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SCOPE OF ACCREDITATION

**University of Guelph
LABORATORY SERVICES DIVISION
95 Stone Road West P.O. Box 3650
Guelph, ON
N1G 2Z4**

Accredited Laboratory No. 100
(Conforms with requirements of ISO/IEC 17025:2005, RG-LAB, RG-TMDNRT)

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CLIENTS SERVED: All interested parties

FIELDS OF TESTING: Biological, Chemical/Physical

PROGRAM SPECIALTY AREA: Agriculture Inputs, Food, Animal Health and Plant Protection (PSA-AFAP) , Test Method Development and Evaluation and Non-Routine Testing

SCOPE ISSUED ON: 2018-06-29

ACCREDITATION VALID TO: 2022-10-06

Veterinary testing at the Animal Health lab is done at 419 Gordon St (building 89), Guelph, ON N1G 2W1 and the toxicology lab at 95 Stone Road West.

OTHER SCOPE(S)

The laboratory has a separately issued GLP Areas of Recognition scope that can be viewed at <http://www.scc.ca/en/search/palcan/> . Simply type in the facility name to access the document.

TEST METHOD DEVELOPMENT & EVALUATION AND NON-ROUTINE TESTING

Note: Laboratories accredited under this Program Specialty Area have demonstrated that they meet ISO/IEC 17025 requirements for routine testing under the same product classification as described below.

Chemical Analysis:

Animal and plants (agriculture), food, water and environmental samples

Food and edible products: edible animal fat, dairy products, eggs, meat, edible meat offal and animal blood, serum, plasma, urine, thyroid and retina.

For food allergens, veterinary drug residues, pesticides and pollutants which include the following classes of compounds: anthelmintics, antibiotics, analgesics, antimicrobials, beta-agonists, coccidiostats, hormones and hormone-like substances, industrial pollutants, non-steroidal anti-inflammatories, tranquilizers and pesticides.

1. Development and validation of new testing methodology for the screening and determination of food allergens, veterinary drug residues, pesticides and pollutants in animal tissue, biological fluids, food, water and environmental samples
2. Modification, improvement and validation of published or existing test methodology for the screening and determination of food allergens, veterinary drug residues, pesticides and pollutants in animal tissue, biological fluids, food, water and environmental samples.
3. Development of testing methods for the assessment and validation of commercially available test kits for the screening and determination of food allergens, veterinary drug residues, pesticides and pollutants in animal tissue, biological fluids, food, water and environmental samples.
4. Development and validation of mass spectral techniques for the confirmation of the identity of veterinary drug residues, pesticides and pollutants in animal tissue, biological fluids, food, water and environmental samples.

Microbiology Analysis

1. Development and validation of analytical methods for detection, isolation, identification and characterization of microorganisms including bacteria, viruses, parasites, yeast and molds in food, water and environmental samples.
2. Development, evaluation and validation of new test kits including commercial test kits for the detection and/or enumeration of microorganisms in food, water and environmental samples.
3. Modification, improvement and validation of published or existing methods for detection and/or enumeration of microorganisms in food, water and environmental samples.

Molecular Biology Analysis

1. Development and validation of molecular methods for pathogen detection and/or identification in food, water and environmental samples, and for genetic testing and DNA fingerprinting of microorganisms, plants and animals.
2. Development, evaluation and validation of new test kits including commercial kits for pathogen detection and/or identification in food, water and environmental samples and for genetic testing and DNA fingerprinting of microorganisms, plants and animals.
3. Modification, improvement and validation of published or existing methods for pathogen detection and/or identification in food, water and environmental samples, and for genetic testing and DNA fingerprinting of microorganisms, plants and animals.

Animal health analysis

1. Development and validation of methods for detection, isolation, identification and characterization of microorganism including bacteria, viruses, parasites, yeast and molds in animal samples.

2. Development, evaluation and validation of new tests including commercial kits or reagents for pathogen detection and/or identification in animal samples.
3. Modification, improvement and validation of published or existing methods for pathogen detection and/or identification in animal samples.

Procedures used for Test Method Development & Evaluation and Non-routine Testing:

95S-031 Management of test method development projects

95S-021 Method verification/ validation

95S-032 Management of non-routine tests

AHL-050 Management of AHL test method development projects and non-routine testing - TMD-NRT

AHL-011 Bench and field validation/verification of AHL laboratory tests

Techniques for which the lab is accredited:

1. Chemistry: sample preparation/extraction techniques including; homogenization, SPE, LLE, acid digestion, and soxlet. Methods of analysis/detection including; Charm® tests, wide array of chromatographic based analysis (LC & GC coupled with various detectors including MS and MS/MS), ICP and ELISA
2. Microbiology- sample preparation, culture, detection, enumeration, isolation, identification, biochemical confirmation, immunomagnetic separation, MPN, PCR, and ELISA
3. Molecular biology: DNA/RNA extraction, PCR, DNA sequencing, DNA fingerprinting, detection, identification, genotyping and ELISA.

ANIMAL AND PLANTS (AGRICULTURE)

Foods and Edible Products: (Human and Animal Consumption)

(General)

CHEM-004	Quantitative detection of soy protein by an enzyme linked immunosorbent assay (ELISA)
CHEM-015	Quantitative detection of hazelnut protein by an enzyme linked immunosorbent assay (ELISA)
CHEM-109	Antibiotic residues in honey by LC-MS/MS
CHEM-241	Quantitative detection of sesame protein by an enzyme linked immunosorbent assay (ELISA)
CHEM-255	Quantitative detection of mustard protein by an enzyme linked immunosorbent assay (ELISA)
CHEM-260	Determination of glass particles in milk
CHEM-306	Enzyme immunoassay for the detection of <i>Staphylococcus</i> enterotoxins A, B, C, D and E in food and bacterial cultures
IMC-411	Quantitative Detection of Vomitoxin in Cereal Samples by an Enzyme Linked Immunosorbent Assay (ELISA)

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IMC-412	Quantitative Detection of Egg Protein by an Enzyme Linked Immunosorbent Assay (ELISA)
IMC-413	Quantitative Detection of Milk Protein by an Enzyme Linked Immunosorbent Assay (ELISA)
IMC-414	Quantitative Detection of Peanut protein by an Enzyme Linked Immunosorbent Assay (ELISA)
IMC-416	Quantitative Detection of Gliadin Protein by an Enzyme Linked Immunosorbent Assay (ELISA)
IMC-428	Quantitative Detection of Almond protein by an Enzyme Linked Immunosorbent Assay (ELISA)
MFHPB-03	Determination of the pH of foods including foods in hermetically sealed containers (MID-233)
MFHPB-20	Isolation and Identification of Salmonella from Food and Environmental Samples (MID-112)
MFHPB-21	Enumeration of Staphylococcus aureus in Foods (MID-115)
MFHPB-30	Isolation of Listeria monocytogenes and other Listeria spp from foods and environmental samples (MID-113)
MFHPB-33	Enumeration of Total Aerobic Bacteria in Food Products and Food Ingredients using 3M™ Petrifilm™ Aerobic Count Plates (MID-103)
MFHPB-34	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 (MID-107)
MFLP-15	The detection of <i>Listeria</i> species from environmental surfaces using the Dupont Qualicon BAX® System method and direct plating. (MID-226)
MFLP-16	Detection of <i>Escherichia coli</i> O157:H7 in foods - Assurance GDS for <i>E. coli</i> O157:H7 Tq Gene Detection System (MID-216)
MFLP-21	Enumeration of Staphylococcus aureus in Foods and Environmental Samples using 3M Petrifilm Staph Express Count (STX) Plates (MID-196)
MFLP-26	Detection of Shigella spp in Foods by the Polymerase Chain Reaction (PCR) (MOL-228)
MFLP-28	The Qualicon BAX® System Method for the Detection of <i>Listeria monocytogenes</i> in a Variety of Food (MID-221)
MFLP-29	The Dupont BAX® System Method for the detection of Salmonella in foods and environmental surface samples (MID-217)
MFLP-30	Detection of <i>Escherichia coli</i> O157:H7 in select foods using BAX® System <i>E. coli</i> O157:H7 MP (MID-220)
MFLP-42	Isolation and Enumeration of the Bacillus cereus group in foods (MID-119)
MFLP-66	Determination of water activity using the Decagon Aqualab (MID-055)
MFLP-74	Enumeration of <i>Listeria monocytogenes</i> in Foods (MID-123)
MID-125	

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	Isolation and identification of <i>E. Coli</i> O157:H7 or NM in Foods (Modified MFHPB-10)
MID-149	Enumeration of Salmonella in Food and Environmental Samples by MPN (Modified MFHPB-20)
MID-150	Enumeration of Campylobacter in Foods and Environmental samples by MPN (Modified USDA FSIS ch6)
MID-157	Enumeration of <i>Listeria monocytogenes</i> in Foods using a Most Probable Number (MPN) Technique
MID-163	Isolation and Identification of Salmonella Species by Immunomagnetic separation (IMS) (Modified MFLP-84)
MID-269	Detection of Top 7 O-serogroups Shiga toxin producing <i>E. coli</i> in beef by BioControl Assurance GDS® MPX Top 7 STEC method
MLG 41.02	Isolation, Identification and Enumeration of <i>Campylobacter jejuni/coli/lari</i> from poultry rinse, sponge and raw product samples (MID-243)
MLG 4C	FSIS Procedure for the Use of a Polymerase Chain Reaction (PCR) Assay for Screening <i>Salmonella</i> in Meat, Poultry, Egg, and Siluriformes (Fish) products and Carcass and Environmental Sponges (MID-219)
TOPS-142	Multi-residue pesticide determination by Liquid Chromatography/Electrospray Ionization-Tandem Mass Spectrometry (LC/ESI-MS/MS) and gas chromatography-tandem mass spectrometry (GC-MS/MS) (Modified CFIA PMR-006-V1.0)
TOXI-024	Elements in food, feeds, forage and other matrices by ICP-OES.
TOXI-064	ICP-MS Analysis of Metals in Foods

Beverages, Spirits and Vinegar

DRUGS-217	Determination of Patulin in Apple Juice by HPLC (Modified AOAC 995.10)
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Dairy Products

DA-205	MilkoScan FT-120 (Fat, protein, lactose and total solids) in milk and cream samples) (Modified IDF 141C:2000 ISO9266:1999)
MID-045	Alkaline Phosphatase Testing in Dairy Products by Fluorometric method

(Milk-Unpasteurized)

CHEM-115	Charm QUAD1 Test for Beta-lactams, Quinolones, Sulfonamides, and Tetracyclines in Raw Commingled Cow Milk
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CHEM-119	CHARM® Trio Test for beta-lactams, sulfa drugs, and tetracyclines in raw commingled cow milk
CHEM-120	Charm® QUAD2 Test for Macrolides in Raw Commingled Cow Milk
CHEM-121	Charm® QUAD3 Test for Aminoglycosides in Raw Commingled Cow Milk
CHEM-266	CHARM 3SL3 Beta-lactam test for amoxicillin, ampicillin, ceftiofur, cephapirin, cloxacillin and penicillin G validated for raw, commingled bovine milk
CHEM-308	CHARM Sulfa test for raw commingled goat milk at MRL
CHEM-309	CHARM MRL Beta-lactam and tetracycline test for raw commingled goat milk (MRLBLTET2)
DA-102	Fat, protein, lactose, other solids (LOS), freezing point and somatic cell in milk by Infrared and Fluoro-Opto-electronic milk analyzers (Modified IDF148-2 - ISO 13366-2 and IDF 141C:2000 - ISO 9622:1999)
DA-301	Enumeration of total bacteria in raw milk BactoScan FC Operation
DA-500	Determination of freezing point by Cryoscope (Modified IDF 108 - ISO 5764)
DRUGS-101	Standard Disk Assay for the Detection of Antimicrobial Inhibitors in Milk
DRUGS-105	SNAP™ Beta-lactam test kit
DRUGS-118	Charm Rosa® Tetracycline Test for Detecting Tetracycline Drugs in Milk
DRUGS-123	Charm II® Macrolide Test for Milk
DRUGS-237	CHARM Sulfa test for raw commingled cow milk
FC-LP-200	Fat in milk & milk products (Mojonnier Procedures) two-extraction method (Modified AOAC 989.05, IDF 1-ISO1211)
MID-043	Goat Milk Testing on the Inhibitor Blocks

Feeds

DRUGS-226	Tiamulin hydrogen fumarate in mixed swine feed by HPLC-UV
DRUGS-233	Monensin Potency in Type B and Type C Medicated Feeds by HPLC using Post-Column Derivatization
DRUGS-234	Narasin potency in type B and type C medicated feeds by HPLC using post-column derivatization
DRUGS-235	Determination of Tilmicosin in Swine Feeds (100 to 600 mg/kg) by HPLC
DRUGS-236	Determination of Ractopamine Hydrochloride in Swine feed, cattle feed, cattle liquid feed and turkey feed by HPLC
SNL-058	Water extractable sodium from feed
TOXI-013	Liquid Chromatographic Determination of Monensin, Narasin and Salinomycin in Feeds using Post-Column Derivatization

(Fruits and Vegetables)

CHEM-069	Acidic herbicides (Phenoxy) in environmental and food matrices by LC-ESI/MS/MS
TOPS-119	EBDC and dithiocarbamates (Modified CFIA P-RE-053-95-EBDC)
TOPS-120	Glyphosate and AMPA
TOPS-121	Ethylene thiourea (ETU) by LC-UV (Modified CFIA P-RE-060-97 (1)- ETU)
TOPS-122	Amitraz determination in fresh and processed fruits, vegetables and honey (Modified CFIA CSP-006-V1.0)
TOPS-124	EBDC in Fruits and Vegetables by HPLC-fluorescence (EDA) (Modified CFIA SPR-002-V2.4)
TOPS-142	See Food and Edible products

Meat and Edible Meat Offal

EML-101	The double separatory funnel procedure for the detection of <i>Trichinella larvae in pork</i> .
CHEM-003	Quantitative determination of aminoglycosides in tissue using LC-MS/MS
CHEM-041	Multi-residue drug quantitation in animal tissues by LC-MS/MS
DRUGS-009	Beta-agonists in tissue and retina by LC-MS/MS

(Molecular Biology)

MOL-020	Microbial species ID determination based on 16S/18S rRNA gene or ITS sequencing
MOL-146	Genetic Analysis of the Mutation Associated with Porcine Stress Syndrome (pss) (HAL 1843) in Swine
MOL-171	Detection of Residual Bovine, Ruminant, Porcine, Animal and Rice DNA in Feed and Food Samples
MOL-239	Speciation of presumptive <i>Campylobacter jejuni</i> and <i>C. coli</i> colonies by multiplex Polymerase Chain Reaction (mPCR) (CFIA)
MOL-250	Quantification of residual bovine DNA in feed samples

(Plant Tissue)

PDC-015	Detection of <i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i> using PCR
PDC-103	Detection of Viruses, Bacteria and Fungi in Plant Tissues using ELISA

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PDC-104 Baermann Pan Method for Nematode Extraction
PDC-106 Nematode Cysts and Eggs Extracted from Soil

MEDICAL

Veterinary:

Description of Activities:

The Animal Health Laboratory identifies unknown hazards in a range of matrices, for example, animal samples, feed, soil, plants. Hazards include infectious agents (bacteria, mycoplasmas, yeast, molds, viruses, and parasites), organic and inorganic elements and compounds. Infectious agents are detected directly or indirectly through various technologies, for example, culture, ELISA and PCR,

Techniques for which the laboratory is accredited:

1. Culture detection of microorganisms
2. Inorganic analysis by inductively coupled plasma Spectroscopy (ICP)
3. Enzyme linked immunosorbent assay (ELISA)
4. Agglutination
5. Polymerase chain reaction

For a current list of methods covered under accredited techniques, contact the University of Guelph Laboratory Services Division Contact.

BAC-028	Culture detection of Salmonella spp. and enumeration of bacterial and fungal colonies in hatchery samples and in poultry environmental samples
BAC-029	Culture detection of <i>Salmonella Pullorum</i> , <i>Salmonella Gallinarum</i> and other <i>Salmonella spp.</i>
CHEM-055	ICP-MS analysis of metals in tissues
CHEM-057	Determination of iodine in raw and processed milk by inductively coupled plasma-mass spectrometry
MOL-180	Scrapie resistance prion protein genotyping
MOL-249	PCR detection of fish viruses
V-003	Hemagglutination inhibition (nested method - appendix 19.2, 19.3, 19.4, 19.8 and 19.10)
V-003 A19.10	Swine influenza virus - A/H1N1/swine/Ontario/81 HI (sif) or A/H3N2/human/Colorado/77 HI (si3)
V-003 A19.8	Swine influenza virus - A/H3N2/swine/Texas/4199-2/98 HI (si3t)
V-005	Polymerase Chain Reaction
	<ul style="list-style-type: none">• Type A influenza viruses and Avian H5 and H7 Hemagglutinin subtypes• Avian Paramyxovirus 1 (APMV-1)• Classical Swine Fever virus

- Foot and Mouth Disease virus

V-014

Indirect fluorescent antibody assay (IFA) for the detection of IgG & IgM, IgM or IgG antibodies against *Porcine reproductive and respiratory syndrome virus* (PRRSV)

Notes:

Veterinary testing at the Animal Health lab is done at 419 Gordon St (building 89), Guelph, ON N1G 2W1 and the toxicology lab at 95 Stone Road West.

AOAC: Official Methods of Analysis of the Association of Analytical Community (USA), current edition

ISO/IEC 17025-2005: General Requirements for the Competence of Testing and Calibration Laboratories

RG-LAB: SCC Requirements and Guidance for the Accreditation of Testing Laboratories

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

IDF: International Dairy Federation

SMEDP: Standard Methods for the Examination of Dairy Products

Elias Rafoul, Vice President
Accreditation Services

Date: 2018-06-29

Number of Scope Listings: 98

SCC 1003-15/167

Partner File #0

Partner: