NAME OF THE ORGANISM: Sclerotinia sclerotiorum (SCLESC)

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: Oil and fibre plants sector

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

Not relevant
Conclusion:

* Candidate: Oil and fibre plants sector

**2 – Status in the EU:**

Is this pest already a quarantine pest for the whole EU?

No
Presence in the EU:

Yes
Conclusion:

candidate
Justification (if necessary):

The pest is present in Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugai, Romania, Slovakia, Spain, Sweden, Switzerland and UK (CABI, 2005).

HOST PLANT N°1: Sinapis alba (SINAL) for the Oil and fibre plants sector.

Origin of the listing:

3 - Oil and fibre plants sector: Council Directive 2002/57/EC
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 white mould or Sclerotinia stem rot (SSR) disease, caused by Sclerotinia sclerotiorum, is an important worldwide diseases in the white mustard crop Sinapis alba, though it is less severe than some other brassica species. The pathogen overwinters as sclerotia in the soil or debris, which germinate and release ascospores which then infect the crop. They are weak pathogens and do not usually infect healthy plant tissue but invade through dead or injured tissue, or spent flower blossoms. Thus sclerotia contamination of seed means they can be sown adjacent to seed and then have the potential to germinate within the susceptible crop. It has a wide host range and is widespread in the environment in weeds and other crops, and is controlled by crop rotation, isolation from other susceptible crops, fungicides and reduction of moisture and and poor air circulation where possible.
Research has shown high numbers of ascospores in the air, e.g, 2007 had a severe SSR epidemic in England and high numbers of airborne ascospores were trapped at Rothamsted; while both 2003 and 2004 had a very low incidence of SSR in England and low numbers of airborne ascospores. The severe SSR season of 2007 occurred throughout a large part of Northern Europe and was not predicted in the UK by climate-based disease-forecasts (Atkins et al., 2008).
Seed samples have been found to contain up to 432 sclerotia per kilogram of the seed and sclerotia are reported to remain viable and virulent up to 7 years assuring pathogen availability when a host crop is planted.
Survival of the pathogen is also possible through infected seeds in the form of mycelial infection of the testa (Sharma et al., 2015).
The SEWG concluded that the relative significance of seed as a pathway depends on the level of inoculum already present in the soil, which is likely to vary across the EU depending on cropping history, practice of rotation etc. For some areas it is likely that seed could be a significant pathway of introduction to fields and places of production which are otherwise substantially free from the pathogen. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

Frequent occurrences of the disease in mild to severe form have been reported from Denmark, Finland, France, Germany, Sweden and United Kingdom (Sharma et al., 2015) although no details are specific to Sinapis alba. However it is remarked moderate Sclerotinia resistance has been reported in this species. Yield losses in susceptible crops vary and may be as high as 100 per cent. The shattering of prematurely-ripened seed pods before harvest, and loss of quality in the form of smaller, shrunken and chaffy seeds has been observed. Reported yield loss estimates due to Sclerotinia rot (SR) in rapeseed varied from very heavy in Germany. In central and eastern parts of Finland, losses by SR were so great that the cultivation of rapeseed is considered beneficial only in the southern and western areas (Sharma et al., 2015).
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:

Economic impact is considered major, subject to variation between the years. **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?**

Yes

Conclusion:

Candidate
Justification:

 **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP, based on data. The relative significance of seed as a pathway depends on the level of inoculum already present in the soil, which is likely to vary across the EU depending on cropping history, practice of rotation etc. For some areas it is likely that seed could be a significant pathway of introduction to fields and places of production which are otherwise free from the pathogen. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

No
Proposed Tolerance levels:

Basic and certified material:
Not more than 5 sclerotia or fragments of sclerotia found in a laboratory examination of a representative sample of each seed lot, of a size specified in column 4 of annex II of the Directive. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

No
Proposed Risk management measure:

Justification (if necessary):

The SEWG noted that some member states currently have additional requirements for thresholds for this pathogen in field inspection. **REFERENCES:**

* Atkins SL, Atkins SD, Latunde-Dada AO, Stonard JF & West, JS (2013) Detection and quantification of airborne ascospores of Sclerotinia sclerotiorum by quantitative-PCR. Proceedings of the IOBC/WPRS Working Group "Integrated Control in Oilseed Crops", Paris, France, 29 September-01 October 2008 (Eds Koopmann B, Cook S, Evans N & Ulber B) IOBC/WPRS Bulletin 92, 173-178;
* CABI (2005) Distribution Maps of Plant Diseases, 2005, October (Edition 1), pp Map 971 <http://www.cabi.org/isc/abstract/20066500971>;
* Sharma P, Meena PD, Verma PR, Saharan GS, Naresh Mehta N, Singh D & Kumar A (2015) Sclerotinia sclerotiorum (Lib) de Bary causing Sclerotinia rot in oilseed Brassicas: a review. Journal of Oilseed Brassica 6, Special Issue 1-44 ;