

Recommendation of the Working Group on the Annexes of the Council Directive 2000/29/EC – Section II – Listing of Harmful Organisms as regards the future listing of *Candidatus Phytoplasma pyri* [Pear decline mycoplasma]¹

Current regulatory status

Candidatus Phytoplasma pyri is regulated in Annex I, Part A, Section II of Council directive 2000/29/EC as Pear decline mycoplasma.

Specific requirements for the introduction into and movement within the Union of plants of *Cydonia* and *Pyrus* are specified in Annex IVAI.20 and IVAII.13.

According to Annex III 9. and 18., *Cydonia* Mill. and *Pyrus* L. plants for planting need to be dormant and free from leaves, flowers and fruits to be imported. Only material from European and Mediterranean countries, Australia, New Zealand, Canada, and the continental states of the USA is allowed.

Council Directive 2008/90/EC applies to the marketing of fruit plant propagation material and fruit plants, including plants of pear (*Pyrus* spp.) and quince (*Cydonia oblonga*).

Identity of the pest

Ca. *Phytoplasma pyri* is well characterized. Sensitive and specific molecular techniques are available (OEPP/EPPO, 2006). As the presence of symptoms does not give sufficient evidence for identification, PCR testing is strongly recommended (and used) for confirmation of an infection.

Distribution of the pest

Ca. *Phytoplasma pyri* is widespread in the risk assessment area and present in 17 of the 27 EU Member States, including the largest pear production areas in Europe. It is not reported to occur in Denmark, Latvia, Lithuania, Estonia, Sweden, Luxembourg, Cyprus and Malta (in Finland and Ireland pear is not produced).

As surveys of pest freedom are not performed in most of these countries, the distribution of Ca. *P. pyri* may even be higher. Vector species are present and widespread in most countries of the European Union and readily spread the disease within an orchard and to orchards in the close vicinity, if infested planting material is introduced.

Ca. *Phytoplasma pyri* is transmitted by *Cacopsylla pyri* and *Cacopsylla pyricola*. Both vectors are of palearctic origin and widespread in the European Union.

Potential for establishment and spread in the PRA area

Pyrus is the major natural host. *Cydonia oblonga* (quince) is a minor host as it is only poorly colonized by the phytoplasma. There is no indication that climate may prevent the establishment of the phytoplasma in countries where it is not reported.

¹ Scientific basis for the recommendation: Prima Phacie, 2012. Pest risk assessment for the European Community plant health: A comparative approach with case studies. External scientific report by group of authors: <http://www.efsa.europa.eu/fr/supporting/doc/319e.pdf>

The sources of initial inoculum for infection of the aerial part of the tree during spring are infected rootstocks or pear psyllids. The psyllids transmit the pathogen in a persistent manner. The movement of *C. pyri* was observed to be up to 50m. Therefore it is assumed moderately likely that the infested area increases quickly. The increase of infested area through root bridges is considered to be very low.

Natural spread may occur through the infected vectors, root and dodder bridges. Pear decline phytoplasma is not transmitted with seeds. Pear trees grafted on quince rootstocks are little affected by Pear decline, as the phytoplasma occurs in a very low titre in the rootstock, which has a negative effect on the recolonization of the aerial parts in spring, resulting in no or mild symptoms.

Studies show that graftwood, harvested at the end of winter may not contain viable phytoplasmas : The elimination of the phytoplasmas from the aerial parts of the trees is due to the degeneration of phloem sieve tubes during the winter months. However the Phytoplasma survives winter within the roots and may recolonize the aerial part of the plant. Uncertainties: Overwintering of the phytoplasma in aerial parts in southern Europe.

The principal approach to reduce the risk of Pear decline entering new areas is the use of healthy propagating material in combination with the control of the psyllid vectors, which are present wherever pear is produced. Testing of pre-basic mother plants (nuclear stock) is a suitable measure to ensure that the initial material used for propagation is free of Pear decline phytoplasma. In pear producing areas within the European Union, where the vector is present, Pear decline is likely to enter the place of production or production site from adjacent areas.

Potential for consequences in the PRA area

Pear decline is one of the most important diseases of pear and induces a more or less rapid decline of the tree. The disease may appear as a sudden wilt of the trees during summer months (quick decline) or as a progressive reduction in growth and productivity (slow decline). Affected trees may exhibit reduced vigour, yield and fruit size.

A systematic literature review on impact of Pear decline was conducted within Prima phacie, which showed that considerable economic losses might occur due to decline and mortality of infected pear trees. However, no detailed studies of economic impacts (e. g. yield decrease, reduced fruit weight and marketability and plant mortality) have been published.

The pest and its vectors are native species. There are no impacts on ecosystem services and biodiversity expected. The severity of Pear decline is depending on the susceptibility of the rootstock used, the severity of the psyllid infestation and the presence or absence of abiotic stress, in particular heat and drought.

Recommendation

Ca. P. pyri does not qualify as quarantine pest as it is a native pest, widespread in the EU. However, considering its economic impact and the main pathway of spreading, the Working Group recommends listing *Ca. P. pyri* as Regulated Non Quarantine Pest. A possibility of Protected Zone status can be considered in areas of the Union still free from the organism.

Since the vector does not overwinter on *Pinus* plants, the probability of re-infection is lower as compared to Apple Proliferation Mycoplasma and *Candidatus* Phytoplasma prunorum. There is, however, a need to lay down risk reduction measures to prevent the re-infection of certified plants in areas where the vector is abundant (e.g. isolation distances, or even cultivation under insect proof conditions).