NAME OF THE ORGANISM: Xanthomonas axonopodis pv. phaseoli (XANTPH)

GENERAL INFORMATION ON THE PEST

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

Xanthomonas campestris pv. phaseoli
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, Ornamental sector

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

Yes
Conclusion:

* Candidate: Vegetable seed sector, Ornamental sector

Justification (if necessary):

The disease named “common blight of beans” (CBB) was formerly identified as Xanthomonas campestris pv. phaseoli. Nowadays the causal agents of CBB have proven to be genetically diverse. There are several strains belonging to two species currently known as Xanthomonas fuscans subsp. fuscans (Xff) and Xanthomonas axonopodis pv. phaseoli (Xap) (EU COM, 2015). As a conclusion, the RNQP methodology is applied for Xff as well as for Xap. **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 (1993); Cyprus (1988); Czech Republic (2013); France (1993); Germany (1993); Greece (1996); Hungary (1992); Italy (2010); Lithuania (1998); Netherlands (2015); Poland (2011); Portugal (1996); Portugal/Madeira (1994); Romania (1992); Slovakia (1994); Slovenia (1995); Spain (1996)
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: Phaseolus (1PHSG) for the Vegetable seed sector.

Origin of the listing:

IIA2AWG
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):**

Yes
Conclusion:

Candidate

Justification:

The two pathogens, Xanthomonas axonopodis pv. phaseoli and Xanthomonas fuscans subsp. fuscans are not separated during the EFSA analysis and are described together as common bean blight (CBB). Under temperate climate conditions, contaminated seeds are the primary inoculum source for CBB agents and as few as one contaminated seed in a lot of 10 000 seeds is capable of causing an outbreak of CBB. A threshold between 100 and 1 000 bacteria per seed is required to successfully contaminate the plantlet. In general, heavily contaminated seeds presenting symptoms are removed from seed lots during the sorting and cleaning operations of seed production and so most contaminated seeds in commercial seed lots may be symptomless. The survival CBB agents in crop residues is the subject of debate, possible in tropical conditions but in temperate climates the ability of Xap/Xff to survive in infested plant debris is not clear, as reports are contradictory. Under temperate climate conditions, CBB agents may not survive on weeds in fields or may survive only for a short period. Hence, contaminated weeds are not considered as an important inoculum source for CBB (EFSA PLH, 2014). The primary pathway is plants for planting; natural spread over long distances doesn’t occur (EU COM, 2015).
In conclusion, for Xanthomonas axonopodis pv. phaseoli, seed is a pathway and can be considered as a significant pathway compared to other potential sources of infection. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

The common blight of bean (CBB), caused by Xap and/or Xff is the most devastating bacterial disease of common bean and one of the five major diseases of this crop. It can cause significant yield losses, as yield losses from 10 % to 40% in susceptible genotypes have been reported. Yield losses of 40% were reported on local varieties in the south of Italy. Seed quality losses impact not only, directly, bean production for consumption but also the seed industry worldwide, as sorting and cleaning methods have indirect costs. The disease affects yield by limiting leaf area and hence leaf chlorophyll absorption. This disease also affects the marketability of the fresh material. Symptomatic pods and seeds cannot be sold. The very presence of the bacteria in seeds, even in the absence of symptoms, is sufficient to ban their trade to disease-free areas. CBB-affected seeds also have reduced germination capacity, which can have adverse effects on valuable plant genetic material (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)

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:

Pest free area, Pest free production place/site, testing. **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:**

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

No
Proposed Tolerance levels:

Zero tolerance approach, based on visual examination or testing. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(a) The seeds originate in areas known to be free from Xanthomonas axonopodis pv. phaseoli;
or
(b) The crop from which the seed was harvested was inspected at appropriate times during the growing season and found free from Xanthomonas axonopodis pv. phaseoli;
or
(c) A representative sample of the seeds has been tested and found free from Xanthomonas axonopodis pv. phaseoli in these tests.
Justification (if necessary):

Same measures are proposed for Xanthomonas axonopodis pv. phaseoli and Xanthomonas fuscans subsp. fuscans. **REFERENCES:**

* EU COM (2015) 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 Xanthomonas campestris pv. phaseoli (Smith) Dye;
* EFSA PLH Panel (EFSA Panel on Plant Health), 2014. Scientific Opinion on the pest categorisation of Xanthomonas axonopodis pv. phaseoli and Xanthomonas fuscans subsp. fuscans. EFSA Journal 2014;12(10):3856, 30 pp. doi:10.2903/j.efsa.2014.3856;

HOST PLANT N°2: Phaseolus (1PHSG) for the Ornamental sector.

Origin of the listing:

IIA2AWG
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):**

Yes
Conclusion:

Candidate

Justification:

Some varieties of Runner bean (Phaseolus coccineus L.) and Common bean (Phaseolus vulgaris L.), especially climbing ones, are grown from seed for ornamental purposes or for nectar to attract bees (No specific varieties were located specifically for ornamental use). Therefore the reasoning from the vegetable seed sector for this pest will also apply to ornamental use, as follows:
The two pathogens, Xanthomonas axonopodis pv. phaseoli and Xanthomonas fuscans subsp. fuscans are not separated during the EFSA analysis and are described together as common bean blight (CBB). Under temperate climate conditions, contaminated seeds are the primary inoculum source for CBB agents and as few as one contaminated seed in a lot of 10 000 seeds is capable of causing an outbreak of CBB. A threshold between 100 and 1 000 bacteria per seed is required to successfully contaminate the plantlet. In general, heavily contaminated seeds presenting symptoms are removed from seed lots during the sorting and cleaning operations of seed production and so most contaminated seeds in commercial seed lots may be symptomless. The survival CBB agents in crop residues is the subject of debate, possible in tropical conditions but in temperate climates the ability of Xap/Xff to survive in infested plant debris is not clear, as reports are contradictory. Under temperate climate conditions, CBB agents may not survive on weeds in fields or may survive only for a short period. Hence, contaminated weeds are not considered as an important inoculum source for CBB (EFSA PLH, 2014). The primary pathway is plants for planting; natural spread over long distances doesn’t occur (EU COM, 2015).
In conclusion, for Xanthomonas axonopodis pv. phaseoli, seed is a pathway and can be considered as a significant pathway compared to other potential sources of infection. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

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Justification:

The common blight of bean (CBB), caused by Xap and/or Xff is the most devastating bacterial disease of common bean and one of the five major diseases of this crop. It can cause significant yield losses, as yield losses from 10 % to 40% in susceptible genotypes have been reported. Yield losses of 40% were reported on local varieties in the south of Italy. Seed quality losses impact not only, directly, bean production for consumption but also the seed industry worldwide, as sorting and cleaning methods have indirect costs. The disease affects yield by limiting leaf area and hence leaf chlorophyll absorption. This disease also affects the marketability of the fresh material. Symptomatic pods and seeds cannot be sold. The very presence of the bacteria in seeds, even in the absence of symptoms, is sufficient to ban their trade to disease-free areas. CBB-affected seeds also have reduced germination capacity, which can have adverse effects on valuable plant genetic material (EFSA PLH, 2014). Since Phaseolus for the ornamental sector is only a very small niche sector, since no specific data for ornamentals were available, and since ornamental seeds produced alongside vegetable seeds will have to meet the recommendations set, experts considered that the substantially free from requirement will be sufficient.
What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

Minimal
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?

No
Conclusion:

Not candidate
Justification:

 **CONCLUSION ON THE STATUS:**

Disqualified: Ornamental Phaseolus is only a very small niche sector, no evidence of economic impact on ornamental beans, and ornamental seed produced alongside vegetable seed will have to meet the recommendations set out for vegetables, therefore the substantially free from requirement is considered to be sufficient. **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:**

* EU COM (2015) 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 Xanthomonas campestris pv. phaseoli (Smith) Dye;
* EFSA PLH Panel (EFSA Panel on Plant Health), 2014. Scientific Opinion on the pest categorisation of Xanthomonas axonopodis pv. phaseoli and Xanthomonas fuscans subsp. fuscans. EFSA Journal 2014;12(10):3856, 30 pp. doi:10.2903/j.efsa.2014.3856;