NAME OF THE ORGANISM: Lecanosticta acicola (Scirrhia acicola) (SCIRAC)

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, Ornamental sector

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

Not relevant
Conclusion:

* Candidate: Forest reproductive material sector, Ornamental sector

Justification (if necessary):

Mycosphaerella dearnessii (teleomorph form) is presented by EFSA (Prima Phacie, 2012) as the preferred name. According to 'Index Fungorum' and 'Mycobank', the preferred name should be the anamorph form, Lecanosticta acicola. As far as the teleomorph form has not been found on the EU territory, it is proposed to use the anamorph form name.
All pine species are potential hosts of the pathogen (30 Pinus spp. are listed as major or minor hosts) (Prima Phacie, 2012). When replying to the Questionnaire for the Forest reproductive material sector, ENA only proposed the listing of a defined list of host species (Pinus halepensis, P. leucodermis, P. nigra, P. sylvestris, P. brutia, P. radiata, P. pinea, P. canariensis, P. pinaster, P. contorta, P. cembra). Important impact is only foreseen on some specific species. However, as the three pine needle blight should be regulated together and do not have the same major hosts, experts proposed to keep a listing at the genus level for Pinus. **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 (2016); Croatia (1997); Czech Republic (2008); France (1994); Germany (1995); Italy (2000); Latvia (2013); Lithuania (2012)
Conclusion:

candidate
Justification (if necessary):

Even this pest is listed in annex IIA1 of Council Directive 2000/29/EC (as a pest not known to occur in the EU), this pathogen is a candidate for the RNQP status according to the IIA2AWG. Data of the presence of this pest on the EU territory are available in EPPO Global Database (<https://gd.eppo.int/>). Due to the necessity of laboratory confirmation based on the cultural, morphological and molecular characters of the anamorphs, it is possible that the fungus has been under-recorded due to its similarity to the more widespread S. pini (EU COM, 2016). This pest is less distributed than D. septosporum (localized outbreaks in a third of the MSs). In the event of the removal for the EU Quarantine list, its presence on the EU territory is sufficient to qualify for the RNQP Status.

HOST PLANT N°1: Pinus (1PIUG) 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:

Pine seedlings is a pathway: Intercontinental introduction of L. acicola can most likely be explained as a consequence of the movement of infected plant material (Janousek et al., 2016).
In area where the pest is present, conidia are also a pathway when splashed by the rain, or, to much lesser extent, when dispersed over long distances by wind-driven rain (Prima Phacie, 2012). Conidia are sticky and are therefore not easily spread over long distances by wind and rain.
L. acicola can also be spread by insects over short distances, or by humans (e.g. tourists in national parks) over long distances.
Introduction of the teleomorph stage (currently only southern USA) is also likely to spread the pathogen over greater distances due to the production of forcefully discharged, wind-blown ascospores (EU COM, 2016). In absence of the teleomorph form in the EU, plants for planting are still considered to be a significant pathway compared to natural dispersal in area where the pest is present. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

L. acicola causes yellowing, necrosis of young needles and defoliations which may reduce vigour. Severe infections may retard the growth, whereas attack over several years can kill the trees (Prima Phacie, 2012). Current impact in the EU do not appear significant, however introduction of new genotypes if the teleomorph stage was ever introduced may make this change (EU COM, 2016). Impact is only considered to be important on some specific species (e.g. P. palustris in the southern USA where the disease reduces the annual growth of southern pines by more than 0.453 million m3 of timber, certain varieties of P. sylvestris and other Christmas trees in Northern America). Strong damages were observed on Pinus radiata what bring a complete halt to the production of this species in France.
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:

Impact is considered major on a limited number of Pinus species. However, as the three pine needle blight should be regulated together and do not have the same major hosts, experts agreed to keep a listing at the genus level for Pinus. **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 Place/Site of Production; treatment and inspection. **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. Experts concluded that the RNQP status is justified for the three needle blight pathogens considered together for practical reasons (only distinguishing Dothistroma needle blight and Lecanosticta needle blight during inspections), and the expert view is that plants for planting can be a significant pathway leading to economic damage in places of production (nurseries and forests). The measures should take account of the wide distribution of the pathogens, and the importance of natural spread locally. Where more stringent measures are needed to protect a large area from introduction, these could be considered under quarantine legislation (protected zone status). **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) The plants originate in areas known to be free from Dothistroma pini, Dothistroma septosporum and Lecanosticta acicola;
or
(b) No symptoms of needle blight [caused by Dothistroma pini, Dothistroma septosporum or Lecanosticta acicola] have been observed at the site of production or its immediate vicinity since the beginning of the last complete cycle of vegetation;
or (possibly only applicable to ‘source-identified’ and ‘selected’ material)
(c) Appropriate treatments have been carried out against needle blight [caused by Dothistroma pini, Dothistroma septosporum or Lecanosticta acicola] and the plants have been inspected before dispatch and found free from symptoms of needle blight.
Justification (if necessary):

The place of production is too large and the SEWG proposed to restrict the risk management measures to the production site. Indeed the definition of measures for the whole place of production is necessary especially when there is a risk of infection by workers, machines … Because of local spread, an isolation distance ('immediate vicinity') is necessary to reduce the infection pressure of the pathogen. The use of two appropriate treatments per year may be sufficient to prevent an unacceptable economic impact on the intended use. Risk management options may depend on the quality of the concerned material (last option possibly only applicable to ‘source-identified’ and ‘selected’ material). **REFERENCES:**

* 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 Scirrhia acicola;
* Janoušek J, Wingfield MJ, Marmolejo Monsivais JG, Jankovsky L, Stauffer C, Konecny A & Barnes I (2015) Genetic Analyses Suggest Separate Introductions of the Pine Pathogen Lecanosticta acicola Into Europe. Phytopathology 106, 1413-1425; available at: <http://apsjournals.apsnet.org/doi/10.1094/PHYTO-10-15-0271-R>;
* Prima Phacie (2012) Pest risk assessment for the European Community plant health: A comparative approach with case studies. External scientific report by group of authors: <http://www.efsa.europa.eu/fr/supporting/doc/319e.pdf>;

HOST PLANT N°2: Pinus (1PIUG) 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:

Pine seedlings is a pathway: Intercontinental introduction of L. acicola can most likely be explained as a consequence of the movement of infected plant material (Janousek et al., 2016).
In area where the pest is present, conidia are also a pathway when splashed by the rain, or, to much lesser extent, when dispersed over long distances by wind-driven rain (Prima Phacie, 2012). Conidia are sticky and are therefore not easily spread over long distances by wind and rain.
L. acicola can also be spread by insects over short distances, or by humans (e.g. tourists in national parks) over long distances.
Introduction of the teleomorph stage (currently only southern USA) is also likely to spread the pathogen over greater distances due to the production of forcefully discharged, wind-blown ascospores (EU COM, 2016). In absence of the teleomorph form in the EU, plants for planting are still considered to be a significant pathway compared to natural dispersal in area where the pest is present. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

L. acicola causes yellowing, necrosis of young needles and defoliations which may reduce vigour. Severe infections may retard the growth, whereas attack over several years can kill the trees (Prima Phacie, 2012). Current impact in the EU do not appear significant, however introduction of new genotypes if the teleomorph stage was ever introduced may make this change (EU COM, 2016). Impact is only considered to be important on some specific species (e.g. P. palustris in the southern USA where the disease reduces the annual growth of southern pines by more than 0.453 million m3 of timber, certain varieties of P. sylvestris and other Christmas trees in Northern America).
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:

Impact is considered major on a limited number of Pinus species. However, as the three pine needle blight should be regulated together and do not have the same major hosts, experts agreed to keep a listing at the genus level for Pinus. **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 Place/Site of Production; treatment and inspection. **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. Experts concluded that the RNQP status is justified for the three needle blight pathogens considered together for practical reasons (only distinguishing Dothistroma needle blight and Lecanosticta needle blight during inspections), and the expert view is that plants for planting can be a significant pathway leading to economic damage in places of production (nurseries and forests). The measures should take account of the wide distribution of the pathogens, and the importance of natural spread locally. Where more stringent measures are needed to protect a large area from introduction, these could be considered under quarantine legislation (protected zone status). **8 - Tolerance level:**
Is there a need to change the Tolerance level:

No
Proposed Tolerance levels:

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

Yes
Proposed Risk management measure:

(a) The plants originate in areas known to be free from Dothistroma pini, Dothistroma septosporum and Lecanosticta acicola;
or
(b) No symptoms of needle blight [caused by Dothistroma pini, Dothistroma septosporum or Lecanosticta acicola] have been observed at the site of production or its immediate vicinity since the beginning of the last complete cycle of vegetation.
or
(c) Appropriate treatments have been carried out against needle blight [caused by Dothistroma pini, Dothistroma septosporum or Lecanosticta acicola] and the plants have been inspected before dispatch and found free from symptoms of needle blight. **REFERENCES:**

* 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 Scirrhia acicola;
* Prima Phacie (2012) Pest risk assessment for the European Community plant health: A comparative approach with case studies. External scientific report by group of authors: <http://www.efsa.europa.eu/fr/supporting/doc/319e.pdf>;