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 -	
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	
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 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://si tesv2.anses.fr/en/system/files/TestPerformanceStu dy_Report_Meloidogyne_graminicola.pdf	

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