EA MLA Signatory
Český institut pro akreditaci, o.p.s.
(Czech Accreditation Institute)
Hájkova 2747/22, Žižkov, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products and on changes and amendments to some Acts, as amended

CERTIFICATE OF ACCREDITATION

No. **492/2025**

Výzkumný ústav pivovarský a sladařský, a.s.
with registered office Lípová 511/15, Nové Město, 120 00 Praha 2
Company Registration No. 60193697

for the Testing Laboratory No. **1309.2**
Analytical Testing Laboratory – Malting Institute Brno

Scope of accreditation:

Determination of analytical parameters in cereals and other grains, malt and malt products, intermediate products of beer production, beer and other products to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the abovementioned Accredited Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Accredited Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited conformity assessment body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 486/2024 of 18/09/2024, and/or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **15/05/2029**

Prague: 30/09/2025

Český institut pro akreditaci, o.p.s. «CAI»

Signed in the Czech original:
Jan Velíšek on 30/09/2025

Jan Velíšek
Director of the Department
of Testing and Calibration Laboratories
Czech Accreditation Institute

This translation of the Czech original has been issued by: Eliška Frycová

The Appendix is an integral part of
Certificate of Accreditation No: 492/2025 of 30/09/2025

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

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CAB number 1309.2, Analytical Testing Laboratory – Malting Institute Brno
Mostecká 971/7, 614 00 Brno

The laboratory applies a flexible approach to the scope of accreditation.
The current list of activities carried out within the flexible scope is available on the laboratory's website https://beerresearch.cz/download-category/analyticka-zkusebni-laborator/ in the form of the „List of activities within the flexible scope of accreditation".
Detailed information on activities within the scope of accreditation (determined analytes / tested subject) is given in the section „Specification of the scope of accreditation".

Tests:

Ordinal number[1]	Test procedure / method name	Test procedure / method identification[2]	Tested subject	Degrees of freedom[3]
1	Identification of variety by gel electrophoresis method	SOP 0110 (EBC 3.12)	Grain crops	-
2	Determination of mass fractions, by gravimetric method	SOP 0210 (EBC 3.11.1)	Barley	-
3	Determination of mass fractions, impurities and foreign matters by gravimetric method	SOP 0220 (ČSN 461100-5)	Barley	-
4	Malt sieving test by gravimetric method	SOP 0230 (EBC 4.22)	Malt	-
5	Determination of impurities and foreign matters by gravimetric method	SOP 0300 (PSA 3.4.5)	Malt	-
6	Determination of chlormequat and mepiquat by LC-MS	SOP 4100 (ČSN EN 15055)	Grain crops, malt	A
7	Determination of bulk density by gravimetric method	SOP 0500 (MEBAK III R-200.10.020)	Barley, malt	-
8	Determination of thousand corn weight by gravimetric method	SOP 0600 (EBC 3.4; EBC 4.4)	Barley, malt	-
9	Visual determination of germinative energy in barley: BRF method visually	SOP 0710 (EBC 3.6.2)	Grain crops	-
10	Visual determination of germinative capacity by hydrogen peroxide	SOP 0720 (EBC 3.5.2)	Grain crops	-
11	Visual determination of germinative percentage and germinative index	SOP 0730 (EBC 3.7)	Grain crops	-
12	Visual determination of germinative rate	SOP 0740 (ČSN 461011-14; EBC 3.6.2)	Grain crops	-
13	Determination of protein content by Kjeldahl method	SOP 2240 (EBC 3.3.1; EBC 4.3.1; EBC 4.9.1)	Grain crops, malt, wort, sweet wort, beer	A

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Ordinal number[1]	Test procedure / method name	Test procedure / method identification[2]	Tested subject	Degrees of freedom[3]
14	Visual determination of mealiness by farinatom	SOP 0900 (MEBAK I 3.1.3.5.1)	Malt	-
15	Determination of friability, glassy grains and homogeneity by friabilimeter	SOP 1000 (EBC 4.15)	Malt	-
16	Determination of mass fractions of grist on the Pfungstat sieve by gravimetric method	SOP 1100 (MEBAK II 1.1.1)	Grain crops, malt	-
17	Determination of grain moisture by gravimetric method	SOP 1200 (EBC 3.2; EBC 4.2)	Grain crops, malt	-
18	Determination of malt extract by densitometer (Congress Mash)	SOP 1310 (EBC 4.5.1)	Malt, wort	-
19	Determination of extract differences by densitometer	SOP 1320 (EBC 4.5.2)	Malt, wort	-
20	Determination of malt extract coloured malts by densitometer	SOP 1330 (EBC 5.2)	Special malt, wort	-
21	Determination of relative extract by densitometer at 45 °C	SOP 1340 (MEBAK I 3.1.4.11)	Malt, wort	-
22	Determination of extract by densitometer at 65 °C	SOP 1350 (EBC 4.6)	Malt, wort	-
23	Sensory determination of aroma and clarity and speed filtration	SOP 1400 (EBC 4.5.1)	Wort	-
24	Visual determination of saccharification rate	SOP 1500 (EBC 4.5.1)	Wort	-
25	Visual determination of colour by comparator	SOP 1610 (EBC 4.7.2)	Malt, wort	-
26	Visual determination of colour by comparator	SOP 1620 (EBC 5.6)	Special malt, wort	-
27	Chronometric determination of sprout damage by the Falling Number method	SOP 0750 (ČSN EN ISO 3093)	Grain crops	-
28	Visual determination of colour after boiling by comparator	SOP 1710 (EBC 4.19)	Malt, wort	-
29	Determination of diastatic power by SFA analyzer with photometric detector	SOP 1800 (EBC 4.12)	Malt	-
30	Determination of viscosity by viscometer	SOP 1900 (EBC 4.8)	Wort	-
31	Determination of pH by potenciometry	SOP 2000 (MEBAK III R-205.06.040)	Wort	-

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Ordinal number[1]	Test procedure / method name	Test procedure / method identification[2]	Tested subject	Degrees of freedom[3]
32	Determination of apparent final attenuation by densitometer	SOP 2110 (Vrtělová, H., Doležalová, A., Trkan, M.: Kvasny Prum 17, 1971, p. 10-13)	Wort	-
33	Determination of alfa-amylase content by SFA analyzer with photometric detector	SOP 2520 (EBC 4.13)	Malt	A
34	Determination of acrylamide by GC - MS method	SOP 3700 (E. Tareke, P. Rydberg, P. Karlsson, S. Eriksoon, M. Törnqvist, J. Agric. Food Chem. 2002, 50, 4998.)	Foods of plant origin, beverages	A
35	Determination of alpha-amino nitrogen content by ninhydrin method by SFA analyzer with photometric detector	SOP 2320 (EBC 4.10)	Wort, sweet wort, beer	A
36	Determination of beta-glucan content by SFA analyzer with fluorescence detector	SOP 2410 (ČSN 560187-1; EBC 8.13.2)	Grain crops, malt, wort, sweet wort, beer	A
37	Reserved			
38	Determination of pesticide residues by LC-MS method	SOP 3800 (ČSN EN 15662)	Grain crops, malt, oil	A, B
39	Photometric determination of modification and homogeneity of malt: Calcofluor method	SOP 2700 (EBC 4.14)	Malt	-
40	Determination of oxalates content by isotachophoresis	SOP 2800 (Offizorz, P., Krüger, E., Rubach, K.: Machr. Brauwiss. 37, 1984, p. 168)	Malt, beer, beverages	A
41	Determination of dimethylsulfide content by GC-FPD method and its precursors content by calculation from the measured values	SOP 3000 (EBC 9.39; MEBAK III R-200.29.153)	Malt, wort, beer	A
42	Determination of gliadin content by ELISA method and gluten by calculation from the measured values	SOP 3600 (RIDASCREEN Gliadin competitive R7021; Commission Regulation no. 828/2014/EU)	Wort, sweet wort, beer	A
43	Determination of malting yield by micromalting test using gravimetric method	SOP 3200 (MEBAK III R-110.00.008)	Grain crops	-
44	Determination of disinfectant efficiency by the GC-FID method	SOP 3302 (Methods companies Bayer AG; Syngenta)	Seed	B

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Ordinal number[1]	Test procedure / method name	Test procedure / method identification[2]	Tested subject	Degrees of freedom[3]
45	Determination of mycotoxins by the LC-MS method	SOP 3400 (ČSN EN 17279)	Grain crops, malt, hops, kieselguhr	A, B
46	Determination of mycotoxins by the LC-MS method	SOP 3410 (ČSN EN 17279)	Beer production intermediate products, beer, non-alcoholic beverages and wine	A, B
47	Determination of ochratoxin A (OTA) and patulin by the UPLC method with FLR and PDA detection	SOP 3500 (Lopez-Diaz, T. M., Flannigan, B.: International Journal of Food Microbiology, 35, 1987, p. 129-136)	Grain crops, malt, hops, kieselguhr	A
48	Determination of ochratoxin A (OTA) and patulin by the UPLC method with FLR and PDA detection	SOP 3510 (Lopez-Diaz, T. M., Flannigan, B.: International Journal of Food Microbiology, 35, 1987, p. 129-136)	Beer production intermediate products, beer, non-alcoholic beverages and wine	A
49	Determination of wort clarity (haze) by nephelometry	SOP 1410 (EBC 9.29)	Wort, sweet wort, beer	A
50	Determination of pesticides residues by GC-MS	SOP 3900 (ČSN EN 15662)	Grain crops, malt, oil	A, B
51	Determination of glyphosate by LC-MS	SOP 4000 (Demonte, L. D. et al. Science of the Total Environment, 2018, 645, 34-43)	Grain crops, malt, beer production intermediate products, beer, beer-based beverages	A
52	Determination of ergot alkaloids by LC-MS and their sum by calculation from the measured values	SOP 4200 (Boško, R. et al. Food Anal. Methods, 17, 2024, p. 787-794)	Grain crops, malt, cereal products, feed, feed mixtures	A
53	Determination of 3-chloropropane-1,2-diol (3-MCPD) by GC-MS method	SOP 4300 (Mikulíková, R. et al. Kvasny Prum 64(1), 2018, p. 6-9)	Foods of plant origin, beverages	A

[1] asterisk at the ordinal number identifies the tests, which the laboratory is qualified to carry out outside the permanent laboratory premises

[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 valid 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

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.

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Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (determined analytes)
13	nitrogenous substances in dry matter, total nitrogen in dry mater, soluble nitrogenous substances, soluble nitrogen (mg/100g), soluble nitrogen (mg/100ml) and Kolbach index by calculation from measured values
38	3-hydroxycarbofuran, acephate, acetamiprid, acibenzolar-s-methyl, aldicarb, aldicarb sulfone, aldicarb sulfoxide, ametryn, aminocarb, azoxystrobin, benalaxyl, bendiocarb, benzoximate, bifenazate, bitertanol, boscalid, bromuconazole, bupirimate, buprofezin, butafenacil, butocarboxim, butoxycarboxim, carbofuran, carbofuran-3-hydroxy, carboxin, carfentrazone-ethyl, clethodim, clofentezine, clothianidin, cyazofamide, cycluron, cymoxanil, cyproconazole, cyprodinil, cyromazine, desmedipham, diclobutrazol, dicrotophos, diethofencarb, difenconazole, diflubenzuron, dimethoate, dimethomorph, dimoxystrobin, diniconazole, dinotefuran, dioxacarb, diuron, doramectin, emamectin benzoate, epoxiconazole, eprinomectin, etaconazole, ethiofencarb, ethiprole, ethirimol, ethofumesate, famoxadone, fenamidone, fenarimol, fenazaquin, fenbuconazole, fenhexamide, fenobucarb, fenoxycarb, fenpropimorph, fenpyroximate, fenuron , fipronil, flonicamid, flubendamide, fludioxonil, flufenacet, fluomethuron, fluoxastrobin, fluquinconazole, flusilazole, flutolanil, flutriafol, forchlorfenuron, formetanate, fuberidazole, furalaxyl, furathiocarb, halofenozide, hexaconazole, hexythiazox, chlorantraniliprole, chlorfluazuron, chloroxuron, chlortoluron, imazalil, imidacloprid, indoxacarb, ipconazole, iprovalicarb, isoprocarb, isoproturon, ivermectin, kresoxim-methyl, linuron, lufenuron, mandipropamide, mefenacet, mepanipyrim, metaflumizone, metalaxyl, metconazole, methabenzthiazuron, methamidophos, methiocarb, methomyl, methoprotryne, methoxyfenozide, metobromuron, metribuzin, mevinphos, mexacarbate, monocrotophos, monolinuron, moxidectin, myclobutanil, neburon, nitenpyram, novaluron, nuarimol, omethoate, oxadixyl, oxamyl, paclobutrazol, penconazole, pencycuron, phenmedipham, picoxystrobin, piperonyl butoxide, pirimicarb, procloraz, promecarb, prometon, prometryn, propamocarb, propargite, propham, propiconazole, propoxur, pymetrozine, pyracarbolide, pyraclostrobin, pyridaben, pyrimethanil, pyriproxyfen , quinoxyfen, rotenone, secbumeton, symetryn, spinosad (sum a and d), spirodiclofen, spiromesifen, spirotetramat, spiroxamine, sulfentrazone, tebuconazole, tebufenozide, tebufenpyrad, tebuthiuron, teflubenzuron, temephos, terbumeton, terbutryn, tetraconazole, thiabendazole, thiacloprid, thiamethoxam , thidiazuron, thiobencarb, thiophanate methyl, triadimefon, triadimenol, tricyclazole, trifloxystrobin, triflumizole, triflumuron, trichlorfon, triticonazole, vamidothion, zoxamide
44	tebuconazole, difenoconazole, triticonazole, fludioxonil, carboxin, fuberidazole, cyproconazole, triadimenol, imidacloprid, prochloraz, metalaxyl-M, thiametoxam, ipconazol , beta-cyfluthrin, fluxapyroxad, cypermethrin, tefluthrin
45	aflatoxin B1, B2, G1, G2 and their sum by calculation from the measured values, deoxynivalenol, deoxynivalenol-3-glucoside, zearalenon, fumonisin B1, B2 and their sum by calculation from the measured values, T-2, HT-2 toxin and their sum by calculation from the measured values, nivalenol, ochratoxin A
46	aflatoxin B1, B2, G1, G2 and their sum by calculation from the measured values, deoxynivalenol, deoxynivalenol-3-glucoside, zearalenon, fumonisin B1, B2 and their sum by calculation from the measured values, T-2, HT-2 toxin and their sum by calculation from the measured values, nivalenol, ochratoxin A

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Ordinal test number	Detailed information on activities within the scope of accreditation (determined analytes)
50	2,3,5,6-tetrachloroaniline, 2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 2,4'-methoxychlor, 2,6-dichlorobenzonitrile (dichlobenil), 2-phenylphenol , 3,4-dichloroaniline, 4,4'-dichlorobenzophenone, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, 4,4'-methoxychlor olefin, acetochlor, acrinathrin, alachlor, aldrin , allidochlor, anthraquinone, atrazine, azinphos ethyl, azinphos methyl, benfluralin, bifenthrin, bioallethrin (sum of isomers calculated from measured values), biphenyl, bromfenvinphos-methyl, bromfenvinphos (sum of isomers calculated from measured values), bromophos ethyl, bromophos methyl, bromopropylate , bupirimate, carbophenothion, carfentrazone ethylchlorobenzilate, cis-chlordane, cis-nonachlor, cis-permethrin, clomazone, coumaphos, cycloate, cyfluthrin (sum of isomers calculated from measured values), cypermethrin (sum of isomers calculated from measured values), cyprodinil, DCPA methyl ester (chlorthal-dimethyl), deltamethrin, diallate (sum of cis and trans isomers calculated from measured values), dieldrin, dichlofluanid, dichloran, dimethachlor, diphenamide, diphenylamine, disulfoton, edifenphos, endosulfan ether, endosulfan I, endosulfan II, endosulfan sulfate, endrin ketone, endrin, EPN, ethalfluralin, ethion, ethylene, etofenprox, etridiazole, fenamiphos, fenarimol, fenchlorphos, fenitrothion, fenpropathrin, fenson, fenthion, fenvalerate (sum of isomers calculated from measured values), fipronil, fluazifop-p-butyl, flucythrinate (sum of isomers calculated from measured values), fludioxonyl, fluchloralin, fluquinconazole, flusilazole, flutolanil, flutriafol, folpet, fonofos, heptachlor epoxide (isomer B), heptachlor, hexachlorobenzene, hexazinone, chlorbenzide, chlorfenapyr, chlorfensone, chlorfenvinphos (sum of isomers calculated from measured values), chloroneb, chlorothalonil, chlorpropham, chlorpyrifos methyl, diazinon, chlorpyrifos, chlorthiophos (sum of isomers calculated from measured values), chlozolinate, iodofenphos, iprodione , isazophos, isodrin, isopropalin, lambda-cyhalothrin (sum of isomers calculated from measured values), lenacil, leptophos, linuron, malathion, metalaxyl, metazachlor, methacriphos, methoxychlor, methyl parathion, metolachlor, mevinphos (sum of isomers calculated from measured values), MGK-264 (sum of isomers calculated from measured values), mirex, myclobutanil, N-(2,4-dimethylphenyl)formamide, nitralin, nitrofen, norflurazon, oxadiazon, oxyfluorophenpendimethalin, paclobutrazol, parathion (ethyl parathion), pebulate, penconazole, pentachloroaniline, pentachloroanisole, pentachlorobenzene, pentachlorobenzonitrile, pentachloronitrobenzene (quintozene), pentachlorothioanisole, phenothrin (sum of cis and trans isomers calculated from measured values), phorate, phosalone, phosmet, piperonyl butoxide, pirimifos ethyl, pirimiphos methyl, pretilachlor, procymidon, prodiamine, profluralin, profenofos, propachlor, propanil, propargite (sum of isomers calculated from measured values), propisochlor, propyzamide, prothiophos, pyraclofos, pyrazofos, pyridaben, pyridafenthion, pyrimethanil, pyriproxyfen, quinalphos, resmethrin (sum of isomers calculated from measured values), sulfotepp, sulprofos, tau-fluvalinate (sum of isomers calculated from measured values), tebuconazole, tebufenpyrad, tefluthrin, terbacil, terbufos, terbuthylazine, tetradifon, tetrahydrophthalimide (sum of isomers calculated from measured values), tetrachloronitrobenzene (tecnazene), tetrachlorvinphos, tetramethrin (sum of isomers calculated from measured values), tolclofos-methyl, tolylfluanid, transfluthrin, trans-chlordane, trans-nonachlor, trans-permethrin, triadimefon, triadimenol (sum of isomers calculated from measured values), triallat, triazophos, triflumizole, trifluralin, vinclozolin, α-BHC, β -BHC, γ-BHC, δ-BHC
52	ergocornine, ergocorninine, ergocristine, ergocristinine, ergocryptine, ergocryptinine, ergometrine, ergometrinine, ergosine, ergosinine, ergotamine, ergotaminine and their sum by calculation from the measured values

Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (tested subject)
1, 6, 9,10, 11, 12, 13, 16, 17, 27, 36, 38, 43, 45, 47, 50, 51, 52	Grain crops: cereals, legumes, oilseeds

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Abbreviations used:

SOP	Standard operation procedure
EBC	Analysis Committee: Analytica-EBC, Verlag Hans Carl Getränke-Fachverlag, Nürnberg, 2009.
MEBAK	Methodensammlung der Mitteleuropäischen Brautechnischen Analysenkommission. *Brautechnische Analysenmethoden*, Weihenstephan-Freising, Germany: MEBAK I (2011); MEBAK II (2013); MEBAK III (2018)
PSA	Brewing and malting analysis, Basařová a kol., Merkanta 1992.
BRF	British Research Fundation
FIA	Flow Injection Analysis
LC	Liquid Chromatography
MS	Mass Spectrometry
FLR	Fluourescence Detector
GC	Gas Chromatography
SFA	Segment Flow Analysis
FID	Flame Ionization Detector
FPD	Flame Photometric Detector
PDA	Diode Array Detector
ELISA	enzyme-linked immunosorbent assay
UPLC	Ultra Performance Liquid Chromatography

"This document is an appendix to the certificate of accreditation. In case of any discrepancies between the English and Czech versions, the Czech version shall prevail, both for the certificate appendix and the certificate itself."