

**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>	Institute for Sustainable Plant Protection via Amendola, 122/D, 70126 Bari, Italy
<b>Short description of the test</b>	Detection of <i>Xylella fastidiosa</i> in perennial host species by ELISA
<b>Date, reference of the validation report</b>	2014-09-01 - 2014-09 and 2015-07 - Maria Saponari, Giuliana Loconsole, Oriana Potere, Donato Boscia, 2014 and 2015. DETECTION OF XYLELLA FASTIDIOSA, INTERLABORATORY VALIDATION - MOLECULAR AND SEROLOGICAL METHODS
<b>Link to other validation data</b>	- 2014-09 and 2015-07 - Maria Saponari, Giuliana Loconsole, Oriana Potere, Donato Boscia, 2014 and 2015. DETECTION OF XYLELLA FASTIDIOSA, INTERLABORATORY VALIDATION - MOLECULAR AND SEROLOGICAL METHODS Detection of <i>Xylella fastidiosa</i> in perennial host species by PCR
<b>Validation process according to EPPO Standard PM7/98?</b>	no
<b>Is the lab accredited for this test?</b>	yes
<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 leaf petiols
<b>Plant species tested</b>	Acacia saligna, Citrus sp., Nerium oleander, Olea europaea, Polygala myrtifolia, Prunus avium, Prunus dulcis, Quercus ilex, Vitis sp.
<b>Method(s)</b>	Serological DAS-ELISA Serological DAS-ELISA (2)
<b>Method: Serological DAS-ELISA</b>	
<b>Reference of the test description</b>	
<b>As or adapted from an EPPO diagnostic protocol</b>	no
<b>Kit</b>	

<b>Is a kit used</b>	yes
<b>Manufacturer name</b>	LOEWE
<b>Specify the kit used</b>	Xylella fastidiosa grapevine isolate DAS ELISA Cat. No. 07119
Kit used following the manufacturer's instructions?	
<b>Other information</b>	
<b>Other details on the test</b>	Loconsole, G., Potere, O., Boscia, D., Altamura, G., Djelouah, K., Elbeaino, T., Frasheri, D., Lorusso, D., Palmisano, F., Pollastro, P., Silletti, M. R., Trisciuzzi, N., Valentini, F., Savino V. & Saponari, M. (2014a). Detection of Xylella fastidiosa in olive trees by serological and molecular methods. Journal of Plant Pathology, 96, 7-14; Loconsole, G., Potere, O., Elbeaino, T., Frasheri, D., Frisullo, S., Palmisano, P., Boscia, D. & Saponari, M. (2014b). Interlaboratory validation of molecular and serological diagnosis of Xylella fastidiosa strain CoDiRO in susceptible host plants. International Symposium on the European Outbreak of Xylella fastidiosa in Olive, Journal of Plant Pathology, 96, S4.100.
<b>Method: Serological DAS-ELISA (2)</b>	
<b>Reference of the test description</b>	
<b>Kit</b>	
<b>Is a kit used</b>	yes
<b>Manufacturer name</b>	AGRITEST
<b>Specify the kit used</b>	DAS ELISA KIT Xylella fastidiosa (K27A/B)
Kit used following the manufacturer's instructions?	
<b>Other information</b>	
<b>Other details on the test</b>	Loconsole, G., Potere, O., Boscia, D., Altamura, G., Djelouah, K., Elbeaino, T., Frasheri, D., Lorusso, D., Palmisano, F., Pollastro, P., Silletti, M. R., Trisciuzzi, N., Valentini, F., Savino V. & Saponari, M. (2014a). Detection of Xylella fastidiosa in olive trees by serological and molecular methods. Journal of Plant Pathology, 96, 7-14; Loconsole, G., Potere, O., Elbeaino, T., Frasheri, D., Frisullo, S., Palmisano, P., Boscia, D. & Saponari, M. (2014b). Interlaboratory validation of molecular and serological diagnosis of Xylella fastidiosa strain CoDiRO in susceptible host plants. International Symposium on the European Outbreak of Xylella fastidiosa in Olive, Journal of Plant Pathology, 96, S4.100.
<b>Are the performance characteristics included in the EPPO diagnostic protocol?</b>	<b>yes</b>
<b>Performance Criteria :</b>	
<b>Organism 1.:</b>	<b>Xylella fastidiosa(XYLEFA)</b>
<b>Analytical sensitivity</b>	

<b>What is the smallest amount of target that can be detected reliably?</b>	up to $10^4$ cfu/ml with the kits Agritest and Loewe, using dilutions ranging from $10^7$ to $10$ CFU/ml, prepared by spiking the inactivated bacterial culture in olive ELISA homogenate
<b><u>Diagnostic sensitivity</u></b>	
<b>Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98</b>	100%
<b>Standard test(s)</b>	76 obtained positive samples/76 expected positive samples
<b><u>Diagnostic Specificity</u></b>	
<b>Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test</b>	100%
<b>Specify the test(s)</b>	84 obtained negative samples/84 expected negative samples
<b><u>Reproducibility</u></b>	
<b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>	100%
<b><u>Repeatability</u></b>	
<b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>	100%
<b>Test performance study</b>	
<b>Test performance study?</b>	no
<b>Other information</b>	
<b>Any other information considered useful</b>	Validation of the ELISA protocol was carried out by the Laboratories listed below, under the supervision of the reference laboratory IPSP-CNR e DiSSPA-UNIBA: • IPSP-CNR: Istituto per la Protezione Sostenibile delle Piante CNR, UOS Bari (ITALY); • DiSSPA-UNIBA: Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti, Università degli Studi Aldo Moro, Bari (Italy); • CRSFA: Centro di Ricerca, Sperimentazione e Formazione in Agricoltura Basile Caramia, Locorotondo (BA), Italy; • IAMB: Istituto Agronomico Mediterraneo, Valenzano (BA), Italy; • Dipartimento di Scienze Agroambientali, Chimica e Difesa Vegetale - Università degli Studi di Foggia, (ITALY). A panel of blind samples was distributed.
The following complementary files are available online:	
	<ul style="list-style-type: none"> <li>• <a href="#">protocols for diagnosis of Xylella fastidiosa</a></li> <li>• <a href="#">Report interlaboratory validation 2015</a></li> </ul>

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