

EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEEENNE POUR LA PROTECTION DES PLANTES
(11-17239)

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.

Target Organism	Erwinia amylovora
Short description	Detection of Erwinia amylovora from plant material by Conventional PCR according to Stöger et al (2006)
Laboratory contact details	Bacteriology. Instituto Valenciano de Investigaciones Agrarias CV-315, km. 10.7, 46113 Moncada, Spain
Date and reference of the validation report	2012-03 - Not specified
Validation process according to EPPO Standard PM 7/98:	Yes
Reference of the test description	PM 7/020(1) For inclusion in the revision
Is the test the same as described in the EPPO DP?	No For inclusion in the revision
Is the lab accredited for this test?	No
Plant species tested (if relevant)	Several plant species from the Rosaceae family
Matrices tested (if relevant)	Shoots, leaves

List of methods used

Method for extraction / isolation / baiting of target organism from matrix		
Molecular methods, e.g. hybridization, PCR and real time PCR	X	Conventional PCR according to Stöger et al (2006)
Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay		
Plating methods: selective isolation		
Bioassay methods: selective enrichment in host plants, baiting, plant test and grafting.		
Pathogenicity test		
Fingerprint methods: protein profiling, fatty acid profiling & DNA profiling		

Morphological and morphometrical methods intended for identification		
Biochemical methods: e.g. enzyme electrophoresis, protein profiling		
Other		
<u>Analytical sensitivity (= limit of detection)</u>		
What is smallest amount of target that can be detected reliably?	10 ⁴ -10 ⁶ CFU/mL plant extract after DNA extraction using RED-extract-N-Amp T kit (in ring test 2010)	
<u>Diagnostic sensitivity</u>		
Proportion of infected/infested samples tested positive compared to results from the standard test , see appendix 2 of PM 7/98	Proportion of true positives/total number of samples: 0.48 (in samples from 1 to 10 ⁶ CFU/mL and healthy samples in ring test 2010).	
Specify the standard test		
<u>Analytical specificity</u>		
Specificity value	Contact authors of Stöger et al (2006)	
Number of strains/populations of target organisms tested		
Number of non-target organisms tested		
Cross reacts with (specify the species)		
<u>Diagnostic Specificity</u>		
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	Proportion of true negatives/total number of samples: 0.95 (in samples from 1 to 10 ⁶ CFU/mL and healthy samples in ring test 2010).	
Specify the standard test		
<u>Reproducibility</u>		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	80% in IVIA assays when tested with different operators	
<u>Repeatability</u>		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	92% in IVIA assays	
<u>Test performance study</u>		
Test performance study?	Yes	
Include brief details of the test performance study and its output. It available, provide a link to published article/report	Yes (14 laboratories from Europe, Morocco, USA and New Zealand) analysed 10 samples each (from 1 to 10 ⁶ CFU/mL plant extract and healthy samples). Details about ring test protocol available.	
<u>Other information</u>		
Any other information considered	Do not detect E. amylovora strains without pEA29.	

useful e.g. robustness, ease of performing the test, etc.	
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