A Pest Risk Analysis on Xylella fastidiosa for the countries of the Near East Plant Protection Organization, focusing on the olive-infecting strain

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A Pest Risk Analysis on *Xylella fastidiosa* for the countries of the Near East Plant Protection Organization, focusing on the olive-infecting strain

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A strain of *Xylella fastidiosa* (*Xf*) subsp. *pauca* was first reported causing a disease of olive, commonly referred to as Olive Quick Decline Syndrome (OQDS), in Puglia, southern Italy, in 2013. This strain has subsequently spread, with devastating consequences, to other olive production areas within the province. In 2015, olive oil production in Italy was estimated to have fallen by around 50% as a combination of drought and *Xf*. Many cultural and environmental consequences associated with OQDS are also evident, if harder to quantify.

With respect to *Xf* pathogenic on olive, currently reported cases have all been attributed to *Xf* strains with closest genetic homology to *Xf* subsp. *pauca* and "are limited" to Italy, Brazil and Argentina. This withstanding, *Xf* is known to cause other serious diseases such as Pierce's Disease on grapevine. The scientific review of *Xf* suggests that much is not known about the causal agent, with substantial gaps in knowledge on host range and spread by insect vectors. To date approximately 226 natural and 190 experimental hosts of *Xf* have been recorded. Almost parallel to the discovery on olive, in October 2015 outbreaks of another *Xf* subsp., subsp. *multiplex*, were reported for Corsica and Provence-Alpes-Côte d'Azur in France on native *Polygala myrtifolia*. In response to the disease on olive, on *P. myrtifolia* and a potential wider threat of *Xf* on other crop and environmental plants, the European Union declared an emergency status in the Member States.

Countries of the Near East and North Africa region (Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Malta, Morocco, Palestine, Pakistan, Syria, Sudan, Tunisia and other neighbouring countries) have a heavy reliance on agriculture, amongst which olive is a critical crop, for both domestic and export markets. By example of Palestine and Tunisia, olive is the most cultivated crop, and for Palestine represents 2.15% of the national income. Other crops that have also been identified as potentially at risk from *Xf* also figure strongly in the region. Examples here include citrus, stone fruit crops and Quercus.

At the time of writing, within the NEPPO region and neighbouring countries *Xf* has only been reliably reported from Iran (2014). In the light of the events unfolding in Italy, a Pest Risk Analysis (PRA) has been undertaken for the NEPPO countries to document the prevailing status of the regions and its vulnerability to *Xf*, focusing on the olive-affecting strain. This PRA highlights gaps in the capacity of NPPOs to monitor for *Xf* in the environment and with imported traded commodities, alongside knowledge gaps on the presence and prevalence of known and possible vectors. The

ability of *Xf* to move in the plant material intended for planting, and to be asymptomatic, presents a particular challenge. It is noted that many countries of the Near East and North Africa region are with instability that makes them fragile to additional pressures. Accordingly, economic and social costs associated with the wide-scale spread of *Xf* on olive and/or other crops are seen as substantial.