

Detection and management of the quarantine nematodes *Meloidogyne chitwoodi* and *Meloidogyne fallax*



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Research consortium

AT: AGES; BE: ILVO; BG: NSPP; CZ : SPA; FR: DGAL, FNPPPT; DE: JKI; SI: KIS; NL: PPS; UK: Fera; TU: GDAR.

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Goals

To validate new methods for detection of *Meloidogyne chitwoodi* and *Meloidogyne fallax*, provide training in detection methods to EU nematologists and improve management approaches.

Objectives

- To ring test soil extraction methods for *M. chitwoodi* and *M. fallax*
- To organise a workshop on sampling methodology for *Meloidogyne* spp.
- To develop a European *Meloidogyne* research agenda through collaboration between consortium members
- To collect information on the treatment of nematode-contaminated waste from the potato/vegetable processing industry to reduce spread of the pathogens

Key outputs and results

- The ring test on the extraction of *M. juveniles* from soil showed that the standard Baermann funnel method produced the lowest recovery and that incubation influences the efficiency of nematode extraction.
- The ring test on molecular detection and identification of *M. chitwoodi* and *M. fallax* provided objective data on the performance of real-time and conventional PCR tests tests.
- A workshop gathered 38 people from 14 countries. It was a first step leading to more harmonization on sampling, extraction and identification of these nematodes. Guidance on these topics is needed and expected from EPPO and/or EU.
- A questionnaire underlined the lack of knowledge about nematode survival, especially in waste. A report of the questionnaire might increase awareness and can lead to appropriate actions. Major actions are still needed to manage the waste in an appropriate way to avoid dispersion of these nematodes. This starts with the willingness to recognize the problem, also in countries not immediately facing *M. chitwoodi* or *M. fallax*.
- A European research agenda with possible topics for further coordinated and transnational research on *M. chitwoodi* and *M. fallax* was generated. More generally, it was suggested to initiate a COST action on *Meloidogyne* (and not only *M. chitwoodi* and *M. fallax*), as tropical species represent a major threat for crops especially with global warming.