

Laboratory Services Division Agriculture and Food Laboratory



**The Canadian Meat Council
Technical Symposium Pathogen Reduction
October 6-7, 2011
Toronto, Ontario**

Who We Are

What We Can Do For You

Why Work with Us?



Who We Are



- Division of the University of Guelph, operating within the Office of Research
- Fully accredited to ISO 17025 (SCC, CALA) food and environmental analytical laboratory
- Mature quality system in place: ISO 9001:2008
- Highly dedicated, experienced scientific staff
- More than 30 years experience with regulatory testing including drug residue detection, pesticides, microbial hazards, and more

Comprehensive Food Safety Testing

- Microbiology
- Molecular Biology
- Drug Residues
- Pesticide Residues
- Allergens
- Feed testing
- Foreign Contaminants
- Comprehensive veterinary diagnostics
- Research projects



Pathogen Detection & Enumeration

Shelf Life Studies

Challenge Studies



Plant Variety and Animal Species Testing

- Potatoes
- Apples
- Beans
- Berries
- Tobacco
- Rice
- Other
- Ruminants
- Bovine
- Porcine
- Chicken
- Turkey
- Other

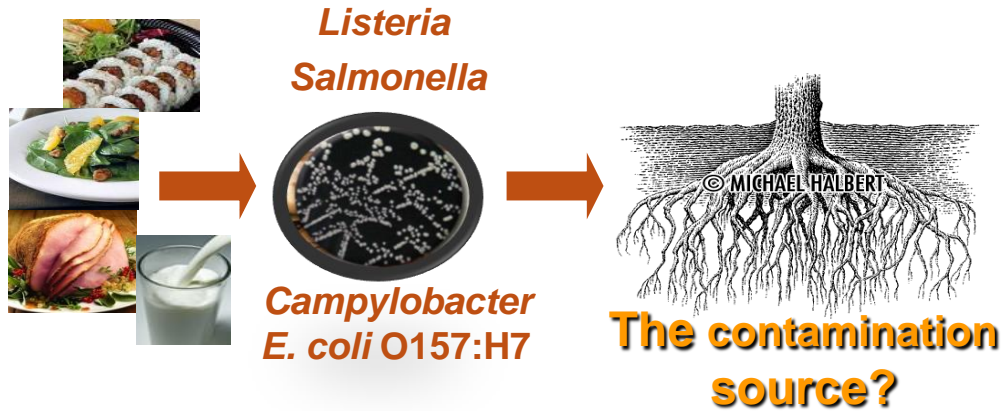


Species verification and DNA testing in feed

- Identification of unique protein “fingerprint” for meat species identification (100% beef?)
- Polymerase chain reaction (PCR) technology to test for animal protein in feed (disease prevention)



Tracking Contamination by DNA Fingerprinting



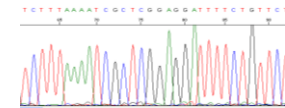
Rapid Identification & Confirmation



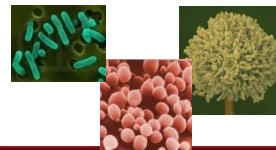
Bacteria
Yeast
Mold



Sequencing



Unique sequence
=> specific species

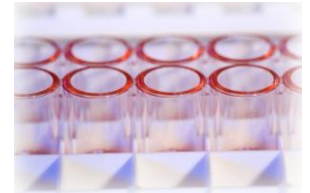


PCR for *E. coli* O157, *Listeria*,
Salmonella, *Campylobacter*, ...
e.g. **GDS™**, **BAX®**

Traditional Methods



- **Microbial inhibition screening tests**
- **Immunoassay characterization tests**











E.g. CHARM, ELISA



- Detects up to 35 compounds from 8 drug classes including:

- More sensitive and specific detection

- Published method; accreditation audit Sept 2011

	Tetracyclines
	Macrolides
	Amoniglycosides
	Sulfas
	Beta-lactams
	Fluoroquinolones
	Amphenicols
	Flunixin





- **Multi-residue screening panels**
- **GC/MS and LC/MS/MS**
- **GLP compliance site**
- **Method development and validation**
- **Over 600 compounds identified**

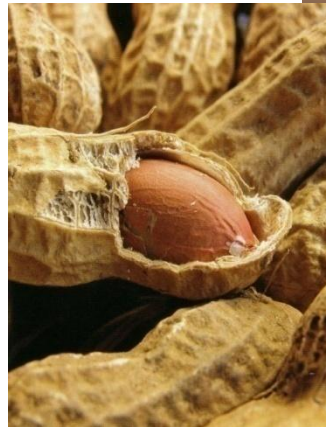
**Analysis available for all pesticide classes
in tissue and other matrices e.g. soil,
vegetation, and water**

CFIA approved laboratory



Accredited Tests

- Milk
- Egg
- Peanut
- Gliadin (wheat)
- Almond
- Soy
- Sesame
- Hazelnut



**Ensure product safety.
Prevent costly product recalls.**

All major allergens plus:

- Mustard
- Shellfish
- Walnut
- Pistachio
- Pecan
- Brazil nut
- Macadamia
- Crustacean
- Coconut
- Histamine

CFIA Accepted Methods

Mycotoxin Testing

ELISA and LC-MS/MS methods

- cost-effective
- quantitative
- high volumes, shorter turn-around

- Aflatoxin
- Citrinin
- Fumonisin
- Ochratoxin
- T2
- Vomitoxin
- Zearalenone

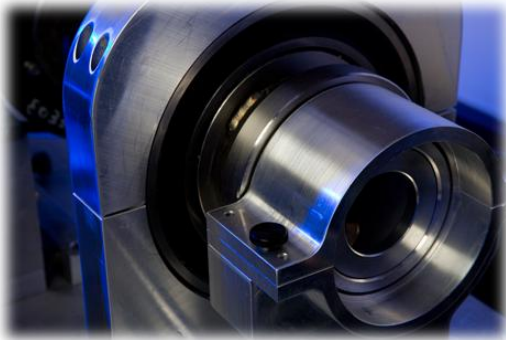
Feed Additives

- Lasaloacid
- Screening method includes Monensin, Narasin & Salinomycin

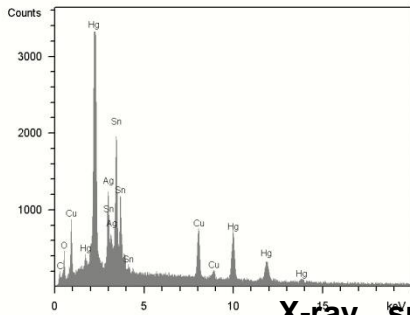
Minerals

Heavy Metals





Photograph of contaminant identified as dental filling



X-ray spectrum of dental filling

Identification of a wide variety of food and production contaminants to quickly resolve customer complaints, quality defects, and potential litigation.



Identifying the contaminant ensures your product safety, and secures consumer confidence



- **Microbiology**
- **Immunology/Serology**
- **Pathology**
- **Parasitology**
- **Toxicology**
- **Veterinary Molecular Biology**
- **Interpretation and consultation**



OUR STRENGTHS:

- **Highly trained, professional and dedicated staff**
- **Advanced analytical technology**
- **Commitment to quality assurance**
- **Highest value provider of complex analytical service**

CORE COMPETENCIES:

- **Cross-disciplinary “bundling” of analyses**
- **Working effectively with industry, government and academia**
- **Efficiently merging analytical services, diagnostics and regulatory testing**

Our Commitment...

..... to excellence, both in technology and our people, means that your results are reliable. We want your experience of Laboratory Services to leave just one impression with you: trust.

Our science gives you peace of mind.



Thank You!