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	Anses Plant Health Laboratory - Pests and Tropical Pathogens Unit Pôle de Protection des Plantes, 7 Chemin de l'IRAT, 97410 Saint Pierre, France
Short description of the test	Detection of Xanthomonas axonopodis pv. dieffenbachiae by IF in leaves and pure culture
Date, reference of the validation report	2012-03-01 - Inter-laboratory ring test for the detection of Xanthomonas axonopodis pv. dieffenbachiae in Anthurium- Report Xad01-version 2
Validation process according to EPPO Standard PM7/98?	no
Is the lab accredited for this test?	no
Was the validated data generated in the framework of a project?	
Description of the test	
Organism(s)	Xanthomonas axonopodis pv. dieffenbachiae (XANTDF)
Detection / identification	detection
Method(s)	Extraction Serological IF
Method: Extraction	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	yes
EPPO Diagnostic Protocol name	PM 7/023 Xanthomonas axonopodis pv. dieffenbachiae (version 2)
Name of the test	Extraction from symptomatic plant material in PBS buffer (Appendix 1.1)
Is the test modified compared to the reference test	no
Other information	
Other details on the test	Extraction as in Appendix 1 of PM7/23(2)
Method: Serological IF	

Reference of the test description	
As or adapted from an EPPO diagnostic protocol	yes
EPPO Diagnostic Protocol name	PM 7/097 Indirect immunofluorescence test for plant pathogenic bacteria (version 1)
Other information	
Other details on the test	PRI protocol for detection of Xad by IF
Are the performance characteristics included in the EPPO diagnostic protocol?	**no**
Performance Criteria :	
Organism 1.:	**Xanthomonas axonopodis pv. dieffenbachiae(XANTDF)**
Analytical sensitivity	
What is smallest amount of target that can be detected reliably?	10^5 CFU.mL-1
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	Comparative study : 90%; Collaborative study : 73%-76%
Standard test(s)	Isolation + AGDIA Indirect-ELISA on pure culture (OEPP PM7/23)
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	50 (see attached downloadable file Appendix 1)
Specificity value	100% - The pathogenicity to Anthurium could be confirmed for all strains tested (isolations and population size counts were performed for all tested strains to confirm pathogenicity).
Analytical specificity - exclusivity	
Number of non-target organisms tested	53 (see attached downloadable file Appendix 2)
Specificity value	0,89 The IF test can not exclude 6 strains among strains described as Xad but not pathogenic to Anthurium, strains that belong to the same species but to a different pathovar and saprophytic strains.
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	Comparative study : 100%; Collaborative study : 90%-95%
Specify the test(s)	Isolation + AGDIA Indirect-ELISA on pure culture (OEPP PM7/23)
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	83%-84%
Repeatability	

Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	70%-75%
Test performance study	
Test performance study?	yes
Brief details of the test performance study and its output.It available, link to published article/report	During the interlaboratory ring-test, we observed that laboratories that were familiar with using IF tests to detect Xad produced excellent results, which were comparable to the results obtained with PCR. However, laboratories that were not used to performing the IF test to detect Xad either failed to produce results or obtained results with high rates of false negatives. Laboratories should be familiar with the IF test before using it for routine analyses to detect Xad.
The following complementary files are available online:	• Appendix 1-List target strains-2 • Appendix 2-List non target strains-2 • EILVReport-V02 01.03.2012 correction

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