

**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.

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|---|--|------------------------|
| Target Organism | Bursaphelenchus xylophilus | |
| Short description | Detection of Bursaphelenchus xylophilus in wood extract with real-time PCR François et al. 2007 | |
| Laboratory contact details | Anses, Laboratoire de la Santé des Végétaux - Unité de Nématologie Domaine de la Motte au Viconte BP 35327, 35653 Le Rheu, France | |
| Date and reference of the validation report | 2011-02 - Anses 2011 Rapport d'évaluation d'outils moléculaires de détection de Bursaphelenchus xylophilus sur extrait de bois | |
| Validation process according to EPPO Standard PM 7/98: | Yes | |
| Reference of the test description | 0 François C, Castagnone C, Boonham N, Tomlinson J, Lawson R, Hockland S, Quill J, Vieira P, Mota M, Castagnone-Sereno P (2007) Satellite DNA-based species-specific identification of the pinewood nematode, Bursaphelenchus xylophilus. Molecular Plant Pathology 8(6), 803-809 | |
| 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) | | |
| Matrices tested (if relevant) | Wood extract | |
| 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 | real time PCR (Taqman) |

| | | |
|---|-----------------------------|--|
| 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 | | |
| <u>Analytical sensitivity (= limit of detection)</u> | | |
| What is smallest amount of target that can be detected reliably? | 1 individual | |
| <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 | morphology | |
| <u>Analytical specificity</u> | | |
| Specificity value | 100% | |
| Number of strains/populations of target organisms tested | 7 populations (see table1) | |
| Number of non-target organisms tested | 15 populations (see table1) | |
| Cross reacts with (specify the species) | none | |
| <u>Diagnostic Specificity</u> | | |
| Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test | 100% for one individual | |
| Specify the standard test | morphology | |
| <u>Reproducibility</u> | | |

| | |
|---|---|
| Provide the calculated % of agreement for a given level of the pest (see PM 7/98) | 100% for one individual |
| <u>Repeatability</u> | |
| Provide the calculated % of agreement for a given level of the pest (see PM 7/98) | 100% |
| <u>Test performance study</u> | |
| Test performance study? | No |
| Include brief details of the test performance study and its output. It available, provide a link to published article/report | |
| <u>Other information</u> | |
| 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: | <ul style="list-style-type: none"> • Table 1 List of species and population tested |