EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEENNE 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	Xanthomonas euvesicatoria Xanthomonas vesicatoria Xanthomonas perforans	
Short description	Isolation of Xanthomonas sp. from tomato and pepper seeds	
Laboratory contact details	Netherlands Institute for Vectors, Invasive plants and Plant health P.O. Box 9102, 6700 HC Wageningen, Netherlands	
Date and reference of the validation report	26-01-2012 - Validation report for the isolation of Xanthomonas sp. from tomato and pepper seeds, Naktuinbouw, 2012	
Validation process according to EPPO Standard PM 7/98:	Yes	
Reference of the test description	N/R McGuire, R.G., Jones, J.B., Sasser, M. (1986). Tween media for Semiselective Isolation of Xanthomonas campestris pv. vesicatoria from soil and plant material. Plant Disease 70, 887-891. Sijam, K., Chang, C.J., Gitaitis, R.D. (1991). An agar medium for the isolation and identification of Xanthomonas campestris pv. vesicatoria from seed. Phytopathology 81, 831-834.	
Is the test the same as described in the EPPO DP?	Modified No, this is a modification of the current EPPO DP	
Is the lab accredited for this test?	No	
Plant species tested (if relevant)	Seeds from tomato and sweet pepper	
Matrices tested (if relevant)	seed	
List of methods used		
Method for extraction / isolation / baiting of target organism from matrix	X	Isolation by dilution plating
Molecular methods, e.g. hybridization, PCR and real time PCR		
Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay		
Plating methods: selective isolation	X	Isolation by dilution plating
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		
Analytical sensitivity (= limit of detection)		
What is smallest amount of target that can be detected reliably?	Detection limits were found to be acceptable with 53 CFU/ml (X. euvesicatoria), 24 CFU/ml (X. vesicatoria), 94 CFU/ml (X. gardneri) and 334 CFU/ml (X. perforans).	
Diagnostic sensitivity		
Proportion of infected/infested samples tested positive compared to results from the standard test , see appendix 2 of PM 7/98		
Specify the standard test		
Analytical specificity		
Specificity value	Analytical specificity was good. The method was able to detect all tested isolates of the XCV species complex. The other tested seed borne pathogens Clavibacter michiganensis subsp. michiganensis and Pseudomonas syringae pv. tomato were not able to grow on the semi-selective media mMXV and mTMB.	
Number of strains/populations of target organisms tested	14 X. euvesicatoria, two X. gardneri, six X. perforans and six X. vesicatoria isolates were selected for determination of analytical specificity of the dilution plating on the semi-selective media mMXV and mTMB.	
Number of non-target organisms tested	three isolates of Clavibacter michiganensis subsp. michiganensis and one isolate of Pseudomonas syringae pv. tomato	
Cross reacts with (specify the species)	no cross reaction	
Diagnostic Specificity		
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test		
Specify the standard test		
Reproducibility		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%	
Repeatability		

Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100%
Test performance study	
Test performance study?	No
Include brief details of the test performance study and its output.It available, provide a link to published article/report	
Other information	
Any other information considered useful **e.g. robustness, ease of performing the test, etc.**	
The following complementary files are available online:	• Isolation of Xanthomonas sp. from tomato and papeer seeds