

EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES
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.

Laboratory contact details	Anses Plant Health Laboratory - Bacteriology, Virology and GMO Unit 7 rue Jean Dixméras, 49000 Angers, France
Short description of the test	Detection of BNYVV by ELISA in host plant material
Date, reference of the validation report	2014-11-01 - 122 ; Renaudin I., Loiseau M. (2014). Evaluation des méthodes de détection du Beet necrotic yellow vein virus (BNYVV).
Validation process according to EPPO Standard PM7/98?	yes
Is the lab accredited for this test?	yes
Was the validated data generated in the framework of a project?	no
Description of the test	
Organism(s)	Beet necrotic yellow vein virus / Benyvirus necrobetae (BNYVV0)
Detection / identification	detection
Matrix(ces) tested	Roots Beta vulgaris subsp. vulgaris
Plant species tested	Beta vulgaris, Chenopodium quinoa, Nicotiana benthamiana, Spinacia oleracea
Method(s)	Serological DAS-ELISA
Method: Serological DAS-ELISA	
Reference of the test description	
As or adapted from an EPPO diagnostic protocol	yes
EPPO Diagnostic Protocol name	PM 7/030 Beet necrotic yellow vein virus (version 2)
Is the test modified compared to the reference test	no
Other information	
Are the performance characteristics included in the EPPO diagnostic protocol?	no
Performance Criteria :	
Organism 1.:	Benyvirus necrobetae(BNYVV0)
Analytical sensitivity	

What is the 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. Approximately, 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	1
Standard test(s)	20 samples agreement/20 (2 replicate for each sample)
<u>Analytical specificity - inclusivity</u>	
Number of strains/populations of target organisms tested	10 different samples infected by BNYVV isolated in France
Specificity value	
<u>Analytical specificity - exclusivity</u>	
Number of non-target organisms tested	4 healthy Beta vulgaris subsp. vulgaris Healthy Spinacia oleracea Tobacco rattle virus Beet black scotch virus Beet mosaic virus Beet western yellows virus Beet yellows virus Beet soil-borne mosaic virus Soil-borne wheat mosaic virus Potato mop top virus
Specificity value	Cross react with: Beet yellows virus Beet black scorch virus Potato mop top virus Soil borne wheat mosaic virus
Cross-reacts with	Beet yellows virus Beet black scorch virus Potato mop-top virus Wheat mosaic virus
<u>Diagnostic Specificity</u>	
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	0,75
Specify the test(s)	72 samples agreement/96
<u>Reproducibility</u>	
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	Not evaluated
<u>Repeatability</u>	
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
<u>Test performance study</u>	
Test performance study?	no

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