



Department
for Environment
Food & Rural Affairs

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

November 2024

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 (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 *Malus* - 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is a long history of ToRSV causing symptomless findings of infection on *Pelargonium* (geranium) stocks in the UK, with unpublished records beginning in 1979 and the most recent survey being from 2003 (Defra, unpublished data).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 These vectors of ToRSV are not known to occur in the UK, though the rapid PRA for these nematodes (Fera, 2014 unpublished) acknowledged that some populations may have been inadvertently imported in large, containerised plants.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.

The virus is readily transmissible by grafting and by sap inoculation. The virus is not thought to be seed transmitted with woody hosts.

Therefore, plants for planting, via propagation/grafting, would be the main means of spread for ToRSV on *Malus*.

Economic Impact

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

(On *Malus* fruit crops – Yes, ToRSV causes apple union necrosis and decline which is of economic importance in commercial orchards (Hogmire *et al.* 1995))

On *Malus* ornamental plants – No evidence was found of impacts on *Malus* species other than *M. domestica* in the literature. Two University extension sources state that ornamental crabapples and other *Malus* species (other than *M. domestica*) appear unaffected, as do most apple cultivars on seedling rootstocks (Brigs, 2019; Peter, 2024). Both these sources appear to be referencing Hogmire *et al.* (1995).

As there are no notable economic impacts, the assessment stopped, and it is proposed that *Malus* plants intended for propagating material of ornamental plants and other plants for planting intended for ornamental purposes are 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 *Malus* species as hosts of ToRSV, by amending 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.

References

Brigs, A. R. (2019) *Apple Union Necrosis and Decline*. Web page <https://apples.extension.org/apple-union-necrosis-and-decline/> Accessed November 2024.

Hogmire, H. W. *et al.* (1995) *Mid-Atlantic orchard monitoring guide*. Northeast Regional Agricultural Engineering Service (NRAES) - 75. Cooperative Extension. New York <https://hdl.handle.net/1813/67145>

Peter, K. A. (2024) *Apple viruses*. Web page [https://extension.psu.edu/apple-viruses#:~:text=Tomato%20Ringspot%20virus%20causes%20apple,Malling%2DMerton%20106%20\(MM](https://extension.psu.edu/apple-viruses#:~:text=Tomato%20Ringspot%20virus%20causes%20apple,Malling%2DMerton%20106%20(MM). PennState Extension. Accessed August 2024.

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

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](#)

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.

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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 on 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.