

**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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| <b>Target Organism</b>  | Heterodera glycines   |   |
| <b>Short description</b>  | Identification of Heterodera glycines by PCR  |   |
| <b>Laboratory contact details</b>   | Anses Plant Health Laboratory - Nematology Unit<br>Domaine de la Motte au Viconte BP 35327, 35653 Le Rheu,<br>France  |   |
| <b>Date and reference of the validation report</b>  | 2010-07-07 - Report 10/02   |   |
| <b>Validation process according to EPPO Standard PM 7/98:</b>                                   | No  |   |
| <b>Reference of the test description</b>  | PM 7/089(1)<br>SUBBOTIN S.A., PENG D., MOENS M. (2001). A rapid method for the identification of the soybean cyst nematode Heterodera glycines using duplex PCR. Nematology, 3(4), 365-371. |   |
| <b>Is the test the same as described in the EPPO DP?</b>  | Yes   |   |
| <b>Is the lab accredited for this test?</b>   | No  |   |
| <b>Plant species tested (if relevant)</b>   |   |   |
| <b>Matrices tested (if relevant)</b>  | isolated nematodes: one cyst per species  |   |
| <b>List of methods used</b>   |   |   |
| <b>Method for extraction / isolation / baiting of target organism from matrix</b>               |   |   |
| <b>Molecular methods, e.g. hybridization, PCR and real time PCR</b>                             | X   | Species specific PCR in duplex with universal primers (GlyFI-rDNA2 + D2A-D3B) and species specific PCR in simplex (GlyFI-rDNA2) |
| <b>Serological methods: IF, ELISA, Direct Tissue Blot Immuno Assay</b>                          |   |   |
| <b>Plating methods: selective isolation</b>   |   |   |
| <b>Bioassay methods: selective enrichment in host plants, baiting, plant test and grafting.</b> |   |   |
| <b>Pathogenicity test</b>   |   |   |
| <b>Fingerprint methods: protein profiling, fatty acid profiling &amp; DNA</b>                   |   |   |

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| <b>profiling</b>  |  |  |
| <b>Morphological and morphometrical methods intended for identification</b>   |  |  |
| <b>Biochemical methods: e.g. enzyme electrophoresis, protein profiling</b>  |  |  |
| <b>Other</b>  |  |  |
| <b><u>Analytical sensitivity (= limit of detection)</u></b>   |  |  |
| <b>What is smallest amount of target that can be detected reliably?</b>   |  |  |
| <b><u>Diagnostic sensitivity</u></b>  |  |  |
| <b>Proportion of infected/infested samples tested positive compared to results from the standard test , see appendix 2 of PM 7/98</b> |  |  |
| <b>Specify the standard test</b>  |  |  |
| <b><u>Analytical specificity</u></b>  |  |  |
| <b>Specificity value</b>  | not calculated, but In duplex, no specific amplification for target and non-target species. In simplex, 3 non target species detected among 13 tested  |  |
| <b>Number of strains/populations of target organisms tested</b>   | 1  |  |
| <b>Number of non-target organisms tested</b>  | 13   |  |
| <b>Cross reacts with (specify the species)</b>  | In simplex, cross reactions observed for H. betae/trifolii, H. schachtii, H. ciceri (all belonging to the Schachtii group which includes H. glycines). |  |
| <b><u>Diagnostic Specificity</u></b>  |  |  |
| <b>Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test</b>         |  |  |
| <b>Specify the standard test</b>  |  |  |
| <b><u>Reproducibility</u></b>   |  |  |
| <b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>  |  |  |
| <b><u>Repeatability</u></b>   |  |  |
| <b>Provide the calculated % of agreement for a given level of the pest (see PM 7/98)</b>  |  |  |
| <b><u>Test performance study</u></b>  |  |  |
| <b>Test performance study?</b>  | No   |  |
| <b>Include brief details of the test performance study and its output.It</b>  |  |  |

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| available, provide a link to published article/report   |  |
| <b>Other information</b>  |  |
| <b>Any other information considered useful<br/>e.g. robustness, ease of performing the test, etc.</b> | As the analytical specificity of the test is not sufficient, the other performance criteria were not evaluated       |
|   |  |
| The following complementary files are available online:   | <ul style="list-style-type: none"> <li>• <a href="#">Populations list and results_Subbotin et al 2001</a></li> </ul> |