NAME OF THE ORGANISM: Cryphonectria parasitica (ENDOPA)

GENERAL INFORMATION ON THE PEST

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

Pest category:

Fungi **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: Forest reproductive material sector

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

Not relevant
Conclusion:

* Candidate: Forest reproductive material sector

Justification (if necessary):

Castanea: In the replies to the RNQP Questionnaire for the forestry sector, ENA only proposed the listing of Castanea sativa. However experts proposed a listing at a level higher than species since at least 8 Castanea spp. are identified as being natural or experimental host plants (EFSA, 2014). Experts of the fruit SEWG agreed with the evaluation proposed by the forestry SEWG on Castanea.
Quercus: In the replies to the RNQP Questionnaire for the forestry sector, ENA only proposed the listing of a defined list of species (Quercus suber, Q. rubra, Q. robur, Q. pubescens, Q. petraea, Q. ilex and Q. cerris). However experts proposed a listing at a level higher than species since at least 7 Quercus spp. are identified as being natural or experimental host plants (EFSA, 2014).
Remark: Although intraspecific variability is lower in Europe than in North America, there is great variability between different populations at the local and regional level and the result of subsequent sexual recombination produced by the contact of different populations. **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); Belgium (2016); Bulgaria (2013); Croatia (2012); France (2014); France/Corse (1999); Germany (2014); Greece (2016); Greece/Kriti (2006); Hungary (2012); Italy (2014); Italy/Sicilia (2006); Italy/Sardegna (2009); Portugal (2014); Portugal/Azores (2007); Portugal/Madeira (2007); Romania (2013); Slovakia (2014); Slovenia (2012); 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: Castanea (1CSNG) for the Forest reproductive material 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:

C. parasitica can spread via the movement of infected host plants for planting (rootstocks, scions, grafted plants, self-rooted plants, etc.), particularly asymptomatic. Pruning and grafting tools or other equipment used in chestnut nurseries, orchards or forests may potentially spread the disease locally. C. parasitica propagules (ascospores and conidia) can spread locally by wind and/or rain, but might also occasionally be carried by other agents, such as arthropods and birds. However animal vectors are not considered to play a very important role in disease transmission. Many factors may influence the relative importance of ascospores versus conidia and mycelia as the primary inoculum for initiating new cankers or for disease epidemics. Experts considered that infection of seedlings are possible even if it has not been demonstrated so far (EFSA, 2014). Because uncertainty exists about the role of ascospores in disease epidemiology, on natural spread by arthropods and birds, and about the distribution of minor hosts, plants for planting are considered to be a significant pathway for the pest/host/intended use combination. Experts expressed a specific concern about pathway for locally aggressive strains, which would at the same time reduce effectiveness of hypovirulence as control. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

C. parasitica causes cankers, wilt and diebacks, resulting sometimes in the death of its hosts (when on Castanea). Disease incidence ranges from less than 1% in the recently infested areas (such as Germany) to more than 90% in the countries where the pathogen has existed for a long time (e.g. Italy, France, Switzerland, Portugal, etc.). However, there is no direct relationship between disease incidence and impact (EU COM, 2015).
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:

There are several assessments of the potential economic impact depending on the European region considered. The presence of natural hypovirulent strains or more tolerant species must also be taken into account, which means that a uniform response cannot be categorically established at European level (Braganca et al., 2007; Tizado et al., 2012; Bryner et al., 2012). This is why the economic impact is proposed as medium. The presence of the pathogen into the host plant is not acceptable due to its transmission character and to the damage that causes (Anderson et al., 2013). **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:

Avoiding human induced introduction of new strains and identifying and promoting local hipovirulence strains have showed an effective method of managing chestnut plantations (Robin et al., 2010; Anderson et al., 2013; Petto et al., 2013). **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Yes

Conclusion:

Candidate
Justification:

There are sufficient scientific and technical data that make this pathogen meet the criteria for RNQP status **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP, based on data. Plants for planting should be considered as a significant pathway compared to other pathway for the introduction of locally aggressive strains, and absence of regulation of this pest/host combination would reduce effectiveness of hypovirulence as control. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

No
Proposed Tolerance levels:

Zero tolerance, based on the absence of symptoms, for all categories of forest reproductive material (basic, certified and non-certified). **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(a) Plants produced in areas known to be free from Cryphonectria parasitica;
or
(b) No symptoms of Cryphonectria parasitica have been observed at the site of production since the beginning of the last complete cycle of vegetation;
or (possibly only applicable to ‘source-identified’ and ‘selected’ material)
(c) Plants showing symptoms of Cryphonectria parasitica have been rogued out, remaining plants inspected at weekly intervals and no symptoms have been observed at the site of production for at least three weeks before dispatch.
Justification (if necessary):

Experts agreed that measures could be restricted to the ‘production site’ (no reason supporting the regulation of the whole ‘place of production’). Experts agreed to delete the ‘absence of symptoms in the immediate vicinity’ (measure important for quarantine pests). Experts commented that symptoms are quite easy to see and develop quickly (In 3 weeks necrosis on the bark change in orange and disseminate). An alternative to the plant passport withdrawal for 1 year is proposed. Indeed in some area up to 5% disease can be regularly found on place of production. Because protected zones are maintained on the EU territory, the option requiring that plants originate in areas known to be free from C. parasitica is kept. Risk management options may depend on the quality of the concerned material (last option possibly only applicable to ‘source-identified’ and ‘selected’ material). **REFERENCES:**

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