NAME OF THE ORGANISM: Tomato spotted wilt tospovirus (Tomato spotted wilt virus) (TSWV00)

GENERAL INFORMATION ON THE PEST

Name as submitted in the project specification (if different to the preferred name):

Pest category:

Viruses and viroids **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: Other crops

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

Not relevant
Conclusion:

* Candidate: Other crops

Justification (if necessary):

Tomato spotted wilt tosopvirus (TSWV) is a single taxonomic entity (genus Tospovirus: family Bunyaviridae). In 2015 it was proposed to change the name of the virus from Tomato spotted wilt virus to Tomato spotted wilt tospovirus (ICTV, 2015; Van Regenmortel et al., 2015). It has been ratified in 2016 for all the family of the Bunyaviridae. **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):

Belgium (2014); Bulgaria (2013); Croatia (1999); Cyprus (2011); Czech Republic (2011); France (2013); Germany (2011); Greece (2002); Greece/Kriti (1994); Hungary (2012); Ireland (1993); Italy (2013); Italy/Sicilia (1994); Italy/Sardegna (2006); Lithuania (1998); Malta (2011); Netherlands (2015); Portugal (2011); Portugal/Madeira (2001); Romania (2011); Slovenia (2011); Spain (2016); Spain/Islas Canárias (2011); Spain/Islas Baleares (2011); Sweden (1998); United Kingdom (2011); United Kingdom/England (1995); United Kingdom/Scotland (1995); United Kingdom/Channel Islands (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/>). This pest is a candidate for the RNQP status according to the IIA2AWG

HOST PLANT N°1: Nicotiana tabacum (NIOTA) for the Other crops.

Origin of the listing:

IIA2AWG
Plants for planting:

Plants intended for planting, other than seeds, of which there shall be evidence that they are intended for sale to professional tobacco production **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:

TSWV has an extremely wide host range with more than 1 300 plants including agricultural crops, wild and weed species (Parrella et al., 2003; Peters, 2003). As all the tospoviruses, TSWV is not transmitted through seeds of infected plants (EU COM, 2016). TSWV is a systemic pathogen and, as such, it is very efficiently transmitted by all vegetative multiplication techniques (EFSA-PLH, 2012). The virus is transmitted by thrips in a persistent propagative mode (Ullman et al., 1993; Wijkamp et al., 1993). Because of the persistence of TSWV in the vectors, the virus can be carried by infected plant material but also by viruliferous thrips, which can be present on a consignment that is infected with TSVW or even on consignments of non-host plants of the virus. The interception reports in EUROPHYT (very few) indicate that TSWV is found mostly in consignments of ornamentals and in 2011 and 2012 it has been reported four times on Lycopersicon esculentum. TSWV and viruliferous thrips are being transported in living planting material and will survive transport and storage as long as their hosts remain alive (EFSA-PLH, 2012).
As concluded by the IIA2 AWG, the plants for planting (excluding seeds) is considered to be a significant pathway compared to other pathways. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

Tomato spotted wilt virus (TSWV) causes serious losses in the tobacco-producing areas of Northern Greece (Chatzivassiliou, 2008). Serious losses on tobacco are reported also from Georgia (USA) - from 1995 to 2008, the statewide percentages of tobacco stand losses and crop losses due to spotted wilt have steadily increased, peaking in 2002, with 41% stand loss and 20% crop loss ($19.4 million loss to the Georgia tobacco crop) (University of Georgia, 2017).
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:

Risk reduction options to prevent the presence of the pest on the plants for planting are available (EFSA PLH, 2012). **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:

No
Proposed Tolerance levels:

Zero tolerance of symptoms based on visual examination (field inspection of a representative sample of plants in each production lot). **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

Zero tolerance of symptoms based on field inspection of a representative sample of plants in each production lot. **REFERENCES:**

* Chatzivassiliou EK (2008) Management of the spread of Tomato spotted wilt virus in tobacco crops with insecticides based on estimates of thrips infestation and virus incidence. Plant Disease 92, 1012-1020;
* 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 Tomato spotted wilt virus ;
* EFSA Panel on Plant Health (PLH) (2012) Scientific Opinion on the risk to plant health posed by Tomato spotted wilt virus to the EU territory with identification and evaluation of risk reduction options. EFSA Journal 2012;10(12):3029. [64 pp.] doi:10.2903/j.efsa.2012.3029. Available online: www.efsa.europa.eu/efsajournal;
* Parrella G, Gognalons P, Gebre-Selassie K, Vovlas C and Marchoux G (2003) An update of the host range of tomato spotted wilt virus. Journal of Plant Pathology 85, 227–264;
* University of Georgia - College of Agricultural & Environmental Sciences (2017) Tomato Spotted Wilt Virus in Tobacco. Page updated on Friday, January 20, 2017. Consulted on the 23rd of May, 2017. Available at: <http://caes2.caes.uga.edu/tswv/tobacco/index.html>;