

**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.

<b>Laboratory contact details</b>	Council for Agricultural Research and Economics– Research Centre for Plant Protection and Certification Via Carlo Giuseppe Bertero, 22, 00156 Rome, Italy
<b>Short description of the test</b>	detection and identification of Tomato leaf curl New Delhi virus Tomato leaf curl New Delhi virus by Molecular real time PCR in Leaves
<b>Date, reference of the validation report</b>	2022-05-05 - Proficiency test for detection of tomato leaf curl New Delhi virus (EURL- Virology_2020-02-ToLCNDV)
<b>Link to other validation data</b>	- Proficiency test for detection of tomato leaf curl New Delhi virus (EURL-Virology_2020-02-ToLCNDV) detection of Tomato leaf curl New Delhi virus Tomato leaf curl New Delhi virus by Serological DAS- ELISA in Leaves - Proficiency test for detection of tomato leaf curl New Delhi virus (EURL-Virology_2020-02-ToLCNDV) detection of Tomato leaf curl New Delhi virus Tomato leaf curl New Delhi virus by Molecular LAMP in Leaves - Proficiency test for detection of tomato leaf curl New Delhi virus (EURL-Virology_2020-02-ToLCNDV) detection of Tomato leaf curl New Delhi virus Tomato leaf curl New Delhi virus by Serological DAS- ELISA in Leaves
<b>Validation process according to EPPO Standard PM7/98?</b>	yes
<b>Is the lab accredited for this test?</b>	no
<b>Was the validated data generated in the framework of a project?</b>	EURL
<b>If yes, please specify</b>	PT-02_2022 EURL Virology
<b>Description of the test</b>	
<b>Organism(s)</b>	Tomato leaf curl New Delhi virus(TOLCND)
<b>Detection / identification</b>	detection and identification
<b>Matrix(ces) tested</b>	Leaves Leaves from cucurbits artificially inoculated with the isolates belonging to the CREA-DC collection
<b>Plant species tested</b>	Cucurbitaceae
<b>Method(s)</b>	Molecular real time PCR

<b>Method: Molecular real time PCR</b>	
<b>Reference of the test description</b>	
<b>As or adapted from an EPPO diagnostic protocol</b>	no
<b>New test being considered for inclusion in the next version of the EPPO diagnostic protocol?</b>	yes
<b>As or adapted from an IPPC diagnostic protocol</b>	no
<b>Reference of the test</b>	Luigi et al., 2020
<b>Is the test modified compared to the reference test</b>	no
<b>Kit</b>	
<b>Is a kit used</b>	no
<b>Other information</b>	
<b>Reaction type</b>	Simplex
<b>Other details on the test</b>	
<b>Are the performance characteristics included in the EPPO diagnostic protocol?</b>	
<b>Performance Criteria :</b>	
<b>Organism 1.:</b>	<b>Tomato leaf curl New Delhi virus(TOLCND)</b>
<b>Analytical sensitivity</b>	
<b>What is smallest amount of target that can be detected reliably?</b>	10 <sup>-5</sup>
<b>Diagnostic sensitivity</b>	
<b>Proportion of infected/infested samples tested positive compared to results from the standard test, see appendix 2 of PM 7/98</b>	82%
<b>Standard test(s)</b>	From a comparison of samples of known status. The tests was performed by three different laboratories
<b>Analytical specificity - inclusivity</b>	
<b>Number of strains/populations of target organisms tested</b>	- ToLCNDV (italian isolate 102) - ToLCNDV (Italian isolate 126) - ToLCNDV isolate from DSMZ PV1109 - ToLCNDV isolate from DSMZ PV1111)
<b>Specificity value</b>	100%
<b>Analytical specificity - exclusivity</b>	
<b>Number of non-target organisms tested</b>	TYLCV (M; IL); TYLCSV; TYLCThV; SLCV; WmCSV; ChaYMV
<b>Specificity value</b>	100%
<b>Cross reacts with</b>	
<b>Diagnostic Specificity</b>	

<b>Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test</b>	100%
<b>Specify the test(s)</b>	From a comparison of samples of known status. The tests was performed by three different laboratories
<b>Reproducibility</b>	
<b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>	96%
<b>Repeatability</b>	
<b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>	96%
<b>Test performance study</b>	
<b>Test performance study?</b>	yes
<b>Brief details of the test performance study and its output.It available, link to published article/report</b>	The TPS was organized in the frame of EURL Virology activities and the 3 laboratories from the EURL consortium participates
<b>Other information</b>	
<b>Any other information considered useful</b>	The test was succesfully used also in testing Bemisia tabaci specimens

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