa* even though, as far as we know, it has not yet entered our country. For this reason we organized the first International Conference on *Xylella fastidiosa* in Cordoba, at the County Council Assembly Hall, with the help of experts such as Rafael Jiménez, professor in Plant Pathology, and Blanca Landa, researcher, both from the CSIC (Spanish National Research Council in Cordoba) and acquainted with the bacterium. We also had the collaboration of the association representing olive growing municipalities, the University and Sygenta, GEA Westfalia Separator Ibérica and Caja Rural del Sur, always in close contact with farmers. We set to work on organizing a meeting where expert researchers and the administration (both national and regional) would be present. Although we did not originally count on the participation of European representatives, as they do not usually attend conferences on specific issues, this time, a Member of the European Parliament, Esther Herranz, attended the conference. The participation of two Italian experts was also fundamental as they gave a perfect illustration of the situation their country is undergoing.

In our region of Andalusia, the olive grove is the most representative agricultural system and not only does it have economic, social and environmental importance but it is also of cultural and territorial interest. Andalusia has more than 1.5 million hectares of olive groves which account for nearly one fourth of all Andalusian agricultural production, 30% of farm labour and 30% of Europe's total olive growing surface area. Besides, it forms part of an agro-business fabric that generates products that make us leaders on a global scale.

According to data from Act 5/2011 of 6 October on the Andalusian Olive Grove, it is the main activity in more than three hundred Andalusian villages, providing a living for more than two hundred and fifty thousand olive farming families, generating more than twenty-two million days' wages per year. Likewise, the Act considers that the Andalusian olive grove provides fundamental environmental goods and services that are not sufficiently paid for by the market, such as their role in fixing CO₂ or in combating erosion or their contribution to biodiversity. The weather in our region is predominantly dry with sudden rain events and the olive groves and the vegetation between trees play a fundamental role in preserving soils on the steep slopes in the area.

It goes without saying that we care a great deal about olive groves and we are equally concerned about their preservation. For these reasons we did not hesitate to organize a conference whose main objective was to learn more about the pathogen and its potential spread, to hear about the problem experienced in the South of Italy, and to press policy makers from the Administration at all levels –but mainly in Europe– to take action. Unfortunately, I must say that so far the European Union has not paid this problem the necessary attention.

Apparently the bacterium reached the Italian region of Apulia in 2008, although it was actually reported in 2013, probably introduced by ornamental coffee plants imported from Costa Rica through the Netherlands. Now thousands of hectares have been uprooted in Apulia forming a phytosanitary cordon of more than 250,000 hectares. As regards the pathogen, there are officially known subspecies, but a great deal of recombination has taken place generating new subspecies. This means that the occurrence of *Xylella fastidiosa* in one region does not mean that greater damage may not be caused in the future or that new, more virulent, variants of the bacterium may be found or variants that are pathogenic to new crops, as the researcher Blanca Landa explained in her presentation.

According to the EFSA report, more than 300 hosts are known but not all of them are susceptible. Some infections are asymptomatic and every year new hosts are discovered. Likewise, there are many vectors and more are reported every year, and furthermore there are no efficient control methods. The diseases caused by *Xylella fastidiosa* include, for instance, Pierce disease in Californian (USA) vineyards (PD) (Pierce, 1981), and *Clorosis variegada* in citrus in South America, Brazil, Argentina in the 1980s (Rosetti *et al.*, 1990) also affecting almond, cherry and olive species, among others.

By way of example, Blanca Landa reported at the conference that Pierce disease is costing California 104 million dollars each year and in other countries, *Xylella fastidiosa* has already been causing large losses for some time. The bacterium isolated in Italy is *Xylella fastidiosa* subspecies *pauca*. It blocks the xylem vessels resulting in necrotic branches, leaves and fruits, until the tree finally dies.

Most of the speakers agreed that as a consequence of trade globalization plants are now imported from many countries without taking into account the phytosanitary risks, and the situation remains unchanged even though we now know the damages caused by the bacterium in Italy. In his presentation at the conference, Rafael Jiménez drew attention to a declaration written by a group of more than 70 forest pathology expert scientists (representing 17 countries) who had attended the IUFRO1 International meeting in April 2011 at the Monasterio de Montescayos, Cantabria (Spain) and which read as follows: "*As scientists with considerable experience in the study of forest pathologies, we would like to say that the indiscriminate transport of plant material is greatly increasing the number of forest diseases on a global scale. This evidence is based on the large number of exotic species and pests recently introduced in forests and forest plantations throughout the world, an unprecedented phenomenon in the history of humankind. For this reason, we therefore propose to introduce a progressive ban on all trade of plants and plant material that do not give rise to important economic benefit and may pose a risk to forest ecosystems*". Researchers at the conference made it clear that prevention measures are absolutely essential and that imports of host plants should be avoided. There are still host plants whose entry is not restricted.

To date, institutions have not paid attention to the experts and the conclusions of the conference highlight the need to take urgent measures. Milagros López, expert bacteriologist from the IVIA (Valencian Institute of Agricultural Research), concludes, among other things, that the presence of *Xylella fastidiosa* in Italy is a risk for Spanish olive groves, and that it should be borne in mind that the different subspecies of this bacterium also affect many species and ornamental fruit trees. The fact that the strain may have entered Italy through imports is an example that should be avoided. Preventive measures are essential: avoid imports of plant material with host plants and allow only those that are strictly necessary; analyse imports from Italy, North America and South America; and notify health authorities in case of any suspicious symptoms.

Rafael Jiménez stressed the importance of research, emphasizing how slowly actions were being taken to prevent the establishment and spread of the disease. He spoke about the changes in plant health scenarios, emerging and re-emerging diseases and their direct link to the increase in international and free trade of plant material, and also highlighted the importance of specialized training. Regarding control measures, researcher Blanca Landa discussed problems in ornamental plants coming from abroad and pointed out that border controls were fundamental to prevent the entry of the disease, since once it is established eradication is not effective.

She alluded to some control measures with chemical treatments to decrease vectors, and highlighted the current problem, as there are fewer and fewer permitted active substances. She concluded that what is known about this pathogen is thanks to the international cooperation of many researchers and to public and private funds invested in research, and added that there is more chance of solving a problem if it can be anticipated. Insecticide treatments are important in order to control the problem even in the nursery, however many essential insecticides are banned in Europe. Another important outstanding issue in the area is to sample in order to determine which insects are present.

Donato Boscia and Antonio Guarino acquainted us with the problem faced by olive growers in Italy. They informed us of the measures that are being taken, the efforts made by the farmers and of the tragedies suffered. It was impossible not to identify with their plight and we conveyed many messages of support to them during the conference. Juan Antonio Navas, from the Spanish National Research Council (CSIC), described an uncertain but probable future, with an exposé of the future scenario based on available data. Bacteria could enter via plant material or insect vectors, both possibilities of which have been studied. Concerning the plant material, due to the large number of host plants and volume of international trade, the bacteria can survive and easily go undetected. The risk of entry via vectors is moderate.

As well as the potential routes of entry, climatic conditions in most of Spain are favourable for this bacterium. The climatic risk map of Europe coincides with that of the European olive grove map, in other words, the favourable climatic conditions for the bacterium coincide with the olive growing regions. Unfortunately the results obtained from the models describing the probability of *Xylella fastidiosa* being introduced into Spain are disheartening, and its appearance in our country is very probable, through plant material imported from countries that are not free from the bacterium given the large amount of host plants, many of which are asymptomatic.

A Round Table was held during the conference to discuss different approaches and measures taken by the Spanish Ministry of Agriculture and the Regional Government of Andalusia. The first was taken at European level to press for the adoption of measures and at the same time a bacteria detection scheme was set up in the region by the Regional Government establishing controls in authorized nurseries. However, unfortunately large retailers, street markets, etc. are not subject to control. The Member of the European Parliament Esther Herranz has worked in close collaboration with the young farmers' association ASAJA Cordoba, and has been willing at all times to work from the European Parliament's Committee on Agriculture. She enabled us to put the following parliamentary question to the Commission of the European Union in October 2014: *"What protection measures and short- and medium-term plans will be undertaken by the Commission to protect the rest of the countries of the European Union from the risk of contamination by this bacterium?"*

Recently, six months after an unconvincing answer, the EP's Committee on Agriculture put forward the following questions for debate in Parliament: *"What research and analysis is the Commission pursuing in order to find a definitive solution to the problem and avert the possible spread to other EU regions? Considering the huge losses to date experienced by growers, how will the Commission compensate for the additional costs borne by growers if tree destruction is used as a measure to eradicate the disease? This again shows the need to implement phytosanitary controls of imports into the EU to prevent entry of material infected by Xylella or other dangerous organisms like "black spot. Thus, is the Commission ready to take the necessary actions to prevent import of infected material into the EU by reinforcing conditions for imports from third countries, and if needed limit imports into the EU to plants originating from pest-free production sites which are surveyed and controlled?"*

On 27 April 2015, shortly before the debate, the Standing Committee on Plants, Animals, Food and Feed (PAFF) convened and approved a Decision to adopt new measures to prevent the entry and spread of the bacterium *Xylella fastidiosa* throughout the EU. This decision will strengthen the safety cordons surrounding the infected zones, increasing the number of protected kilometres. There will be restrictions on imports and the movement of plant material will be limited within the EU, increasing the list of hosts in line with the EFSA list (extended list), as well as a ban on entry of coffee plants from Honduras and Costa Rica and information provided on plants that have already been introduced into the EU, etc. Urgent research is still pending. Immediate backing is needed, as well as the convening of experts to study the bacterium and possible solutions. In order to do so it is necessary to support research. Another issue to be resolved is the closure of borders of countries not free from the bacterium.

Furthermore, compensation still has to be paid to the farmers as it is no fault of theirs that the disease affecting their olive groves is incurable, and have to uproot their olive trees immediately so as to stop the disease from spreading. Many of the trees are destroyed before the administration can approve research projects. Therefore we wonder if a solution will ever be reached, and if destruction of the olive groves could have been avoided.

I have made an effort to summarize the present situation in Europe. We still quake when our association receives a call from a farmer to tell us that ornamental coffee plants are on sale in a superstore in Cordoba; these are large retailers located in towns that rely almost entirely on olive production and where at least 80 per cent of the population make their living from the olive groves. This is a matter of great concern as we are at the mercy of uncontrolled entry of plant material until imports of all host plants are banned.

Last year ASAJA CORDOBA entrusted a report to Miguel García, University lecturer in International Public Law, European Union Law and International Environmental Protection, due to the lack of action taken by the EU institutions concerning "black spot" in citrus. Twenty years after the problem was detected, in a context of over 900 seizures in the period 1999-2013 and an official Scientific Opinion from the European Authority for Food Safety in February 2014 concluding that there was a risk of entry and spread, and that the measures adopted were insufficient to prevent it, the *statu quo* of the European Commission is unacceptable. Therefore, and for many other reasons, the report concludes that "No action, incomplete or insufficient action or the adoption of ineffective measures given the obligation of the Community institutions, means a direct infringement of the substantive provisions of the Treaty of the European Union and the Treaty of the Functioning of the European Union, therefore, should the unfortunate case arise and the disease be introduced, implanted and spread, the damage caused by the inexplicable permissive behaviour of the Community institutions, especially the Commission, would more than justify litigation by the citrus growers and other affected parties, taking action for contractual liability against said institutions, claiming the corresponding compensation for damages".

For once and for all the EU should put a stop to the entry of plant material from countries with the bacterium, not only from Honduras and Costa Rica. This Decision, once again, disregards the continuous statements of the experts in the EFSA reports. Untold damage would be inflicted both in direct economic terms and in social terms, as it is impossible to contemplate earning a living in the rural environment without the olive groves, to say nothing of the incalculable environmental damage. Unless immediate action is taken about this situation, it will be necessary to demand an explanation from the EU as to *why* no action has been taken.