NAME OF THE ORGANISM: Botrytis cinerea (BOTRCI)

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

Justification (if necessary):
 
Remark on taxonomy: According to the International Commission of the Taxonomy of Fungi, the list of plant pathogenic fungi (posted 08/25/2015) by the International Subcommission for the Taxonomy of Phytopathogenic Fungi was updated (<http://www.fungaltaxonomy.org/index.php/download_file/view/132/1/>). According to this list the appropriate name should be Botrytis cinerea. **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):
 
This pest is frequent, present worldwide.

HOST PLANT N°1: Helianthus annuus (HELAN) for the Oil and fibre plants sector.

Origin of the listing:
 
RNQP Questionnaire  
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:
 
Botrytis spp. is listed in Directive 2002/57 with a threshold, however no references to other species than B. cinerea were found affecting Helianthus annus.  
Botrytis cinerea (grey mould) is a worldwide, ubiquitous fungus with a wide host range of herbaceous annual and perennial plants causing a primary and secondary rot, especially after damage or conditions of high humidity. Sclerotia and conidia are formed on fallen fruit and plant debris from which wind-borne ascospores and condia are released into the air to infected new plant material of many species. On sunflower it causes a bud blast or flower blight, causing rotting of seed heads. Information on percentage seed infected in Russia was given for two years (Piven et al., 2010) and in Bangdadesh B. cinerea was second in order of prevalence and second in order of predominance out of the nine fungi recorded on seed samples (Rahman & Fakir, 2007). Botrytis cinerea was detected on sunflower and safflower seed imported from the USA and Germany to India (Chakrabarty et al., 2004).  
A proficiency test (PT) of the ISTA Seed Health Committee was organized in 2007 to verify the ability of laboratories to detect, using ISTA method 07-003, the percentage of Helianthus annuus seeds infected by Botrytis cinerea and it was found many laboratories over- or underestimated the percentage of B. cinerea (Sérandat et al., 2007). Further testing method details were given in the revised method effective from 1/1/2017 (ISTA 2017).  
Although the pathogen is ubiquitous the view of the SEWG was that the presence on the seed is a pathway that directly impact the germination and crop establishment compared to pest free seed, or seed which has been treated against the pest. Seeds are the main pathway as it is a dead end host itself. **5 - Economic impact:**  
Are there documented reports of any economic impact on the host?
 
Yes  
Justification:
 
This pest is quoted in general terms in some abstracts as causing severe head infection in Croatia, Russia and UK where early maturity is desired to avoid high losses due to wetter weather. In a UK trial some early maturing cultivars were particularly susceptible with > 50% of the heads destroyed before harvest, others however, had < 5% of completely infected heads. Some fungicides failed to control (Anon 1985). Use of fungicides reduced degree of attack by Botrytis cinerea infection from 7.25% to 2.05 to 2, 9% in Romania (Draghici, R. 2010). Monitoring the mycopopulation of sunflower grain from experimental fields in Croatia found the incidence of parasitic fungi (Botrytis cinerea, and others) in all trial years was sporadic to weak (Ćosić et al., 2011).  
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:
 
Although the pathogen is ubiquitous the view of the SEWG was that the presence on the seed has a significant economic impact on the germination and crop establishment compared to pest free seed, or seed which has been treated against the pest. **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:
 
a) Laboratory tests according to ISTA Methods;  
b) treatment of seeds with registered plant protection products. **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. Although the pathogen is ubiquitous the view of the SEWG was that the presence on the seed has a significant economic impact on the germination and crop establishment compared to pest free seed, or seed which has been treated against the pest. **8 - Tolerance level:**  
Is there a need to change the Tolerance level:
 
No  
Proposed Tolerance levels:
 
Basic and certified material:  
(a) Seed treatment authorised for use against Botrytis cinerea has been applied;  
or  
(b) Not more than 5% of seed affected with Botrytis cinerea based on laboratory test of a representative sample. **9 - Risk management measures:**  
Is there a need to change the Risk management measure:
 
No  
Proposed Risk management measure:
 
Measures do not need to be specified for non-treated seeds (see defined threshold). **REFERENCES:**

* Anon (1986) Rothamsted Experimental Station UK Report for 1985, 123;
* Ćosić J, Vrandečić K, Poštić J & Dimić D (2011) Mycopopulation of sunflower grain. Glasnik Zaštite Bilja 34, 40-45;
* Chakrabarty SK, Anitha K, Rao RDVJP, Mohammed Ismail, Babu BS, Babu Abraham, Varaprasad KS & Khetarpal RK (2004) Pests intercepted in oilseeds germplasm imported during 1986-2003. Indian Journal of Plant Protection 32, 20-124;
* Draghici R (2010) Research the influence of treatment plant application on sunflower culture located in sandy soils conditions. Annals of the University of Craiova - Agriculture, Montanology, Cadastre Series 40,361-367;
* ISTA (2017) 07‑003: Detection of Botrytis cinerea in Helianthus annuus (sunflower) seed. online at <http://www.seedtest.org/upload/cms/user/2017-SH-7-003.pdf>;
* Piven VT, Muradasilova NV, Shulyak II & Alifirova TP (2010) Methods of isolation of pathogenic microflora from sunflower seeds. Zashchita i Karantin Rasteniĭ 2, 57-61;
* Rahman MM & Fakir GA (2007) Study on seed health status of sunflower in Bangladesh. Bangladesh Journal of Plant Pathology 23, 51-56;
* Sérandat I, Grimault V & Léchappé J (2007) Proficiency test Botrytis cinerea on Helianthus annuus (ISTA method 07-003). Seed Testing International 135, 37-41;