

## TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP)

### Scope of Accreditation

**Legal Name of Accredited Laboratory:** Canadian Food Inspection Agency

Location Name or Operating as (if applicable): OTTAWA LABORATORY (CARLING)

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<b>SCC File Number:</b>	15342
<b>Accreditation Standard(s):</b>	ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
<b>Fields of Testing:</b>	Biological Chemical/Physical
<b>Program Specialty Area:</b>	Agriculture Inputs, Food, Animal Health and Plant Protection (AFAP) Test Method Development and Evaluation and Non-routine Testing (TMDNRT)
<b>Initial Accreditation:</b>	1997-10-08
<b>Most Recent Accreditation:</b>	2023-10-18
<b>Accreditation Valid to:</b>	2025-10-08

*Remarque: La présente portée d'accréditation existe également en français, sous la forme d'un document distinct.*

*Note: This scope of accreditation is also available in French as a document issued separately.*

## **TEST METHOD DEVELOPMENT & EVALUTATION AND NON-ROUTINE TESTING**

Note: Laboratories accredited under this Program Specialty Area (PSA) have demonstrated that they meet ISO/IEC 17025 requirements for non-routine testing under the following product classification.

### **Description of activities under TMDNRT:**

1. Development, evaluation, validation and verification of new testing methodology for the detection and/or quantification of microbial pathogens in foods, feeds, and fertilizers.
2. Modification, improvement, validation and verification of published or existing methodology for:
  - a) the detection of chemical residues and trace elements in foods, feeds and fertilizers;
  - b) the determination of food authenticity;
  - c) the detection of microbial pathogens in foods, feeds and fertilizers; and
  - d) the verification of antibiotic guarantee levels in animal feeds.

### **Description of techniques under TMDNRT:**

1. Polymerase Chain Reaction techniques including but not limited to, conventional PCR and gel visualization, conventional PCR followed by melting curve analysis (BAX), real-time (IQ-check or BAX, some BAX kits are real time);
2. Sequencing DNA techniques: whole genome sequencing (WGS);
3. Cultural methods using selective and differential media and reagents to detect, characterize and identify bacteria including but not limited to, enrichment methods, biochemical and colorimetric reactions (VITEK), immunological and fluorescent assays (VIDAS), immunomagnetic separation;
4. Cultural methods using selective and differential media to quantify bacteria including but not limited to: Petrifilm, MPN, SPC, Compact Dry, spread plates;
5. DNA hybridisation techniques: CHAS (cloth hybridisation);
6. DNA quantification (Maxwell);
7. Liquid chromatography with various detection methods including, but not limited to, mass spectrometer detection (LCMS), tandem mass spectrometer detection (LCMSMS), and post-column derivatization (LC-PCD);
8. High performance liquid chromatography (HPLC) with various detection methods including but not limited to photodiode array detection (HPLC-PDA), UV-VIS detection (HPLC-UV-VIS), and fluorescence detection (HPLC-FL);
9. Ion Chromatography (IC);
10. Gas chromatography with various detection methods including but not limited to mass selective detection (GC-MSD), and flame ionization detection (GC-FID);
11. Inductively coupled plasma optical emission spectrometry (ICP-OES), inductively coupled plasma with mass spectrometer detection (ICP-MS) with microwave digestions and automated dilutions;
12. Ultra-performance liquid chromatography with various detection methods including but not limited to photodiode array detection (UPLC-PDA), UV-VIS detection (UPLC-UV-VIS), mass spectrometer detection (UPLC-MS), refractive index detection (UPLC-RI);

13. Mercury analysis using thermal decomposition followed by amalgamation and atomic absorption;
14. Wet chemistry techniques including but not limited to titration, filtration, distillation, precipitation, enzymatic assay;
15. pH and ion selective electrode analysis;
16. Extraction techniques including but not limited to automated solvent extraction, Soxhlet extraction, column chromatography, liquid-liquid extraction, solid phase extraction;
17. Gravimetric analysis using drying oven or muffle furnace;
18. UV-VIS spectrophotometry, photometry, refractometry;
19. Spectroscopy methods including but not limited to cavity ring-down spectroscopy (CRDS);
20. Agar plate diffusion bioassays;
21. Microscopic examination of feed and fertilizers for detection of ingredients, contaminants or adulterants
22. Characterization of nanoparticles by; single particle-ICP-MS, centrifugal field flow fractionation (CFFF), Multi-Angle Light Scattering (MALS), Dynamic Light Scattering (DLS), UV-VIS;

## **ANIMAL AND PLANTS (AGRICULTURE)**

### **Foods and Edible Products (Human and Animal Consumption):**

**Animal or Vegetable Fats and Oils and their Cleavage Products, prepared edible fats, animal or vegetable waxes**

**Beverages, Spirits and Vinegar**

**Dairy Products**

**Eggs and Processed Egg Products**

**Meat and Edible Meat Offal**

**Sugars and Sugar Confectionery (honey, maple products)**

**(Food-Chemical)**

FLS-1994-018	Determination of Minerals in Food Using ICP Spectrometry
FLS-1996-016	Soluble Solids Determination by Refractometer
FLS-1998-005	Detection of Irradiated Food Containing Fat by GC-MSD Analysis of Hydrocarbons
FLS-1998-012	Determination of Peroxide Value in Fats and Oils by Titration
FLS-1998-013	Spectrophotometric Evaluation of Fats in the Ultraviolet
FLS-1998-014	Determination of the Content of Waxes, Fatty Acid Methyl Ethyl Esters and Fatty Acid Ethyl Esters by Capillary Gas Chromatography
FLS-1998-016	Determination of the Composition and Content of Sterols by Capillary-Column Gas Chromatography
FLS-1998-017	Determination of Free Fatty Acids in Fats and Oils by Titration

FLS-1998-019	Determination of Stigmastadienes in Fats and Oils by Gas Chromatography (GC-FID)
FLS-1998-020	Determination of Sterenes in Refined Fats and Oils by GC-FID
FLS-1998-021	Calculation of Theoretical ECN42 Triglycerides and Difference Between Actual ECN42 and Theoretical ECN42 Triglycerides in Olive and Olive-Pomace Oils
FLS-1998-022	Preparation and Analysis of Fatty Acid Methyl Esters by Capillary-Column Gas Chromatography
FLS-1998-034	Determination of Ash in Food
FLS-1999-012	Determination of Organic Acids in Juices and Beverages by HPLC
FLS-1999-013	Nitrites and Nitrates in Meat and Meat Products by HPLC
FLS-2004-002	Determination of Tocopherols in Oils by High Performance Liquid Chromatography
FLS-2006-002	Hydroxymethylfurfural (HMF) in Honey (HPLC Method)
FLS-2006-003	Water Insoluble Solids in Honey by Filtration
FLS-2006-004	Diastase Activity in Honey
FLS-2006-006	Moisture in Honey by Refractive Index
FLS-2006-007	Acidity in Honey by Titration
FLS-2006-008	PFund Colour of Honey
FLS-2010-001	Determination of the Percentage of 2-Glyceryl Monopalmitate by Gas Chromatography
FLS-2015-001	Determination of Sugars in Food by UPLC-RI
FLS-2015-003	Determination Of Delta Carbon-13 Value By Cavity Ring-Down Spectroscopy

**(Food-Microbiological)**

MFLP-113	Enumeration of <i>Escherichia coli</i> Using Compact Dry EC Medium Count Plates
MFHPB-03	Determination of the pH of Foods Including Foods in Hermetically Sealed Containers
MFHPB-10	Isolation of <i>E.coli</i> O157:H7/NM from foods and environmental surface samples
MFHPB-19	Enumeration of Coliforms, Faecal Coliforms and of <i>E. coli</i> in Foods Using the MPN Method
MFHPB-20	Isolation and Identification of <i>Salmonella</i> from Food and Environmental Samples
MFHPB-21	Enumeration of <i>Staphylococcus aureus</i> in Foods
MFHPB-30	Isolation of <i>Listeria monocytogenes</i> and other <i>Listeria</i> spp. from Foods and Environmental Samples
MFHPB-33	Enumeration of Total Aerobic Bacteria in Food Products and Food Ingredients Using 3M™ Petrifilm™ Aerobic Count Plates

MFHPB-34	Enumeration of <i>Escherichia coli</i> and Coliforms in Food Products and Food Ingredients Using 3M™ Petrifilm™ <i>E. coli</i> Count Plates
MFLP-15	The Detection of <i>Listeria</i> Species from Environmental Surfaces Using the Dupont Qualicon BAX® System Method and Direct Plating
MFLP-22	Characterization of verotoxigenic <i>Escherichia coli</i> O157:H7 colonies by polymerase chain reaction (PCR) and cloth-based hybridization array system (CHAS)
MFLP-28	The Qualicon BAX® System Method for the Detection of <i>Listeria monocytogenes</i> in a Variety of Food
MFLP-29	The Qualicon BAX® System Method for the Detection of <i>Salmonella</i> in a Variety of Food and Environmental Samples
MFLP-30	Detection of <i>Escherichia coli</i> O157:H7 in select foods using the BAX® System <i>E. coli</i> O157:H7 MP
MFLP-52	Isolation and identification of priority verotoxigenic <i>Escherichia coli</i> (VTEC) in foods
MFLP-53	Identification of <i>Listeria monocytogenes</i> colonies by polymerase chain reaction (PCR) and cloth-based hybridization array system (CHAS)
MFLP-66	Determination of Water Activity Using the Decagon Aqualab
MFLP-70	Characterization of Verotoxigenic <i>Escherichia coli</i> (VTEC) Colonies by Polymerase Chain Reaction (PCR) and Cloth-Based Hybridization Array System (CHAS) for Virulence Markers and Seven O Serogroups
MFLP-74	Enumeration of <i>Listeria monocytogenes</i> in Food
MFLP-75	Procedure for the Isolation of <i>Salmonella</i> species by the Modified Semi-Solid Rappaport Vassiliadis (MSRV) Method
MFLP-77	Detection of <i>Listeria monocytogenes</i> and other <i>Listeria</i> spp. in food products and environmental samples by the VIDAS® <i>Listeria</i> species Xpress (LSX) method

**Feeds:**

**Inorganic: Refer to Fertilizers**

FFIC-INSOL-FAT	Insoluble Solids in Fat by Gravimetry
FFIC-MULTI-ICP-MS	Quantitative Multi-element Analysis of Feed and Fertilizer by Inductively Coupled Plasma Mass Spectrometry

**Microscopy**

FD-BIO-MCR	Feed and Fertilizer Microscopy
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**Organic - Drugs and Antibiotics**

FD-BIO-CTC	Determination of Chlortetracycline in Animal Feeds by Agar Plate Diffusion Bioassay
FD-BIO-LINC	Determination of Lincomycin in Animal Feeds by Agar Plate Diffusion Bioassay
FD-BIO-PEN	Determination of Penicillin G in Animal Feeds by Agar Plate Diffusion Bioassay
FD-BIO-TYL	Determination of Tylosin in Animal Feeds by Agar Plate Diffusion Bioassay
FD-BIO-VMY	Determination of Virginiamycin in Animal Feeds by Agar Plate Diffusion Bioassay.
FD-DRUGS-AMP	Determination of Amprolium in Feeds by Liquid Chromatography
FD-DRUGS-DEC	Determination of Decoquinatate in Feeds by Liquid Chromatography
FD-DRUGS-IONO4	Liquid Chromatographic Determination of Monensin, Narasin and Salinomycin in Feeds using Post-Column Derivatization.
FD-DRUGS-LAS-RP	Determination of Lasalocid Sodium in Animal Feeds and Premixes by Reversed Phase Liquid Chromatography
FD-DRUGS-LCMSMS1	Liquid Chromatographic Determination of Low Level Feed Drugs by ESI LC/MS/MS
FD-DRUGS-LCMSMS2	Liquid Chromatographic Determination of Tylosin, Lincomycin, Virginiamycin, Erythromycin and Novobiocin at Low Levels in Animal Feed by ESI LC/MS/MS
FD-DRUGS-NIC-LC	Liquid Chromatographic Determination of Nicarbazine in Feeds and Premixes
FD-DRUGS-OTC-LC	Determination of Oxytetracycline in Feeds by Liquid Chromatography
FD-DRUGS-SQN	Determination of Sulfamethazine in Medicated Feeds by LC with Post-Column Derivatization
FD-DRUGS-SQNR	Determination of Trace Levels of Sulfamethazine in Animal Feeds by LC with Post-Column Derivatization
FD-DRUGS-TIA	Determination of Tiamulin in Feeds and Drug Premixes
FD-DRUGS-TIL	Determination of Tilimicosin in Feeds by Liquid Chromatography

#### Toxins

FD-TOXINS-ERG	Determination of Ergot alkaloids in Feeds and Feed Ingredients by Liquid Chromatography Tandem Mass Spectrometry
FD-TOXINS-FUM-LCMS	Liquid Chromatographic Determination of Total Fumonisin (B1 and B2) in Animal Feed by ESI LC/MS/MS
FD-TOXINS-MULTITOX	Determination of Mycotoxins in Feed and Feed Ingredients by Liquid Chromatography with Tandem Mass Spectrometer Detection

FD-TOXINS-TRICO-LCMS	Determination of Trichothecenes in Feed by ESI LC/MS/MS
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**CHEMICALS AND CHEMICAL PRODUCTS**

**Chemicals for Agricultural Industry:**

**Fertilizers**

Refer to Feeds (Inorganic)

FFIC-Hg-DMA	Total Mercury in Feed and Fertilizer by Direct Mercury Analyser
FFIC-Hg-ICP-MS	Determination of Mercury in Feed and Fertilizer by Inductively Coupled Plasma Mass Spectrometry
FFIC-Moisture-105C	Loss on Drying by Regulate Air Oven (105°C for 16 Hours)
FFIC-23-ICP-OES	23 Major, Minor, and Trace Elements in Feeds, Fertilizer and Compost by ICP-OES after Microwave Assisted Acid Digestion
FT-MIN-P <sub>2</sub> O <sub>5</sub> -QMP	Available Phosphoric Acid in Fertilizer Gravimetric Quinolinium Molybdophosphate Method

Number of Scope Listings: 75

Number of Technique Listings: 22

**Notes:**

**ISO/IEC 17025:2017:** General Requirements for the Competence of Testing and Calibration Laboratories

**RG-TMDNRT:** SCC Requirements and Guidance for Accreditation of laboratories Engaged in Test Method Development and Non-Routine Testing

**CFIA:** Canadian Food Inspection Agency

**FD-BIO:** Feed Microscopy and Bioanalysis Section

**FD-DRUGS:** Feed - Organic Chemistry Section

**FFIC:** Feed and Fertilizer Chemistry Section – Inorganic

**FLS:** Food Laboratory Services

**FMWG:** Food Microbiology Working Group

**FT-MIN:** Fertilizer - Inorganic Chemistry Section

**MFHPB:** HPB Methods of Microbiological Analysis for Foods

**MFLP:** Laboratory Procedures of Microbiological Analysis for Foods

**OLC:** Ottawa Laboratory Carling



This document forms part of the Certificate of Accreditation issued by the Standards Council of Canada (SCC). The original version is available in the Directory of Accredited Laboratories on the SCC website at [www.scc.ca](http://www.scc.ca).

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