

**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.

<b>Laboratory contact details</b>	Anses Plant Health Laboratory - Bacteriology, Virology and GMO Unit 7 rue Jean Dixméras, 49000 Angers, France
<b>Short description of the test</b>	Detection of <i>Xylella fastidiosa</i> by immunofluorescence in plant material
<b>Date, reference of the validation report</b>	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
<b>Validation process according to EPPO Standard PM7/98?</b>	yes
<b>Is the lab accredited for this test?</b>	no
<b>Was the validated data generated in the framework of a project?</b>	
<b>Description of the test</b>	
<b>Organism(s)</b>	<i>Xylella fastidiosa</i> (XYLEFA)
<b>Detection / identification</b>	detection
<b>Matrix(ces) tested</b>	Leaves Petioles
<b>Plant species tested</b>	Citrus x aurantium var. sinensis, Coffea arabica, Coffea canephora, Prunus persica, Vitis vinifera
<b>Method(s)</b>	Serological IF
<b>Method: Serological IF</b>	
<b>Reference of the test description</b>	
<b>Other information</b>	
<b>Other details on the test</b>	In-house antiserum produced in collaboration with INRA Unité de recherche Biopolymères, Interactions, Assemblages - Nantes in 2012
<b>Are the performance characteristics included in the EPPO diagnostic protocol?</b>	no
<b>Performance Criteria :</b>	
<b>Organism 1.:</b>	<b><i>Xylella fastidiosa</i>(XYLEFA)</b>
<b>Analytical sensitivity</b>	
<b>What is the smallest amount of target that can be detected reliably?</b>	- Grapevine ( <i>Vitis vinifera</i> ): ~ 10 <sup>6</sup> bact./mL - Peach tree ( <i>Prunus persica</i> ): ~ 10 <sup>5</sup> bact./mL - Coffee tree

	(Coffea arabica): ~ 10 <sup>4</sup> bact./mL - Coffee tree (C. canephora): ~ 10 <sup>4</sup> bact./mL
<b>Diagnostic sensitivity</b>	
<b>Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98</b>	- Grapevine (Vitis vinifera): 40% - Peach tree (Prunus persica): 50% - Orange tree (Citrus sinensis): 78% - Coffee tree (Coffea arabica): 60% - Coffee tree (C. canephora): 30%
<b>Standard test(s)</b>	- Spiked matrices with bacterial concentration from 10 <sup>2</sup> to 10 <sup>6</sup> 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)
<b>Analytical specificity - inclusivity</b>	
<b>Number of strains/populations of target organisms tested</b>	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)
<b>Specificity value</b>	100%
<b>Analytical specificity - exclusivity</b>	
<b>Number of non-target organisms tested</b>	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)
<b>Specificity value</b>	100% No cross reaction
<b>Diagnostic Specificity</b>	
<b>Proportion of uninfected/uninfested samples (true negatives) testing negative compared</b>	- Coffee tree (Coffea arabica): 100% - Coffee tree (C. canephora): 100%

<b>to results from a standard test</b>	
<b><u>Repeatability</u></b>	
<b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>	- Grapevine (Vitis vinifera): 67% - Peach tree (Prunus persica): 83%
<b>Test performance study</b>	
<b>Test performance study?</b>	no

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