

TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP)

Scope of Accreditation

Accredited Laboratory No. 263

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

Location Name or Operating as (if applicable): Saskatoon Laboratory

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SCC File Number:	15318
Accreditation Standard(s):	ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
Fields of Testing:	Biological Chemical/Physical
Program Specialty Area:	Agriculture Inputs, Food, Animal Health and Plant Protection (AFAP) Test Method Development and Evaluation and Non-routine Testing (TMDNRT)
Initial Accreditation:	1997-11-05
Most Recent Accreditation:	2021-07-19
Accreditation Valid to:	2025-11-05

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 separately issued document.

TEST METHOD DEVELOPMENT & EVALUTATION AND NON-ROUTINE TESTING

Description of activities – chemical testing:

1. Modification of published / existing methods or development and validation of new methods for screening and determination of chemical residues and contaminants.
2. Development and validation of mass spectral techniques for the confirmation of the identity of chemical residues and contaminants.
3. Development of methods for the assessment and validation of commercially available test kits for the screening and determination of chemical residues and contaminants.
4. Screening, determination and confirmation of the identity of chemical residues and contaminants for NRT.

Description of techniques – chemical testing:

1. Gas Chromatography with Mass Spectrometer (MS) detection.
2. (Ultra) High Performance Liquid Chromatography with PhotoDiode Array, UV/Vis, Fluorescence, and Mass Spectrometer (MS, MS/MS) detection.
3. Use of commercially available test kits for screening and determination of chemical residues and contaminants.
4. Sample preparation, extraction, separation and general chemical and physical tests specific to residue and contaminant testing.

Description of activities – parasitology testing:

1. To develop and validate new methods or modify published/existing methods for the screening and determination of parasites in animals, foods, water and environmental samples.
2. NRT to meet customer demands.

Description of techniques – parasitology testing:

1. Microscopic examination, morphological / morphometric identification and enumeration
2. Isolation and culture/propagation
3. Artificial digestion
4. Serological immunoassay (MAT, IFA, ELISA/cELISA, WB)
5. Magnetic capture
6. Somatic and excretory/secretory antigen production
7. Recombinant antigen production in expression systems
8. Monoclonal/polyclonal antibody production
9. Molecular detection and identification (conventional and qPCR, LAMP)
10. DNA extraction
11. DNA sequencing

Description of techniques – seed testing:

1. Standard Germination Testing
2. Purity and Identification of Other Seeds Testing

3. Microscopic examination, morphological identification and digital/computational imaging to aid seed identification
4. Tetrazolium (TZ) Testing
5. Herbicide Bioassay Testing

ANIMAL AND PLANTS (AGRICULTURE)

Foods and Edible Products (Human and Animal Consumption):

(Chemistry)

CVDR-M-3002	Determination of Phenylbutazone, Oxyphenbutazone and Diclofenac Residues in Tissues by Liquid Chromatography/Tandem Mass Spectrometry
CVDR-M-3003	Determination of Thyreostats in Tissue by Liquid Chromatography/Tandem Mass Spectrometry Mercaptobenzimidazole, methylthiouracil, phenylthiouracil, propylthiouracil, tapazole, thiouracil
CVDR-M-3005	Determination of Endectocides in Animal Tissues, Milk and Eggs by LC with Fluorescence Detection Abamectin, doramectin, ivermectin, moxidectin, eprinomectin
CVDR-M-3007	Determination of Fluoroquinolones in Bovine, Porcine, & Avian Tissues by UPLC with Fluorescence Detection Enrofloxacin (ENRO), ciprofloxacin (CIPRO), danofloxacin (DANO), sarafloxacin (SARA)
CVDR-M-3011	Determination of Tetracycline, Oxytetracycline, Doxycycline, Chlortetracycline in Eggs, Milk and Animal Tissues using UPLC
CVDR-M-3012	Determination of Ceftiofur-related Residues in Milk, Egg and Animal Tissues Using Liquid Chromatography with MS/MS Detection Desfuoylceftiofur acetamide (DCA)
CVDR-M-3014	Determinative Method for Protein-Bound Metabolites of Nitrofurans in Muscle, Liver, Canned Processed Pork, Cooked Duck and Milk by LC-MS/MS 1-aminohydantoin (AHD), 3-amino-5 morpholinomethyl-1,3-oxazolidin-2-one (AMOZ), 3-amino-2-oxazolidinone (AOZ), semicarbazide (SEM)
CVDR-M-3015	Determination of Desoxycarbadox in Animal Tissue by LC-MS/MS
CVDR-M-3016	Determination of Melengestrol Acetate, Megestrol Acetate and Chlormadinone Acetate by LC-MS/MS Animal fat
CVDR-M-3029	A Determinative and Confirmatory Method for Residues of Macrolide Antibiotics in Animal Tissues, Milk and Eggs by Liquid Chromatography-Tandem Mass Spectrometry Clindamycin (CLIN), erythromycin (ERYTH), gamithromycin (GAM), josamycin (JOSA), lincomycin (LINC), oleandomycin (OLE), pirlimycin (PIRL), neospiramycin (NEOSP), spiramycin I (SPI), tilimicosin (TIL) and tylosin (TYL), tildipirosin (TILD), tulathromycin (TUL)

CVDR-M-3031	<p>Determination of Multi-Class Veterinary Drug Residues in Milk, Eggs, Liver, Kidney and Muscle by LC-MS/MS</p> <p>β Lactams (BLC): amoxicillin (AMOX), ampicillin (AMPI), cloxacillin (CLOX), dicloxacillin (DICL), nafcillin (NAF), oxacillin (OXAC), penicillin g (PEN-G), clavulanic acid</p> <p>Sulfonamides (SULFA) and related residues: Sulfadiazine (SDZ), sulfadimethoxine (SDM), sulfadoxine (SDX), sulfamethazine (SMZ), sulfaquinoxaline (SQX), sulfathiazole (STZ), sulfabenzamide (SBZ), sulfacetamide (SAA), sulfachloropyridazine (SCP), sulfaethoxy pyridazine (SEP), sulfaguanidine (SGD), sulfamerazine (SMR), sulfamethoxy pyridazine (SMP), sulfanilamide (SNL), sulfanitran (SNTN), sulfisomidine (SID), sulfameter (SMT), sulfamonomethoxine (SMM), sulfaphenazole (SPZ), sulfamethoxazole (SMXL), sulfamethizole (SMZL), sulfisoxazole (SXZ), sulfamoxole (SXL), dapsone (DAP), trimethoprim (TMP)</p> <p>Tetracyclines (TCS): Chlortetracycline (CLI), oxytetracycline (OXY), tetracycline (TCS), doxycycline (DOXY)</p> <p>Fluoroquinolones (FLQ) and related residues: ciprofloxacin (CIPRO), ciprofloxacin ethylenediamine (DES-CIPRO), danofloxacin (DANO), Enrofloxacin (ENRO), norfloxacin (NORF), ofloxacin (OFLX), sarafloxacin (SARA)</p> <p>Phenicols (PHEN): chloramphenicol (C-PHEN), florfenicol (FLR), thiamphenicol (T-PHEN)</p> <p>Aminocoumarin antibiotics: novobiocin (NOVO)</p> <p>Pleuromutilin Antibiotics: tiamulin (TIAF)</p> <p>Cephalosporins (CEPH): cefazolin (CEFZ), cephalexin (CELX), desacetyl cephalirin (DCEP), desfuroyl ceftiofur cysteine disulfide (DCEFD)</p> <p>Coccidiostats (COCC): amprolium (AMPF), clopidol (CLOF), fenbendazole (FENF)</p> <p>Macrolides (MACR): Gamithromycin (GAM), lincomycin (LINC), pirlimycin (PIRL), tilmicosin (TIL), clindamycin (CLIN), erythromycin (ERYTH), josamycin (JOSA), neospiramycin (NEOSP), oleandomycin (OLE), spiramycin (SPI), tildiprosin (TILD), tulathromycin (TUL), tylosin (TYL), tylosin b</p>
CVDR-M-3033	<p>Determination of Beta Agonists in Animal Tissue without Digestion by LC-MS/MS</p> <p>Ractopamine, zilpaterol, salbutamol, terbutaline, cimaterol, ritodrine, clenbuterol, hydroxymethyl clenbuterol, tulobuterol, brombuterol, clenpenterol, isoxsuprine, mabuterol</p>

CVDR-M-3034	<p>Determination of NSAIDS, Steroids, Hormones and Tranquilizers in Animal Tissues by LC-MS/MS</p> <p>NSAIDS: carprofen (CAPF), diclofenac (DCF), etodolac (EDL), firocoxib (FIRO), flunixin (FLX), ketoprofen (KPF), mefenamic acid (MFA), meloxicam (MLX), naproxen (NPX), niflumic acid (NFA), oxyphenbutazone (OPBZ), phenylbutazone (PBZ), Tolfenamic acid (TOFA), Vedaprofen (VPF)</p> <p>Corticosteroids: 20-Dihydroprednisone (DPDN), Beclomethasone (BCMS), Betamethasone (BMS), Dexamethasone (DEX), Flumethasone (FMS), Methylprednisolone (MPDL), Prednisolone (PDL), Prednisone (PDN), Triamcinolone acetonide (TAA)</p> <p>Hormones: 19-Nortestosterone (NRT), Altrenogest, Boldenone (BOL), Clostebol, Dianabol (DIA), Epi-nortestosterone (ENRT), Epi-testosterone (ETST), Progesterone (PGST), Testosterone (TSTT)</p> <p>Tranquilizers: Acepromazine (ACEP), Azaperol, Azaperone, Butorphanol, Carazolol, Chlorpromazine, Detomidine, Haloperidol, Propionylpromazine, Xylazine (XYZ)</p>
CVDR-M-3035	<p>Determination of Trenbolone, Stilbenes and Resorcyclic Acid Lactones in Liver Tissues</p> <p>Trenbolone: α-trenbolone (ATB)</p> <p>Stilbenes: diethylstilbestrol (DES), dienestrol (DIEN), hexestrol (HEX)</p> <p>Resorcyclic Acid Lactones: zeranol (ZER), taleranol (TAL), zearalanone (ZON), zearalenone (ZEN), α-zearalenol (AZEN), β-zearalenol (BZE)</p> <p>Technique: LC-MS/MS</p>
CVDR-M-3036	<p>A Determinative Method for Five Coccidiostat Residues in Eggs by Liquid Chromatography-Tandem Mass Spectrometry</p> <p>Narasin (NAR), 4,4'-dinitrocarbanilide (DNC), salinomycin (SLM), lasalocid (LAS), monensin (MON)</p>
CVDR-M-3038	<p>Determination of NSAIDS in Milk by LC-MS/MS</p> <p>Carprofen, diclofenac, etodolac, firocoxib, flunixin, hydroxyflunixin, ibuprofen, ketoprofen, mefenamic acid, meloxicam, naproxen, niflumic acid, oxyphenbutazone, phenylbutazone, tolfenamic acid, vedaprofen</p>

CVDR-M-3039	<p>Determination of Fumagillin and Multi-Class Veterinary Drug Residues in Honey by LC-MS/MS</p> <p>β Lactams (BLC): amoxicillin (AMOX), ampicillin (AMPI), cloxacillin (CLOX), dicloxacillin (DICL), nafcillin (NAF), oxacillin (OXAC), penicillin g (PEN-G)</p> <p>Cocciostats (COCC): clopidol (CLOF), fenbendazole (FENF)</p> <p>Fluoroquinolones (FLQ) and related residues (QUIN): ciprofloxacin (CIPRO), ciprofloxacin ethylenediamine (DES-CIPRO), danofloxacin (DANO), Enrofloxacin (ENRO), norfloxacin (NORF), ofloxacin (OFLX), sarafloxacin (SARA), difloxacin (DIFLX), flumequine (FLMQ), marbofloxacin (MARFX), nalidixic acid (NALI), orbifloxacin (ORBI), oxolinic acid (OXO), pipemidic acid (PIPM), sparfloxacin (SPAR)</p> <p>Fumagillin and related residues: dicyclohexylamine, fumagillin</p> <p>Nitroimidazoles (IMID): dimetridazole (DIMFF), hydroxy-ipronidazole (IPZ-OH), hydroxy-metronidazole, ipronidazole (IPZ), metronidazole (METDZ), ronidazole (RNZ), tinidazole</p> <p>Macrolides (MACR): clindamycin (CLIN), erythromycin (ERYTH), gamithromycin (GAM), josamycin (JOSA), lincomycin (LINC), neospiramycin (NEOSP), oleandomycin (OLE), pirlimycin (PIRL), spiramycin (SPI), tildiprosin (TILD), tilmicosin (TIL), tulathromycin (TUL), tylosin (TYL), tylosin b</p> <p>Nitrofurans and related residues (NTF): 1-Aminohydantoin (AHD), 3-Amino-2-oxazolidinone (AOZ), 3-Amino-5-morpholinomethyl-1,3-oxazolidin-2-one (AMOZ), Semicarbazide (SEM)</p> <p>Pleuromutilin Antibiotics: tiamulin (TIAF)</p> <p>Phenicols (PHEN): chloramphenicol (C-PHEN), florfenicol (FLR), thiamphenicol (T-PHEN)</p> <p>Sulfonamides (SULFA) and related residues: Sulfadiazine (SDZ), sulfadimethoxine (SDM), sulfadoxine (SDX), sulfamethazine (SMZ), sulfaquinoxaline a (SQX), sulfathiazole (STZ), sulfabenzamide (SBZ), sulfacetamide (SAA), sulfachloropyridazine (SCP), sulfaethoxy-pyridazine (SEP), sulfaguanidine (SGD), sulfamerazine (SMR), sulfamethoxy-pyridazine (SMP), sulfanilamide (SNL), sulfanitran (SNTN), sulfisomidine (SID), sulfameter (SMT), sulfamonomethoxine (SMM), sulfaphenazole (SPZ), sulfamethoxazole (SMXL), sulfamethizole (SMZL), sulfisoxazole (SXZ), sulfamoxole (SXL), dapsone (DAP), trimethoprim (TMP)</p> <p>Tetracyclines (TCS): chlortetracycline (CLI), doxycycline (DOXY), oxytetracycline (OXY), tetracycline (TCS)</p>
CVDR-M-4016	<p>A Determinative and Confirmatory Method for Total Florfenicol Residues Expressed as Florfenicol Amine Equivalents in Bovine, Equine and Porcine Kidney, Liver and Muscle Tissues by Acid Hydrolysis and LC- MS/MS Florfenicol Amine</p>
CVDR-M-4017	<p>A Determinative and Confirmatory Method for Total Tulathromycin Residues Expressed as Tulathromycin Equivalents in Bovine and Porcine Kidney, Liver, and Muscle Tissues by Acid-Hydrolysis and LC-MS/MS CP-60,300</p>

(Parasitology)

CFAP-M-0040	Isolation and Detection of <i>Giardia</i> Cysts from Select Produce by nested PCR
CFAP-M-0008	C-ELISA for the Detection of Antibodies to <i>Babesia caballi</i> and <i>Theileria equi</i> (syn. <i>Babesia equi</i>) in Horse Serum
CFAP-M-0010	Detection of <i>Tritrichomonas foetus</i> by Microscopic Examination and Culture
CFAP-M-0036	Indirect Fluorescent Antibody Test for the Detection of <i>Theileria equi</i> and <i>Babesia caballi</i> Antibodies in Horse Sera
CFAP-M-0013	The Double Separatory Funnel Digestion Procedure for the Detection of <i>Trichinella</i> Larvae in Pork
CFAP-M-0039	The Double Separatory Funnel Digestion Procedure for the Detection of <i>Trichinella</i> Larvae in Horse Meat

(Seeds)

ISTA Rules (Chapter 5)	Germination: Determine the germination potential. Germination on 400 seeds In: grasses, cereals, small legumes, pulses, other agricultural crops, vegetables and flower species
ISTA Rules (Chapters 5, 11)	Germination on Coated Seeds In: grasses, cereals, small legumes, pulses, other agricultural crops, vegetables and flower species
ISTA Rules (Chapters 5, 18)	Germination of Seeds Mixture In: grasses, cereals, small legumes, pulses, other agricultural crops, vegetables, flower species
ISTA Rules (Chapters 3, 4)	Purity and Identification of Other Seeds: Determine the percentage composition and identity of species - Separation and weighing of fractions, determination of other seeds In: grasses, <i>Poa pratensis</i> , <i>Poa trivialis</i> , <i>Dactylis glomerata</i> , cereals, small legumes, pulses, other agricultural crops, vegetables, flower species
ISTA Rules (Chapters 3, 4, 18)	Purity and Identification of Seeds Mixture In: grasses, <i>Poa pratensis</i> , <i>Poa trivialis</i> , <i>Dactylis glomerata</i> , cereals, small legumes, pulses, other agricultural crops, vegetables, flower species
ISTA Rules (Chapters 3, 11)	Purity and Identification of Other Seeds on Coated Seeds In: grasses, <i>Poa pratensis</i> , <i>Poa trivialis</i> , <i>Dactylis glomerata</i> , cereals, small legumes, pulses, other agricultural crops, vegetables, flower species
ISTA Rules (Chapter 6)	Viability: Estimate viability in general and of dormant seeds Biochemical viability test In: grasses, cereals, small legumes, other agricultural crops, vegetables
ISTA Rules (Chapter 11)	Viability on Coated Seeds In: grasses, cereals, small legumes, other agricultural crops, vegetables
ISTA Rules (Chapter 18)	Viability of Seeds Mixture In: grasses, cereals, small legumes, other agricultural crops, vegetables
CM&P (Chapter 4)	Germination: Determination of maximum germination potential For: species listed in section 4.6.2, Table 5

CM&P (Chapter 3)	Purity Analysis: Determination of percentage by weight; Determination of numbers per unit weight; Uniform blowing method; and Purity procedures for coated seed
CM&P (Chapter 4, section 4.7.6)	Tetrazolium Testing: Determination of viability

Number of Scope Listings: 37

Number of TMDNRT Techniques: 20

Notes:

Seed testing is conducted at: CFIA Saskatoon Laboratory, Seed Science & Technology Section, 301-421 Downey Road, Saskatoon SK S7N 4L8 Canada

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

TMD/NRT: Test Method Development and Non-Routine Testing

CFIA: Canadian Food Inspection Agency

CFAP: Centre for Food-Borne & Animal Parasitology

CVDR: Centre for Veterinary Drug Residues

SSTS: Seed Science & Technology Section

CM&P: Canadian Methods and Procedures for Testing Seed

ISTA: International Seed Testing Association Rules for Testing Seed

LC: Liquid Chromatography

UPLC: Ultra Performance Liquid Chromatography

LC-MS/MS: Liquid Chromatography with tandem mass spectrometry

MAT: Microscopic agglutination test

NSAIDS: Non-steroidal anti-inflammatory drugs

IFA: Indirect fluorescent antibody test

ELISA: Enzyme-linked immunosorbent assay

C-ELISA: Competitive enzyme immunoassay

WB: Western Blot

PCR: Polymerase chain reaction

qPCR: Real-time / quantitative polymerase chain reaction

LAMP: Loop-mediated isothermal amplification

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.

Elias Rafoul
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