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	Diabrotica virgifera virgifera	
Short description	Morphological identification of D.virgifera in pheromone traps	
Laboratory contact details	ILVO Institute for Agricultural and Fisheries Research Burg. Van Gansberghelaan 96, 9820 Merelbeke, Belgium	
Date and reference of the validation report	2011-05-19 - F16_I09	
Validation process according to EPPO Standard PM 7/98:	No	
Reference of the test description	PM 7/036(1)	
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)	Not relevant	
Matrices tested (if relevant)	Pheromone traps, artificially infected with adults of Diabrotica virgifera	
List of methods used		
Method for extraction / isolation / baiting of target organism from matrix	X	Visual inspection of the pheromone traps with stereomicroscope, using a lattice work (A→P, 1→25) to localize the beetles on the trap
Molecular methods, e.g. hybridization, PCR and real time PCR		
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	X	Morphological identification using stereomicroscope and checklist (F03_I07) with most

		important morphological characters of the beetle, same morphological characters as described in PM 7/36 (1). Before the analysis starts there is a control of a beetle (standard reference material from Hungary) with checklist F03_I11
Biochemical methods: e.g. enzyme electrophoresis, protein profiling		
Other		
Analytical sensitivity (= limit of detection)		
What is smallest amount of target that can be detected reliably?	1 individual beetle (In the validation test 10 pheromone traps were used, artificially infected with one D. virgifera each, on different places on the traps. Four annalists checked the traps and noticed the place on the trap (f.e. B23, G8))	
Diagnostic sensitivity		
Proportion of infected/infested samples tested positive compared to results from the standard test , see appendix 2 of PM 7/98	Not done	
Specify the standard test	Not relevant	
Analytical specificity		
Specificity value		
Number of strains/populations of target organisms tested	Not done	
Number of non-target organisms tested	Not done	
Cross reacts with (specify the species)	Not done	
Diagnostic Specificity		
Proportion of uninfected/uninfested samples (true negatives) testing negative compared to results from a standard test	Not done	
Specify the standard test		
Reproducibility		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100% (10 pheromone traps (negative traps already used in maize fields), each of them artificially infected with 1 adult of D. virgifera. On each pheromone trap there was a large diversity of other insects, belonging to different orders. Four annalists checked the pheromone traps on four different days)	
Repeatability		
Provide the calculated % of agreement for a given level of the pest (see PM 7/98)	100% (10 pheromone traps (negative traps already used in maize fields), each of them artificially infected with 1 adult of D. virgifera. On each pheromone trap there was a large diversity of other insects, belonging to different orders. Five replicates.)	
Test performance study		

Test performance study?	Yes
Include brief details of the test performance study and its output.It available, provide a link to published article/report	Interlaboratory test with 5 participating labs, including DCP. Each lab received 5 artificially infected pheromone traps. Same situation for each lab: the number of the beetles on the traps, as well as the location on the traps was identical. Result: one lab had a success rate of 71% (36,4% false positives and 18,2% false negatives). The other labs and DCP: success rate 100% (false positives and false negatives 0%).
Other information	
Any other information considered useful **e.g. robustness, ease of performing the test, etc.**	