Department
for Environment
Food & Rural Affairs

Regulation proposal for *Meloidogyne javanica* on *Cydonia oblonga* Mill., *Ficus* carica L., *Malus* Mill., *Olea europaea* L., *Prunus avium* L., *Prunus armeniaca* L., *Prunus cerasus* L., *Prunus domestica* L., *Prunus dulcis* (Mill.) D. A. Webb, *Prunus persica* (L.) Batsch, *Prunus salicina* Lindley, *Pyrus* L. concerning fruit propagating material and fruit plants intended for fruit production

October 2025

Objective

To review the status of *Meloidogyne javanica* 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). The Scottish and Welsh Governments have been consulted on this assessment and are in agreement with the proposal outlined in the document.

Background

Meloidogyne javanica (Javanese root knot nematode) is a tropical/sub-tropical species and is currently regulated as a Provisional Quarantine Pest (PQP) for Great Britain (GB). *Meloidogyne javanica* has recently been identified as present under protection in GB and following a high number of findings in traded ornamental plants the regulatory status of the pest requires a review. The pest is globally distributed with a wide host range, and the main economic impacts caused by *M. javanica* occur in tropical/sub-tropical regions of the world.

Current listing of pest in GB legislation

Meloidogyne javanica is a Provisional Quarantine Pest for GB.

Taxonomy

Pest name

Meloidogyne javanica

Will the pest be listed at species level?

Yes

Status in GB

Is this pest present in GB?

Yes, *Meloidogyne javanica* is present in GB. The extent to which it is present is uncertain. *Meloidogyne javanica* has recently (February 2025) been confirmed as present under protection at one site in southern England. However, it may also be present elsewhere due to it frequently circulating in the ornamental trade, with more than 40 findings made in 2025 primarily in association with *Olea europaea* and *Callistemon*.

Pathways

Are the assessed plants for planting a significant pathway for the "pest/host/intended use" combination?

Yes, *M. javanica* is a root knot nematode and therefore found within soil in close association with host plants or within plant root tissue (CABI 2022). Plants for planting with associated soil is therefore the most significant pathway by which this species can be introduced to new locations. This is thought to be the same for all hosts considered in this assessment.

Economic Impact

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

Ascertaining the specific impacts caused by *M. javanica* alone is difficult. Full identification to species level in many countries may not be performed and damage is often reported in association with the genus *Meloidogyne* as a whole. The nature of infections is also often mixed, with multiple *Meloidogyne* spp. being present with other nematode species. The risk register entry for *M. javanica* scored the economic impact for this species at a 3 (UK Plant Health Risk Register). Damage is particularly impactful in tropical and sub-tropical regions and when plants are grown on coarse-textured sandy soils which favour nematode development.

What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures?

Meloidogyne javanica is unlikely to be able to establish outdoors in GB, except in areas with particularly mild winters. It is typically only a pest outdoors in warm and tropical climates. Establishment of significant populations of *M. javanica* is therefore only likely to occur in GB within protected environments. In GB, cherries (*Prunus*) are grown commercially and are often grown under polytunnels to protect the crop from inclement weather. This is common practice in northern Europe, particularly for newly planted orchards and enhances the profitability of the orchard (Copas 2025, Mateos-Fieroo 2020). As such, polytunnels could provide a suitable environment for the nematodes to persist through the winter and in tandem with the increased summer

temperatures populations could build up increasing the likelihood of damage. Introduction of the pest on other host species (such as *Cydonia oblonga, Malus* and *Pyrus*) could lead to the onward spread of *M. javanica* to *Prunus* production sites.

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, it is possible that if *P. avium* or *P. cerasus* are imported infested with *M. javanica* that an unacceptable economic impact could be observed to both propagators and commercial fruit producers. In addition to this, the introduction of the pest on *Pyrus*, *Malus* and *Cydonia oblonga* could lead to the onward spread to at-risk *Prunus* production sites.

Risk Management Measures

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, feasible and effective measures are available. The use of clean soil which is free from *M. javanica* is an effective method in ensuring the pest does not occur on plants for planting at an incidence above a certain threshold. The EPPO standard PM 4/17 covers how certified olive plants can be grown to ensure freedom from a range of nematodes including: *Xiphinema diversicaudatum*, *Meloidogyne arenaria*, *M. incognita*, *M. javanica*, *Pratylenchus vulnus* and *Verticillium dahliae* (EPPO 2022). See also EPPO 7/103 (2) *Meloidogyne enterolobii* which also references diagnostic features for *M. javanica* (EPPO 2016).

Data Quality

Is the quality of the data sufficient to recommend the pest to be listed as an RNQP?

Yes, recommended for RNQP status.

Proposal for Regulation

We propose to regulate *Meloidogyne javanica* as an RNQP on fruit propagating material and fruit plants intended for fruit production of *Cydonia oblonga*, *Ficus carica*, *Malus*, *Olea europaea*, *Prunus avium*, *Prunus armeniaca*, *Prunus cerasus*, *Prunus domestica*, *Prunus dulcis*, *Prunus persica* and *Prunus salicina* by adding it to Annex 4 Part I, of the Phytosanitary Conditions Regulation[1]. As a result, these plants for planting would need to be free from *M. javanica* to be imported into, or moved within, Great Britain.

References

CABI (2022): Meloidogyne javanica (sugarcane eelworm). *CABI Compendium*.

Copas R (2025) The Mechanism of Cherry Production and Harvest. In *A Nuffield Farming Scholarships Report (UK)*.

EPPO (2016): PM 7/103 (2) Meloidogyne enterolobii. *EPPO Bulletin* **46**, 190-201.

EPPO (2022): PM 4/17 (3) Certification scheme for olive trees and rootstocks. *EPPO Bulletin* **52**, 590-601.

Mateos-Fieroo Z (2020) Sustainable production of sweet cherry: maximising benefits from ecosystem services. The University of Worcester.

Picard C, Ward M, Benko-Beloglavec A, Matthews-Berry S, Karadjova O, Pietsch M & Van Der Gaag DJ (2017): A methodology for preparing a list of recommended regulated non-quarantine pests (RNQPs). *EPPO Bulletin* **47**, 551-558.

[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

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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.