NAME OF THE ORGANISM: Candidatus Liberibacter solanacearum (Liberibacter solanacearum) (LIBEPS)

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: Vegetable seed sector

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

Yes
Conclusion:

* Candidate: Vegetable seed sector

Justification (if necessary):

Haplotypes A and B are not present in the EPPO region. If haplotypes A and B are regulated as quarantine pests, a listing of haplotypes C, D and E could be justified based on geographical distribution. **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):

Finland (2017); Germany (2015); Spain (2017); Spain/Islas Canárias (2017); Sweden (2016)
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/>). Only haplotypes C, D and E are present in the EPPO region (European haplotypes, Apiaceae haplotypes).

HOST PLANT N°1: Daucus carota (DAUCA) for the Vegetable seed sector.

Origin of the listing:

EPPO Panel on phytosanitary measures for potato
Plants for planting:

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:

Justification:

The transmission of the bacterium from the seeds to the plants is reported by Bertolini et al. (2015): they demonstrated a ratio of transmission up to 42%. However these results are discutable in regards to the study recently published by Loiseau et al. (2017), in which “results indicate that transmission of ‘Ca. L. solanacearum’ by carrot seed is rare and difficult to reproduce'. Psyllids can spread the disease. In addition, the pest has a wide natural host range in Apiaceae family (Hajri, 2017). Treatments with insecticide against the psyllid vectors are available.
Whether reduction of inoculum of haploptypes present in the EPPO region can be achieved by RNQP status depends on the significance of seed transmission compared to other pathways and reservoirs of the pathogen. Published research has not confirmed the results of Bertolini et al. (2015) which showed high transmission rates. More data is needed before a decision can be taken on this point, and is being generated in current EU projects. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

In several European farms, ‘Candidatus Liberibacter solanacearum’ was found associated to severe disorders in carrot, making the productions unmarketable (Finland, Munyaneza et al., 2010; Norway, Munyaneza et al., 2012; Sweden, Munyaneza et al., 2012; Spain Mainland, Alfaro-Fernández et al., 2012a; Spain Canary Islands, Alfaro-Fernández et al., 2012b; France, Loiseau et al., 2014; Morocco, Tahzima et al., 2014; Germany, Munyaneza et al., 2015; Austria, EUPHRESCO meeting 2017; Greece, Holeva et al., 2017). Affected plants show leaf curling, yellow and purple discolouration of leaves, stunting of roots and shoots, and proliferation of secondary roots (EPPO, 2009). In Norway, infection rate of 'Ca. L. solanacearum' in carrot, ranged from 10 to 100% in 70 to 80% of commercial fields and experimental plots in southeastern Norway from late July to mid-September of 2011. In Greece, in July 2016, 35-40% of plants were found symptomatic in a 10 ha commercial field (Munyaneza et al., 2012; Holeva et al., 2017).
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:

Medium to Major on the basis of the previous cited literature. Lack of official economic data. **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:

Inclusion of ‘Ca L. solanacearum’ in the certification scheme would prevent the presence of the pest on the plants for planting. Measures taken now will help to reduce the economic impact if an efficient vector establishes in the future. **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Conclusion:

Justification:

 **CONCLUSION ON THE STATUS:**

Not conclusive. Experts recommended waiting for additional data before a decision can be taken on this point. Such data are being generated in current EU projects. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Proposed Tolerance levels:

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

Proposed Risk management measure:

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