EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES
Summary sheet of validation data for a diagnostic test

The EPPO Standard PM 7/98 *Specific requirements for laboratories preparing accreditation for a plant pest diagnostic activity* describes how validation should be conducted. It also includes definitions of performance criteria.

Laboratory contact details	ILVO Institute for Agricultural and Fisheries Research Burg. Van Gansberghelaan 96, 9820 Merelbeke - Melle, Belgium
Short description of the test	Identification of Meloidogyne graminicola by molecular conventional PCR Bellafiore et al. 2015 in juveniles
Date, reference of the validation report	2023-07-31 - TEST PERFORMANCE STUDY REPORT 22MG
Link to other validation data	- TEST PERFORMANCE STUDY REPORT 22MG Identification of Meloidogyne graminicola by molecular conventional PCR Htay et al 2016 in juveniles - TEST PERFORMANCE STUDY REPORT 22MG Identification of Meloidogyne graminicola by molecular conventional PCR Mattos et al 2019 (oryzae primers) in juveniles - Validation report for the molecular identification of Meloidogyne graminicola Identification of Meloidogyne graminicola by molecular conventional PCR Htay et al., 2016 in juveniles - Validation report for the molecular identification of Meloidogyne graminicola Identification of Meloidogyne graminicola by molecular conventional PCR Bellafiore et al. 2015 in juveniles
Validation process according to EPPO Standard PM7/98?	yes
Is the lab accredited for this test?	no
Was the validated data generated in the framework of a project?	EURL
If yes, please specify	EU-funded project EURLs-EURCs 2021-2022 (grant SI2.870859)
Description of the test	
Organism(s)	Meloidogyne graminicola (MELGGC)
Detection / identification	identification
Matrix(ces) tested	Specimen
Method(s)	Molecular Extraction DNA RNA Molecular Conventional PCR Molecular Conventional PCR (2)

Method: Molecular Extraction DNA RNA	
Reference of the test description	
Kit	
Is a kit used	yes
Manufacturer name	
Specify the kit used	
Kit used following the manufacturer's instructions?	
Other information	
Other details on the test	Check TPS report
Method: Molecular Conventional PCR	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	no
New test being considered for inclusion in the next version of the EPPO diagnostic protocol?	yes
As or adapted from an IPPC diagnostic protocol	no
Reference of the test	Mattos et al., 2019
Other information	
Reaction type	Simplex
Other details on the test	M. oryzae primers
Method: Molecular Conventional PCR (2)	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	no
New test being considered for inclusion in the next version of the EPPO diagnostic protocol?	yes
As or adapted from an IPPC diagnostic protocol	no
Reference of the test	Bellafiore et al. 2015
Kit	
Is a kit used	no
Other information	
Reaction type	Simplex
Other details on the test	SCAR primers
Are the performance characteristics included in the EPPO diagnostic protocol?	**no**
Performance Criteria :	
Organism 1.:	**Meloidogyne graminicola(MELGGC)**

Analytical sensitivity	
What is the smallest amount of target that can be detected reliably?	Analytical sensitivity for 1 nematode: amplification in 6 out of 18 replicates: 33% Analytical sensitivity for 2 nematodes: amplification in 8 out of 18 replicates: 44% Analytical sensitivity for 5 nematodes: amplification in 10 out of 18 replicates: 56% Analytical sensitivity for 10 nematodes: amplification in 16 out of 18 all replicates: 89%
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	Results from 7 laboratories when the test was used in combination with Mattos (2019) M.oryzae primers: DSE=98%
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	Population from Italy and the Philippines amplified
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	TPS: M. incognita, M. naasi, M. oryzae
Specificity value	
Cross-reacts with	Meloidogyne oryzae
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	Results from 7 laboratories when the test was used in combination with Mattos (2019) M.oryzae primers: DSP=100%
Test performance study	
Test performance study?	yes
Brief details of the test performance study and its output.It available, link to published article/report	TPS studies involving 9 laboratories, 6 target samples (2 populations, 3 samples per populations), 9 non target samples (3 samples for each 3 species M nassi, M. oryzae and M incognita).
Other information	
Any other information considered useful	TPS report available on the EURL website: https://sitesv2.anses.fr/en/system/files/TestPerformanceStudy_Report_Meloidogyne_graminicola.pdf

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