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	Bursaphelenchus xylophilus		
Tanger	Bursaphelefichus xylophilius		
Short description	Identification of Bursaphelenchus xylophilus by species specific PCR		
Laboratory contact details	Anses Plant Health Laboratory - Nematology Unit Domaine de la Motte au Viconte BP 35327, 35653 Le Rheu, France		
Date and reference of the validation report	2011-05 - Validation report may 2011		
Validation process according to EPPO Standard PM 7/98:	Yes		
Reference of the test description	0 PM7/04 (2) not included in appendix Matsunaga K. & Togashi K. (2005). A simple method for discriminating Bursaphelenchus xylophilus and B. mucronatus by species- specific polymerase chain reaction primers pairs. Nematology 6(2), 273-277.		
Is the test the same as described in the EPPO DP?	No not included in appendix		
Is the lab accredited for this test?	Yes		
Plant species tested (if relevant)			
Matrices tested (if relevant)	Isolated nematodes		
List of methods used			
Method for extraction / isolation / baiting of target organism from matrix			
Molecular methods, e.g. hybridization, PCR and real time PCR	Х	species specific PCR	
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				
Analytical sensitivity (= limit of detection)				
What is smallest amount of target that can be detected reliably?	5 nematodes			
Diagnostic sensitivity				
Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98	100%			
Specify the standard test	no standard test, samples artificially infested			
Analytical specificity				
Specificity value	100%			
Number of strains/populations of target organisms tested	7 populations (for details see table 2 in validation report)			
Number of non-target organisms tested	15 populations (for details see table 2 in validation report)			
Cross reacts with (specify the species)	none			
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% for	5 B. xylophilus individuals		
Repeatability				
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100% for	5 B. xylophilus individuals		
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 full report is available upon request to the laboratory.
The following complementary files are available online:	<u>Table 2_comparison of different PCR tests</u>