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	Beet necrotic yellow vein virus	
Short description	Detection of BNYVV by ELISA in host plant material	
Laboratory contact details	Anses, Laboratoire de la Santé des Végétaux - Unité de bactériologie, virologie OGM 7 rue Jean Dixméras, 49044 Angers, France	
Date and reference of the validation report	2014-11 - Renaudin I., Loiseau M. (2014). Evaluation des méthodes de détection du Beet necrotic yellow vein virus (BNYVV).	
Validation process according to EPPO Standard PM 7/98:	Yes	
Reference of the test description	PM 7/030(2)	
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)	Beta vulgaris subsp. vulgaris, Spinacia oleracea, Chenopodium quinoa, Nicotinia benthamiana	
Matrices tested (if relevant)	roots	
List of methods used		
Method for extraction / isolation / baiting of target organism from matrix		
Molecular methods, e.g. hybridization, PCR and real time PCR		
Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay	X	DAS-ELISA
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?	in our condition and with our infected material, between a dilution of 1/100 and 1/250 of an infected material in an healthy material. Approximatly, 40 times less sensitive than real-time RT-PCR (Harju et al., 2005)
<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	100%
Specify the standard test	20 samples agreement/20 (2 replicate for each sample)
<u>Analytical specificity</u>	
Specificity value	89%
Number of strains/populations of target organisms tested	10 different samples infected by BNYVV isolated in France
Number of non-target organisms tested	4 healthy Beta vulgaris subsp. vulgaris Healthy Spinacia oleracea Tobacco rattle virus Beet black scrotch virus Beet mosaïc virus Beet western yellows virus Beet yellows virus Beet soil-borne mosaic virus Soil-borne wheat mosaic virus Potato mop top virus
Cross reacts with (specify the species)	Beet yellows virus Beet black scorch virus Potato mop top virus Soil borne wheat mosaic virus

Diagnostic Specificity	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	75%
Specify the standard test	72 samples agreement/96
Reproducibility	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	Not evaluated
Repeatability	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100% in the range of dilution described for analytical sensitivity
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.**	