

## Express PRA<sup>1</sup> for *Thrips setosus*

– Occurrence –

Prepared by: Julius Kühn-Institute, Institute for national and international Plant Health; Dr. Gritta Schrader, *Dr. Anne Wilstermann*; on: 20-08-2019 (*replaces version of: 29-08-2015*).  
*Revision highlighted in red and italics.* (translated by Elke Vogt-Arndt)

**First initiation:** occurrence in Federal State Hamburg

*Reason for the revision: Wide distribution in the EU, permanent re-introduction to Germany; phytosanitary regulations are no longer useful.*

Express Pest Risk analysis	<i>Thrips setosus</i> Moulton		
Phytosanitary risk	<i>Classification no longer applicable. Due to the wide distribution, <i>Thrips setosus</i> no longer fulfils the criteria of a quarantine pest.</i>		
Certainty of the assessment	high <input checked="" type="checkbox"/>	medium <input type="checkbox"/>	low <input type="checkbox"/>
Conclusion	<p><i>Thrips setosus</i> is endemic to Japan and Korea. <i>It is established in the Netherlands and further EU Member States. Thus, the pest is constantly being introduced to Germany. T. setosus was listed in the EPPO alert list from 2014 to 2018.</i></p> <p><i>Thrips setosus</i> is a highly polyphagous species and infests amongst others sweet pepper, cucumber, pumpkin, tobacco, pea, sesame, tomato, potato, rice and hortensia. <i>T. setosus</i> is the vector of the Tomato spotted virus.</p> <p>Due to appropriate climate conditions, it is assumed that <i>T. setosus</i> is capable to establish outdoors in Germany. The establishment in other Member States is also possible. The thrips was found in glasshouses in the Netherlands thus, the establishment in protected cultivation has to be expected.</p> <p><i>Thrips setosus is constantly being introduced to Germany. The pest is established in several EU Member States. The Standing Committee for Plants, Animals, Food and Feed (PAFF) discussed on T. setosus in June 2019. Most of the Member States are of the opinion that phytosanitary measures are no longer useful because of the wide distribution. Thus, § 4a of the Plant Inspection Order is no longer applicable and there is no longer any obligation for notification, control or approval.</i></p>		
Taxonomy <sup>2</sup>	Thysanoptera, Thripidae; <i>Thrips setosus</i> Moulton		
Common name	Japanese flower thrips, tobacco thrips		
Synonyms	----		

Express Pest Risk analysis	<i>Thrips setosus</i> Moulton
Does a relevant earlier PRA exist?	Yes, Quickscan in the Netherlands (ANONYMOUS, 2014).
Biology	Information is generally lacking. The thrips has a high reproductive rate, a high population growth and a broad host range. It does not feed on pollen and thus, it is no typical flower thrips.
Is the pest a vector? <sup>3</sup>	Yes, for Tomato spotted wilt virus (TSWV) (ONISHI et al., 2001).
Is a vector needed? <sup>4)</sup>	No
Host plants	Highly polyphagous species: amongst others sweet pepper, cucumber, pumpkin, tobacco, pea, sesame, tomato, potato, rice and hortensia.
Symptoms <sup>4</sup>	Silvery spots with dark punctures on the foliage of the host plants.
Presence of the host plants in Germany <sup>5</sup>	Wide spread, as well in outdoor areas as in protected cultivation.
Presence of the host plants in the Member States <sup>6</sup>	Wide spread, as well in outdoor areas as in protected cultivation.
Known infested areas <sup>7</sup>	Japan, Korea, <i>Indonesia, the Netherlands, Germany, Great Britain, Croatia, France</i> (EPPO GD, 2019).
Pathways <sup>8</sup>	Plants for planting, cut flowers, cut foliage, fruits, vegetables, soil and substrates.
Natural distribution <sup>9</sup>	Relatively limited
Establishment and distribution to be expected in Germany <sup>10</sup>	Possible, because of appropriate climate conditions, establishment also possible in glasshouses.
Establishment and distribution to be expected in the Member States <sup>11</sup>	Possible, because of appropriate climate conditions, establishment also possible in glasshouses.
Known damage in infested areas <sup>12</sup>	No severe damage known in the native area. The reason might be massive control measures against other pests, e.g. <i>Thrips palmi</i> that are taken in that area and which are effective against <i>T. setosus</i> , too.
Limitation of the endangered area in Germany	All of Germany

Express Pest Risk analysis	<i>Thrips setosus</i> Moulton
Damage to be expected in endangered area in Germany <sup>13</sup>	Feeding damage on vegetables and ornamental plants, transmission of TSWV. An impact on the export is possible because the thrips is present only in a few countries, so far.
Damage to be expected in endangered area in the Member States <sup>14</sup>	Feeding damage on vegetables and ornamental plants, transmission of TSWV.
Control feasibility and measures <sup>15</sup>	Difficult because of the littleness of the thrips and the high reproduction rate. Possibly, plant protection agents against <i>Thrips palmi</i> could be effective in this case, too. However, this assumption bears a high uncertainty.
Detection and diagnosis <sup>16</sup>	Symptomatic. <i>A key for morphological identification is available from MASUMOTO &amp; OKAJIMA (2013).</i>
Remarks	
Literature	<p>ANONYMOUS, 2014: Quick Scan of the Netherlands for <i>Thrips setosus</i>, Quick Scan Number QS. Ent.2014.11</p> <p>EPPO, 2014: EPPO Alert List <i>Thrips setosus</i>.  <a href="http://www.eppo.int/QUARANTINE/Alert_List/insects/thrips_setosus.htm">http://www.eppo.int/QUARANTINE/Alert_List/insects/thrips_setosus.htm</a></p> <p><i>EPPO GD, 2019: Thrips setosus [THRISE]. EPPO Global Database, <a href="https://gd.eppo.int/taxon/THRISE/distribution">https://gd.eppo.int/taxon/THRISE/distribution</a> (last update: 07-06-2019; accessed on 19-08-2019)</i></p> <p><i>OHNISHI, J., L. M. KNIGHT, D. HOSOKAWA, I. FUJISAWA, S. TSUDA, 2001: Replication of Tomato spotted wilt virus after ingestion by adult Thrips setosus is restricted to midgut epithelial cells. Phytopathology 91, 1149-1155.</i></p> <p><i>MASUMOTO, M. &amp; S. OKAJIMA, 2013: Review of the genus Thrips and related genera (Thysanoptera, Tripidae) from Japan. Zootaxa 3678(1), 001-065.</i></p>

## Explanation

---

- <sup>1</sup> Compilation of the most important directly available information allowing a first preliminary estimation of the phytosanitary risk. This short assessment is necessary for the decision on a notification to EU and EPPO as well as the preparation of a complete risk analysis, for the information of the countries and as a basis for the possible initiation of eradication measures. Regarding the phytosanitary risk especially the possibility of the introduction into and spread in Germany and the Member States as well as possible damage are taken into account.
- <sup>2</sup> Taxonomic classification - also subspecies - as the case may be; in the case that the taxonomic classification is uncertain the JKI-scientist initiates the taxonomic classification as far as possible.
- <sup>3</sup> If so, which organism (organisms) is (are) transmitted and does it (do they) occur in Germany/the MS?
- <sup>4</sup> Description of the pattern of damage and the strength of the symptoms/damage on the different host plants.
- <sup>5</sup> Appearance of the host plants in protected cultivation, open field, public gardens, forest,....; where, in which regions do the host plants appear and to which extent?  
How important are the host plants (economic, ecological, ...)?
- <sup>6</sup> Appearance of the host plants in protected cultivation, open field, public gardens, forest,....; Where, in which regions do the host plants appear and to which extent?  
How important are the host plants (economic, ecological, ...)?, possible origin.
- <sup>7</sup> f. e. acc. to CABI, EPPO, PQR, EPPO Datasheets.
- <sup>8</sup> Which ways of introduction and pathways are known for the pest and how important are they for the probability of introduction. Primarily the transport of the pest over long distances is meant, normally with infested traded plants, plants products or other contaminated articles. This does not comprise the natural spread resulting from introduction.
- <sup>9</sup> Which pathways are known for the pest and of which relevance are they in respect of the probability of the spread? In this case the natural spread resulting from introduction is meant.
- <sup>10</sup> Under the given/prevalent environmental conditions.
- <sup>11</sup> Under the given /prevalent environmental conditions (domestic areas and areas of introduction).
- <sup>12</sup> Description of the economic, ecological /environmental relevant and social damage in the area of origin resp. areas of occurrence up to now
- <sup>13</sup> Description of the economic, ecological /environmental relevant and social damage to be expected in Germany, as far as possible and required, differentiated between regions.
- <sup>14</sup> Description of economic, ecological/ environmental relevant and social damage to be expected in the EU / other Member States, as far as possible and required, differentiated between regions.
- <sup>15</sup> Can the pest be controlled? Which possibilities of control are given? Are plant health measures conducted in respect to this pest (in the areas of its appearance at present resp. by third countries)?
- <sup>16</sup> Description of possibilities and methods of detection. Detection by visual inspections? Latency? Uneven distribution in the plant (sampling)?