

**The Appendix is an integral part of
Certificate of Accreditation No: 464/2023 of 29/08/2023**

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Ústřední kontrolní a zkušební ústav zemědělský

CAB number 1512, National Reference Laboratory, Division of Plant Pest Diagnostics
Šlechtitelů 773/23, 779 00 Olomouc

Testing laboratory locations:

1. **Department of Plant Pest Diagnostics Olomouc**
Šlechtitelů 773/23, 779 00 Olomouc
2. **Department of Plant Pest Diagnostics Havlíčkův Brod**
Konečná 1930, 580 01 Havlíčkův Brod
3. **Laboratory of Plant Pest Diagnostics Praha**
Ztracená 1099/10, 161 00 Praha 6
4. **Laboratory of Plant Pest Diagnostics Opava**
Jaselská 552/16, 746 01 Opava

The laboratory applies a flexible approach to the scope of accreditation.

The current list of activities carried out within the flexible scope is publicly available <https://eagri.cz/public/web/ukzuz/portal/skodlive-organismy/rostlinolekarska-diagnostika/laboratorni-diagnostika/akreditace/> in the form „List of activities within the flexible scope of accreditation“.

The laboratory provides opinions and interprets test results.

The laboratory is qualified to carry out independent sampling.

Detailed information on activities within the scope of accreditation (determined analytes/ source literature) is given in the section „Specification of the scope of accreditation“.

Tests:

Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
1 ¹	Detection of plant viruses by ELISA	SOP-M-01, excluding section 7.2 (According to the kit manufacturer's instructions)	Plant material, seed, insects	A
2 ¹	Detection of plant viruses by bioassay	SOP-M-01, excluding section 7.1	Plant material, seed	A
3 ¹	Detection and identification of fungal and fungi-like organisms by light microscopy	SOP-M-06, excluding section 7.2.4	Plant material, seed, substrates, soil, cultures of fungal and fungi-like organisms, water, fruiting bodies	A
4 ¹	Detection and identification of fungal and fungi-like organisms by cultivation methods	SOP-M-06, excluding sections 7.2.4, 7.2.5	Plant material, seed, cultures of fungal and fungi-like organisms, water, fruiting bodies	A
5 ¹	Detection and identification of fungal and fungi-like organisms by bioassay	SOP-M-06, excluding sections 7.2.1, 7.2.2, 7.2.3, 7.2.5	Plant material, seed, substrates, soil, water	A

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
6 ¹	Detection and identification of phytophagous, saprophagous and predatory insects and mites by light microscopy	SOP-M-40	Plant material, wood, seed, substrates, insects, mites	A
7 ^{1, 2, 3}	Detection and identification of phytophagous, mycophagous and free-living nematodes by light microscopy	SOP-M-81	Plant material, wood, seed, substrates, soil, insects, sludges, nematodes	A
8 ^{1, 2, 4}	Detection and identification of selected species of the genus <i>Tilletia</i> by light microscopy	SOP-M-44	Plant material, seed	-
9 ^{1, 2, 3}	Detection of cysts and identification of golden potato cyst nematode (<i>Globodera rostochiensis</i>) and white potato cyst nematode (<i>Globodera pallida</i>) by light microscopy	SOP-M-82	Substrates, soil, rinse water, sludges, nematodes	A
10 ²	Testing of quarantine bacterial diseases (bacterial ring rot and brown rot) of potatoes and other host plants by microscopy	SOP-M-02, excluding sections 3.3, 3.4, 3.5 (Commission Implementing Regulation (EU) 2022/1193 and 2022/1194)	Plant material, irrigation and wastewater, bacterial cultures	A, D
11 ²	Testing of quarantine bacterial diseases (bacterial ring rot and brown rot) of potatoes and other host plants by real-time PCR	SOP-M-02, excluding sections 3.2, 3.4, 3.5 (Commission Implementing Regulation (EU) 2022/1193 and 2022/1194)	Plant material, irrigation and wastewater, bacterial cultures	A, D
12 ²	Testing of quarantine bacterial diseases (bacterial ring rot and brown rot) of potatoes and other host plants by cultivation	SOP-M-02, excluding sections 3.2, 3.3, 3.4 (Commission Implementing Regulation (EU) 2022/1193 and 2022/1194)	Plant material, irrigation and wastewater, bacterial cultures	A, D
13 ²	Testing of quarantine bacterial diseases (bacterial ring rot and brown rot) of potatoes and other host plants by biological test	SOP-M-02, excluding sections 3.2, 3.3, 3.5 (Commission Implementing Regulation (EU) 2022/1193 and 2022/1194)	Plant material, irrigation and wastewater, bacterial cultures	A, D
14 ¹	Detection and identification of <i>Ditylenchus dipsaci</i> and <i>Ditylenchus destructor</i> by light microscopy	SOP-M-83	Plant material, seed, substrates, soil, sludges, nematodes	-

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
15 ¹	Detection and identification of plant pests by real-time PCR	SOP-M-30	Plant material, seed, fungi and fungi-like organisms, bacteria, arthropods, nematodes, irrigation and wastewater, soil, DNA and RNA	A, B
16 ¹	Diagnostics of plant pests by nucleic acid sequencing	SOP-M-31	Plant material, seed, fungi and fungi-like organisms, bacteria, arthropods, nematodes, irrigation and wastewater, DNA and RNA	A, B
17 ¹	Detection and identification of plant pests by conventional PCR	SOP-M-33	Plant material, seed, fungi and fungi-like organisms, bacteria, arthropods, nematodes, irrigation and wastewater, DNA and RNA	A, B
18 ⁴	Detection and identification of phytophagous, saprophagous and predatory insects and mites by light microscopy	SOP-M-61	Plant material, insects, mites	A
19 ^{1, 2, 3}	Detection and identification of permanent zoosporangia of <i>Synchytrium endobioticum</i> , the causal agent of potato wart disease, by light microscopy	SOP-M-69, excluding section 7.1.4	Soil, substrates, plant material	-
20 ^{1, 2, 3}	Detection and identification of permanent zoosporangia of <i>Synchytrium endobioticum</i> , the causal agent of potato wart disease, by bioassay	SOP-M-69, excluding section 7.1.3	Soil, substrates, plant material	-

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
21 ¹	Detection, identification and presence confirmation of phytopathogenic bacteria by cultivation	SOP-M-48, excluding sections 7.3.4, 7.3.7, 7.3.8, 7.3.9, 7.3.10	Plant material, bacterial cultures, seed, soil	A
22 ¹	Detection, identification and presence confirmation of phytopathogenic bacteria by gas chromatography	SOP-M-48, excluding sections 7.3.4, 7.3.8, 7.3.9, 7.3.10	Plant material, bacterial cultures, seed, soil	A
23 ¹	Detection, identification and presence confirmation of phytopathogenic bacteria by spectrophotometric method BIOLOG	SOP-M-48, excluding sections 7.3.4, 7.3.7, 7.3.9, 7.3.10	Plant material, bacterial cultures, seed, soil	A
24 ¹	Detection, identification and presence confirmation of phytopathogenic bacteria by MALDI-TOF mass spectrometry	SOP-M-48, excluding sections 7.3.4, 7.3.7, 7.3.8, 7.3.10	Plant material, bacterial cultures, seed, soil	A
25 ¹	Detection, identification and presence confirmation of phytopathogenic bacteria by biological test	SOP-M-48, excluding sections 7.3.4, 7.3.7, 7.3.8, 7.3.9	Plant material, bacterial cultures, seed, soil	A
26 ²	Qualitative detection of PLRV, PVY, PVA, PVM, PVX and PVS viruses in potato tubers by real-time PCR	SOP-M-49	Potato tubers	A
27 ²	Detection of plant viruses by DAS-ELISA	SOP-M-51	Plant material, seed	A
28 ¹	Detection and identification of storage pests by light microscopy	SOP-M-50	Cereals, oilseeds, legumes, seed, tea, cocoa, chocolate, dried fruit, dried herbs, dried spices, pasta, nuts, cotton, flax fiber, sheep wool	A

¹ asterisk at the ordinal number identifies the tests, which the laboratory is qualified to carry out outside the permanent laboratory premises; the numerical index at the test ordinal number identifies the location carrying out the test (the identification of the locations is given on the first page of this document)

² if the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

³ degrees of freedom: A – Flexibility concerning materials/products (subject of the test), B – Flexibility concerning components/parameters/characteristics, C – Flexibility concerning the performance of the method, D – Flexibility concerning the method

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The laboratory can modify the test procedures with the specified degree(s) of freedom in the scope of accreditation while maintaining the principle of measurement. If no degree of freedom is specified, the laboratory cannot apply a flexible approach to the scope of accreditation for the test.

Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (determined analytes)
1, 27	List of organisms tested: ELISA kits for the diagnostics of plant viruses from manufacturers: Agdia, Bioreba, Creative Diagnostics, DSMZ, Loewe, Neogen, Sediag, Prime Diagnostics.
8	List of identified species of the genus <i>Tilletia</i> : <i>Tilletia controversa</i> , <i>Tilletia tritici</i> , <i>Tilletia indica</i> , <i>Tilletia foetida</i> .
15	List of organisms tested: Bacteria: <i>Candidatus Liberibacter africanus</i> , <i>Candidatus Liberibacter americanus</i> , <i>Candidatus Liberibacter asiaticus</i> , <i>Candidatus Liberibacter solanacearum</i> , <i>Clavibacter insidiosus</i> , <i>Xylella fastidiosa</i> , <i>Xanthomonas campestris</i> . Phytoplasmas Fungi: <i>Verticillium nonalfalfa</i> , <i>Verticillium dahliae</i> . Viruses: blackcurrant reversion virus, gooseberry vein banding associated virus, little cherry virus 1, little cherry virus 2, olive latent virus 1, rose rosette virus, strawberry mild yellow edge virus, strawberry crinkle virus, strawberry virus 1, strawberry vein banding virus, strawberry mottle virus, strawberry polerovirus 1, tomato brown rugose fruit virus, tomato chlorosis virus, tomato infectious chlorosis virus, tomato mottle mosaic virus, tomato ringspot virus.
16, 17	List of organisms tested: Bacteria: <i>Acidovorax citrulli</i> , <i>Candidatus Liberibacter africanus</i> , <i>Candidatus Liberibacter americanus</i> , <i>Candidatus Liberibacter asiaticus</i> , <i>Candidatus Liberibacter solanacearum</i> , <i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i> , <i>Clavibacter sepedonicus</i> , <i>Curtobacterium flaccumfaciens</i> pv. <i>flaccumfaciens</i> , <i>Dickeya</i> spp., <i>Erwinia amylovora</i> , <i>Pantoea ananatis</i> , <i>Pantoea stewartii</i> subsp. <i>stewartii</i> , <i>Pectobacterium atrosepticum</i> , <i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i> , <i>Pseudomonas savastanoi</i> pv. <i>glycinea</i> , <i>Pseudomonas syringae</i> pv. <i>actinidiae</i> , <i>Pseudomonas syringae</i> pv. <i>aesculi</i> , <i>Pseudomonas syringae</i> pv. <i>morsprunorum</i> , <i>Ralstonia pseudosolanacearum</i> (phylogenotypes I, III), <i>Ralstonia solanacearum</i> , <i>Ralstonia syzygii</i> , <i>Xanthomonas</i> spp., <i>Xylella fastidiosa</i> , <i>Xylophilus ampelinus</i> . Phytoplasmas Fungi Chromista: <i>Phytophthora</i> spp., <i>Pythium</i> spp. Viruses: apple stem grooving virus, apple stem pitting virus, barley yellow mosaic virus, <i>Begomovirus</i> spp., <i>Nepovirus</i> spp. – subgroup A and B, <i>Orthotospovirus</i> spp., pepino mosaic virus, <i>Potyvirus</i> spp., rose rosette virus, <i>Tobamovirus</i> spp., tomato marchitez virus, tomato torrado virus, tomato chocolate spot virus, tomato chocolaté virus, tomato mild mottle virus, wheat streak mosaic virus. Viroids: citrus bark cracking viroid, hop stunt viroid, hop latent viroid, <i>Pospiviroid</i> spp. Animalia: arthropods, nematodes.

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Ordinal test number	Detailed information on activities within the scope of accreditation (source literature)
1, 27	PM 7/125 ELISA tests for viruses. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
2	PM 7/153 Mechanical inoculation of test plants. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
3, 4	CBS Course of Mycology, W. Gams, E. S. Hoekstra, A. Aptroot, 4 th Edition 1998, ISBN 90-70351-36-6, Basic Plant Pathology Methods, O.D. Dhingra, J.B. Sinclair, 2 nd Edition, 1995, SBN0-87371-638-8, Černý Alois (1989): Parazitické dřevokazné houby, Státní zemědělské nakladatelství Praha, 104 pages. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
5	CBS Course of Mycology, W. Gams, E. S. Hoekstra, A. Aptroot, 4 th Edition 1998, ISBN 90-70351-36-6, Basic Plant Pathology Methods, O.D. Dhingra, J.B. Sinclair, 2 nd Edition, 1995, SBN0-87371-638-8, Černý Alois (1989): Parazitické dřevokazné houby, Státní zemědělské nakladatelství Praha, 104 pages. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics Relevant ISTA methods: https://www.seedtest.org/en/seed-health-methods-content---1--1452.html
6	LELLÁKOVÁ, F. Zoologická technika. 1. vyd. Praha: Universita Karlova, 1985. 122 p. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
7	Van Benzooien, J., Methods and techniques for nematology. Wageningen, 2006, 112 p. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
8	Kochanová, M., Prokinová, E., Metody diagnostiky <i>Tilletia</i> spp. v teorii a praxi, 2004, ČFS. 68p. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
9	Commission Implementing Regulation (EU) 2022/1192 of 11 July 2022 establishing measures to eradicate and prevent the spread of <i>Globodera pallida</i> (Stone) Behrens and <i>Globodera rostochiensis</i> (Wollenweber) Behrens. Van Benzooien, J., Methods and techniques for nematology. Wageningen, 2006, 112 p., EPPO PM 7/40 <i>Globodera rostochiensis</i> and <i>G. pallida</i> .
10, 11, 12, 13	Commission Implementing Regulation (EU) 2022/1194 of 11 July 2022 establishing measures to eradicate and prevent the spread of <i>Clavibacter sepedonicus</i> (Speckermann & Kotthoff 1914) Nouiou et al. 2018 and Commission Implementing Regulation (EU) 2022/1193 of 11 July 2022 establishing measures to eradicate and prevent the spread of <i>Ralstonia solanacearum</i> (Smith 1896) Yabuchi et al. 1996 emend. Safni et al. 2014 Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
14	EPPO PM 7/87 <i>Ditylenchus destructor</i> and <i>Ditylenchus dipsaci</i> , Brzeski M. W. (1998): Nematodes of <i>Tylenchina</i> in Poland and temperate Europe. Muzeum i Instytut Zoologii Polska Akademia Nauk, Warsaw, Poland, 395 p.
15	Commission Implementing Regulation (EU) 2020/1191 of 11 August 2020 establishing measures to prevent the introduction into and the spread within the Union of Tomato brown rugose fruit virus (ToBRFV) and repealing Implementing Decision (EU) 2019/1615, as amended. Commission Implementing Regulation (EU) 2020/1201 of 14 August 2020 as regards measures to prevent the introduction into and the spread within the Union of <i>Xylella fastidiosa</i> (Wells et al.), as amended. List of source literature in the relevant work procedures. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
16	EPPO PM 7/129 DNA barcoding as an identification tool for a number of regulated pests, EPPO. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
17	List of source literature in the relevant work procedures. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics

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18	HEIE O. E. 1980, 19802, 1986, 1992, 1994, 1995: <i>The Aphidoidea (Hemiptera) of Fennoscandia and Denmark, Part I., II., III., IV., V., VI.</i> E. J. Brill, 236, 176, 313, 189, 242, 222 p. MACEK J. a kol. 2007: <i>Motýli a housenky střední Evropy. Noční motýli I.</i> Academia, 371 p. MACEK J. a kol. 2008: <i>Motýli a housenky střední Evropy. Noční motýli II. – můrovití.</i> Academia, 490 p. YEN A., BURCKHARDT D. 2017: Diagnostic Protocol for the detection of the Tomato Potato Psyllid, <i>Bactericera cockerelli</i> (Šulc). <i>SPHDS</i> , NDP 20: 1-34.
19, 20	Karling J.S. (1964): <i>Synchytrium</i> . Academic press, 470p., EPPO PM 7/28 <i>Synchytrium endobioticum</i> . Commission Implementing Regulation (EU) 2022/1195 of 11 July 2022 establishing measures to eradicate and prevent the spread of <i>Synchytrium endobioticum</i> (Schilbersky) Percival.
21	Relevant ISTA methods: https://www.seedtest.org/en/seed-health-methods-content---1--1452.html Kůdela, V., Novacky, A., & Fucikovsky, L. (2002). <i>Rostlinolékařská bakteriologie</i> . Academia. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
22	Operating manual for gas chromatography (HP 6890). Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
23	BIOLOG Microstation™ System/Microlog™ User's Guide. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
24	MALDI biotyper 3.0 user's manual by Bruker. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
25	Relevant ISTA methods: https://www.seedtest.org/en/seed-health-methods-content---1--1452.html Kůdela, V., Novacky, A., & Fucikovsky, L. (2002). <i>Rostlinolékařská bakteriologie</i> . Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
26	Agindotan BO, Shiel PJ, Berger PH. Simultaneous detection of potato viruses, PLRV, PVA, PVX and PVY from dormant potato tubers by TaqMan real-time RT-PCR. <i>J Virol Methods</i> . 2007 Jun; 142(1-2):1-9. doi: 10.1016/j.jviromet.2006.12.012. Epub 2007 Feb 5. PMID: 17276522. Mortimer-Jones SM, Jones MG, Jones RA, Thomson G, Dwyer GI. A single tube, quantitative real-time RT-PCR assay that detects four potato viruses simultaneously. <i>J Virol Methods</i> . 2009 Nov;161(2):289-96. doi: 10.1016/j.jviromet.2009.06.027. Epub 2009 Jul 9. PMID: 19596379. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics
28	Zákon č. 219/2003 Sb., o uvádění do oběhu osiva a sadby pěstovaných rostlin a o změně některých zákonů. Vyhláška č. 129/2012 Sb., o podrobnostech uvádění osiva a sadby pěstovaných rostlin do oběhu, ve znění pozdějších předpisů. Vyhláška č. 61/2011 Sb., kterou se stanoví požadavky na odběr vzorků, postupy a metody zkoušení osiva a sadby, ve znění pozdějších předpisů. Bartoš, J., Verner, P.H., Pulpán, J., Boj proti skladištěm škůdcům, Státní zemědělské nakladatelství Praha, 1961. Stejskal, V., Ph.D. a kol., Detekce kontaminace skladovaných obilovin a cereálních produktů škůdci pomocí fyzikálně-chemických technik, metodika pro útvary státní správy, Výzkumný ústav rostlinné výroby, v.v.i., Praha, 2007. Relevant EPPO diagnostic standards: https://www.eppo.int/RESOURCES/eppo_standards/pm7_diagnostics