NAME OF THE ORGANISM: Candidatus Phytoplasma solani (Phytoplasma solani) (PHYPSO)

GENERAL INFORMATION ON THE PEST

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

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: Seed potato sector, Vegetable propagating and planting material (other than seeds) sector, Ornamental sector, Other crops, Vine sector

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

Not relevant
Conclusion:

* Candidate: Seed potato sector, Vegetable propagating and planting material (other than seeds) sector, Ornamental sector, Other crops, Vine 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: Lavandula (1LAVG) for the Other crops.

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 **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). Plants for planting are the main pathway in areas where vectors are not present and may pose an entry risk for the nymphal stages of vector. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

CPs has a high impact on lavender crops. After displaying early symptoms, characterised by low vigour and leaf yellowing, the canopy of infected lavender dries by sectors and plants eventually die. Because of epidemic propagation by H. obsoletus, able to complete its life cycle on this crop, fields of L. angustifolia are usually destroyed within 4–5 years in south-eastern France. Hybrids between L. angustifolia and L. latifolia, previously considered to be tolerant, exhibit the same symptoms and can reach an equivalent level of infection (EFSA-PLH, 2014). In a report from France, the disease incidence in lavender fields ranged from 1% to 68% at spring time and increased from 17% to 99% during fall, while at the same time the mean disease severity also increased significantly (Danet et al., 2010). Between 2006 and 2010 some French regions lost almost half of the harvest, and a significant part of the areas was uprooted (Grebenicharski, 2016).
What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

Major
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?

No
Conclusion:

Candidate
Justification:

 **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:

 **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Conclusion:

Justification:

Remark: lack of data on the economic impact in the places of production as well as on the genetic variability of the strains and their host specificity. **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP, based on data. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

Zero tolerance based on visual examination and/or testing (see following risk management measures). **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(a) Pest free site of production;
or
(b) No symptoms seen during visual inspections of the lot in the last complete cycle of vegetation;
or
(c) Plants showing symptoms have been rogued out and destroyed, and the lot has been tested on the basis of a representative sample of remaining plants and found free.
Justification (if necessary):

Experts recommended the following risk management measures, on the basis of the recommendation of the Annex working group in charge of the revision of annex IIA2 of Council Directive 2000/29/EC. However they considered that an additional consultation of the Lavandula perfume sector is needed before adoption of these measures. **REFERENCES:**

* Badcock L (2013) Is lavender under threat? Essential. Wholesale & labs. Available from: <http://library.essentialwholesale.com/is-lavender-under-threat/>
* Danet J-L, Sémétey O, Gaudin J, Verdin E, Chaisse E & Foissac X (2010) Lavender decline is caused by several genetic variants of the Stolbur phytoplasme in south eastern France. In: Bertaccini A, Lavina A, Torres E (eds.) Current status and perspectives of phytoplasma disease research and management. p. 9. European cooperation in science and technology (COST) action FA0807, Sitges, Spain;
* 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;
* Fialova R, Válová P, Balakishiyeva G, Danet J-L, Safárová D, Foissac X & Navrátil M (2009) Genetic variability of Stolbur phytoplasma in annual crop and wild plant species in south Moravia. Journal of Plant Pathology 91, 411-416;
* Grebenicharski S (2016) Lavender production in Bulgaria-Market and opportunity analysis. Inteliagro. Available from: <http://inteliagro.bg/Files/ed87d116-5fc3-4fcd-a0fb-5853f327a52bLavender%20production%20in%20Bulgaria_ENG.pdf>;

HOST PLANT N°2: Lavandula (1LAVG) 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 **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:

Lavender may be grown for ornamental purposes. '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). Plants for planting are also the main pathway in areas where vectors are not present and may pose an entry risk for the nymphal stages of vector. Plants for planting of lavender are also a pathway for crops intended to be grown in protected conditions. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

CPs has a high impact on lavender crops. After displaying early symptoms, characterised by low vigour and leaf yellowing, the canopy of infected lavender dries by sectors and plants eventually die. Because of epidemic propagation by H. obsoletus, able to complete its life cycle on this crop, fields of L. angustifolia are usually destroyed within 4–5 years in south-eastern France. Hybrids between L. angustifolia and L. latifolia, previously considered to be tolerant, exhibit the same symptoms and can reach an equivalent level of infection (EFSA-PLH, 2014). In a report from France, the disease incidence in lavender fields ranged from 1% to 68% at spring time and increased from 17% to 99% during fall, while at the same time the mean disease severity also increased significantly (Danet et al., 2010). Between 2006 and 2010 some French regions lost almost half of the harvest, and a significant part of the areas was uprooted (Grebenicharski, 2016).
What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

Major
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?

No
Conclusion:

Candidate
Justification:

 **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:

 **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Conclusion:

Justification:

Remark: lack of data on the economic impact in the places of production as well as on the genetic variability of the strains and their host specificity. **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP, based on data. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

Zero tolerance based on visual examination and/or testing (see following risk management measures). **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(a) Pest free site of production;
or
(b) No symptoms seen during visual inspections of the lot in the last complete cycle of vegetation;
or
(c) Plants showing symptoms have been rogued out and destroyed, and the lot has been tested on the basis of a representative sample of remaining plants and found free. **REFERENCES:**

* Badcock L (2013) Is lavender under threat? Essential. Wholesale & labs. Available from: <http://library.essentialwholesale.com/is-lavender-under-threat/>
* Danet J-L, Sémétey O, Gaudin J, Verdin E, Chaisse E & Foissac X (2010) Lavender decline is caused by several genetic variants of the Stolbur phytoplasme in south eastern France. In: Bertaccini A, Lavina A, Torres E (eds.) Current status and perspectives of phytoplasma disease research and management. p. 9. European cooperation in science and technology (COST) action FA0807, Sitges, Spain;
* 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;
* Fialova R, Válová P, Balakishiyeva G, Danet J-L, Safárová D, Foissac X & Navrátil M (2009) Genetic variability of Stolbur phytoplasma in annual crop and wild plant species in south Moravia. Journal of Plant Pathology 91, 411-416;
* Grebenicharski S (2016) Lavender production in Bulgaria-Market and opportunity analysis. Inteliagro. Available from: <http://inteliagro.bg/Files/ed87d116-5fc3-4fcd-a0fb-5853f327a52bLavender%20production%20in%20Bulgaria_ENG.pdf>;

HOST PLANT N°3: Solanaceae (1SOLF) for the Vegetable propagating and planting material (other than seeds) 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 **4 - Are the listed plants for planting the main\* pathway for the "pest/host/intended use" combination? (\*: significant compared to others):**

?
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-PLH, 2014). In Germany the organism was for example found in potatoes in two consecutive years in the same area and the suspected source was infected weeds in the surroundings (EPPO Reporting Service 2008/213; 2010/155). As a consequence, natural spread from the reservoir of infected weed species is the main pathway of spread to actively growing crops in areas where the organism is present. CPs is not thought to be transmitted in the true seed of any of its hosts (EPPO, Data Sheets on Quarantine Pest), so vegetable propagating and planting material can only become a pathway in the limited timeframe between sowing and transplantation of the propagating and planting material. Regarding vegetable Solanaceae, it has been found in tomato, pepper, and aubergine (EFSA-PLH, 2014). Most young plants of vegetable Solanaceae are usually grown in protected conditions where the vector is absent and weeds can be controlled. Given that the major agricultural Solanaceous crops are dead-end-hosts, the only potential economic impact arises from the negative effects of CPs on the infected transplants themselves. Furthermore, it is not clear whether vectors spread CPs within economic host crops to any extent. In fact, in nature, the economically important host crops are not important for the continuity of the virus; an incomparably greater role is played by such wild plants as Convolvulus arvensis , clovers and, probably, Asteraceae and other plants (EPPO, Data Sheets on Quarantine Pest).
The vegetable SEWG concluded that plant for planting is only a significant pathway in relation to plants grown under protected conditions, when the vector can be excluded. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

Severe impact of CP on plant growth, fruit yield and quality is recorded for infected tomato, eggplant and pepper plants (Fialova et al., 2009; Navràtil et al., 2009; Marchoux and Rougier, 1987). In severe epidemics, yield losses as high as 60 % in tomato and 93 % in pepper have been reported (EFSA-PLH, 2014).
What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

Medium
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?

No
Conclusion:

Candidate
Justification:

Impact is considerate moderate to minor, fluctuating and depending on climate, presence of weed inoculum sources and vector populations. Impact is strongly affected by natural spread (EFSA-PLH, 2014). **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:

Yes, for plants grown under protective conditions: For young plants raised under protected conditions, it may be possible to keep the plants free of the pest. For any plants grown outside, there will be no practical measures to prevent infections by vectors, which are both very good fliers and difficult to tackle by insecticide suppression. Young plants of fruit vegetables that are grown under protected conditions (tomato, pepper, eggplant) are usually grown in glasshouses that have insect screens in the windows (situation in the Netherlands), but not during the part of the season (hot dry summers) which stimulate vector migration. Measures to avoid unacceptable economic impact on vegetable propagating and planting material therefore seem somewhat redundant. **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Yes

Conclusion:

Candidate
Justification:

 **CONCLUSION ON THE STATUS:**

Not recommended for listing as an RNQP: This pest/host/intended use combination meets all the criteria for RNQP status, in relation to plants grown under protected conditions when the vector can be excluded. For outdoor crops where the pathogen and vectors are present, plants for planting are not considered to be the main pathway. Solanaceae are generally dead end hosts. The requirement for absence of visual symptoms on the traded material (current general 'Substantially free from' requirement in the EU) is considered to be sufficient for solanaceous vegetable hosts. **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:**

* 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>;
* EPPO Data Sheets on Quarantine Pests. Potato stolbur phytoplasma;
* 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;
* Fialova R, Valova P, Balakishiyeva G, Danet JL, Safarova D, Foissac X & Navratil M (2009) Genetic variability of stolbur phytoplasma in annual crop and wild plant species in South Moravia. Journal of Plant Pathology 91, 411-416;
* Marchoux G & Rougier J (1987) Une nouvelle affection des solanées maraîchères: la maladie des proliférations et petites feuilles. Phytoma 392, 53-54;
* Navratil M, Va´ lova´ P, Fialova´ R, Lauterer P, Sˇ afa´ rˇova´ D & Stary´ M (2009) Incidence of stolbur disease in vegetable crops in South Moravia (Czech Republic) and consequences of yield losses. Crop Prot 28, 898–904;

HOST PLANT N°4: 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;

HOST PLANT N°5: Solanum tuberosum (SOLTU) for the Seed potato sector.

Origin of the listing:

IIA2AWG
Plants for planting:

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

Yes
Conclusion:

Evaluation continues

Justification (if necessary):

In EPPO PM 4/28 Standard the crop should be free from Potato stolbur phytoplasma. However, because of the NL comment concerning the main pathway, further analysis was carried out by the SEWG on the pathway question. **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). In Germany the organism was for example found in potatoes in two consecutive years in the same area and the suspected source was infected weeds in the surroundings (EPPO Reporting Service 2008/213; 2010/155). As a consequence, natural spread from the reservoir of infected weed species is the main pathway of spread to actively growing crops in areas where the organism is present. However economic impact arises at the start of the growing season, because most infected seed potatoes do not grow (‘effect on the intended use’). Up to that point, the plants for planting are considered to be the main (indeed only) pathway. 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). **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Justification:

What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

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?

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?

Conclusion:

Justification:

 **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?**

Conclusion:

Justification:

 **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Conclusion:

Justification:

 **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP, based on EPPO PM 4 Standard and additional analysis of the pathway. Economic impacts have been reported in the SEWG. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

No
Proposed Tolerance levels:

Zero tolerance of symptoms in the growing crop. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(A) No symptoms of 'Candidatus Phytoplasma solani' have been seen at the place of production since the start of the last complete cycle of vegetation;
OR
(B) (a) Any plants at the site of production showing symptoms have been rogued out, with their progeny tubers, and destroyed;
and
(b) For any stocks in which symptoms have been seen in the growing crop, post harvest tuber testing has been carried out, for each lot, to confirm the absence of 'Candidatus Phytoplasma solani'. Any lots testing positive should not be marketed as seed potatoes.

Reports of the new occurrences of 'Candidatus Phytoplasma solani' should continue to be reported to EPPO during the transition from QP to RNQP status so that the effects of that change can be monitored. **REFERENCES:**

* 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;

HOST PLANT N°6: Vitis (1VITG) for the Vine 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?**

Yes
Conclusion:

Qualified **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP, based on EPPO PM 4 Standard. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

Zero tolerance of presence of the pathogen based on the following risk management measures. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

Measures taken against flavescence doree phytoplasma, in areas where it occurs, would be effective in managing risks from stolbur.
- Non-certified plants (‘standard’):
(a) Plants produced in areas known to be free from Candidatus Phytoplasma solani;
or
(b) No symptoms seen during visual inspections of the site of production in the last complete cycle of vegetation;
or
(c) All plants at the site of production showing symptoms have been rogued out and destroyed
or
(d) Plants have been subject to hot water treatment according to EPPO PM 10/18 Standard.

- For pre-basic (‘initial’), basic and certified:
Additional measures could include periodic testing of mother plants to detect latent infection, testing of material to detect latent infection (in particular for rootstocks which do not show symptoms) and cultural measures against other vector host plants.
Justification (if necessary):

Rootstocks are asymptomatic. Symptoms cannot be differentiated with the flavescence doree phytoplasma. This phytoplasma has a latent period. However experts from the coreHEWGplus commented that we can not rely on the testing of all remaining plants of an infested lot. The options proposed would also cover mother plants. **REFERENCES:**

* 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;