

**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, 49044 Angers, France
<b>Short description of the test</b>	Detection of 'Candidatus Phytoplasma palmae' with an internal control by real time PCR adapted from Cordova et al. (2014)
<b>Date, reference of the validation report</b>	2024-04-15 - RV MA074 v1 - 2024 - version 02
<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>	no
<b>Description of the test</b>	
<b>Organism(s)</b>	'Candidatus Phytoplasma palmae' (PHYPPA)
<b>Detection / identification</b>	detection and identification
<b>Method(s)</b>	Molecular Extraction DNA RNA Molecular real time PCR
<b>Method: Molecular Extraction DNA RNA</b>	
<b>Reference of the test description</b>	
<b>As or adapted from an EPPO diagnostic protocol</b>	yes
<b>EPPO Diagnostic Protocol name</b>	PM 7/079 Grapevine flavescence dorée phytoplasma (version 2)
<b>As or adapted from an IPPC diagnostic protocol</b>	no
<b>Is the test modified compared to the reference test</b>	yes CTAB extraction was optimized to harmonize centrifugation speeds, reduce the process and discard use of toxic reagent beta-mercaptoethanol.
<b>Kit</b>	
<b>Is a kit used</b>	no
<b>Other information</b>	
<b>Other details on the test</b>	CTAB method
<b>Method: Molecular real time PCR</b>	

<b>Reference of the test description</b>	
<b>As or adapted from an EPPO diagnostic protocol</b>	no
<b>New test being considered for inclusion in the next version of the EPPO diagnostic protocol?</b>	no
<b>As or adapted from an IPPC diagnostic protocol</b>	no
<b>Reference of the test</b>	Cordova et al. (2014)
<b>Is the test modified compared to the reference test</b>	yes Addition of an internal control (CyOXID primers from Papayiannis et al, 2021) and optimization for routine analysis in lab conditions
<b>Kit</b>	
<b>Is a kit used</b>	no
<b>Other information</b>	
<b>Reaction type</b>	Duplex
<b>Other details on the test</b>	Target 16SrDNA of 'Ca. P. palmae' and cytochrome oxidase gene of plant as internal control.
<b>Performance Criteria :</b>	
<b>Organism 1.:</b>	<b>'Candidatus Phytoplasma palmae'(PHYPPA)</b>
<b>Analytical sensitivity</b>	
<b>What is smallest amount of target that can be detected reliably?</b>	For Cocos nucifera matrix, 15 copies of the 16SrDNA/μL. For Palm matrix, 110 copies of the 16SrDNA/μL
<b>Analytical specificity - inclusivity</b>	
<b>Number of strains/populations of target organisms tested</b>	23 DNA extracts of different arecaceae (Cocos nucifera, Washingtonia sp., Phoenix dactylifera, P. canariensis, P. sylvestris, W. filifera, Trachycarpus fortunei, Adonidia merillii, Red Malayan Dwarf, Sabal palmetto) contaminated by phytoplasmas of the 16SrIV group (subgroups present in the Caraïbeans), 'Ca. P. palmae' from different areas in the Caraïbeans (Guadeloupe, Florida and Louisiana).
<b>Specificity value</b>	100%
<b>Analytical specificity - exclusivity</b>	
<b>Number of non-target organisms tested</b>	17 DNA extracts of healthy arecaceae, 8 DNA extracts of plants contaminated phylogenetically close phytoplasma ( 16SrIV-C group) or that can involved lethal yellowing type syndrom of palm and a DNA extract of Cocos nucifera contaminated by Bacillus megaterium.
<b>Specificity value</b>	100%
<b>Repeatability</b>	
<b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>	89%
<b>Test performance study</b>	

Test performance study?	no
Other information	
Any other information considered useful	More information can be obtained on request from Anses, Plant Health Laboratory.

Creation date: 2025-06-26 14:29:06 - Last update: 2025-06-26 15:16:37