NAME OF THE ORGANISM: Candidatus Phytoplasma solani (Potato stolbur mycoplasm) (PHYPSO)

GENERAL INFORMATION ON THE PEST

Name as submitted in the project specification (if different to the preferred name):

Candidatus Phytoplasma solani
Pest category:

Bacteria **1- Identity of the pest/Level of taxonomic listing:**
Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank?

Yes
Is the pest defined at the species level or lower?:

Yes
Can listing of the pest at a taxonomic level higher than species be supported by scientific reasons or can species be identified within the taxonomic rank which are the (main) pests of concern?

* Not relevant: Ornamental sector

Is it justified that the pest is listed at a taxonomic rank below species level?

Not relevant
Conclusion:

* Candidate: Ornamental sector

**2 – Status in the EU:**

Is this pest already a quarantine pest for the whole EU?

No
Presence in the EU:

Yes
List of countries (EPPO Global Database):

Austria (2014); Bulgaria (2014); Croatia (2015); Czech Republic (2009); France (2014); Germany (2010); Greece (2014); Hungary (2011); Italy (2010); Italy/Sicilia (1995); Poland (1999); Slovakia (2000); Slovenia (2011); Spain (2014)
Conclusion:

candidate
Justification (if necessary):

Data of the presence of this pest on the EU territory are available in EPPO Global Database (<https://gd.eppo.int/>).

HOST PLANT N°1: Solanaceae (1SOLF) for the Ornamental sector.

Origin of the listing:

IIA2AWG
Plants for planting:

Plants intended for planting, other than seeds **3 - Is the pest already listed in a PM4 standard on the concerned host plant?**

No
Conclusion:

Evaluation continues

Justification (if necessary):

Candidatus Phytoplasma solani' is only listed in one EPPO PM 4 Standard on ornamental solanaceae: PM 4/26 Pathogen-tested material of Petunia. Evaluation continues for other solanaceae. **4 - Are the listed plants for planting the main\* pathway for the "pest/host/intended use" combination? (\*: significant compared to others):**

Yes
Conclusion:

Candidate

Justification:

Candidatus Phytoplasma solani' (CPs) is transmitted by grafting and vegetative propagation of infected hosts, and by several insect vector species (EU COM, 2016). With the exception of lavender and maize, most crops affected by CPs are dead-end hosts as they are not hosts for the insect vectors. However weed species can act as a reservoir (EFSA, 2014). Moreover presence of the vectors varies in different parts of the region (plants for planting are also the main pathway in area where vectors are not present).
Regarding potential ornamental Solanaceae, it has been found in pepper, aubergine, Solanum nigrum and Datura stramonium (EFSA 2014), though it is not known if some types of these are widely grown as ornamental plants. In January 2012, it was isolated from 'trailing' Petunia hybrida plants, causing an abnormal growth habit of sprouting unusual multiple plantlets from the lateral buds (Chung et al., 2013). Most young plants of ornamental Solanaceae are usually grown in protected conditions where the vector is absent and weeds can be controlled.
In conclusion, plants for planting of ornamental Solanaceae are a pathway, and can be considered a significant pathway for crops intended to be grown continuously in protected conditions. They would not be considered as a significant pathway in outside areas where the pathogen (and therefore also the vector) is present, because the presence of vectors will transmit the pathogen to plants transplanted into the field. Most ornamental Solanaceae (such as petunia) are usually transplanted outside in gardens etc. as young plants. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

Petunia has been shown to be impacted (Chung et al 2013) but no other references are available for ornamental Solanaceae.
Remark: NL and AIPH considered the economic impact on solanaceous ornamentals as acceptable. The only impacted solanaceous species is considered to be Petunia (Chung et al., 2013). NL and AIPH added that solanaceous ornamentals are usually grown in greenhouses (where weeds that may act as reservoirs of the organism are usually absent) or can easily be controlled.
What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

Minor
Is the economic impact due to the presence of the pest on the named host plant for planting, acceptable to the propagation and end user sectors concerned?

Yes
Is there unacceptable economic impact caused to other hosts (or the same host with a different intended use) produced at the same place of production due to the transfer of the pest from the named host plant for planting?

Yes
Conclusion:

Candidate
Justification:

Petunia has been shown to be impacted (Chung et al 2013) but no other references are available for ornamental Solanaceae. However, there is a risk for the other economically important host plants growing in the same place of production. This risk is considered to be very limited if the material is 'substantially free from' the pest. **6 - Are there feasible and effective measures available to prevent the presence of the pest on the plants for planting at an incidence above a certain threshold (including zero) to avoid an unacceptable economic impact as regards the relevant host plants?**

Yes

Conclusion:

candidate
Justification:

Risk management measures are included in the EFSA opinion (EFSA, 2014). **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Yes

Conclusion:

Candidate
Justification:

Remark: no systematically collected data (survey reports) on the impacts of CPs on ornamental solanaceous plants. **CONCLUSION ON THE STATUS:**

Not recommended for listing as an RNQP: This pest/host/intended use combination meets all the criteria for RNQP status. However, the requirement for absence of visual symptoms on the traded material (current general 'Substantially free from' requirement in the EU) was considered to be sufficient for solanaceous ornamentals and for potential indirect economic impacts. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

Delisting. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

Delisting. **REFERENCES:**

* Chung B N, Jeong M I, Choi S K, Joa J H, Choi K S &Choi I M (2013) Occurrence of Stolbur Phytoplasma Disease in Spreading Type Petunia hybrida Cultivars in Korea. The Plant Pathology Journal 29, 465–470. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4174827/>;
* EFSA Panel on Plant Health (PLH) (2014) Scientific Opinion on the pest categorisation of Candidatus Phytoplasma solani. EFSA Journal 2014;12(12):3924, 27 pp. doi:10.2903/j.efsa.2014.3924 <http://www.efsa.europa.eu/en/efsajournal/doc/3924.pdf>;
* EU COM (2016) 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 Potato stolbur mycoplasma, renamed Candidatus Phytoplasma solani;