NAME OF THE ORGANISM: Ditylenchus gigas (DITYGI)

GENERAL INFORMATION ON THE PEST

Name as submitted in the project specification (if different to the preferred name):
 
  
Pest category:
 
Nematoda **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: Fodder plant seed sector

Is it justified that the pest is listed at a taxonomic rank below species level?
 
Not relevant  
Conclusion:

* Candidate: Fodder plant seed sector

Justification (if necessary):
 
Ditylenchus gigas was considered previously as the giant race of Ditylenchus dipsaci. This is the reason why the EPPO Secretariat proposed to add this pest to the RNQP project. D. gigas is suspected to only affect Vicia faba (ARVALIS, 2017). **2 – Status in the EU:**
   
Is this pest already a quarantine pest for the whole EU?
 
No  
Presence in the EU:
 
  
Conclusion:
 
candidate  
Justification (if necessary):
 
The pest is present in Germany, Italy, Poland and Spain (EPPO Global Database, CABI 2015)

HOST PLANT N°1: Vicia faba (VICFX) for the Fodder plant seed sector.

Origin of the listing:
 
  
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:
 
Ditylenchus gigas is now considered as conspecific with the D. dipsaci 'giant race' in Vicia faba. Seed transmission of D. gigas to the planted crop is well established and planting certified nematode-free seeds is recognised as an important control practice for this disease. Of 144 stem nematode populations obtained from commercial Vicia faba seed lots from England 93% were found to be infected with D. gigas (Stawniak, 2011). Contaminated seed can be controlled by seed testing and the removal of contaminated seed lots from the market. Crop rotation plays a significant roll in reducing seed infection. **5 - Economic impact:**  
Are there documented reports of any economic impact on the host?
 
Yes  
Justification:
 
The pest causes swelling and deformation of stem tissue or lesions, leaf and petiole necrosis and infected seeds are darker, distorted and smaller in size. Heavy infestations often kill the main shoots. On faba bean (V. faba), D. dipsaci induces necrosis or swelling of the tissue and these more severe symptoms are usually induced by the 'giant race', specific to faba bean (CABI, 2015). D. gigas is one of the most devastating plant-parasitic nematodes, especially in temperate regions and without control, it can cause complete failure of host crops such as legumes. Industry reports (PGRO, 2007) suggested yield reductions of 0.8 tonnes per hectare in humid and wet years in the UK. Seed rejected because of infected seeds are usually used for animal feed, but the price of deteriorated material is reduced significantly by at least 15% (Stawniak, 2011).  
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:
 
Planting disease free seed, field inspections, where crop infected produce not used for seed. Prevent build up of pest through adequate rotation, a break of 5 to 10 years before growing beans where an infested crop was found. **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. Remark: this would be a new regulation in the European Union on Vicia faba. **8 - Tolerance level:**  
Is there a need to change the Tolerance level:
 
Yes  
Proposed Tolerance levels:
 
Zero tolerance approach, based on visual examination and/or testing. **9 - Risk management measures:**  
Is there a need to change the Risk management measure:
 
Yes  
Proposed Risk management measure:
 
For all categories of material:  
(A) (a) The crop has been inspected at least once at an appropriate time since the beginning of the last complete cycle of vegetation and no symptoms of Ditylenchus gigas have been observed;  
and  
(b) No Ditylenchus gigas has been revealed by laboratory tests on a representative sample;  
OR  
(B) The seeds have been subjected to an appropriate physical or chemical treatment against Ditylenchus gigas and have been found to be free of this pest after laboratory tests on a representative sample.  
Justification (if necessary):
 
In case of finding, producers are not producing Vicia faba for 5 to 10 years on the same field. No physical and chemical treatments are available. Such treatments probably may be developed in the future (‘ThermoSeed’ treatments). Experts of the SEWG concluded that a laboratory test should be mandatory. **REFERENCES:**

* ARVALIS (2017) Les fiches accidents. Némathode des tiges et bulbes: Ditylenchus dipsaci. Consulted the 09/08/2017. Available from <http://www.fiches.arvalis-infos.fr/fiche_accident/fiches_accidents.php?mode=fa&type_cul=9&type_acc=3&id_acc=314>;
* CABI (Centre for Agricultural Bioscience International) (2015) Online. Datasheets Ditylenchus dipsaci (stem and bulb nematode). Invasive species compendium. CABI, Wallingford, UK. Available from <http://www.cabi.org/isc/datasheet/19287>;
* Stawniak N (2011) Studies on stem nematode species (ditylenchus spp.) associated with faba bean (vicia faba L.) in the United Kingdom and their implications for field management. PhD thesis, University of Reading. Available from <http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.578032>;
* PGRO (Processors and Growers Research Organisation) (2007) Information Sheet Number 168 Stem & Bulb nematode (Ditylenchus dipsaci) in field beans. Processors and Growers Research Organisation, Peterborough, UK;