



Department
for Environment
Food & Rural Affairs

Proposal to deregulate tomato ringspot virus (*Nepovirus lycopersici*) on *Pelargonium* - propagating material of ornamental plants and other plants for planting intended for ornamental planting

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Objective

To review the status of tomato ringspot virus in GB legislation.

Assessment

The following is a summary of an assessment undertaken by Defra following the method outlined by EPPO (the European and Mediterranean Plant Protection Organisation) (Picard *et al.*, 2017).

Regulated non-quarantine pest (RNQP) assessment for Great Britain: tomato ringspot virus (*Nepovirus lycopersici*) on *Pelargonium* - propagating material of ornamental plants and other plants for planting intended for ornamental planting

Background

Tomato ringspot virus (also known as *Nepovirus lycopersici* or ToRSV) is currently an RNQP (Regulated Non-Quarantine Pest) for GB (Great Britain), but the listed hosts concerning this pest needed a review. The pest has a scattered worldwide distribution, with most impacts occurring in North America where the nematode vectors are widespread.

Current listing of pest in GB legislation

RNQP in GB

Current regulated plants for planting – host plants

Malus; Pelargonium; Prunus; Rubus

Taxonomy

Pest name

Nepovirus lycopersici; tomato ringspot virus; ToRSV; TomRSV

Will the pest be listed at species level?

Yes

Status in GB

Is this pest present in GB?

Yes: There is a long history of ToRSV causing symptomless findings of infection on *Pelargonium* (geranium) stocks in the UK, with unpublished records beginning in 1979 and the most recent survey being from 2003 (Defra, unpublished data). The results of the most recent survey did indicate that levels of viral contamination had dropped, but there is no evidence that ToRSV has ever been fully eradicated from *Pelargonium* (especially since the virus can be transmitted via seed and pollen in *Pelargonium*, Scarborough & Smith, 1977).

Pathways

Are the listed plants for planting the main pathway for the "pest/host/intended use" combination?

Yes: ToRSV is primarily spread by nematodes in the *Xiphinema americanum sensu lato* complex. These vectors of ToRSV are not known to occur in the UK, though the rapid PRA for these nematodes (Fera, 2014 unpublished) acknowledged that some populations may have been inadvertently imported in large, containerised plants. If nematode vectors were to enter, they are very likely to be able to establish both outdoors and in protected conditions.

While pollen transmission has been demonstrated in *Pelargonium* (Scarborough & Smith, 1977), this is not considered a major pathway. The virus is readily transmissible by grafting and by sap inoculation.

Therefore, plants for planting are considered the main means of ToRSV spreading on *Pelargonium*.

Economic Impact

Are there documented reports of any economic impact on the host?

No. In summary, symptoms are only expressed in some cultivars; and symptoms can be seasonal, only showing in winter or spring. In some plants the symptoms may disappear. Reproductive capacity can be affected.

According to the RHS (Royal Horticultural Society), older cultivars are more likely to be affected, and amateur gardeners are unlikely to encounter ToRSV (RHS, 2024).

Between and including the years 1996 and 2000, there have been 53 findings of ToRSV (Fera unpublished). These records are from a time when pelargoniums were being surveyed, and ToRSV was found to be widespread in pelargoniums (Fera, 2021). Towards the end of the survey there were very few/no findings of ToRSV. Its prevalence therefore appears to be declining.

A list of reports of symptoms is available in the Reference section. No evidence of notable economic impacts in GB were found despite the virus having been present for well over 20 years in *Pelargonium*.

As there are no notable economic impacts, the assessment stopped, and it is proposed that *Pelargonium* is no longer listed as requiring to be free from tomato ringspot virus.

Proposal for deregulation

We propose to remove propagating material of ornamental plants and other plants for planting intended for ornamental purposes of *Pelargonium* species as hosts of ToRSV, by amending Annex 4, Part C, and Annex 5, Part C, of the Phytosanitary Conditions Regulation¹. As a result, these plants would no longer need to be free from ToRSV to be imported into, or moved within, Great Britain.

¹ [Commission Implementing Regulation \(EU\) 2019/2072 of 28 November 2019 establishing uniform conditions for the implementation of Regulation \(EU\) 2016/2031 of the European Parliament and the Council, as regards protective measures against pests of plants, and repealing Commission Regulation \(EC\) No 690/2008 and amending Commission Implementing Regulation \(EU\) 2018/2019](#)

References

Picard C., Ward M., Benko-Beloglavec A., Matthews- Berry S., Karadjova O., Pietsch M. & Van Der Gaag D. J. (2017) A methodology for preparing a list of recommended regulated non-quarantine pests (RNQPs). *EPPO Bulletin*, 47: 551–558. <https://doi.org/10.1111/epp.12420>

Scarborough, B. A. & Smith, S. H. (1977) Effects of Tobacco- and Tomato Ringspot Viruses on the reproductive tissues of *Pelargonium x hortorum*. *Phytopathology* 67: 292-297.

Symptoms on *Pelargonium*:

Paludan, N., & Begtrup, J. (1987). *Pelargonium x hortorum*. Pelargonium flower break virus and tomato ringspot virus: Infection trials, symptomatology and diagnosis. *Tidsskr. Planteavl.*, 91 (2), 183-193.

Kemp, W. G. (1969) Detection of tomato ringspot virus in pelargonium in Ontario. *Canadian Plant Disease Survey*, 49, 1-4. [https://phytopath.ca/wp-content/uploads/2014/10/cpds-archive/vol49/CPDS_Vol_49_No_1_\(1-4\)1969.pdf](https://phytopath.ca/wp-content/uploads/2014/10/cpds-archive/vol49/CPDS_Vol_49_No_1_(1-4)1969.pdf)

RHS (2024) *Pelargonium viruses*. Web page <https://www.rhs.org.uk/problems/pelargonium-viruses> Accessed November 2024.

Rydén, K. (1972). Pelargonium ringspot-a virus disease caused by tomato ringspot virus in Sweden. *Phytopathologische Zeitschrift* 73 (2) 178-182.

Stone, O. M. (1980, May). Nine viruses isolated from pelargonium in the United Kingdom. In *V International Symposium on Virus diseases of Ornamental Plants* 110 (pp. 177-182). https://www.actahort.org/books/110/110_23.htm

University of Illinois Extension (1989) Virus diseases of geranium. *Report on Plant disease* RPD No. 608 <https://ipm.illinois.edu/diseases/rpds/608.pdf>

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This regulation proposal has been undertaken taking into account the environmental principles laid out in the Environment Act 2021. Of particular relevance are:

- The prevention principle, which means that any policy or action taken, or not taken should aim to prevent environmental harm.
- The precautionary principle, which assists the decision-making process where there is a lack of scientific certainty.