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: Ornamental sector

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

Not relevant
Conclusion:

* Candidate: Ornamental sector

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/>).

HOST PLANT N°1: Gerbera (1GEBG) for the Ornamental sector.

Origin of the listing:

Commission Directive 93/49/EEC
Plants for planting:

Plants intended for planting, other than 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:

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). 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. No interceptions have been reported on Gerbera for the period 1996-2012. 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). Gerbera jamesonii is one of the most frequently ornamental crop infected with TSWV in Poland (Kaminska and Korbin, 1991), the Netherlands (Verhoeven and Roenhorst, 1994; Verhoeven and Roenhorst, 1998), Czech Republic (Mertelík et al., 1996) and Portugal (Louro, 1996). TSWV reservoirs in Czech Republic are mainly vegetatively-propagated ornamental plants reacting on the infection with mild symptoms or being symptomless (Mertelík et al., 1996). The plants for planting represent a significant pathway compared to other pathways. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

TSWV infections have great impact on the ornamental industry, with the virus frequently found in greenhouse flower crops (Verhoeven and Roenhorst, 1994; Daughtrey et al., 1997). In Italy, samples of greenhouse-grown Gerbera jamesonii plants showed severe malformations on flowers and necrotic spots on leaves and TSWV but not Impatiens necrotic spot virus was detected in all samples (Spanò et al 2011). Similarly, in Serbia, approximately 30% of gerbera (G. hybrida) plants grown in a greenhouse showed chlorotic oak-leaf patterns followed by necrosis and distortion of leaves (Stanković et al., 2011). In 2012-2014, TSWV was detected in 30% of greenhouse-grown gerbera and chrysanthemum in Miranda State, Venezuela (Marys et al., 2014). Similar other references with similar information on this host could be found.
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:

 **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 and/or testing. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(A) The site of production has been subjected to a monitoring regime and appropriate treatments to ensure effective suppression of populations of relevant thrips vectors (Frankliniella occidentalis and Thrips tabaci);
AND
(B) (a) No symptoms of Tomato spotted wilt tospovirus have been observed on plants at the site of production during the current growing period;
or
(b) Any plants at the production site showing symptoms of Tomato spotted wilt tospovirus during the current growing period have been rogued out and a representative sample of the plants to be marketed has been tested and found free from tomato spotted wilt virus. **REFERENCES:**

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