

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 - Bacteriology, Virology and GMO Unit 7 rue Jean Dixméras, 49044 Angers, France
Short description of the test	Detection of <i>Xylella fastidiosa</i> by immunofluorescence in plant material
Date, reference of the validation report	2015-09-30 - Rapport de caractérisation et de validation de méthode d'analyse - Détection de <i>Xylella fastidiosa</i> par PCR en temps réel sur plantes hôtes MA039
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?	
If yes, please specify	
Description of the test	
Organism(s)	<i>Xylella fastidiosa</i> (XYLEFA)
Detection / identification	detection
Matrix(ces) tested	Leaves Petioles
Plant species tested	<i>Citrus sinensis</i> , <i>Coffea arabica</i> , <i>Coffea canephora</i> , <i>Prunus persica</i> , <i>Vitis vinifera</i>
Method(s)	Serological IF
Method: Serological IF	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	
New test being considered for inclusion in the next version of the EPPO diagnostic protocol?	
As or adapted from an IPPC diagnostic protocol	
Is the test modified compared to the reference test	
Kit	

Is a kit used	
Other information	
Reaction type	
Other details on the test	In-house antiserum produced in collaboration with INRA Unité de recherche Biopolymères, Interactions, Assemblages - Nantes in 2012
Are the performance characteristics included in the EPPO diagnostic protocol?	no
Performance Criteria :	
Organism 1.:	Xylella fastidiosa(XYLEFA)
Analytical sensitivity	
What is smallest amount of target that can be detected reliably?	- Grapevine (Vitis vinifera): ~ 10 ⁶ bact./mL - Peach tree (Prunus persica): ~ 10 ⁵ bact./mL - Coffee tree (Coffea arabica): ~ 10 ⁴ bact./mL - Coffee tree (C. canephora): ~ 10 ⁴ bact./mL
Diagnostic sensitivity	
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	- Grapevine (Vitis vinifera): 40% - Peach tree (Prunus persica): 50% - Orange tree (Citrus sinensis): 78% - Coffee tree (Coffea arabica): 60% - Coffee tree (C. canephora): 30%
Standard test(s)	- Spiked matrices with bacterial concentration from 10 ² to 10 ⁶ bact./mL - Grapevine spiked with X. f. subsp. fastidiosa (CFBP7970) - Orange tree spiked with X. f. subsp. pauca (CFBP8072) - Peach tree spiked with X. f. subsp. multiplex (CFBP8173 and CFBP8070) - Coffee tree (Coffea arabica) spiked with X. f. subsp. pauca (CFBP8072) - Coffee tree (C. canephora) spiked with X. f. subsp. fastidiosa (CFBP 8074) 20 samples per matrix (orange) 12 samples per matrix (grapevine) 12 samples per matrix (peach tree) 20 samples per matrix (C. arabica) 20 samples per matrix (C. canephora)
Analytical specificity - inclusivity	
Number of strains/populations of target organisms tested	Inclusivity tested with 10 target strains: 100% - X.f. subsp. fastidiosa (CFBP8069 -LSV0056/ CFBP8071 -LSV4041/ CFBP8083 -LSV4042/ CFBP7970-LSV2434/ CFBP8082 -LSV4040) - X.f. subsp. pauca (CFBP8072 - LSV4103) - X.f. subsp. sandyi (CFBP8077 -LSV4236) - X.f. subsp. multiplex (CFBP8173 -LSV4039/ CFBP8068-LSV0054/ CFBP8070-LSV4038)
Specificity value	100%
Analytical specificity - exclusivity	
Number of non-target organisms tested	Exclusivity tested with 17 non-target strains: 100% - 1 Xylophilus ampelinus (CFBP2098) - 2 Xanthomonas arboricola pv. pruni (LSV2574/LSV 2573) - 1 Xanthomonas arboricola pv. juglandis (LSV0862) - 1 Xanthomonas axonopodis pv. citri

	(LSV2647) - 1 Xanthomonas axonopodis pv. aurantifolia (LSV2680) - 2 Xanthomonas axonopodis pv. phaseoli (LSV1014/LSV3161) - 1 Xanthomonas axonopodis pv. fragariae (LSV3151) - 1 Xanthomonas fragariae (LSV2553) - 1 Xanthomonas hortorum pv. carotae (LSV1776) - 1 Xanthomonas campestris pv. campestris (LSV0455) - 1 Xanthomonas campestris pv. juglandis (LSV1158) - 1 Xanthomonas hortorum pv. hedera (LSV2303) - 1 Xanthomonas translucens pv. graminis (LSV0628) - 1 Xanthomonas translucens pv. hordei (LSV0629) - 1 Xanthomonas oryzae pv. oryzae (LSV0865)
Specificity value	100% No cross reaction
Cross reacts with	
Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	- Coffee tree (Coffea arabica): 100% - Coffee tree (C. canephora): 100%
Specify the test(s)	
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	- Grapevine (Vitis vinifera): 67% - Peach tree (Prunus persica): 83%
Test performance study	
Test performance study?	no
Brief details of the test performance study and its output. It available, link to published article/report	
Other information	
Any other information considered useful	

Creation date: 2016-01-12 00:00:00 - Last update: 2021-05-18 16:43:05