

**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 Dixmèras, 49044 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>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 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 ( <i>Coffea arabica</i> ): ~ 10 <sup>4</sup> bact./mL - Coffee tree ( <i>C. canephora</i> ): ~ 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 ( <i>Vitis vinifera</i> ): 40% - Peach tree ( <i>Prunus persica</i> ): 50% - Orange tree ( <i>Citrus sinensis</i> ): 78% - Coffee tree ( <i>Coffea arabica</i> ): 60% - Coffee tree ( <i>C. canephora</i> ): 30%
<b>Standard test(s)</b>	- Spiked matrices with bacterial concentration from $10^2$ to $10^6$ bact./mL - Grapevine spiked with <i>X. f. subsp. fastidiosa</i> (CFBP7970) - Orange tree spiked with <i>X. f. subsp. pauca</i> (CFBP8072) - Peach tree spiked with <i>X. f. subsp. multiplex</i> (CFBP8173 and CFBP8070) - Coffee tree ( <i>Coffea arabica</i> ) spiked with <i>X. f. subsp. pauca</i> (CFBP8072) - Coffee tree ( <i>C. canephora</i> ) spiked with <i>X. f. subsp. fastidiosa</i> (CFBP 8074) 20 samples per matrix (orange) 12 samples per matrix (grapevine) 12 samples per matrix (peach tree) 20 samples per matrix ( <i>C. arabica</i> ) 20 samples per matrix ( <i>C. canephora</i> )
<b>Analytical specificity - inclusivity</b>	
<b>Number of strains/populations of target organisms tested</b>	Inclusivity tested with 10 target strains: 100% - <i>X.f. subsp. fastidiosa</i> (CFBP8069 -LSV0056/ CFBP8071 -LSV4041/ CFBP8083 -LSV4042/ CFBP7970-LSV2434/ CFBP8082 -LSV4040) - <i>X.f. subsp. pauca</i> (CFBP8072 - LSV4103) - <i>X.f. subsp. sandyi</i> (CFBP8077 -LSV4236) - <i>X.f. subsp. multiplex</i> (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 <i>Xylophilus ampelinus</i> (CFBP2098) - 2 <i>Xanthomonas arboricola</i> pv. <i>pruni</i> (LSV2574/LSV 2573) - 1 <i>Xanthomonas arboricola</i> pv. <i>juglandis</i> (LSV0862) - 1 <i>Xanthomonas axonopodis</i> pv. <i>citri</i> (LSV2647) - 1 <i>Xanthomonas axonopodis</i> pv. <i>aurantifolia</i> (LSV2680) - 2 <i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i> (LSV1014/LSV3161) - 1 <i>Xanthomonas axonopodis</i> pv. <i>fragariae</i> (LSV3151) - 1 <i>Xanthomonas fragariae</i> (LSV2553) - 1 <i>Xanthomonas hortorum</i> pv. <i>carotae</i> (LSV1776) - 1 <i>Xanthomonas campestris</i> pv. <i>campestris</i> (LSV0455) - 1 <i>Xanthomonas campestris</i> pv. <i>juglandis</i> (LSV1158) - 1 <i>Xanthomonas hortorum</i> pv. <i>hedera</i> (LSV2303) - 1 <i>Xanthomonas translucens</i> pv. <i>graminis</i> (LSV0628) - 1 <i>Xanthomonas translucens</i> pv. <i>hordei</i> (LSV0629) - 1 <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> (LSV0865)
<b>Specificity value</b>	100% No cross reaction
<b>Diagnostic Specificity</b>	
<b>Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test</b>	- Coffee tree ( <i>Coffea arabica</i> ): 100% - Coffee tree ( <i>C. canephora</i> ): 100%
<b>Repeatability</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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