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	Tomato spotted wilt tospovirus	
Short description	DAS-ELISA (screening) and one-step real-time PCR test for Tomato spotted wilt virus	
Laboratory contact details	ILVO Institute for Agricultural and Fisheries Research Burg. Van Gansberghelaan 96, 9820 Merelbeke, Belgium	
Date and reference of the validation report	last version - 12/02/2018 - F16_V08; F16_V12	
Validation process according to EPPO Standard PM 7/98:	Yes	
Reference of the test description	0 PM7/034 Tomato spotted wilt, Impatiens necrotic spot and Watermelon silver mottle tospoviruses qPCR: Boonham et al 2002: The detection of Tomato spotted wilt virus (TSWV) in individual thrips using real time fluorescent RT-PCR (TaqMan). Journal of Virological Methods 101 (2002) 37-48.	
Is the test the same as described in the EPPO DP?	Yes	
Is the lab accredited for this test?	Yes	
Plant species tested (if relevant)	Solanum lycopersicum and Chrysanthemum	
Matrices tested (if relevant)	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	Boonham et al 2002: The detection of Tomato spotted wilt virus (TSWV) in individual thrips using real time fluorescent RT-PCR (TaqMan). Journal of Virological Methods 101 (2002) 37-48.
Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay	X	Antibody set DSMZ RT-0105-0106/3
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?		
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		
Number of strains/populations of target organisms tested	6 Chrysanthemum Ingelmunster_2011; België RefV_TSWV_01 Chrysanthemum cv. Ludo Sleidinge_2011; België RefV_TSWV_02 Phalaenopsis_2009 Lochristi; België RefV_TSWV_03 Tomato Univ. Plovdiv, Bulgarije 2009 RefV_TSWV_04 Bell pepper Univ. Plovdiv, Bulgarije 2009 RefV_TSWV_05 Tomato spotted wilt virus (TSWV) - DCP 2013, isolate tomato, Belgium RefV_ TSWV_06	
Number of non-target organisms tested	12 CSVd chrysanthemum ToMV tomato TRSV tomato CMV tomato CSNV chrysanthemum CVB chrysanthemum INSV Monstera PepMV tomato PVY tomato TBRV potato TMV tobacco TYLCV tomato WSMoV tomato	
Cross reacts with (specify the species)	other tospoviruses (eg Chrysanthemum stem necrosis virus)	
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.**	