

Update

Ministry

Describe: Basic Job Details**Position**

Position ID

Position Name (30 characters)

Current Class

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

 Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value**Changes Since Last Reviewed**

Date yyyy-mm-dd

Responsibilities Added:

Responsibilities Removed:

Job Purpose and Organizational Context

Why the job exists:

The incumbent extracts DNA and RNA from animal, food and environmental samples for detection of pathogenic microorganisms (including bacteria, viruses and parasites) using the polymerase chain reaction (PCR) and other molecular techniques such as DNA and RNA sequencing. With guidance from the laboratory scientist, published methods are optimized and validated for use in the laboratory. Results are interpreted as being positive or negative and are accepted when quality control requirements are met. Data is entered into charts, figures, tables etc. in electronic form and/or

hardcopy and summaries of results are prepared for review by the lab scientist. The position contributes to the day-to-day operation of the PCR laboratory including preparation of reagents, reception of samples, PCR (conventional and real-time), next-generation sequencing, digital imaging and decontamination procedures. Generated data is analyzed by the lab or research scientists and their partners to provide information in support of Alberta's Agri-Food Industry. Work is performed within an ISO 17025 accredited lab system ensuring international acceptance of test results and contributing to the assurance of market accessibility for Alberta food and agriculture products. The ability to work independently or as a team member is paramount.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

1. Adapts, modifies, validates and performs PCR and other molecular techniques for the detection of microbial organisms and viruses important to food safety issues and animal health surveillance.
 - Processes animal, food and environmental samples for extraction of DNA/RNA including sample documentation and proper sample storage procedures.
 - Under the guidance of the lab scientist, adapts, modifies and validates molecular technologies to optimize the efficiency and effectiveness of PCR testing.
 - Operates and maintains sophisticated equipment such as a real-time PCR thermocyclers, thermocyclers, NGS equipment as well as routine equipment such as spectrophotometers, centrifuges, micropipettes, autoclaves, gel electrophoresis apparatus, plate washers, biocontainment hoods, fume hoods, etc.
 - Records results and lab data in hard copy and in electronic databases, ensures the acceptance of data by meeting requirements of quality control testing and presents summaries of results for review by the lab scientist.
2. Contributes to the daily operation and maintenance of the molecular biology lab to ensure a safe and secure lab environment
 - Uses equipment properly and performs scheduled routine maintenance.
 - Prepares solutions, reagents and quality control material for tests.
 - Handles and disposes of chemical and biological waste.
 - Shares responsibility for ordering supplies/consumables.
 - Follows decontamination procedures for the PCR lab and handles Risk Group II and III microorganisms and viruses according to standard operating procedures.
3. Contributes to the quality assurance system to maintain ISO 17025 accreditation in the laboratory.
 - Regularly reviews the ISO 17025 quality assurance manual and works within the guidelines
 - Formats charts, tables, and forms, etc. for recording quality controls and equipment calibrations according to the quality manual
 - Performs equipment maintenance and calibrations and maintains laboratory equipment records
 - Writes and reviews standard operating procedures and participates in proficiency tests
 - Participates in internal and external audits
4. Assists in training staff and students
 - Provides technical training in standard operating procedures
 - Prepares demonstrations for students
5. Supports other laboratories within AFAS during outbreak response.
 - Provides additional support to other laboratories within the section as needed during the section's response to an outbreak.

Problem Solving

Typical problems solved:

This position provides technical support for rapid detection of pathogens to scientists and researchers within the Food Safety Branch and the Animal Health and Assurance Branch within AFRED. Confirmation of pathogen identification is also performed when requested by other work units within the section. Under the guidance of the lab scientist, adapts, modifies and validates molecular technologies to optimize the efficiency and effectiveness of testing. Operates, maintains and troubleshoots sophisticated equipment such as a real-time PCR thermocycler, thermocyclers and Next Generation Sequencers as well as routine equipment such as spectrophotometers, cell disruptor, centrifuges, micropipettes, autoclaves, gel electrophoresis apparatus, plate washers, biocontainment hoods, fume hoods, etc.

Types of guidance available for problem solving:

Can reach out to co-workers, senior technologist and lab scientist for troubleshooting of equipment and results. They can also refer to Standard Operating Procedures (SOPs) and operating manuals for additional guidance.

Direct or indirect impacts of decisions:

Lab results generated by this position have significant economic impact within the Agricultural industry. Decision to euthanize large numbers of animals will be based in part on the outcomes of test results produced by this position. Borders between provinces could be closed to trade of livestock and their products based on lab results generated by this position. Incorrect results could cause a foodborne illness if the testing is not done correctly.

Key Relationships

Major stakeholders and purpose of interactions:

1. Animal Health and Assurance section in AFRED rely on lab results to treat various animal diseases.
2. Meat and Dairy Inspection Section in AFRED utilize lab results to support operators to maintain safe food practices and to ensure food is safe for human consumption.
3. National agencies like Canadian Food Inspection Agency (CFIA). Results are provided to this national agency to support animal disease outbreaks and food borne illnesses.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Diploma (2 year)	Science		

If other, specify:

Job-specific experience, technical competencies, certification and/or training:

Working knowledge of PCR, next-generation sequencing, bioinformatics analysis. Experience working in a biocontainment level 2 laboratory.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Creative Problem Solving	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Engages the community and resources at hand to address issues: <ul style="list-style-type: none"> • Engages perspective to seek root causes • Finds ways to improve complex systems • Employs resources from other areas to solve problems • Engages others and encourages debate and idea generation to solve problems while addressing risks 	Troubleshooting lab results. Position is expected to reach out to other co-workers within team and larger community within department.
Agility	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Works in a changing environment and takes initiative to change: <ul style="list-style-type: none"> • Takes opportunities to improve work processes • Anticipates and adjusts behaviour to change • Remains optimistic, calm and composed in stressful situations • Seeks advice and support to change 	The position has constantly changing testing priorities. The incumbent is expect to adjust quickly and anticipate up coming changes within a reasonable time frame.

		appropriately • Works creatively within guidelines	
Develop Self and Others	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Plans according to career goals and regular development: • Aligns personal goals with career goals • Leverages strengths; attempts stretch goals • Provides feedback and openly discusses team performance • Values team diversity, and supports personal development	Keeping current with the latest scientific evidence and testing methodologies is an important aspect of this role.
Build Collaborative Environments	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Works in an open honest manner with colleagues: • Creates sharing opportunities • Actively shares, accepts and listens to others • Recognizes conflict, respects and discusses opinions openly • Supports group even to learn from mistakes • Recognizes differing interpretations	Position is expected to work as a team to address lab testing workload. Be willing to take on additional duties to support other team members who are experiences heavier than normal workloads due to an outbreak.

Benchmarks

List 1-2 potential comparable Government of Alberta: [Benchmark](#)

Assign

The signatures below indicate that all parties have read and agree that the job description accurately reflects the work assigned and required in the organization.

	Date yyyy-mm-dd	
Supervisor / Manager Name	Date yyyy-mm-dd	Supervisor / Manager Signature
Director / Executive Director Name	Date yyyy-mm-dd	Director / Executive Director Signature