

**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	EUPH DNA Barcoding , , EUPHRESKO
Short description of the test	DNA Barcoding - Optimizing and validating DNA barcoding protocols for Nematode
Date, reference of the validation report	2016-06-30 - Final_report_DNA barcoding.doc
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?	Euphresco
If yes, please specify	EUPHRESKO DNA Barcoding - Optimizing and validating DNA barcoding protocols for plant pests
Description of the test	
Organism(s)	Aphelenchoides fragariae(APLOFR) Meloïdogyne chitwoodi(MELGCH) Ditylenchus dipsaci(DITYDI) Bursaphelenchus xylophilus(BURSXY) Aphelenchoides besseyi(APLOBE)
Detection / identification	identification
Method(s)	Molecular other
Method: Molecular other	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	yes
EPPO Diagnostic Protocol name	PM 7/129 DNA barcoding as an identification tool for a number of regulated pests (version 1)
As or adapted from an IPPC diagnostic protocol	no
Is the test modified compared to the reference test	no
Kit	
Is a kit used	no
Other information	

Other details on the test	Phusion® High-Fidelity (New England Biolabs) See report for details about the primers & protocols
Are the performance characteristics included in the EPPO diagnostic protocol?	yes
Performance Criteria :	
Organism 1.:	Aphelenchoides fragariae(APLOFR)
Analytical sensitivity	
What is smallest amount of target that can be detected reliably?	See report
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	89% (100% after re-analysing the consensus sequence data provided by TPS participants)
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See report
Specificity value	
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%
Organism 2.:	Meloidogyne chitwoodi(MELGCH)
Analytical sensitivity	
What is smallest amount of target that can be detected reliably?	See report
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See report
Specificity value	
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%

Organism 3.:	Ditylenchus dipsaci(DITYDI)
<u>Analytical sensitivity</u>	
What is smallest amount of target that can be detected reliably?	See report
<u>Diagnostic sensitivity</u>	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
<u>Analytical specificity - inclusivity</u>	
Number of strains/populations of target organisms tested	See report
Specificity value	
<u>Analytical specificity - exclusivity</u>	
Number of non-target organisms tested	See report
Specificity value	
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%
Organism 4.:	Bursaphelenchus xylophilus(BURSXY)
<u>Analytical sensitivity</u>	
What is smallest amount of target that can be detected reliably?	See report
<u>Diagnostic sensitivity</u>	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%
<u>Analytical specificity - inclusivity</u>	
Number of strains/populations of target organisms tested	See report
Specificity value	
<u>Analytical specificity - exclusivity</u>	
Number of non-target organisms tested	See report
Specificity value	
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%
Organism 5.:	Aphelenchoides besseyi(APLOBE)
<u>Analytical sensitivity</u>	
What is smallest amount of target that can be detected reliably?	See report
<u>Diagnostic sensitivity</u>	

Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	89% (100% after re-analysing the consensus sequence data provided by TPS participants)
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	See report
Specificity value	
Analytical specificity - exclusivity	
Number of non-target organisms tested	See report
Specificity value	
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	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	Test performance study involving 11 laboratories. See report for more information.
The following complementary files are available online:	<ul style="list-style-type: none"> • EUPHRESKO DNA Barcoding - report

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