GFTC
Guelph Food Technology Centre

www.gftc.ca

Food Microbiology Series

Microbiology I: Basic Food Microbiology

Foodborne outbreaks, food spoilage, food safety complaints, and shelf-life instability can threaten any food processing operation. Learn to prevent these risks by strengthening your microbiology and laboratory skills with this hands-on course. You will explore:

- Isolation and identification of microorganisms most harmful to food
- Factors affecting the growth of bacteria
- Food preservation methods and hurdle technologies
- Indicator organisms and sampling plans

Microbiology II: Sanitation

A systematic sanitation program controls microbiological hazards. This laboratory-based program focuses on the development and implementation of a sanitation program in your facility, allowing you to protect consumers from compromised food products, extend product shelf-life and optimize the efficiency of your sanitation crew. Topics include:

- Microbiology of sanitation, food spoilage microorganisms, and biofilms in the food industry
- Fundamentals of detergents and sanitizers, including detergent application methods, cost of cleaning and sanitizing, and tests for effectiveness
- Sanitary design principles
- Aligning your sanitation program to FSEP/ HACCP or the Mega Rule

Microbiology III: Foodborne Pathogens and Rapid Detection Methods

With product recalls on the rise and heightened consumer awareness, keeping your food safe is paramount. Understanding common foodborne pathogens and knowing how to detect and prevent contamination is the first step in protecting your consumer and product. In this course, you will learn:

- Critical gram-negative and gram-positive foodborne pathogens: *Campylobacter, E. coli, Salmonella, Clostridium botulinum, Listeria monocytogenes, Staphylococcus aureus*
- Specimen collection procedures, sampling techniques and rapid methods selection for identifying pathogens
- Pathogen development of resistance to chemicals and antibiotics

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Microbiology IV: Sampling & Interpreting Results

Regulations under the CFIA, USDA and USFDA require statistically valid sampling plans for the microbiological acceptance of certain products for domestic and export sale. This detailed, step-by-step program will show you how to establish and maintain your microbiological testing program—from accepting raw materials to releasing finished product. You will design sampling plans and explore:

- Indicator organisms and pathogens for various food commodities and ingredients
- Food safety regulations and microbiological criteria
- Interpretation of food quality and food safety test results
- Application of microbiological criteria to GMP and HACCP

Microbiology V: *Listeria* Control

The control of *Listeria monocytogenes* in food processing and supply systems is absolutely essential. Does your company have an up-to-date action plan for addressing this microorganism? Protect consumers, your product and your business by controlling *Listeria monocytogenes* in your facility. In this workshop, you will:

- Develop and improve your *Listeria* spp. monitoring program
- Understand risk factors associated with foods linked to outbreaks of listeriosis
- Review current CFIA and USDA compliance guidelines for ready-to-eat foods, including the new CFIA Meat Hygiene Directive
- Understand biofilm formation, detection, removal and prevention, with an emphasis on key harbourage areas in your plant

Microbiology VI: *Salmonella* Control

Reducing and preventing the risk of *Salmonella* spp. within your facility is essential for the protection of your products, customers and business. An effective *Salmonella* sampling plan will help you control, monitor and prevent *Salmonella* spp. within your plant. In this program you will explore:

- Overview of *Salmonella* spp. and salmonellosis
- Rapid methods for *Salmonella* spp. isolation and identification
- Regulatory reguirements for sampling and testing
- Strategies to monitor and control *Salmonella* spp., including an examination of biofilm formation, removal and prevention