

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-14082-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 10.04.2019 to 18.06.2023

Date of issue: 10.04.2019

Holder of certificate:

AGROLAB LUFA GmbH
Dr.-Hell-Strasse 6, 24107 Kiel

Tests in the fields:

sensory, physical, physico-chemical, chemical, microbiological and molecular biological investigations of food, animal feed, plant and animal materials;
physico-chemical and chemical testing of fertilisers;
hygiene testing of surfaces and consumer goods;
Measurements of radioactivity and individual nuclides in water, soil and waste, food and feed, animals and plants as indicators;
Determination of selected radioactive substances in accordance with the drinking water ordinance

Abbreviations used: see last page

Within the given testing field marked with *), the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the following:

- *) the free choice of standard or equivalent testing methods.**
- ***) the modification, development and refinement of testing methods.**

The listed testing methods are exemplary.

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

1 Analysis of food, feed, plant and animal materials

1.1 Sensory characteristics of foodstuffs

DIN ISO 22935-2
2012-12 Milk and milk products - Sensory analysis - Part 2: recommended methods for sensory evaluation
(Modification: *Extension to food matrix*)

DIN ISO 22935-3
2012-12 Milk and milk products - Sensory analysis - Part 3: Guidance on a method for evaluation of compliance with product specifications for sensory properties by scoring
(Modification: *Extension to food matrix*)

DIN 10964
2014-11 Sensory analysis - Simple descriptive testing

1.2 Determination of food and feed parameters using physical and physico-chemical methods

DIN 10311
1985-08 Determination of water distribution in butter; indicator paper method

DIN 10331
1996-03 Determination of the hardness of butter

ASU L 06.00-2
1980-09 Measurement of pH-value in meat and meat products

VDLUFA III, 25.1
1997 Determination of net energy lactation (estimation method); gas formation according to Hohenheim feed value test

VDLUFA VI, C 8.2
2000 Acidity; pH value in milk and dairy products

VDLUFA III, 18.1
1976 Silage, determination of pH value
(Modification: *Extension to feed matrix*)

ASU L 26.04-3
1987-03 Analysis of foodstuffs; measurement of the pH value in the infusion liquid or pressed brine of sauerkraut

ASU L 26.11.03-3
1983-05 Determination of the pH value of tomato paste

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ASU L 13.00-37 2012-01	Food testing - Determination of peroxide number in animal and vegetable fats and oils, Iodometric (visual) endpoint determination
VDLUFA VI, C 8.3 2000	Determination of the acidity of milk and liquid dairy products
VDLUFA VI, C 12.2 2003	Milk and dairy products, determination of density with the pycnometer
VDLUFA VI, C 26.4 1995	Milk and milk products, determination of bulk density
OIML R87 2016	Quantity of product in prepackages
CODEX STAN 70 1981	Codex Standard for Canned Tuna And Bonito
CODEX STAN 92 1981	Codex Standard for Quick Frozen Shrimps or Prawns
CODEX STAN 165 1989	Standard for Quick Frozen Blocks of Fish Fillets, Minced Fish Flesh and Mixtures
QMP_504_KI_51_447_x 2018-02	Determination of the weight proportions of components in foodstuffs

1.3 Determination of ingredients, residues, additives and trace substances

1.3.1 Preparation and pretreatment of samples

DIN EN 12393-2 2014-03	Plant Foods - Multi Method for the determination of pesticide residues in vegetable oils by LC-MS/MS - Part 2: Methods for extraction and cleanup (Modification: <i>Extension to matrix animal food and feed</i>)
DIN EN 13805 2014-12	Foodstuffs - Determination of traces of elements, pressure digestion

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DGF C-VI 11a
1998

Representation of fatty acid methyl esters
(boron trifluoride method)
(Modification: *Also used in milk fats, without C4 and C6 fatty acid determination; transesterification of the entire sample without prior fat extraction*)

DGF C-VI 11d
1998

Representation of fatty acid methyl esters
(alkaline transesterification)
(Modification: *transesterification with sodium*)

1.3.2 Determination of ingredients and characteristics in food and feed by gravimetry *

ISO 6496
1999-08

Animal feeding stuffs - Determination of moisture and other volatile matter content
(Modification: *single determination*)

DIN EN ISO 13906
2008-11

Animal feeding stuffs - Determination of the acid detergent fibre (ADF) and acid detergent lignin (ADL) contents

ISO 16472
2006-04

Animal feeding stuffs - Determination of amylase-treated neutral detergent fibre content (aNDF)

ASU L 00.00-18
1997-01 and correction
2002-12

Determination of total dietary fibre in foodstuffs

ASU L 02.06-E/2
1981-01

Dry matter (water content); water content of dried dairy products

ASU L 06.00-3
2014-08

Analysis of foodstuffs - Determination of the water content in meat and meat products - Gravimetric method - Reference method
(Modification: *Extension to food matrix*)

ASU L 06.00-4
2007-04

Analysis of foodstuffs - Determination of ash in meat and meat products
(Modification: *Extension to food matrix*)

ASU L 06.00-6
2014-08

Analysis of foodstuffs - Determination of the total fat content in meat and meat products - Gravimetric method according to Weibull-Stoldt reference method
(Modification: *Extension to food matrix*)

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ASU L 17.00-1 2002-12	Determination of the drying loss in bread, including small pastries, from bread doughs (Modifications: <i>no pre-drying, drying time 4h, extension to food matrix</i>)
ASU L 17.00-3 1982-05 and correction 2002-12	Determination of ash in bread, including biscuits made from bread doughs (Modification: <i>Extension to food matrix</i>)
ASU L 17.00-4 1982-05	Determination of the total fat content in bread, including biscuits made from bread doughs (Modification: <i>Extension to food matrix</i>)
VDLUFA III, 6.6.1 1997	Determination of enzyme-soluble organic substance (cellulase method)
VDLUFA VI, C 10.2 2000	Determination of total ash (Modification: <i>ashing time 10h</i>)
VDLUFA VI, C 35.3 1985	Dry matter (water content); sea sand method (Modification: <i>drying time 4h</i>)
VO(EG) 152/2009, III, A 2009-02	Determination of the moisture content of feed (Modifications: <i>Simple determination, drying time 4h with vacuum version, no subsequent drying</i>)
VO(EG) 152/2009, III, H 2009-02	Determination of the content of crude oils and fats in feedstuff
VO(EG) 152/2009, III, I 2009-02	Determination of the crude fibre content of feedstuff
VO(EG) 152/2009, III, M 2009-02	Determination of the crude ash content of feedstuff
VO(EG) 152/2009, III, N 2009-02	Determination of the content of ash insoluble in hydrochloric acid in feedstuff

1.3.3 Determination of ingredients in food and feed by titrimetry *

ASU L 06.00-7 2014-08	Analysis of foodstuffs - Determination of the crude protein content in meat and meat products - Titrimetric method according to Kjeldahl - Reference method (Modification: <i>Extension to food matrix</i>)
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ASU L 17.00-6
1988-12
Analysis of foodstuffs; determination of chloride for the calculation of table salt in bread, including small pastries made from bread doughs
(Modification: *Extension to food matrix*)

ASU L 17.00-15
2013-08
Analysis of foodstuffs - Determination of the crude protein content in bread including small pastries from bread dough - Kjeldahl method
(Modification: *Extension to food matrix*)

VO(EG) 152/2009, III, C
2009-02
Determination of the crude protein content of feedstuff

VO(EG) 152/2009, III, J
2009-02
Determination of the sugar content of feedstuff

VO(EG) 152/2009, III, K
2009-02
Determination of the lactose content of feedstuff

VO(EG) 152/2009, III, Q
2009-02
Determination of the chlorine content of chlorides in feedstuff

1.3.4 Determination of ingredients and additives in food and feed by photometry *

EN 12014-3
2005-05
Foodstuffs - Determination of nitrate and/or nitrite content - Part 3: Spectrophotometric determination of nitrate and nitrite content in meat products after enzymatic reduction from nitrate to nitrite
(Modification: *Extension to food and feed matrix, clarification of sample extracts by centrifugation/filtration*)

ASU L 00.00-94
2006-09
Analysis of foodstuffs - Determination of inulin in foodstuffs - Enzymatic method

ASU L 06.00-8
2010-01
Analysis of foodstuffs - Determination of the hydroxyproline content of meat and meat products - Photometric method after acid digestion

ASU L 17.00-7
1983-11
Determination of lactose in bread, including biscuits made from bread dough
(Modification: *Extension to food matrix*)

VDLUFA III, 12.1.2
1976
Vegetable pigments; carotene and/or xanthophyll
(< 40 mg/kg carotene)

VDLUFA III, 12.3.1
1976 Determination of added and natural carotenoids in animal feed
(Modification: *Extension to matrix dietary supplements for lutein*)

VDLUFA III, 13.6.1
1983 Determination of choline chloride
(Modification: *Determination from the aqueous extract*)

1.3.5 Determination of ingredients in food and feed by polarimetry *

VO(EG) 152/2009, III, L
2009-02 Determination of the starch content of feedstuff

ASU L 17.00-5
2003-12 Analysis of food - Determination of the starch content in bread,
including biscuits made from bread doughs

1.3.6 Determination of ingredients in food and feed by electrode measurement

DIN EN 16279
2012-09 Animal feeding stuffs - Determination of fluoride content after
hydrochloric acid treatment by ion-sensitive electrode method
(ISE)

ASU L 49.00-7
2000-07 Food analysis - Determination of fluoride in dietary food using the
ion-sensitive electrode
(Modification: *Extension to food matrix*)

1.3.7 Determination of ingredients in food and feed by combustion

ISO 16634-1
2008-11 Food products - Determination of the content of total nitrogen
content by combustion according to the Dumas principle and
calculation of the crude protein content - Part 1: Oilseeds and
animal feeding stuffs

**1.3.8 Determination of elements in food and feed by inductively coupled plasma atomic
emission spectrometry (ICP-OES) ***

DIN EN 15621
2017-10 Animal feeding stuffs - Determination of calcium, sodium,
phosphorus, magnesium, potassium, sulphur, iron, zinc, copper,
manganese and cobalt after pressure digestion by ICP-AES;
(Modification: *Extension for boron, reduction of the method for
cobalt, decomposition of premixes with aqua regia in the Odlab
system*)

DIN EN 16943
2016-01
(draft) Foodstuffs - Determination of elements and their compounds -
Determination of minerals with ICP-OES
(Modification: *Digestion of premixes with aqua regia in the Odlab
system, no hydrochloric acid is used for standard production*)

1.3.9 Determination of elements in food and feed by inductively coupled plasma mass spectrometry (ICP-MS) *

DIN EN 15763
2010-04 Foodstuffs - Determination of trace elements - Determination of
arsenic, cadmium, mercury and lead in foodstuffs by inductively
coupled plasma mass spectrometry (ICP-MS) after pressure
digestion
(Modification: *Extension for the following elements: Al, Co, Cr, Mo,
Ni, Sb, Se, Sn, Tl, U, V, Cu, Mn, reduction of the method for Hg*)

DIN EN 17053
2016-11
(draft) Animal feeding stuffs - Methods of sampling and analysis -
Determination of trace elements, heavy metals and other
elements in feed by ICP-MS (multi-method)
(Modification: *Extension for Al, Cr, Ni, Sb, Sn and V, reduction of
the method for Hg*)

1.3.10 Determination of elements in food and feed by atomic absorption spectrometry (KD-AAS) *

DIN EN 13806
2002-11 Foodstuffs - Determination of trace elements - Determination of
mercury by cold-vapour atomic absorption spectrometry (CVAAS)
after pressure digestion

DIN EN 16277
2012-09 Animal feeding stuffs - Determination of mercury by cold-vapour
atomic absorption spectrometry (CVAAS) after microwave
pressure digestion (extraction with 65 % nitric acid and 30 %
hydrogen peroxide)
(Modification: *Without hydrogen peroxide*)

1.3.11 Determination of anions in food using ion chromatographic (IC) methods

DIN EN 12014-2
2018-02 Foodstuffs - Determination of the nitrate and/or nitrite content -
Part 2: HPLC/IC methods for the determination of the nitrate
content in vegetables and vegetable products
(Modification: *Extraction at 70°C*)

1.3.12 Determination of organic ingredients, organic residues, additives and trace substances in food and feed using liquid chromatographic (LC) methods with conventional detectors (DAD, ELSD, FLD, ELCD) **

DIN EN 12821 2009-08	Foodstuffs - Determination of vitamin D by high performance liquid chromatography - Measurement of cholecalciferol (D ₃) or ergocalciferol (D ₂) (Modification: <i>Simple extraction</i>)
DIN EN 12822 2014-08	Foodstuffs - Determination of vitamin E by high performance liquid chromatography - Measurement of α -, β -, γ - and δ -tocopherols (Modification: <i>Simple extraction</i>)
DIN EN 12823-2 2008-07	Foodstuffs - Determination of vitamin A by high performance liquid chromatography - Part 2: Measurement of β -carotene (Modification: <i>Simple extraction</i>)
DIN EN 14122 2014-08	Foodstuffs - Determination of vitamin B1 by high performance liquid chromatography (Modification: <i>Extension to matrix feed, autoclaving time shortened</i>)
DIN EN 14152 2014-08	Foodstuffs - Determination of vitamin B2 by high performance liquid chromatography (Modification: <i>Extension to matrix feed, autoclaving time shortened</i>)
DIN EN 14663 2006-03	Foodstuffs - Determination of vitamin B6 (including its glycosylated forms) by HPLC (Modification: <i>Extension to matrix feed, autoclaving time shortened</i>)
DIN EN 15086 2006-06	Foodstuffs - Determination of isomalt, lactitol, maltitol, mannitol, sorbitol and xylitol in foodstuffs (Modification: <i>Use of a light scattering detector (ELSD), use of a HILIC HPLC column, no determination of Isomalt</i>)
DIN 10758 1997-05	Analysis of honey - Determination of the content of saccharides fructose, glucose, saccharose, turanose and maltose - HPLC method (Modification: <i>Extension to food matrix and feed; use of a light scattering detector (ELSD), use of a HILIC HPLC column, no determination of turanose, extension of the method for lactose</i>)

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AOAC 999.12 2003	Taurine in pet food (Modification: <i>Expansion to matrix milk powder and energy drinks</i>)
ASU L 18.00-16 1999-11	Analysis of food - Determination of theobromine and caffeine in fine baked goods (Modification: <i>Extension to food and feed matrix</i>)
Official Journal of the European Communities, 1864/90, No. L 170/28	Determination of the oilseed glucosinolate content by HPLC
VDLUFA III, 4.11.5 1997	Determination of methionine in feed with high chloride content
VDLUFA III, 13.8.1 2007	Determination of vitamin D ₃ in feed; HPLC method (Modification: <i>Simple extraction</i>)
VDLUFA III, 13.9.1 2006	Feed - Determination of B vitamins including nicotinic acid; HPLC method (Modification: <i>Extension to food matrix, no determination of nicotinic acid</i>)
VDLUFA III, 14.22.1/14.23.1 2006	Determination of monensin sodium and salinomycin sodium (HPLC method) (Modification: <i>Extension to the determination of lasalocid, narasin and Maduramycin</i>)
VDLUFA III, 16.11.1 2004	Determination of ergosterol in feed, HPLC method (Modification: <i>Extension to food matrix, simple extraction</i>)
VO(EG) 152/2009, IV, A 2009-02	Determination of the vitamin A content of feedstuff and premixtures (Modification: <i>Extension to food matrix, simple extraction, no addition of Na₂S</i>)
VO(EG) 152/2009, IV, B 2009-02	Determination of the vitamin E content of feedstuff and premixtures (Modification: <i>Extension to food matrix, simple extraction</i>)
VO(EG) 152/2009, III, F 2009-02	Determination of the content of amino acids (except tryptophan) in feedstuff (Modification: <i>Extension to infant food and dietary foods</i>)
VO(EG) 152/2009, III, G 2009-02	Determination of tryptophan content in feedstuff (Modification: <i>Extension to infant food and dietary foods</i>)

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QMP_504_KI_52_020_x 2017-12	Determination of vitamin C (ascorbic acid) in food and feedstuff using HPLC
QMP_504_KI_52_022_x 2017-12	Determination of menadione (vitamin K ₃); HPLC method
QMP_504_KI_52_023_x 2017-11	Determination of preservatives in food using HPLC
QMP_504_KI_52_027_x 2017-11	Determination of ethoxyquin, butylhydroxyanisole (BHA) and dibutylhydroxytoluene (BHT) (HPLC method)
QMP_504_KI_52_028_x 2017-07	Determination of vitamin K1 (phylloquinone); HPLC method with postcolumn derivatisation
QMP_504_KI_52_115_x 2017-12	Nicarbazine determination in animal feed, premixes and high concentrates (HPLC process)
QMP_504_KI_52_137_x 2017-11	Determination of coumarin in food samples using HPLC-ULTRAVIOLET

1.3.13 Determination of organic residues and contaminants in food and feed by liquid chromatography with mass selective detection (HPLC-MS/MS, LC-MS/MS) **

DIN EN 15055 2006-08	Non fatty foods - Determination of chlormequat and mepiquat - LC-MS/MS method (Modification: <i>Extension to Food and Feed Matrix</i>)
EN 15662 2008-11	Foods of plant origin - Determination of pesticide residues using GC-MS and LC-MS/MS-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE - Modular QuEChERS-methods (Modification: <i>Extension to matrix for animal feedstuff and animal feed</i>)
QMP_504_KI_52_116_x 2017-11	Determination of chloramphenicol, ivermectin and selected benzimidazoles by HPLC-MS/MS process in food and feed (acetonitrile extraction)
QMP_504_KI_52_117_x 2017-12	Determination of acrylamide in food (HPLC-MS/MS-procedure)
QMP_504_KI_52_121_x 2017-11	Determination of selected antibiotics in food and feed by HPLC-MS/MS (buffer extraction)

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QMP_504_KI_52_145_x 2017-10	Determination of polar pesticides (e. g. ethephon, morpholine) in food and feed (HPLC-MS/MS process)
QMP_504_KI_52_146_x 2017-08	Determination of glyphosate and AMPA as FMOC derivatives (HPLC-MS/MS process)
ASU L 15.01/02-5 2012-01	Analysis of foodstuffs - Determination of ergot alkaloids in rye and wheat - HPLC method with purification on a basic alumina solid phase (Modification: <i>no purification of extracts, measurement with LC-MS/MS</i>)
QMP_504_KI_52_138_x 2017-12	Determination of fumonisins (mycotoxins) by HPLC MSMS method
QMP_504_KI_52_142_x 2017-12	Determination of melamine and cyanuric acid in food and feed by HPLC-MSMS
QMP_504_KI_52_144_x 2017-12	Determination of patulin in fruit and fruit preparations by LC-MSMS
QMP_504_KI_52_150_x 2017-12	Determination of aflatoxin M1 in milk and dairy products by LC-MSMS

1.3.14 Determination of organic ingredients and organic residues in food and feed using gas chromatographic (GC) methods with conventional detectors (FID, ECD, FPD) **

DIN EN 12393-3 2014-01	Foods of plant origin - Multiresidue methods for the determination of pesticide residues by GC or LC-MS/MS - Part 3: Determination and confirmatory tests (Modification: <i>Extension to food matrix and animal feed</i>)
ASU L 05.00-16 2014-08	Analysis of foodstuffs - Determination of the cholesterol content in eggs and egg products - Gas chromatographic process (Modification: <i>Extension to food matrix</i>)
DGF C-VI 10a 2000	Gas chromatography: Analysis of fatty acids and fatty acid distribution (Modification: <i>Also used in milk fats, without C4 and C6 fatty acid determination</i>)

1.3.15 Determination of organic residues and contaminants in food and feed using gas chromatographic (GC) methods with mass selective detectors (MS, MS/MS, HRMS) **

EN 15662 2008-11	Foods of plant origin - Determination of pesticide residues using GC-MS and LC-MS/MS-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE - Modular QuEChERS-methods (Modification: <i>Extension to matrix animal foodstuffs and animal feed</i>)
DIN EN 12393-3 2014-01	Foods of plant origin - Multiresidue methods for the determination of pesticide residues by GC or LC-MS/MS - Part 3: Determination and confirmatory tests (Modification: <i>Extension to food matrix and animal feed</i>)
DIN EN 12396-2 1998-12	Non-fatty foods - Determination of dithiocarbamate and thiuram disulfide residues - Part 2: Gas chromatographic method (Modification: <i>Measurement with GC-MS</i>)
DIN EN 13191-2 2000-10	Non-fatty foods - Determination of bromide residues - Part 2: Determination of inorganic bromide (Modification: <i>Measurement with GC-MS</i>)
DIN EN 16215 2012-07	Animal feeding stuffs - Determination of dioxins and dioxin-like PCBs by GC/HRMS and of indicator PCBs by GC/HRMS (Modification: <i>Extension to food matrix; measurement also using GC-MS/MS</i>)
DIN 38407-F 43 2014-10	Determination of selected easily volatile organic compounds in water - Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS) (Modification: <i>Extension to food and feed matrix; extension to the determination of hexanal and furan</i>)
VDLUFA VII, 3.3.3.2, 2011	Determination of polycyclic aromatic hydrocarbons (PAH) in plant material (Modification: <i>Extension to food and feed matrix; measurement using GC-MS/MS; changed composition of extraction solvent; no cleaning on silica gel and Sephadex</i>)
QMP_504_KI_52_139_x 2017-05	Determination of chlorophenol residues in solid samples using GC-MS (QuEChERS method)

1.4 Microbiological testing of food and feed

1.4.1 Preparation and pretreatment of samples

DIN EN ISO 6887-1
2017-07

Microbiology of food and animal feeding stuffs - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 1: General rules for the preparation of initial dilutions and decimal dilutions

DIN EN ISO 6887-2
2017-07

Microbiology of food and animal feeding stuffs - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 2: Specific rules for the preparation of meat and meat products

DIN EN ISO 6887-5
2011-01

Microbiology of food and animal feeding stuffs - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 5: Specific rules for the preparation of milk and dairy products

1.4.2 Determination of the microbiological activity of vitamins with auxotrophic microorganisms

DIN EN 14131
2003-09

Foodstuffs - Determination of folate by microbiological assay (Modification: *Adjustment of the process step of the enzyme treatment; extension to matrix feed*)

USP 21, 3rd supplement,
Method 88
1986

Determination of the microbiological activity of biotin (original title: Biological Tests and Assays - Biotin Assay)

USP 39 Method 91
2016

Determination of calcium D-pantothenate (original title: Biological Tests and Assays - Calcium Pantothenate Assay)

USP 39 Method 171
2016

Determination of the microbiological activity of vitamin B12 (original title: Biological Test and Assays - Vitamin B12 Activity Assay)
(Modification: *The concentration of sodium sulphite in the extraction solution is not adjusted to the sample weight*)

USP 34 Method 441
2011

Niacin or Niacinamide Assay (determination of microbiological activity of niacin and niacinamide)
(Modification: *Extraction with HCl instead of sulphuric acid*)

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QMP_504_KI_51_009
2016-10 Determination of the microbiological activity of inositol in food and feed

QMP_504_KI_51_027
2016-06 Determination of the microbiological activity of choline in food and feed

1.4.3 Detection and identification of antibiotics in feed by microbiological sensitivity testing

VDLUFA III, 28.4.1
2007 Microbiological method for the detection of antimicrobial effective substances: Basic module (screening),
(Modification: *7 instead of 4 test plates are used; sulfonamides are detected by synergist trimethoprim; colistin is detected by thin-layer chromatography*)

1.4.4 Qualitative and quantitative detection of bacteria, yeasts and moulds using cultural microbiological methods *

ISO 4831
2006-08 Microbiology - Horizontal method for detection and for counting of coliform germs - MPN method

ISO 4832
2006-02 Microbiology - Horizontal method for the enumeration of coliform organisms - colony counting technique

DIN EN ISO 4833-1
2013-12 Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 1: Colony-count at 30 degrees C by the pour plate technique
(Modification during counting of thermophilic microorganisms: *incubation at 55°C*)

DIN EN ISO 4833-2
2014-05 Microbiology of the food chain - Horizontal method for the enumeration microorganisms - Part 2: Colony count at 30 degrees C by surface plating technique

ISO 6579-1
2017-02 Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of salmonella - Part 1: Detection of Salmonella spp.

ISO 6611
2004-10 Milk and dairy products - Counting of colony-forming units of yeasts and/or moulds - Colony counting method at 25°C
(Modification: *Extension to bakery products, tea, herbs and spices, fruit and fruit products*)

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ISO 7251 2005-02	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of presumptive Escherichia coli - Most probable number technique
ISO 13559 2002-11	Butter, fermented milks and fresh cheese - Unenumeration of contaminating microorganisms - colony-count technique at 30°C
ISO 15213 2003-05	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of sulphite-reducing bacteria growing under anaerobic conditions
ISO 15214 1998-08	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of mesophilic lactic acid bacteria - Colony-count technique at 30°C
ISO 21527-1 2008-07	Horizontal method for the enumeration of yeasts and moulds - colony count technique - Part 1: Products with water activity greater than 0.95
ISO 21527-2 2008-07	Horizontal method for the enumeration of yeasts and moulds - colony count technique - Part 2: Products with a water activity equal to or less than 0.95
ISO 21871 2006-01	Microbiology of food and animal feeding stuffs - Horizontal method for the determination of low numbers of presumptive Bacillus cereus - Most probable number technique and detection method (Modification: <i>Instead of MYP agar, BACARA agar is used for confirmation</i>)
DIN ISO 16649-1 2009-12	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of β -glucuronidase positive Escherichia coli - Part 1: Colony-count technique at 44 °C using membranes and 5-bromo-4-chloro-3-indolyl β -D-glucuronide
DIN ISO 16649-2 2009-12	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of β -glucuronidase positive Escherichia coli - Part 2: Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide
ISO 21528-1 2017-06	Microbiology of the food chain - Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 1: Detection of Enterobacteriaceae

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ISO 21528-2 2017-06	Microbiology of the food chain - Horizontal methods for the detection and counting of Enterobacteriaceae - Part 2: Colony counting method
DIN EN ISO 6888-1 2003-12	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species) - Part 1: Technique using Baird-Parker agar medium (Modification: <i>Confirmation of coagulase reaction with Baird Parker rabbit plasma fibrinogen agar</i>)
DIN EN ISO 6888-3 2005-07	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species) - Part 3: Detection and MPN technique for low numbers (Modification: <i>Confirmation of coagulase reaction with Baird Parker rabbit plasma fibrinogen agar</i>)
bioMérieux BACARA™ Certificate No.: 10/10-07/10	Validated for the enumeration of presumptive <i>Bacillus cereus</i>
DIN EN ISO 7937 2004-11	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of <i>Clostridium perfringens</i> - Colony-count technique
bioMérieux ALOA® One Day Certificate No.: AES 10/03-09/00	Validated for the detection of <i>Listeria spp.</i> and <i>Listeria monocytogenes</i> . Reference method ISO 11290-1. (Modification: <i>Confirmation with RAPID'L.Mono, AFNOR validated</i>)
DIN EN ISO 11290-2 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of <i>Listeria monocytogenes</i> - Part 2: Enumeration method (Modification: <i>Confirmation with RAPID'L.Mono, AFNOR validated</i>)
DIN EN ISO 13720 2010-12	Meat and meat products - Enumeration of presumptive <i>Pseudomonas spp.</i>
VDLUFA III, 28.1.2 2007	Process instruction for the identification of bacteria, yeasts, moulds and black fungus as product-typical or spoilage-indicating indicator germs in feedstuff

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VDLUFA VI, M 7.8.2 1996	Determination of enterococci; colony counting method with kanamycin-esculin-acid agar
VDLUFA VI, M 7.12.2 1993	Determination of pseudomonads: Colony counting method with C-F-C selective agar
VDLUFA VI, M 7.13 1996	Determination of thermotolerant (thermoresistant) microorganisms
VDLUFA VI, M 7.17.2 1996	Determination of aerobic spores (Bacillus) (Extension: <i>Food matrix</i> ; Modification: <i>Using Plate Count Agar (PCA)</i>)
VDLUFA VI, M 7.18.2.1 1996	Detection of anaerobic spore formers (Clostridium) (Modification: <i>Extension to Food and Feed Additives Matrix</i>)
Nordisk Metodic Committee for the Livsmedel. NMKL No. 71, 5. Ed. 1999	Detection of <i>Salmonella spp.</i> in Food (<i>Salmonella. Pavisning i livsmedel</i>) (Modification: <i>Extension to feed matrix, confirmation using MALDI-TOF</i>)
Nordisk Metodic Committee for the Livsmedel NMKL No. 86, 5. Ed. 2013	Determination of Aerobic Microorganisms in Food (Aerobic microorganism Bestemmelse i næringsmidler) (Modification: <i>Extension to feed matrix</i>)

1.5 Biochemical analysis of food and feed

1.5.1 Analysis of nucleic acids using real-time PCR

1.5.1.1 Detection of bacteria **

ASU L 00.00-98 2007-04	Examination of foodstuffs. Qualitative detection of Salmonella in food. Real-time PCR process (Modification: <i>Extension to feed matrix</i>)
QMP_504_KI_51_213 2016-03	PCR detection or PCR confirmation of various pathogenic bacteria
QMP_504_KI_51_216 2017-02	Analysis of food and animal feeding stuffs for the presence of <i>Listeria monocytogenes</i>
QMP_504_KI_51_217 2017-06	Detection of <i>Clostridium estertheticum</i> and <i>Clostridium estertheticum-like</i> bacteria in meat juice by real-time PCR

DIN CEN ISO/TS 13136
2013-04 Microbiology of food and animal feed - Real-time polymerase chain reaction (PCR)-based method for the detection of food-borne pathogens - Horizontal method for the detection of Shiga toxin-producing Escherichia coli (STEC) and the determination of O157, O111, O26, O103 and O145 serogroups

1.5.1.2 Detection of animal species **

EURL-AP recommended
protocol: 2013-02 Detection of horse DNA using real-time PCR

EURL-AP SOP 2014-06 on
EU Directive 51/2013 Detection of ruminant DNA in feed using real-time PCR

QMP_504_KI_51_207
2017-02 Analysis of animal material for the presence of specific DNA of beef, pork, sheep, goat, horse, chicken, duck or turkey by real-time PCR

1.5.1.3 Detection of allergens

DIN CEN/TS 15634-2
2012-04 Testing of foodstuffs - Detection of a specific DNA sequence from celery (*Apium graveolens*) in cooked sausages by real-time PCR (Modification: *DNA extraction is performed with the Maxwell RSC machine and the AS1600 kit.*)

1.5.1.4 Detection of genetically modified plants **

DIN EN ISO 21569
2013-08 Foodstuffs - Methods of analysis for the detection of genetically modified organisms and derived products - Qualitative nucleic acid based methods - design specific Bt63 rice process (Modification: *also used for animal feed*)

DIN EN ISO 21570
2013-08 Methods of analysis for the detection of genetically modified organisms and derived products - Quantitative nucleic acid based methods - event-specific MON810 corn process (Modification: *also used for animal feed*)

DIN EN ISO 21571
2013-08 Methods of analysis for the detection of genetically modified organisms and derived products - Nucleic acid extraction (Modification: *also used for animal feed*)

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ASU G 30.40-1 2012-07	Real-time PCR detection of the P35S-pat gene construct for screening for genetically modified plants - construct-specific procedure
ASU L 00.00-125 2008-12	Examination of food - Evidence of the specific, CTP2-CP4 EPSPS sequence for component screening from GMOs in food; construct specific real-time PCR procedure (Modification: <i>Extension to feed matrix</i>)
ASU L 23/04/2003-1 2010-09	Construct-specific real-time PCR method for detection of genetic modification in linseed and linseed products (CDC Triffid, FP967)
Biotecon Diagnostics Version 2, March 2017	foodproof GMO RR 2 Yield Soya Quantification Kit 5'-Nuclease
Biotecon Diagnostics Version 3, March 2017	foodproof GMO Screening Kit (35S, NOS, bar, FMV) 5'-Nuclease
CRLVL01/08VP 20/01/2009	Event-specific Method for the Quantification of Soybean Line A5547-127 Using Real-time PCR - JRC Method (Modification: <i>Another reference gene system is used. Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL02/04VP 21/02/2005	Event-specific Method for the Quantification of Maize Line TC1507 Using Real-Time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL06/04VP 11/01/2007	Event-specific Method for the Quantification of Oilseed Rape Line Ms8 Using Real-time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL06/06VP 21/10/2008	Event-specific Method for the Quantification of Maize Line MON89034 Using Real-Time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL07/04VP 11/01/2007	Event-specific Method for the Quantification of Oilseed Rape Line Rf3 Using Real-time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)

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CRLVL08/05VP 20/01/2009	Event-specific Method for the Quantification of Soybean Line 40-3-2 Using Real-time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL13/05VP 14/05/2007	Event-specific Method for the Quantification of Soybean Line A2704-12 Using Real-time PCR - JRC Method (Modification: <i>Another reference gene system is used. Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL14/04VP 07/09/2006	Event-specific Method for the Quantification of Oilseed Rape Line T45 Using Real-time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL26/04VP 07/02/2007	Event-specific Method for the Quantification of Oilseed Rape Line RT73 Using Real-time PCR - JRC Method (Modification: <i>Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)
CRLVL27/04VP 10/01/2005	Event-specific Method for the Quantification of Maize Line NK603 Using Real-Time PCR - JRC Method (Modification: <i>The hmg gene is used as a reference gene system. Magnetic particle-based DNA purification is performed with the Maxwell RSC machine and the AS1600 kit.</i>)

1.5.2 Determination of mycotoxins, allergens and antibiotics by ELISA

1.5.2.1 Determination of mycotoxins *

NEOGEN Veratox® for ochratoxin V-Ochra-ES_1214 2017-11	Quantitative determination of ochratoxin
NEOGEN Veratox® HS Quantitative Aflatoxin high sensitivity test V-AflaHS-ENSP_1208 2017-11	Quantitative determination of aflatoxins

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NEOGEN
Veratox® for zearalenone
V-Zear_ES_0115
2017-11

Quantitative determination of zearalenone

NEOGEN
Veratox® 5/5 Quantitative
DON Test V-DON5/5NE-0508
2017-11

Quantitative determination of deoxynivalenol

1.5.2.2 Determination of allergens *

r-biopharm
RIDASCREEN® FAST β-
Lactoglobulin
2018-04

Quantitative determination of β-lactoglobulin

r-biopharm
RIDASCREEN® FAST Casein
2018-04

Quantitative determination of casein

r-biopharm
RIDASCREEN® FAST
Crustacean (2nd generation)
2018-04

Quantitative determination of crustaceans

r-biopharm
RIDASCREEN® FAST
egg protein
2018-04

Quantitative determination of egg

NEOGEN
Veratox® for gliadin R5
V-GliadinR5_0114_ENSP
2018-04

Quantitative determination of gliadin/gluten

r-biopharm
RIDASCREEN® FAST hazelnut
2018-04

Quantitative determination of hazelnut or hazelnut portions

r-biopharm
RIDASCREEN® FAST lupine
2018-04

Quantitative determination of sweet lupine proteins

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r-biopharm RIDASCREEN® FAST Macadamia 2018-04	Quantitative determination of macadamia nut or macadamia nut portions
r-biopharm RIDASCREEN® FAST Almond 2018-04	Quantitative determination of almond or almond content
r-biopharm RIDASCREEN® FAST Mustard 2018-04	Quantitative determination of mustard
r-biopharm RIDASCREEN® FAST sesame 2018-04	Quantitative determination of sesame or sesame components
r-biopharm RIDASCREEN® FAST soy 2018-04	Quantitative determination of soy proteins
r-biopharm RIDASCREEN® FAST peanut 2018-04	Quantitative determination of peanut or peanut components

1.5.2.3 Determination of antibiotics in milk or milk powder by ELISA *

r-biopharm RIDASCREEN® Chloramphenicol 2018-07	Quantitative determination of chloramphenicol
RIDASCREEN® Streptomycin 2018-07	Quantitative determination of streptomycin
RIDASCREEN® Tetracyclin 2018-07	Quantitative determination of tetracycline
RIDASCREEN® Sulfamethazin 2018-07	Quantitative determination of sulfamethazine

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Randox
Quinolones/Chinolon ELISA
2018-07
Quantitative determination of quinolones

1.5.3 Determination of the variety of plants by gel electrophoresis

QMP_504_KI_51_223
2017-01
Determination of potato variety authenticity

1.5.4 Determination of the species of organisms by DNA sequencing *

ASU L 10.00-12
2012-07
Fish species determination in raw fish and fish products by
sequence analysis of cytochrome b sequences

QMP_504_KI_51_224
2017-02
Determination of fish and tuna species via DNA sequence
determination

2 Hygiene tests of surfaces and consumer goods in food production

2.1 Determination of bacteria, yeasts and moulds by means of cultural microbiological methods **

ISO 6579-1
2017-02
Microbiology of the food chain - horizontal method for the
detection, enumeration and serotyping of Salmonella -
Part 1: Detection of Salmonella spp.

ISO 21528-1
2017-06
Microbiology of the food chain - horizontal method for the
detection and enumeration of Enterobacteriaceae -
Part 1: Detection of Enterobacteriaceae
(Modification: *Extension to surface examinations by swab*)

bioMérieux
ALOA® One Day
Certificate No.:
AES 10/03-09/00
Validated for the detection of Listeria spp. and Listeria
monocytogenes. Reference method ISO 11290-1.
(Modification: *Confirmation with RAPID'L.Mono, AFNOR
validated*)

SIMICON GSA bioindicator
Verse. 2.0 / 04.2017
SIMICON GSA bioindicator for microbiological validation and
routine control of cleaning and disinfection processes of
dishwashing systems
(here: *no statements on the effectiveness of disinfectants and no
application in the field of hospital hygiene*)

Annex to the accreditation certificate D-PL-14082-01-00

Nordisk Metodikkommitte för Salmonella. Detection in foods.
Livsmedel. NMKL No. 71, 5. (Modification: *Extension to surface examinations by swab*)
Ed., 1999

QMP_504_KI_51_463
2017-07 Determination of surface germ content with contact systems
(Paddles/dip slides) on total bacterial count, Enterobacteriaceae,
yeasts, mould, coliform bacteria

QMP_504_KI_51_464
2017-07 Microbiological examination of surfaces by means of swabs for
total bacterial count, Enterobacteriaceae, yeasts, mould, E. coli,
coliform bacteria

QMP_504_KI_51_465
2017-06 Microbiological, qualitative examination of surfaces using scratch
sponges for Salmonella and Listeria

QMP_504_KI_51_466
2017-07 Microbiological examination of surfaces by means of swab for
Salmonella, Listeria or Enterobacteriaceae

2.2 Food testing using real-time PCR

ASU L 00.00-98
2007-04 Analysis of foodstuffs. Qualitative detection of Salmonella in
foods. Real-time PCR method
(Modification: *Expansion to surfaces*)

2.3 Determination of allergens by ELISA *

r-biopharm
RIDASCREEN® FAST β-
Lactoglobulin
2018-04 Quantitative determination of β-lactoglobulin

r-biopharm
RIDASCREEN® FAST Casein
2018-04 Quantitative determination of casein

r-biopharm
RIDASCREEN® FAST
Crustacean (2nd generation)
2018-04 Quantitative determination of crustaceans

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r-biopharm RIDASCREEN® FAST egg protein 2018-04	Quantitative determination of egg
NEOGEN Veratox® for gliadin R5 V-GliadinR5_0114_ENSP 2018-04	Quantitative determination of gliadin/gluten
r-biopharm RIDASCREEN® FAST hazelnut 2018-04	Quantitative determination of hazelnut or hazelnut portions
r-biopharm RIDASCREEN® FAST lupine 2018-04	Quantitative determination of sweet lupin proteins
r-biopharm RIDASCREEN® FAST macadamia 2018-04	Quantitative determination of macadamia nut or macadamia nut content
r-biopharm RIDASCREEN® FAST almond 2018-04	Quantitative determination of almond or almond content
r-biopharm RIDASCREEN® FAST mustard 2018-04	Quantitative determination of mustard
r-biopharm RIDASCREEN® FAST sesame 2018-04	Quantitative determination of sesame or sesame content
r-biopharm RIDASCREEN® FAST soy 2018-04	Quantitative determination of soy proteins
r-biopharm RIDASCREEN® FAST peanut 2018-04	Quantitative determination of peanut or peanut content

3 Investigations of fertilisers

3.1 Sample preparation

VDLUFA II, 4.1.2 2004	Determination of formic acid soluble phosphate, Extraction
VDLUFA II, 4.1.3 1995	Determination of citric acid soluble phosphate, Extraction
VO(EG) 2003/2003, IV, 3.1.1 2003-10	Extraction of phosphorus soluble in mineral acids
VO(EG) 2003/2003, IV, 3.1.2 2003-10	Extraction of phosphorus soluble in 2% formic acid
VO(EG) 2003/2003, IV, 3.1.3 2003-10	Extraction of phosphorus soluble in 2% citric acid
VO(EG) 2003/2003, IV, 3.1.4 2003-10	Extraction of phosphorous soluble in neutral ammonium citrate
VO(EG) 2003/2003, IV, 3.1.5.2 2003-10	Extraction of phosphorus soluble at room temperature to Petermann
VO(EG) 2003/2003, IV, 3.1.6 2003-10	Extraction of water-soluble phosphorus
VO(EG) 2003/2003, IV, 8.1 2003-10	Extraction of total calcium, total magnesium and total sodium and total sulphur in the form of sulphate
VO(EG) 2003/2003, IV, 8.3 2003-10	Extraction of water-soluble calcium, magnesium and sodium and sulphur (in the form of sulphate)
VO(EG) 2003/2003, IV, 9.1 2003-10	Extraction of total trace elements
VO(EG) 2003/2003, IV, 10.2 2003-10	Extraction of water-soluble micro-nutrients
VDLUFA II, 4.1.5 1995	Determination of alkaline ammonium citrate soluble phosphate according to Petermann, extraction
VDLUFA II, 4.1.7 1995	Determination of water-soluble phosphate, extraction

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VDLUFA II, 5.1.2 1995	Determination of potassium soluble in mineral acids, preparation of the analysis solution
VDLUFA II, 5.1.3 1995	Determination of total potassium, preparation of analytical solution
VDLUFA II, 6.1.1 2004	Determination of calcium soluble in mineral acids: Preparation of analytical solutions
VDLUFA II, 6.1.2 2004	Determination of total calcium in fertilisers with organic components: Preparation of analytical solutions
VDLUFA II, 6.1.3 1999	Determination of water-soluble calcium in mineral fertilisers: Preparation of analytical solutions
VDLUFA II, 7.1 2008	Magnesium: Preparation of analytical solutions
VDLUFA II, 7.3.1.2 2008	Extraction of water-soluble sulphur, which may be present in various forms
VDLUFA II, 9.5.1 2004	Digestion with aqua regia

3.2 Physico-chemical parameters

DIN EN 12176 1998-06	Characterisation of sludge - Determination of pH (<i>withdrawn standard</i>)
DIN EN 12880 2001-02	Characterisation of sludge - Determination of dry residue and water content
VDLUFA II, 6.3.1 2008	Determination of the basic active ingredients in lime fertilisers
VDLUFA II, 6.4 1995	Determination of the reactivity of carbonated agricultural limes
VDLUFA II, 6.5.1 2008	Determination of the screening passage of fertilisers, dry process
VDLUFA II, 6.5.2 1995	Determination of the screening passage of moist or wet lumped fertilisers, wet process

VDLUFA II, 10.1 Determination of annealing loss
1999

3.3 Inorganic chemical parameters

DIN EN ISO 11885 Water quality - Determination of selected elements by inductively
2009-09 coupled plasma optical emission spectrometry (ICP-OES)
(determination in matrix specific extraction solutions)

DIN EN ISO 17294-2 Water quality - Application of inductively coupled plasma mass
2017-01 spectrometry (ICP-MS) - Part 2: Determination of selected
elements including uranium isotopes
(determination in matrix-specific extraction solutions)

DIN EN 16320 Fertilisers and liming materials - Determination of mercury by
2017-05 vapour generation (VG) after aqua regia digestion

VDLUFA II, 3.2.1 Determination of ammonium nitrogen
1995

VDLUFA II, 3.4.1 Determination of nitrate nitrogen
1995

VDLUFA II, 3.5.2.3 Determination of total nitrogen in the presence of nitrate
2004 nitrogen, reduction of the nitrate content with iron powder and
tin (II) chloride

VDLUFA II, 3.5.2.4 Determination of total nitrogen in the presence of nitrate
1995 nitrogen, reduction of nitrate content with chromium powder

VDLUFA II, 4.2.2 Determination of phosphate in solutions and extracts
1995

VDLUFA II, 4.2.4 Determination of Ca, K, Mg, Na, P, S and Cl as main and
2007 secondary components in fertilisers, ICP-OES method

VDLUFA II, 5.2.1 Determination of potassium (gravimetric method with sodium
2004 tetraphenylborate)

VDLUFA II, 8.10 Determination of micronutrients in fertiliser extracts: ICP-OES-
2007 Method

VO(EG) 2003/2003, IV, 2.1 Determination of ammonium nitrogen
2003-10

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VO(EG) 2003/2003, IV, 2.3.2 2003-10	Determination of total nitrogen in nitrate-containing calcium cyanamide
VO(EG) 2003/2003, IV, 3.2 2003-10	Determination of phosphorus in extracts (gravimetrically as quinolinium molybdatophosphate)
VO(EG) 2003/2003, IV, 4.1 2003-10	Determination of water-soluble potassium

4 Measurements of radioactivity and individual nuclides in water, soil, waste and food, animals and plants as indicators (without sampling)

ASU L 00.00-14 1986-11	Analysis of foodstuffs - Measurement of radioactivity of foodstuffs
A- γ -SPECT-NIEDE-01 2000-10	Method for the gamma spectrometric determination of radionuclides in precipitation
C- γ -SPECT-SCHWE-01 1993-12	Method for the gamma spectrometric determination of radionuclides in suspended matter samples
C- γ -SPEKT-SEDIM-01 1993-12	Method for the gamma spectrometric determination of radionuclides in sediment samples
C- γ -SPECT-OWASS-01 1993-12	Method for the gamma spectrometric determination of radionuclides in surface water
C-H-3-OWASS-01 1993-12	Method for determining the tritium concentration in surface water
E- γ -SPECT-LEBM-01 1997-05	Method for the gamma spectrometric determination of radionuclides in foodstuffs
F- γ -SPECT-SOIL-01 1998-11	Method for the gamma spectrometric determination of radionuclides in soil samples
F- γ -SPECT-FUMI-01 1998-11	Method for the gamma spectrometric determination of radionuclides in samples of feed and feed raw materials
F- γ -SPECT-MILK-01 1992-09	Method for the gamma spectrometric determination of radionuclides in milk samples
F- γ -SPECT-MIPRO-01 1992-09	Method for the gamma spectrometric determination of radionuclides in cheese samples (imports)

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F- γ -SPECT-PLANT-01 1998-11	Method for the gamma-spectrometric determination of radionuclides in plant samples (indicators)
F-I-131-MILK-01 1992-09	Method for determining low activity concentrations of iodine-131 in fresh milk by enrichment on an anion exchange column and subsequent gamma spectrometric measurement
F-Sr-90-SOIL-03 2013-04	Method for determining the specific activity of strontium-90 in soil with the liquid scintillation spectrometer (dicyclohexyl-18-crown-6 method) (Extension: <i>food matrix and feed</i> ; Modification: <i>Determination of chemical yield</i>)
G- γ -SPECT-FISH-02 2015-11	Method for the gamma spectrometric determination of radionuclides in fish and fish products
G- γ -SPECT-CRUST-02 1992-09	Method for the gamma spectrometric determination of radionuclides in crustaceans (shrimps)
G- γ -SPECT-SHELL-02 1992-09	Method for the gamma spectrometric determination of radionuclides in shellfish (mussels)
H-a-TOTAL-TWASS-02 2009-01	Rapid method for determining the total alpha activity concentration in drinking water (Modification: <i>refurbishment</i>)
H- γ -SPECT-AWASS-01 2000-10	Method for the gamma spectrometric determination of radionuclides in waste water
H- γ -SPECT-CLEAR-01 1992-09	Method for the gamma spectrometric determination of radionuclides in sewage sludge
H- γ -SPEKT-RESAB-01 1992-09	Method for the gamma spectrometric determination of radionuclides in groundwater/seepage water of domestic waste landfills
H- γ -SPECT-RESAB-04 1992-09	Method for the gamma spectrometric determination of radionuclides in compost from composting plants
H- γ -SPECT-RESAB-02 1992-09	Method for the gamma spectrometric determination of radionuclides in filter ash/filter dust, slag Waste incineration plants and solid residues of the flue gas cleaning of waste incineration plants

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- H- γ -SPECT-TWASS-01
1992-09 Method for the gamma spectrometric determination of radionuclides in drinking water and groundwater
(Modification: *Determination of Ra-226 and Ra-228 by acidification of the sample and filtration from the filter residue*)
- H-H-3-AWASS-01
2000-09 Method for the determination of tritium in waste water

5 tests in accordance with the Drinking Water Ordinance - TrinkwV -

sampling

not documented

ANNEX 1: MICROBIOLOGICAL PARAMETERS

not documented

ANNEX 2: CHEMICAL PARAMETERS

not documented

ANNEX 3: INDICATOR PARAMETERS

not documented

ANNEX 3a: Requirements for drinking water as regards radioactive substances

Parameter	Procedure
Radon-222	H-Rn-222-TWASS-01 1994-12
Tritium	C-H-3-OWASS-01 1993-12
Indicative dose (screening method)	
Total alpha activity concentration (aa*)	H- α -GESAMT-TWASS-02 2009-01
Total alpha and total beta activity concentration (bb*)	H- α -GESAMT-TWASS-02 2009-01 not documented
Indicative dose (single nuclide determination, cc*)	
U-238	not documented
U-234	not documented
Ra-226	not documented
Ra-228	H- γ -SPEKT-TWASS-01 1992-09
Pb-210	H- γ -SPEKT-TWASS-01 1992-09
Po-210	not documented
C-14	not documented
Sr-90	not documented

Parameter	Procedure
Pu-239/Pu-240	not documented
Am-241	not documented
Co-60	not documented
Cs-134	not documented
Cs-137	not documented
I-131	not documented

**Parameters that are not included in Annex 1 to 3 of the German drinking water ordinance
Other regular examinations**

not documented

Accreditation does not replace the procedure for approval or certification by the competent authority according to section 15, item 4, TrinkwV.

Abbreviations used:

AOAC	Association of Official Agricultural Chemists
ASU L	Official collection of examination procedures according to § 64 of the German Food, Commodities and Feed Code (LFGB); BVL L Federal Office for Consumer Protection and Food Safety ASU G Official collection of test procedures according to § 28b GenTG
CRL	Community Reference Laboratory for GM Food and Feed (EU Joint Research Centre Method)
DIN	German Institute for Standardisation (Deutsches Institut für Normung)
DGF	Deutsche Gesellschaft für Fettwissenschaft (German Society of Fats Science)
EN	Europäische Norm (European standard)
IEC	International Electrotechnical Commission
ISO	International Organisation for Standardisation
QMP_504_KI	In-house procedure of LUFA-ITL GmbH
RL	Guideline
USP	United States Pharmacopoeia
VDLUFA	Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Investigation and Research Institutions)
VO(EC)	Regulation of the European Community