NAME OF THE ORGANISM: Ditylenchus dipsaci (DITYDI)

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: Vegetable propagating and planting material (other than seeds) sector

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

Not relevant
Conclusion:

* Candidate: Vegetable propagating and planting material (other than seeds) sector

Justification (if necessary):

Remark for ornamentals:
- Allium: There is a large number of Allium species (and within the species, varieties) that are used as ornamentals.
Therefore it is suggested to include all Allium for ornamental use in the present evaluation.
- Ismene (host plant for D. dipsaci as mentioned in Directive 2000/29/EC) is nowadays named Hymenocallis for cultivated ornamental species and varieties. **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 (1993); Belgium (2007); Bulgaria (1993); Croatia (1996); Cyprus (1993); Czech Republic (1994); Denmark (1993); Estonia (1994); Finland (1993); France (2010); Germany (2014); Greece (1996); Hungary (2001); Ireland (1998); Italy (1992); Italy/Sicilia (2002); Latvia (2013); Lithuania (1998); Malta (1995); Netherlands (2015); Poland (2012); Portugal (1992); Portugal/Azores (1994); Romania (2011); Slovakia (2007); Slovenia (2003); Spain (2007); Sweden (1993); United Kingdom (1993); United Kingdom/England (1994); United Kingdom/Scotland (1994)
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: Allium sativum (ALLSA) for the Vegetable propagating and planting material (other than seeds) sector.

Origin of the listing:

2 - Vegetable seedling sector: Commission Directive 93/61/EC
Plants for planting:

Plants intended for planting **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:

Transmission of D. dipsaci from infested seed to young seedlings, or on garlic cloves for transplanting is well established and planting nematode-free transplants and cloves is recognized as an important control practice for this pest. Other potential sources of infection are nematode-infested soil, infested debris and infested weeds. Field control can be by rotation, soil solarization or resistant cultivars, however chemical treatments of soil are not economic for large areas (CABI, 2015). In conclusion young plants for transplanting or garlic cloves are both pathways, and with suitable control measures carried out for the alternative inoculum sources, plants and garlic cloves can be considered as significant pathways compared to others. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

D. dipsaci is one of the most devastating plant-parasitic nematodes, especially in temperate regions. Without control, it can cause complete failure of host crops such as onions and garlic. Penetration of leaves by D. dipsaci causes leaf deformation and leaf swellings or blister-like areas on the surface. The leaves grow in a disorderly fashion, often hang as if wilted and become chlorotic. Young plants can be killed by high infestations. The inner scales of the bulb are usually more severely attacked than the outer scales. As the season advances the bulbs become soft and when cut open show browning of the scales in concentric circles (CABI 2015). Compared to healthy garlic bulbs, infected garlic bulbs are smaller, present a damaged skin and cloves and do not keep well (EU COM, 2016).
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:

 **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. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

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

Yes
Proposed Risk management measure:

Plants for further propagation:
(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 dipsaci have been observed;
or
(b) The crop has been inspected at least once at an appropriate time since the beginning of the last complete cycle of vegetation and not more than 2% of plants have shown symptoms of Ditylenchus dipsaci infestation, those plants have been rogued out immediately, and the planting material has then been found to be free of this pest after laboratory tests on a representative sample;
or
(c) The planting material has been subjected to an appropriate chemical or physical treatment against Ditylenchus dipsaci and the planting material has been found to be free of this pest after laboratory tests on a representative sample.

Plants for production of a commercial crop:
(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 dipsaci have been observed;
or
(b) The crop has been inspected at least once at an appropriate time since the beginning of the last complete cycle of vegetation and plants showing symptoms of Ditylenchus dipsaci have been rogued out immediately, and the planting material has then been found to be free of this pest after laboratory tests on a representative sample;
or
(c) The planting material has been subject to an appropriate physical or chemical treatment and the planting material has been found to be free of Ditylenchus dipsaci after laboratory tests on a representative sample; **REFERENCES:**

* 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>;
* 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 Ditylenchus dipsaci (Kuhn) Filipvejev;