This manual is adapted from the *Ontario HACCP Advantage* manual and reflects the Manitoba government's regulations and standards.

For information:
Telephone – 204-945-7684 in Winnipeg
Email – foodsafety@gov.mb.ca
Website - manitoba.ca/agriculture/foodsafety

This manual provides a general overview of food safety best practices and reflects legislation and regulations that apply to food processing in Manitoba. The information is current as of the publication date – March 2015. The contents are for information only and are not intended to provide any legal, financial or professional advice or recommendations in any circumstances.

To ensure you understand your specific legal requirements, see the relevant legislation, which will apply in the event of any conflict between the contents of this manual and the legislation. To review the provincial legislation, go to: www.gov.mb.ca/laws. To review the federal legislation, go to: www. laws.justice.gc.ca.

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Table of Contents

Introduction

This is the Manitoba Hazard Analysis Critical Control Point (HACCP) Advantage manual version 2.0. It has been developed to be more comprehensive and includes several changes from the previous version including:

- an annual program review requirement
- a requirement for document control
- a requirement for internal auditing
- a requirement for verification
- reorganization to simplify and consolidate the requirements

This manual includes information that will help food processors create their individual, written, food safety programs.

Note: A glossary of terms used in this manual is on page 101.

There are several reasons for adopting HACCP.

1. **To improve food safety at your facility**
   - Adopting all or some of Manitoba HACCP Advantage should improve food safety at your facility.
2. **To answer customer questions about your food safety program**
   - Adopting some or all of Manitoba HACCP Advantage shows customers your commitment to improving food safety.
   - Adopting Manitoba HACCP Advantage means you have the procedures and records to demonstrate you have a food safety program.
3. **To respond to customer demands for HACCP programs**
   - Adopting Manitoba HACCP Advantage ensures you have a HACCP program.
   - Getting Manitoba HACCP Advantage recognition further shows you are committed to food safety.
4. **To respond to customer demands for a GMP/HACCP program audited/certified by a third party (ex: external, independent auditors)**
   - Adopting Manitoba HACCP Advantage means that you will have a good manufacturing practices (GMP) program (or prerequisite program) based on industry accepted practices which should meet third party requirements.
   - Adopting Manitoba HACCP Advantage means you have a HACCP program based on the international Codex principles which should meet the requirements of a third party, HACCP audit.

5. **To respond to customer demands for a specific HACCP program (ex: BRC, SQF, ISO 22000, Manitoba HACCP Advantage)**
   - Adopting Manitoba HACCP Advantage means you have a HACCP program based on the international Codex principles, which should meet the HACCP requirements in other programs. You may need to incorporate additional information to your Manitoba HACCP Advantage program to meet the specific requirements of a standard. For example, both BRC and SQF have additional requirements that are not included in the Manitoba HACCP Advantage.

6. **To prepare for customers who plan to audit your food safety (GMP/HACCP) program themselves**
   - Adopting Manitoba HACCP Advantage means you have a HACCP program based on the international Codex principles, which should meet any customer requirements for HACCP.

Manitoba HACCP Advantage has nine good manufacturing practices (GMP) programs:

1. Personnel
2. Receiving and Shipping
3. Handling and Storage
4. Sanitation
5. Preventive Maintenance and Calibration
6. Pest Control
7. Recall and Traceability
8. Water
9. Environment

GMPs are the activities in food processing facilities that improve food safety and control hazards associated with the production environment and personnel. You must have GMPs before HACCP plans. Other standards may refer to these as "prerequisite programs." GMPs (with the supporting programs) can function as standalone programs. Each GMP program may have more than one requirement. Each requirement requires you to develop part of your program by writing policies, procedures and/or records.

seven supporting programs:

10. Food Safety Management System
11. Program Review
12. Document Control
13. Personnel Training
14. Internal Auditing
15. Verification
16. Corrective Action

Implementing and maintaining an effective food safety system requires that the products and processes meet all regulatory requirements and the program is regularly reviewed and updated. Employees must be trained for their specific job functions. Documentation must be controlled and when problems occur corrective actions must be taken to prevent a risk to food safety. The purpose of the supporting programs is to ensure these activities are carried out.

and:

17. HACCP

The purpose of HACCP is to control food safety hazards associated with the food product or ingredients and the specific food manufacturing process. The HACCP requirements ensure that the HACCP program is scientifically based and effective.

Requirements

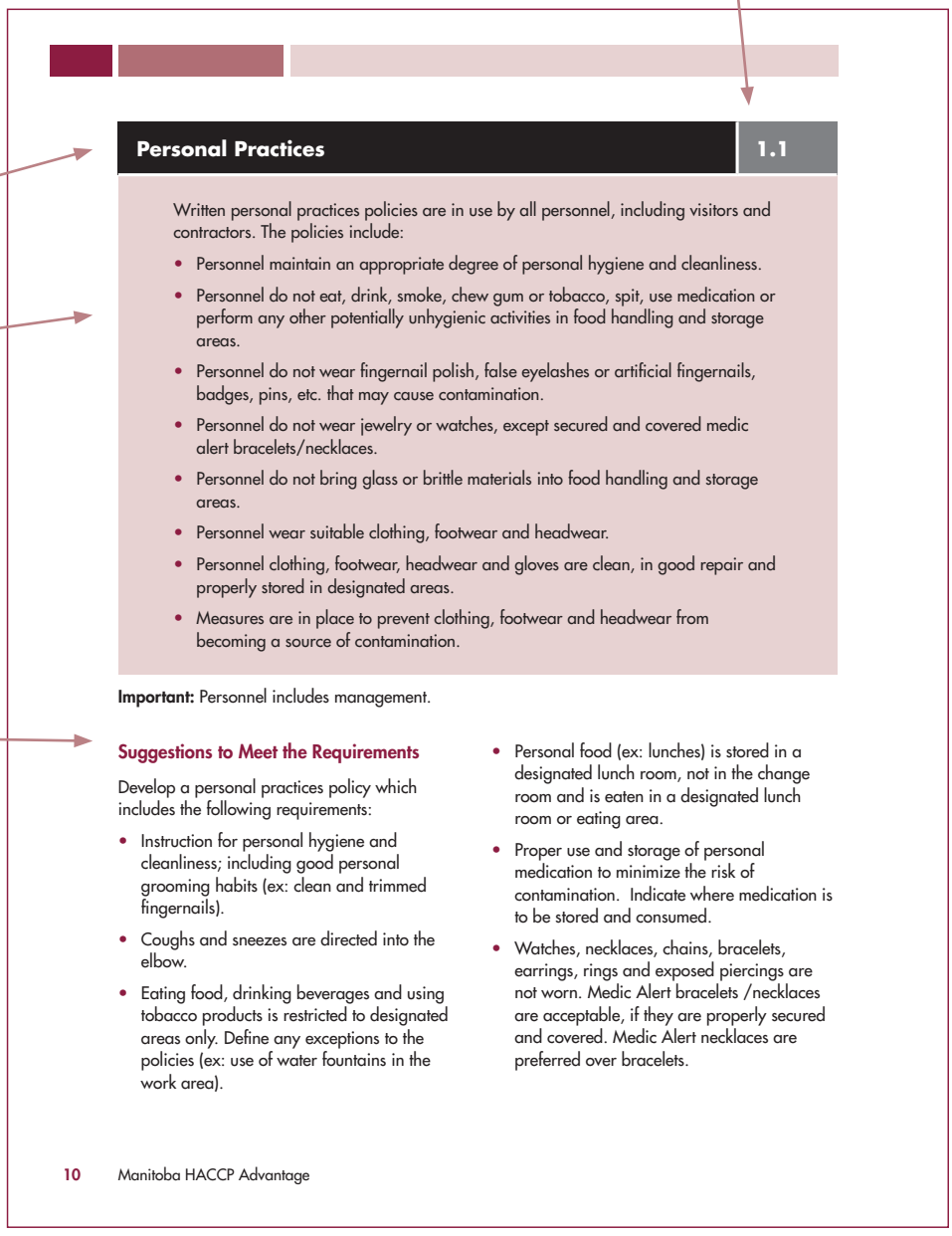
Each requirement has the following layout:

3. Requirement Identification: each requirement is identified by a number.

1. Title of the program.

2. Requirements: they are always in a rose box. You must meet all of the requirements listed.

4. Suggestions to meet the requirements: this area lists aspects to consider when developing your program and gives ideas for what to do to get started. You do not have to do everything listed in this area, and there may be other items, not listed here, that you will have to do to meet the requirements. However, you should pay close attention to these suggestions because they are generally what is needed to meet the requirements in the rose box.



Personal Practices 1.1

Written personal practices policies are in use by all personnel, including visitors and contractors. The policies include:

- Personnel maintain an appropriate degree of personal hygiene and cleanliness.
- Personnel do not eat, drink, smoke, chew gum or tobacco, spit, use medication or perform any other potentially unhygienic activities in food handling and storage areas.
- Personnel do not wear fingernail polish, false eyelashes or artificial fingernails, badges, pins, etc. that may cause contamination.
- Personnel do not wear jewelry or watches, except secured and covered medic alert bracelets/necklaces.
- Personnel do not bring glass or brittle materials into food handling and storage areas.
- Personnel wear suitable clothing, footwear and headwear.
- Personnel clothing, footwear, headwear and gloves are clean, in good repair and properly stored in designated areas.
- Measures are in place to prevent clothing, footwear and headwear from becoming a source of contamination.

Important: Personnel includes management.

Suggestions to Meet the Requirements

Develop a personal practices policy which includes the following requirements:

- Instruction for personal hygiene and cleanliness; including good personal grooming habits (ex: clean and trimmed fingernails).
- Coughs and sneezes are directed into the elbow.
- Eating food, drinking beverages and using tobacco products is restricted to designated areas only. Define any exceptions to the policies (ex: use of water fountains in the work area).
- Personal food (ex: lunches) is stored in a designated lunch room, not in the change room and is eaten in a designated lunch room or eating area.
- Proper use and storage of personal medication to minimize the risk of contamination. Indicate where medication is to be stored and consumed.
- Watches, necklaces, chains, bracelets, earrings, rings and exposed piercings are not worn. Medic Alert bracelets /necklaces are acceptable, if they are properly secured and covered. Medic Alert necklaces are preferred over bracelets.

10 Manitoba HACCP Advantage

Manitoba HACCP Advantage

Summary Table

Program	Requirements
1 Personnel	1.1 Personal Practices 1.2 Hand Washing Procedure 1.3 Utensils and Tools 1.4 Injuries and Illness 1.5 Access and Traffic Patterns
2 Receiving and Shipping	2.1 Receiving 2.2 Shipping
3 Handling and Storage	3.1 Handling and Storage 3.2 Control of Defective and Suspect Items 3.3 Allergen Control 3.4 Chemical Control 3.5 Waste Management
4 Sanitation	4.1 Cleaning and Sanitizing 4.2 Pre-Operational Inspection
5 Preventive Maintenance and Calibration	5.1 Preventive Maintenance and Calibration
6 Pest Control	6.1 Pest Control
7 Recall and Traceability	7.1 Product Labelling 7.2 Recall 7.3 Traceability 7.4 Mock Recalls
8 Water Safety and Supply	8.1 Water Treatment 8.2 Water Testing 8.3 Water Supply
9 Environment	9.1 Exterior 9.2 Interior 9.3 Personnel Facilities 9.4 Equipment 9.5 Ventilation 9.6 Sewage and Liquid Waste 9.7 Glass and Brittle Material

10 Food Safety Management System	10.1 Food Safety Management System
11 Program Review	11.1 Program Review
12 Document Control	12.1 Document Control
13 Personnel Training	13.1 Personnel Training
14 Internal Auditing	14.1 Internal Auditing
15 Verification	15.1 Verification
16 Corrective Action	16.1 Corrective Action
17 Manitoba HACCP Advantage	17.1 HACCP

GMP Programs

Supporting Programs

HACCP

1 Personnel

The importance of having a personnel program

The facility's personnel, visitors and contractors are a common source of biological, chemical or physical contamination. They can affect food, ingredients, packaging materials, processing aids and food contact surfaces and play a major role in the production of safe food.

The potential for contamination is greatly increased if activities such as eating, drinking, chewing gum or tobacco, wearing jewelry, spitting or working while sick are practiced in food handling areas. Hazards in food products can lead to consumer complaints, injuries, illness or death. Personnel who do not maintain an appropriate degree of personal cleanliness can also contaminate food.

Cross-contamination with micro-organisms or allergens is commonly due to direct or indirect transfer from people. They can affect food, ingredients, packaging materials, processing aids or food contact surfaces. Cross-contamination can come from unhygienic clothes or footwear (ex: soiled clothes) and improperly stored and handled clothes, utensils and equipment (ex: soiled clothes left on food contact surfaces, use of contaminated utensils).

Personnel, visitors and contractors can be a source of cross-contamination if they don't follow designated traffic patterns (ex: employees who handle raw products enter ready-to-eat product areas).

Proper and frequent hand washing helps reduce the potential for bacterial contamination. Since allergens can also be carried on the hands of food handlers, proper hand washing procedures must be followed after handling products that contain allergens.

Open cuts and wounds that are not properly bandaged and covered can be a source of biological contaminants (ex: *Staphylococcus aureus*). Personnel suffering from diseases that are transmissible through food (ex: *Salmonella*, Hepatitis A) can contaminate food, ingredients, packaging materials, processing aids and food contact surfaces and ultimately infect the consumer.

Your written personnel practices program will include policies to reduce potential hazards and minimize contamination risks. These written policies should be posted in an obvious, visible place such as notice boards, above sinks and in washrooms.

Personal Practices 1.1

Written personal practices policies are in use by all personnel, including visitors and contractors. The policies include:

- Personnel maintain an appropriate degree of personal hygiene and cleanliness.
- Personnel do not eat, drink, smoke, chew gum or tobacco, spit, use medication or perform any other potentially unhygienic activities in food handling and storage areas.
- Personnel do not wear fingernail polish, false eyelashes or artificial fingernails, badges, pins, etc. that may cause contamination.
- Personnel do not wear jewelry or watches, except secured and covered medic alert bracelets/necklaces.
- Personnel do not bring glass or brittle materials into food handling and storage areas.
- Personnel wear suitable clothing, footwear and headwear.
- Personnel clothing, footwear, headwear and gloves are clean, in good repair and properly stored in designated areas.
- Measures are in place to prevent clothing, footwear and headwear from becoming a source of contamination.

Important: Personnel includes management.

Suggestions to Meet the Requirements

Develop a personal practices policy which includes the following requirements:

- Instruction for personal hygiene and cleanliness; including good personal grooming habits (ex: clean and trimmed fingernails).
- Coughs and sneezes are directed into the elbow.
- Eating food, drinking beverages and using tobacco products is restricted to designated areas only. Define any exceptions to the policies (ex: use of water fountains in the work area).
- Personal food (ex: lunches) is stored in a designated lunch room, not in the change room and is eaten in a designated lunch room or eating area.
- Proper use and storage of personal medication to minimize the risk of contamination. Indicate where medication is to be stored and consumed.
- Watches, necklaces, chains, bracelets, earrings, rings and exposed piercings are not worn. Medic Alert bracelets /necklaces are acceptable, if they are properly secured and covered. Medic Alert necklaces are preferred over bracelets.

- Glass and brittle materials (ex: coffee cups) are not brought into the food processing area. Define any exceptions (ex: eye glasses). Note: Non-personal glass and brittle material is covered in requirement 9.7 GLASS AND BRITTLE MATERIAL.
- Personnel follow these procedures for their clothing (ex: coats, smocks, aprons, gloves), footwear and headwear (ex: hair nets, helmets, face coverings):
  - Personnel clothing covers and contains all street clothes which may contaminate food, is designed to prevent contamination and is durable and cleanable or is single-use.
  - Personnel clothing, footwear and headwear are kept clean (or changed if they become soiled) and in good repair (no holes, rips, loose threads, etc.). It is recommended that clothing is light coloured to show soil easily and that there are no external pockets above the waist and no sewn on buttons.
  - In incompatible processing areas, it is best to have distinctive colour-coded clothing based on food safety risk (ex: incompatible processing areas – raw or cooked; allergen preparation).
    - Distinctive clothing may include outer garments, headwear or footwear. Indicate if this clothing must be worn when entering and removed when leaving the incompatible area and where to properly store the clothing.
  - Personnel clothing, footwear and headwear is stored in designated areas, separately from street clothes and other personal items. Designated storage areas include lockers, racks, hooks, etc.
  - Personnel clothing that is designated for food handling and storage areas is removed before entering washrooms, lunchroom, outside, smoking areas, etc.
  - Items such as pens, stopwatches and thermometers are carried in pockets or pouches below the waist in production areas.
  - If gloves are used, they are suitable for food use. Where possible, use a distinctive colour (ex: blue).
    - gloves are intact, do not shed loose fibres and are replaced regularly (ex: upon re-entry into the processing area; when soiled or damaged)
  - When wearing gloves, maintain proper hand-washing practices.
  - Include head, beard or moustache covers. Personnel wear hair restraints to fully contain hair. Define any exceptions to the policy.
  - If footbath sanitizing stations are used to sanitize footwear, include when they should be used.
- Personnel keep their individual work areas tidy and free from clutter.
- Visitors and contractors are required to read and follow all personnel policies set by the company (ex: clothing, hairnet, gloves, hand washing, illness, traffic patterns).
- Visitors sign a visitors' log and have a designated facility escort with them at all times.
- Depending on the product produced (ex: nut-free), it may be best to have a policy which prohibits bringing nuts or products containing nuts into the facility (ex: in employee lunches, vending machines).

Hand Washing Procedure 1.2

Written hand washing policies are in use by all personnel, including visitors and contractors. The policies ensure:

- Personnel wash their hands whenever entering food processing and handling areas, following breaks or use of the washroom or other personnel facilities and following any actions that may contaminate their hands.
- Hand washing is performed properly with potable water, soap from a dispenser and sanitary hand drying.

Suggestions to Meet the Requirements

Develop a hand washing policy which includes instructions on when and how to wash hands.

- **When** – Personnel wash hands following any action that may contaminate hands (ex: entering food processing and handling areas, before putting on gloves, between handling different allergens, after handling dirty or contaminated material or equipment, blowing nose).
- **How** – Steps for proper hand washing include:
  - Pre-rinse hands with warm clean water.
  - Apply soap.
  - Rub hands, fingers, nails and wrists to form a lather for a minimum of 20 seconds.
  - Rinse hands with warm clean water.
  - Dry hands hygienically (ex: disposable paper towel).
  - If there is not an automatic tap, use the paper towel to turn the tap off.
  - Use the paper towel to open the bathroom or station door.
  - Throw paper towel in a designated waste bin.
- Waste containers with lids are designed so that it is not necessary to touch the lid to throw away paper towel.
- Hand sanitizer does not replace proper hand washing. It is used after proper hand washing.
- If gloves are used, personnel wash hands before putting on the gloves and maintain proper hand washing procedures throughout the production day. If applicable, gloves are washed following hand washing procedures.
- Post signs above hand wash stations and at entry ways into product handling areas instructing people to wash their hands.
- If hand sanitizing stations or dips are used to sanitize hands and gloves, include how and when to use them.

Utensils and Tools 1.3

Written policies for proper storage and handling of utensils and tools to prevent cross-contamination are in use by all personnel, including contractors.

Suggestions to Meet the Requirements

Develop a policy that outlines proper handling of utensils and tools, so they aren't taken into incompatible areas of the facility where could cross-contaminate (ex: raw or cooked areas; lunch room, storage; outside allergen preparation).

- Clearly mark utensils and tools (ex: colour coded or labeled) for their specific use or area of use. For example, colour coding broom handles (ex: red handle broom in raw area and blue in cooked area) helps identify raw product utensils versus cooked product utensils.
- For facilities that handle allergens, include methods to control and prevent cross-contamination. For example, assign separate utensils, scoops and ingredient containers. Note: Allergen control is covered in section 3.3 ALLERGEN CONTROL.
- Maintenance tools may also be colour coded or labeled.
- Post signs or pictures of utensils showing proper use, storage and handling.
- Personnel should not set utensils down where they have the potential to fall into product. They should not place them on the floor, or against any surface that could be a source of cross-contamination.
- Do not use snap-off blades in food processing or handling areas because they can physically contaminate the product.
- Maintenance personnel should not place their tools, parts, etc. on or near food contact surfaces.

Develop a policy for storing utensils in designated areas that will prevent cross-contamination.

- Provide designated storage areas for utensils (ex: cabinets, labeled racks, shelves, hooks). They must be stored in a sanitary environment where they will not become contaminated by processing or cleaning activities before their next use.
- Ensure clean utensils are not stored with dirty utensils.

Injuries and Illness 1.4

Written injury and illness policies are in use by all personnel, including visitors and contractors, to prevent or minimize the contamination of food, ingredients, processing aids, packaging materials and food contact surfaces. The policies include:

- Personnel who have open cuts do not handle exposed food, ingredients, processing aids, packaging materials or food contact surfaces, unless measures are taken to prevent direct or indirect contamination of food.
- Personnel who are suffering from, show symptoms of, or are known to be carriers of, an illness transmissible through food, must report to management immediately.
- Personnel who have an illness transmissible through food do not handle or work near food, ingredients, processing aids, packaging materials or food contact surfaces.

Suggestions to Meet the Requirements

Develop a policy for personnel to report all injuries sustained in the workplace to the designated person. The designated person should provide appropriate first aid and application of protective bandages if needed. Injuries sustained outside the workplace, which may compromise food safety, are also to be reported so appropriate protective bandages or covering can be applied.

- All cuts and grazes on hands need to be covered by a company-issued waterproof bandage that is a different colour than the product (ex: blue). It is advisable to provide a detectable metal strip bandage when metal detection is in use.
- In addition to bandages, cover all injuries on hands with company-issued gloves.
- Bandages need to be changed at a frequency that allows for continual protection (ex: covering remains effective).

Develop a policy to follow if food, ingredients, processing aids, packaging material or food contact surfaces are contaminated from an illness or injury during work (ex: vomiting, saliva, blood). The instructions include:

- Stop the production line if food, ingredients, processing aids, packaging materials or food contact surfaces may be affected.
- Conduct a food safety assessment to determine the disposition of potentially affected product and/or packaging (See *Manitoba HACCP Advantage Guidebook*).
- Clean and sanitize the area and all food contact surfaces.
- Document the incident (ex: injury incident record, food safety assessment).

Injuries and Illness 1.4

Develop a policy for personnel who are ill, or are suffering from, show symptoms of, or are known to be carriers of, an illness transmissible through food.

- Personnel report to their supervisors when they have symptoms of illnesses transmissible through food. Because this may not always happen, supervisors need to familiarize themselves with the symptoms of infectious diseases so they can recognize them and reassign ill employees to non-food handling areas.
- Symptoms of transmissible illnesses include: frequent trips to the washroom, jaundice, diarrhea, vomiting, fever, visibly infected skin lesions (ex: boils, cuts) and discharges from the ear, eye or nose.
- Food handlers showing symptoms of an infectious illness or diarrhea must be excluded from duties that involve direct or indirect contact with food, ingredients, processing aids, packaging materials or food contact surfaces.
- Personnel experiencing coughing and sneezing must not directly handle or work around food, ingredients, processing aids, packaging material or food contact surfaces. They should report their condition to the designated person so that alternate arrangements for work duties can be made.
- If an employee is diagnosed with a transmissible disease, a doctor's note may be required before permitting them to return to work.

Access and Traffic Patterns 1.5

Written policies are in use in the facility to control access and movement of personnel, including visitors and contractors, to prevent or minimize contamination of food, ingredients, processing aids, packaging materials and food contact surfaces. The policies include:

- Designated traffic patterns are set for personnel to follow.
- Access to the facility is controlled and limited to authorized personnel only.

Suggestions to Meet the Requirements

Develop a policy for designated traffic patterns (movement of personnel, visitors and contractors) to reduce the potential for cross-contamination (ex: personnel handling raw products do not enter ready-to-eat product areas).

- Areas of contamination can be identified by developing a facility schematic which indicates traffic flow of personnel.
- Personnel are restricted to the immediate area of their workstations. Access to their workstations is as direct as possible, avoiding travel through other processing areas. For example, personnel working in raw areas do not travel through cooked areas to get to their working stations.
- Designated traffic patterns can be identified using markings on the floor, signs, physical partitions or the facility schematic.
- Restrict truck drivers to the receiving and shipping areas.
- If a facility handles allergens, develop procedures to control personnel traffic patterns. The patterns must ensure allergens are not tracked accidentally into areas where non-allergen products and ingredients are handled, processed or stored.
- Use signs to indicate access. Colour coded uniforms or markings on uniforms (coloured collar, sticker on helmet, etc.) are helpful to identify employees/visitors/contractors that may be in the wrong processing area.
- Visitors and contractors must follow the designated traffic patterns.

The 9.2 INTERIOR requirements address physical and operational control of cross-contamination.

Develop procedures for access to the facility so admission is limited to authorized personnel and controlled visitors.

- To minimize the risk of accidental or deliberate contamination of food, ingredients, processing aids, packaging materials and food contact surfaces, control entry into the facility during both working and non-working hours.
- The policy includes where employees, visitors, contractors, pest control operators, and drivers are permitted to enter the facility. Post signs at points of entry where applicable.
- All visitors should sign in and out of the facility. They should enter and exit through the designated entrance points and should be accompanied while in the facility.

2 Receiving and Shipping

The importance of receiving and shipping programs

Food safety starts before food, ingredients, processing aids and packaging materials enter the facility and continues after the finished product leaves the facility. Contamination can occur during transportation, if the vehicle is not suitable for transporting food, is not clean, kept in good repair or kept at the proper temperature. Vehicles can also cause physical contamination of products and food contact materials from dust and foreign material, chemical contamination from previous loads or biological contamination from improperly cleaned areas that can cause microbial growth.

Receiving and shipping programs ensure the correct food, ingredients, processing aids and packaging materials arrive and leave in clean vehicles, suitable to transport food, at the proper temperature, undamaged and uncontaminated.

Product that has been returned should be fully controlled because it could have been subject to temperature abuse, poor storage conditions or have been altered and could be contaminated. A receiving and shipping program includes specific instructions for receiving, identifying and controlling returned items.

If the facility has products that contain allergens, specific instructions for receiving the allergens must be set to ensure non-allergen products are not contaminated.

Receiving 2.1

Written receiving procedures and corresponding records are in use for incoming food, ingredients, processing aids, packaging materials and returned product. The procedures include instructions for:

- inspecting transport vehicles for:
  - cleanliness, evidence of pests and in good repair
  - separation of incompatible materials to prevent cross-contamination
  - suitability to transport food
- inspecting incoming food, ingredients, processing aids and packaging materials for:
  - signs of spoilage, damage, contamination
  - appropriate temperature and temperature abuse
- approving suppliers
- ensuring the correct delivery from approved supplier and supporting documents
- unloading to ensure contents are not damaged or contaminated
- receiving incompatible materials separately to prevent cross contamination
- ensuring packaging materials are food grade

Suggestions to Meet the Requirements

Develop receiving procedures.

- Ensure that transport vehicles are in good repair (ex: do not have foul odours, condensation, mould, rust, flaking paint, or damaged floors, walls or ceilings).
- Wash tickets may be requested for vehicles, if appropriate.
- The temperature of the transport vehicle is taken if the product requires refrigeration (4°C (39°F) or less).
  - To get an accurate temperature of the load, take product temperatures throughout the truck (ex: back, middle and front; record separately, do not average the readings).
- Incoming food that is frozen must not show any evidence of thawing.
- Food, ingredients, processing aids and packaging materials must be physically separated on transport vehicles from incompatible items such as allergens and returned products. Raw and cooked food must be also separated.
- Allergens must not be stacked on top of food, ingredients, processing aids or packaging material. Note: for allergen control details, see requirement 3.3 ALLERGEN CONTROL.
- Clearly mark returned product and separate on the transport vehicle as well as on the receiving dock.

Receiving 2.1

- Skids of incompatible materials must not touch each other.
- Physically separate chemicals from food, ingredients, processing aids, and packaging materials on the same transport vehicle.
- Inspect food, ingredients, processing aids and packaging materials:
  - to ensure the expiration date or the best before date has not passed
  - for signs of spoilage (ex: off odours, off colours, mould)
  - for signs of contamination (ex: spills, drips, pest droppings, metal, glass)
  - for signs of damage to packaging (ex: ripped, cut, pierced)
  - for signs of temperature abuse (ex: crystallization, leaking)
- Receive loads of incompatible materials separately. This can be done by receiving at different times or at different doors. Note: for details on chemical receiving see requirement 3.4 CHEMICAL CONTROL.
- Use food grade packaging material approved by a government agency such as the Canadian Food Inspection Agency (CFIA), Health Canada, the United States Food and Drug Administration (FDA) or the Food Standards Agency (EU).

Requirements 3.3 ALLERGEN CONTROL and 3.4 CHEMICAL CONTROL should be reviewed and details on receiving may be included with the procedures developed here.

Develop corresponding receiving records.

Develop instructions for approving food, ingredient, processing aid, packaging material and chemical suppliers. Methods for approving suppliers may include audits of their facility, food safety questionnaires or proof of an implemented food safety program.

- A list of approved suppliers should be accessible to receiving personnel (ex: posted in the receiving office).
- Incoming loads may also require supporting documents (ex: certificates of analysis, letters of guarantee) to ensure incoming materials are free from unacceptable levels of micro-organisms, pesticides, veterinary drugs, toxic substances and extraneous matter.

Shipping 2.2

Written shipping procedures and corresponding records are in use for all outgoing product. The procedures include instructions for:

- inspecting transport vehicles for:
  - cleanliness, evidence of pests and in good repair
  - appropriate temperature
  - suitability to transport food
- inspecting finished product prior to loading for:
  - signs of spoilage, damage, contamination
  - appropriate temperature
- loading to ensure:
  - product is not damaged or contaminated
  - the load is secure for transport
  - the load matches the purchase order
  - separation of incompatible materials to prevent cross contamination

Suggestions to Meet the Requirements

Develop shipping procedures.

- Ensure that transport vehicles are in good repair (ex: do not have foul odours, condensation, mould, rust, flaking paint, or damaged floors, walls or ceilings).
- Wash tickets may be requested for vehicles, if appropriate.
- If the product being shipped requires refrigeration (4°C (39°F) or less) or to be kept frozen, ensure the transport vehicle and outgoing product are both at the appropriate temperature.
- Take the temperature of the product and vehicle immediately before loading and at different parts of the transport vehicle.
- Inspect outgoing product for:
  - damage, if the packaging that is in direct contact with the product is damaged (ex: ripped, cut, pierced)
  - signs of contamination (ex: spills, drips)
- Develop loading practices that prevent damage to skids and packaged products.
- Inspect the load to ensure:
  - it is secure, to prevent shifting or damage during transport
  - the load matches the purchase order
  - incompatible products are physically separated (ex: allergen and non-allergen; and raw and cooked)
  - products containing allergens are not stacked on top of non-allergen products
  - skids of incompatible materials do not touch

Develop corresponding shipping records

3 Handling and Storage

The importance of handling and storage programs

A handling and storage program helps ensure that all food, ingredients, processing aids, rework and packaging materials are handled and stored to prevent damage or contamination. A sound handling program also ensures that chemicals, allergens, waste and defective product are handled and stored to prevent cross-contamination with food, ingredients, processing aids and packaging materials.

Handling and storage within the facility should be specific for the operation and product. Ingredients and products that need to be refrigerated or frozen must be stored at the appropriate temperatures. Product, ingredients and packaging materials in storage need to be properly rotated to ensure they are used before their expiry dates.

If your facility has products that contain allergens, specific instructions for transporting through the facility, storing, dispensing and handling the allergens need to be developed to ensure that non-allergen product is not contaminated.

Many types of chemicals are used in food processing facilities. Some chemicals are approved for use in a food facility, while others are limited strictly for use outside the facility, for non-food contact surfaces or for maintenance. Chemicals need to be fully controlled at all times – during receiving, transport within the facility, storage, dispensing and use.

Waste needs to be handled and stored properly so it doesn't contaminate food, ingredients, processing aids, packaging materials or food contact surfaces. Areas of the facility where waste is stored need to be clearly identified, secured and kept sanitary.

Finished products, ingredients, processing aids and packaging materials that are defective or are suspected of being defective, need to be fully controlled. A handling program includes procedures to assess the disposition and steps to control defective and suspect food, ingredients, processing aids and packaging materials. The procedure for this product developed in the handling program is used throughout the entire food safety program.

Handling and Storage 3.1

Written handling and storage procedures and corresponding records are in use for all food, ingredients, processing aids and packaging materials. The procedures include:

- preventing cross-contamination and damage during storage, handling and movement through the facility
- storing food, ingredients, processing aids and packaging material and their containers off the floor and away from walls
- rotating storage based on first-in-first-out (FIFO or equivalent)
- keeping a current inventory of all finished product
- maintaining appropriate room temperatures to minimize microbiological growth

Suggestions to Meet the Requirements

Develop a handling procedure.

- Securely cover food, ingredients, processing aids and packaging material when stored or moved through the facility, to prevent cross-contamination.
- Designate areas of the processing facility for storing and handling dry, refrigerated or frozen items.
- Do not store food, ingredients, processing aids and packaging material in processing areas. Only packaging material currently being used can be put in processing areas and removed before cleaning and sanitizing starts.
- Refrigeration must be capable of maintaining appropriate temperatures to prevent microbiological growth when the area is at the maximum anticipated capacity.
- Maintain areas where food and ingredients that are not shelf-stable are processed, packaged or handled at 10°C (50°F) or lower.
- Maintain areas where food and ingredients that are not shelf-stable (require refrigeration) are stored at 4°C (39°F) or lower.
- Maintain freezer temperatures at -18°C (0°F) or lower.
- When choosing and installing refrigeration equipment, make sure it meets the equipment requirements. Note: for equipment details, see requirement 9.4 EQUIPMENT.
- Include specific instructions for checking and ensuring acceptable temperatures for each area of the facility.
- Ensure refrigerated or frozen food and ingredients go directly to the designated refrigerator or freezer.
- Ensure ingredients that do not require refrigeration go directly to the designated dry storage.
- Develop handling instructions for food, ingredients, processing aids and packaging materials that have fallen on the floor or have been otherwise contaminated.

Handling and Storage 3.1

- Develop instructions for handling and storing products to be reworked.
- Keep food, ingredients, processing aids and packaging material on a skid, rack or piece of equipment (ex: table, cart) to prevent them from touching the floor.
- Store all skids, racks and equipment away from walls, to prevent pests and allow access to inspect for contamination and damage.
- Distance from walls should easily permit a person to sweep and visually inspect the entire length of the storage area.
- Food, ingredient, processing aid and packaging material rotation should be first-in-first-out (FIFO) or the equivalent (ex: expiration date, date received).

Develop a procedure and records to control inventory of all finished product. Inventory records will be used during mock recalls or in the event of an actual recall.

Note: For details on recall procedures, see requirement 7.2 RECALL.

Control of Defective and Suspect Items 3.2

Written procedures and corresponding records for handling and storage of defective and suspect items (food, ingredients, processing aids and packaging materials) are in use. The procedures include:

- instructions for identifying, controlling, storing and determining disposition of defective and suspect items

Suggestions to Meet the Requirements

Develop a procedure for identifying defective and suspect food, ingredients, processing aids and packaging. The procedure needs to ensure affected items are clearly identified and isolated before their disposition is decided on. The control of defective and suspect items procedure is often called a "Hold Procedure."

- Identify and isolate the affected items by: signs, labels, caution tape; physical codes with markers and/or physically locked up.
- Control the items once they are isolated to prevent accidental re-use or re-shipment. This can be done by log records or electronically by bar coding technology.
- Depending on the facility size and design, have a designated area for defective and suspect items.
- The facility's food safety co-ordinator or designate, conducts an appropriate examination or evaluation to determine disposition. This examination or evaluation is called the food safety assessment procedure.
- Based on the food safety assessment, the disposition of the affected items can be decided (ex: released to production, re-worked, disposed of).
- Include instructions for releasing, reworking and disposing of affected items (ex: who is responsible, where to record results).

Allergen Control 3.3

Written allergen control procedures and corresponding records are in use, to ensure allergens are clearly identified and controlled. The procedures include:

- instructions to prevent cross-contamination through personnel, sanitation, handling, (transporting, processing and storing), rework and receiving and shipping
- a list of all allergens and products containing allergens is maintained

Suggestions to Meet the Requirements

List all allergens present in the facility and which food, ingredients, processing aids and finished products contain the allergens, to ensure they are fully controlled. CFIA recognized allergens are: eggs, seafood (fish, shellfish and crustaceans), dairy, peanuts, sesame seeds, soy, sulphites, tree nuts (almonds, brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachios, walnuts), wheat and mustard.

- Refer to Health Canada's website (www.hc-sc.gc.ca) to confirm the list of priority allergens when developing and reviewing allergen control procedures.
- Ensure there is a clear understanding of the ingredients, their sub-ingredients (allergens may be a component of ingredients used) and processing aids. Allergen information can be found on product specifications and ingredient labels.
- If exporting products, confirm the requirements of the importing country for labelling allergens. Different countries may have included other allergens as priority (ex: coconut is considered a tree nut in the United States).
- Ensure there is a clear understanding of the allergen flow through the facility (receiving, handling, storage and processing) and the potential points of cross-contamination. This can be done by creating a facility schematic or blueprint with all allergen and non-allergen product flow and personnel traffic patterns.
- Consider separating production of allergen-containing products by room or by production line. If this is not possible, then separate the production of allergen-containing product by time, (ex: schedule production of allergen containing product at the end of the production day, followed by rigorous cleaning and sanitizing).
- Have designated storage areas, bins and utensils for allergen containing products.

Allergen Control 3.3

The following control suggestions can be combined with procedures and records developed in personnel, receiving and shipping, handling and sanitation programs. Allergen controls are included here to emphasize their importance and the need for special consideration.

Develop allergen control procedures for all personnel and specifically personnel who handle allergens.

- Identify uniforms for personnel who handle allergens directly. They are often assigned separate uniforms to clearly identify their job function. Employees can be identified by a different colour smock, helmet, sticker on the helmet, etc.
- Use colour coded bins, utensils and equipment for handling allergens.
- Designate traffic patterns to ensure allergens are not tracked into areas where non-allergen products are processed or stored.

Develop receiving and shipping procedures to ensure allergens are controlled at receiving and shipping.

- When receiving allergens, thoroughly inspect the packaging to ensure it is not damaged.
- Place colour coded labels on packaged allergens during receiving to ensure they are sent to their specific storage areas.
- In the procedure for approving suppliers and ingredients (Requirement 2.1 RECEIVING), include measures to identify items that contain allergens and ensure they have not come into contact with other allergens.
- Include questions about allergen controls in a supplier food safety questionnaire or ensure that the supplier's third party food safety audits require allergen controls.

Develop handling procedures to ensure allergens are controlled throughout the process and the facility.

- Allergens should have a designated storage area or room. If allergens need to be stored in the same room, ensure they are not close to or above non-allergen products.
- Products for reworking need to be included in the allergen handling procedure. Ensure that allergens to be reworked are only reworked into product containing the same allergen.
- Include instructions for transporting allergens safely throughout the facility (ex: bins with lids, labels, specific pathways).
- Include instructions for allergen clean up in case of spills during transport through the facility, in storage or in processing areas.
- Include instructions for handling allergens during production (ex: weighing).

Develop rigorous sanitation and inspection procedures to ensure that allergens and their residues do not remain on production lines before non-allergen containing product is processed.

Chemical Control 3.4

Written chemical control procedures are in use for all chemicals in the facility. The procedures include:

- receiving and handling chemicals to prevent cross-contamination
- ensuring chemicals for use in food processing, handling and storage areas are acceptable for use in a food facility and are stored separately from other chemicals
- storing chemicals in a designated area
- mixing and using chemicals according to the manufacturer's instructions

Suggestions to Meet the Requirements

Develop receiving instructions for chemicals. These can be combined with procedures developed under requirement 2.1 RECEIVING.

- Receive chemicals at separate location or at a separate time from food, ingredients, processing aids and packaging materials.
- Only receive chemicals if they are on the facility's list of acceptable chemicals.
- A list of all suppliers and chemicals supplied to the facility should be available to the receiving personnel to cross reference at the time of receipt.

Develop a procedure for handling, storing and transporting chemicals throughout the facility.

- Mix or dispense and use all chemicals according to the manufacturer's instructions.
- Store chemicals in a separate location from food, ingredients, processing aids and packaging materials.
- Store chemicals that are permitted for use in food processing, handling and storage areas separately from chemicals that are prohibited in food processing, handling and storage areas.
- Clearly label chemicals dispensed into smaller containers with chemical names and concentration.
- In addition to the chemical name, it is best to have a labelling system that is easily recognizable at a glance. Labelling differentiates between chemicals permitted in processing areas and on food contact surfaces and those that are not (ex: maintenance chemicals are labelled red; food processing room chemicals are labelled green).
- Include measures to ensure that chemicals used in food handling areas do not contaminate food, ingredients, processing aids, packaging materials or food contact surfaces (ex: chemicals used for sanitation or maintenance).
- When transporting chemicals throughout the facility, chemicals must be labelled, stored in sealed containers and follow specific pathways to storage areas.

Chemical Control 3.4

- Ensure all operational, sanitation, pest control, maintenance and water treatment chemicals permitted in food processing, handling and storage areas are acceptable for use in a food facility.
- Examples of common chemicals included on the acceptable list are:
  - inks, glues, hand soap (operational), detergents, degreasers, sanitizers (sanitation), boiler chemicals, lubricants, hydraulic oil (maintenance), disinfectants, softeners, boiler chemicals (water treatment)
- Chemicals not on the acceptable list should be stored separately from approved chemicals. Examples of common chemicals not included on the acceptable list and not allowed into processing areas are:
  - outdoor salt, oils, lubricants for trucks, gasoline, oxygen, Freon, acetylene, propane, solvents, paint
- Follow Work Place Hazardous Materials Information System (WHIMIS) principles when handling chemicals or other hazardous materials.

Waste Management 3.5

Written waste management procedures are in use for identifying, handling, storing and removing waste.

Suggestions to Meet the Requirements

Ensure you have a clear understanding of the location and flow of waste throughout the facility and potential points of cross-contamination. This is often accomplished by creating a facility schematic or blueprint with all waste receptacle locations, their flow through the facility and storage locations.

- Clearly identify waste receptacles. This can be accomplished by colour coding or labelling the bins. It is best to do both.
- Ensure waste receptacles:
  - are large enough to handle the amount of waste produced and are emptied every shift or more often, to prevent overflow
  - prevent cross-contamination by using waste receptacles employees do not have to touch to discard waste (ex: bins that are foot-operated or do not have lids)
  - are emptied at minimum once every production day or more frequently as required (ex: if there are multiple shifts or if they are full)
  - are included as equipment that needs to be cleaned on the sanitation schedule – see requirement 4.1 CLEANING AND SANITIZING

Develop a policy for handling and storing waste to prevent cross-contamination.

- Empty waste receptacles during breaks or at the end of processing.
- Ensure measures must be used to protect product while waste is being removed (ex: cover product, remove product from the area, keep waste away from product and food contact surfaces).
- Carefully plan the route used to transport to prevent cross-contamination.
- Use designated utensils for handling waste. These are often the same colour as the waste receptacles. For details, see requirement 1.3 UTENSILS AND TOOLS.
- Outline instructions for when to change uniform and wash hands (following handling of waste).
- Store waste separately from all processing, handling and storage areas where daily waste collection is not provided.
- Waste storage areas must be a proper size to handle the amount of waste produced.
- Equip indoor waste storage areas to prevent odours or fumes leaking from the waste storage area. For details on ventilation, see requirement 9.5 VENTILATION.
- Locate and secure outdoor waste storage areas to avoid attracting pests and prevent cross-contamination.
- Store waste outside in sealed, clearly identified containers that are designed for effective cleaning.
- Remove waste as often as necessary to maintain a sanitary condition.

4 Sanitation

The importance of a sanitation program

Sanitation plays a major role in producing safe food. Effective sanitation ensures that soil is removed from equipment and surfaces to prevent contamination. There are many sources of contamination, including residue from food, dirt and chemicals. Contamination can also be caused by allergens that are not effectively cleaned from food contact surfaces. Sanitation programs should clearly address all areas of the facility that receive, store, process or pack food, ingredients, processing aids or packaging materials.

Personnel who do not follow sanitation procedures can cause contamination. Developing a sanitation program and effectively training sanitation employees can reduce potential hazards and minimize contamination risks.

Note: Cleaning and sanitizing are different.

Cleaning is the removal of unwanted material (or soil) from production equipment and areas. Removing leftover particles eliminates many microbes, their food sources and other physical debris that can contaminate future batches of food. Appropriate cleaning solutions may be applied manually or mechanically to stationary equipment (clean-in-place) or to equipment that can be taken apart (clean-out-of-place).

Sanitizing is the treatment of a clean surface with a chemical (ex: chlorine) or physical agent (ex: heat). Sanitizing reduces micro-organisms that can cause disease and spoilage to acceptable public health standards.

Sanitation chemicals can cause contamination if they are not used according to the manufacturer's instructions. Overspray from cleaning and sanitizing activities during operations can contaminate product. Chemical hazards can result if chemical concentrations are too high. Biological hazards can result if chemical concentrations are too low and bacteria are not effectively removed.

A pre-operational inspection is performed before operations begin, to make sure that the facility and equipment is visibly clean. This inspection may also include tests to determine if cleaning and sanitizing was effective in removing contaminants (ex: swabbing, ATP tests).

A written sanitation program includes sanitation standard operating procedures (SSOPs) for every piece of equipment and area in the facility that could affect food safety.

Cleaning and Sanitizing 4.1

Written cleaning and sanitizing procedures and corresponding records are in use for rooms, equipment, utensils, drains, overhead fixtures and transportation vehicles (where appropriate) that may impact food safety. The procedures include instructions for:

- disassembling equipment
- cleaning equipment and utensils to be used
- specific cleaning and sanitizing procedures
- applying cleaning and sanitation chemicals
- preventing cross-contamination
- inspecting after cleaning

Suggestions to Meet the Requirements

Create a list of all rooms, equipment and utensils. Develop cleaning and sanitizing procedures for all rooms, equipment, utensils, drains and overhead fixtures in the facility. Include housekeeping procedures.

- Create cleaning and sanitizing procedures specific to the operation and equipment.
  - One procedure can be created for a group of items, (ex: walls, ceilings, pipes) if the same methods and chemicals are used.
  - Include instructions to prevent cross-contamination (ex: remove food, ingredients, processing aids, packaging materials from the area before cleaning).
- Include the following steps for cleaning and sanitizing in your procedures, where applicable:
  - Disassemble equipment, remove gross debris, rough clean, pre-rinse, clean, post-rinse, inspect, reassemble equipment, sanitize (rinse off the sanitizer, if necessary).
  - Tailor generic cleaning procedures that may be provided by chemical suppliers to the specific operation.
  - Indicate if any food contact equipment has special cleaning and sanitizing instructions (ex: clean-in-place or disassembly instructions). If necessary, refer to the equipment manufacturer's guide.
  - Include chemical mixing instructions, temperature requirements, chemical contact time and rinsing instructions where applicable.
  - Use sanitation chemicals that are suitable for use in food processing facilities, see requirement 3.4 CHEMICAL CONTROL.

Cleaning and Sanitizing 4.1

- For facilities where use of water for cleaning would create a hazard (ex: dry mixing operations, grain facilities) include appropriate dry cleaning procedures (ex: vacuum, brooms, brushes). If using compressed air, ensure further spreading of product or dust is prevented.
- Check and record chemical concentrations before the chemical solution is used. This can be done by using a product provided by the chemical supplier (ex: test strips, reagents).

Develop cleaning procedures for transportation vehicles, if applicable.

Develop corresponding records for the cleaning and sanitizing procedures.

Develop a sanitation schedule.

- For items that are not cleaned daily, create a cleaning schedule to ensure all items or areas are cleaned at the appropriate frequency.

Pre-Operational Inspection 4.2

Written pre-operational inspection procedures and corresponding records are in use to confirm that rooms, equipment and utensils are visibly clean.

- Pre-operational inspections are performed before production begins and before resuming production when sanitation activities are performed during operations.

Suggestions to Meet the Requirements

Develop a procedure for performing pre-operational inspections for all areas of the facility.

- Develop pre-operational inspection procedures for inspecting all rooms, equipment and utensils that may impact food safety.
- Conduct pre-operational inspections before production start-up and before resuming production when sanitation activities are done during operations.
- Include specific instructions for inspecting complex equipment (ex: band saw, brine injector, oven, mixers, sheeters, conveyors.) If you have equipment that has food contact surfaces that are not visible, do a pre-operational inspection before reassembly.
- The individual who performs the pre-operational inspection must be different from the individual who performs the cleaning and sanitizing.
- Tests may be done during the pre-operational inspection to show cleaning and sanitizing procedures are effective, particularly if the cleaning and sanitizing methods are unconventional. Tests can include bioluminescence (ATP) tests, traditional microbiological methods and protein or allergen swabs. Testing may be done on-site or sent to an accredited lab.

Develop corresponding records for the pre-operational inspection procedures. Pre-operational inspection records can combine items from sections other than sanitation, minimizing the number of records to be completed and strengthening the pre-operational inspection. These can include:

- no evidence of pests from requirement 6.1 PEST CONTROL
- processing environment from requirement 9.2 INTERIOR
- no evidence of condensation from requirement 9.5 VENTILATION
- maintenance from requirement 5.1 PREVENTIVE MAINTENANCE AND CALIBRATION
- glass and brittle material from requirement 9.7 GLASS AND BRITTLE MATERIAL

5 Preventive Maintenance and Calibration

The importance of a preventive maintenance and calibration program

An effective preventive maintenance and calibration program ensures all equipment that could impact food safety works as intended and does not create food safety hazards. A preventive maintenance and calibration program helps ensure that biological, chemical and physical hazards are controlled. It can also save time and money by reducing unscheduled downtime and unexpected repairs.

Without a maintenance program:

- equipment like coolers may not remain at the correct temperature leading to bacterial growth
- conveyor belts could fray causing physical contamination
- food contact surfaces and tables could become pitted or scratched and harbour bacteria

Without a calibration program:

- thermometers may not indicate the correct cooking temperatures
- metal detectors may not detect metal hazards
- scales may cause too much or too little preservative to be added

A preventive maintenance and calibration program includes a list of equipment that may impact food safety, instructions and schedules for preventive maintenance and calibration procedures and corresponding records.

Preventive Maintenance and Calibration 5.1

Written preventive maintenance and calibration procedures and corresponding records are in use for equipment and devices that may impact food safety, to ensure they operate as intended. Procedures include instructions for:

- inspection, service and lubrication of equipment
- calibration of equipment

Suggestions to Meet the Requirements

Create a list of all the equipment that may impact food safety including equipment designed:

- to handle food or that food comes in contact with (ex: conveyors, agitators, grinders, tanks, injectors, tenderizers, saws, mixers)
- to cook or otherwise reduce or eliminate bacterial load (ex: smoke houses, ovens, pasteurizers, kettles)
- to control processing conditions such as pressure, temperature, time (ex: thermometers, timers, gauges)
- to monitor product characteristics important for food safety (ex: pH and water activity meters)
- to weigh or add ingredients, processing aids or preservatives (ex: scales, chlorine feeders and ingredient dispensers)
- to detect or remove metal, bones, stones, glass, wood and other foreign material (ex: metal detectors, X-ray, magnets, screens, air filters, optical sorters)
- to store food at controlled temperature (ex: freezers, coolers, water-baths)

Develop preventive maintenance procedures for all equipment on your list including instructions for:

- equipment disassembly
- adjustment and/or replacement of parts that are deteriorated or damaged
- selecting the appropriate, approved chemical depending on the equipment (grease, lubricants, refrigerants, etc.)
- lubrication of parts
- inspecting and/or testing the equipment to ensure it is working as intended
- equipment re-assembly
- preventing cross contamination during maintenance
- ensuring the area and equipment are clean after maintenance and all tools and parts are accounted for

Develop calibration procedures where applicable. Procedures include instructions for ensuring:

- initial setup and calibration (ex: pH meter, packaging equipment) are correct
- the device operates within its specifications
- proper actions are taken if the equipment/device doesn't meet specifications (ex: risk assessment, rework, recall if necessary)

- proper adjustment if the equipment/ device does not fall within the required specifications/limits
- the device operates within its specifications after the adjustment
- the area and equipment are clean after calibration; all tools and parts are accounted for
- calibrations are performed using reference equipment (ex: certified thermometer, certified weights)

The equipment manual from the manufacturer can be used and included in procedures, including information that can help to develop preventive maintenance and calibration procedures.

Consider creating equipment ID numbers to help identify equipment – using either a company number code or incorporating the equipment serial number.

Use maintenance chemicals that are suitable for use in food processing facilities. For details on chemical approvals and handling, see requirement 3.4 CHEMICAL CONTROL.

If equipment does not meet specifications or a deviation is found, a food safety assessment (see glossary for definition) must be done for all product made since the last good check. *The Manitoba HACCP Advantage Guidebook* contains more information on how to do a food safety assessment.

Develop preventive maintenance and calibration records.

- To simplify record keeping, record the activities or findings of multiple maintenance/calibration activities on one record.
- Records for preventive maintenance and calibration of some equipment may be included as part of a pre-operational inspection (ex: lubrication or calibration of pH meter).
- Schedule preventive maintenance and calibration based on risk, recommendations from the manufacturer and history of the equipment breaking down.

Develop a preventive maintenance and calibration schedule. If external contractors are used for preventive maintenance or calibration:

- Evaluate their qualifications (ex: reference checks, licences).
- Use service reports as the preventive maintenance and/or calibration record. The service report must be reviewed, signed and dated by a designated facility employee.
- Keep all supporting documentation (ex: calibration certificates for scales, light meter).

6 Pest Control

The importance of a pest control program

Pests (ex: birds, insects and rodents) can contaminate food, ingredients, processing aids, packaging materials and food contact surfaces. Developing and implementing an effective pest control program can reduce potential hazards and minimize contamination caused by pests.

Pests in or around a facility can lead to contamination with droppings, larvae and dead insects, animals or their parts. A pest control program needs to address frequent inspection of a facility (inside and outside) to ensure it is free of pests. If pests or signs of pests are found, steps must be in place to control them and prevent possible contamination of the facility and products.

Pest control chemicals can cause contamination if they are not used according to the manufacturer's instructions. Pest control chemicals need to be applied after production and away from products and food contact surfaces. They must be stored in safe designated areas and handled only by licensed individuals.

A written pest control program includes procedures to do facility inspections, pest removal and steps for pest control chemical application to prevent contamination of the facility and products. Pest control can be contracted out to a company or performed in-house by trained employees.

Pest Control 6.1

Written pest control procedures and corresponding records are in use to ensure that effective controls are in place to prevent pests from entering and infesting the facility. The procedures include:

- instructions for visual inspection of the facility, exterior and interior, to detect pests and their activity
- instructions for inspecting all pest control devices
- instructions for pest removal and chemical application
- a facility schematic which shows locations of all pest control devices that are identified by a unique code
- a list of pest control chemicals used in the facility and a log of pest control chemical application

The person designated to apply commercial pest control chemicals is licensed under the *Pesticides and Fertilizers Control Act*.

Pest control chemicals are registered under the *Pest Control Products Act*.

Suggestions to Meet the Requirements

Put controls in place to protect against entry and harbourage of pests, including:

- Determine the types of pests that need to be controlled (ex: insects, rodents, birds).
- Place pest traps at appropriate locations inside and outside the facility (ex: close to every door).
- Ensure all exterior traps are secure (ex: to the wall, ground).
- Protect traps against damage.
- Install light traps in areas where flying insects may be a problem (refer to a pest control technician for placement advice).

Pest control programs can be done in-house or contracted out.

For in-house pest control program

Develop pest control procedures.

- Include instructions for inspecting the exterior and interior of the facility for evidence of pests. For example, look behind racks for holes, droppings, dead insects, or any other indication of pest activity.
- Include instructions for inspecting pest devices to ensure they are operating properly and are not damaged.
- Have a label on the wall to indicate the location of traps.
- Place labels or cards in each trap that can be dated and initialled during each inspection.
- Include instructions for removing pests if they are found.
- Include instructions for applying pest control chemicals.

Develop records for documenting inspections and trap findings.

- Ensure procedures do not cause cross-contamination (ex: pest control chemicals must not be applied during processing, and must not come into contact with food, ingredients processing aids and packaging materials).
- Ensure that all doors and windows leading to the outside remain closed or screened at all times to keep pests (ex: birds, insects and rodents) out of the facility.

Develop a schematic diagram of the facility showing the locations of all pest traps inside and outside of the facility.

Create a pest control chemical use log and record:

  - the type of pest control chemical used
  - date, initial, time, location and person applying the pest control chemical
  - the amount of pest control chemical used

- All pest control chemicals that are used must be registered under the *Pest Control Products Act* and safe for use in food processing facilities and the employee that applies pest control chemicals must be licensed to do so.
- Refer to requirement 3.4 CHEMICAL CONTROL for handling and storage of pest control chemicals.
- Ensure up to date MSDS sheets are available for all pest control chemicals used in the facility.
- Depending on product type, pest control chemicals may be limited to use only outside of the facility. Check applicable regulations to ensure that chemicals can be used inside the facility.

If pest control services are contracted to an outside company, ensure it provides:

  - procedures for inspection performed by the pest control company's service technician
  - copies of current valid pest control licences for each service technician assigned to the facility
  - facility schematic with current locations of each pest control device used inside and outside the facility
  - Up to date MSDS for pest control chemicals, usage log and associated records
  - completed pest control records with deviations and corrective actions that are clear and legible after each inspection

- These records need to be reviewed, signed and dated by a designated facility employee. The designated employee should review the records to ensure deviations were recorded and the corrective actions were appropriate, completed and recorded.
- Ensure that the pest control service technician follows your visitor/contractor policy for personnel. For details see requirement 1.1 PERSONAL PRACTICES.

Develop records for monitoring your pest control program.

- A separate record can be created for contracted pest control or you can sign off on records provided by the pest control company.

7 Recall and Traceability

The importance of a recall and traceability program

Every processing facility must have a recall and traceability program in place. A recall program facilitates the recall of finished product if food safety is ever compromised. An effective program facilitates not only recall of finished product, but also the necessary tracing back through a process to ingredients, processing aids and packaging materials at all stages of production, processing and distribution. Every food processor is responsible for the implementation of a recall and traceability program and the verification of its effectiveness.

A recall can be initiated for several reasons, such as customer complaints, reports of illness and or injury, or product tampering. All customer complaints need to be reviewed and assessed to determine if food safety is the reason for the complaint and if the recall process should be initiated. Individual consumers look to the label, with the product name and ingredient list to avoid food they may be allergic to. If labels are incorrect, consumers could be put at risk. Undeclared allergens are common causes of recalls.

Recall and traceability programs ensure that all suspect products are accounted for and controlled to prevent or minimize food borne illness and injury to consumers. Having a product coding system, accurate labels, a recall co-ordinator, recall team and detailed procedures to contact authorities and customers, are all part of a recall program. Once the affected product has been identified and located, a decision will be made about its disposition (ex: destroy it, bring it back for analysis, use it for rework). All recall activities need to be documented.

The effectiveness of a recall and traceability program should be tested routinely in a mock recall process, which is similar to a fire drill. During a mock recall, an established recall procedure is followed. A scenario describing a food safety problem with a finished product, ingredient, packaging material or processing aid is described and the recall procedures are followed to assess effectiveness in controlling the affected product. After this exercise, the recall team must meet to discuss the results, to identify areas for improvement and make any necessary changes to the procedures.

An effective recall program includes:

- developing and implementing a product labelling and coding system
- noting positions and contact information for the recall team
- appointing a recall co-ordinator
- identifying and controlling affected product, ingredients, processing aids and packaging
- contacting authorities
- contacting affected customers
- documenting all recall activities
- doing a mock recall and ensuring its effectiveness
- developing a food safety assessment and product disposition procedure

Product Labelling 7.1

Written product labelling procedures and corresponding records are in use. The procedures include:

- instructions to ensure that all finished products have been identified with a unique lot code
- confirmation that product labels are accurate

Suggestions to Meet the Requirements

Define the production lot and develop product codes.

- Common ways to describe a production lot;
  - time frame (ex: 30 minutes, 1 hour, date of production)
  - a set quantity of finished product (ex: 250 cases)
- Apply a unique code to every production lot. Depending on the lot size, the number and type of finished products manufactured and other factors, a combination of the following examples can be used to develop a coding system:
  - production date
  - month/day/year
  - Julian date (days are numbered 1 to 365 in order, starting with January 1 (001) and ending with December 31 (365), in a leap year December 31 = 366)
  - production line (ex: 1, 2; A, B)
  - expiry date (best before or best if used by)
- The Canadian Food Inspection Agency's Date Labelling on Pre-packaged Foods is a guide on determining the appropriate format and can be found at www.inspection.gc.ca.

Develop product labelling records.

- Product labelling records include scheduled checks that the correct product code and label are accurately applied to all products.
- Production logs and inventory documents are developed and list products with their associated lot code information to ensure items can be easily located in a recall situation.

Develop a procedure for confirming the accuracy of the product labels (ex: the correct product name and ingredient list).

Recall 7.2

Written recall procedures and corresponding records are in use. The procedures include:

- instructions for recording customer complaints
- instructions for identifying and controlling all affected product
- instructions for contacting authorities and customers
- position and contact information for all recall team members

Suggestions to Meet the Requirements

Develop a customer complaints record.

- The nature of the complaint should be assessed and assigned a category (ex: food safety or quality).
- All food safety complaints must be investigated and the findings recorded.
- The findings of investigations indicate whether a recall should be initiated or not.
- Review complaints to identify trends and prevent recurrence of the problem.

Develop a Recall procedure and record.

- Form a recall team to manage a recall. The person responsible for food safety in the facility (ex: HACCP Co-ordinator, Quality Assurance Manager) is usually responsible for co-ordinating a recall (Recall Co-ordinator). The recall team should include at least one senior officer of the company and the food safety co-ordinator. Depending on the size of the operation, employees from other departments (ex: maintenance, sales, shipping and distribution) may be added to the recall team.
- In the recall procedure, note the positions and contact information (including after hours) of all members of the recall team.
- The recall procedure must allow timely and effective identification and location of affected products. Important tools are:
  - an effective product coding system as required in 7.1 PRODUCT LABELLING
  - a detailed production record with dates/times products are manufactured, who's responsible for production process at the time of manufacturing, accurate amounts of product produced per lot, and where the product went after manufacturing (ex: finished product warehouse, rework, product on hold, in process, cooler)
  - a detailed shipping record that contains the exact amounts of each product by lot code and names of the customers who got shipments
  - accessible, up-to-date customer contact information
- Include in the recall procedure instructions to determine the lot code corresponding to the affected product.
- Include in the recall procedure specific instructions indicating who to notify, when, and what information should be provided.

Recall 7.2

In the event of a potential recall, you must notify the appropriate authorities. Ensure that the contact information for all authorities in the recall program is current.

Develop a record (ex: notice of recall) to use when notifying customers about a recall, which contains all necessary contact, product and shipping information.

Recall

Once the lot code corresponding to an affected product has been determined:

- Use the production record to determine how much product was produced (include rework if any) with that lot code and where it was sent to after production.
- Check if any product is still in the facility.
- Use the shipping record to determine where the product was shipped.
- Controlling affected product means making a decision about what to do with it and proceeding accordingly.
- Once located, properly label and isolate affected product to prevent further distribution or cross-contamination of other products as per the procedure developed for requirement 3.2 CONTROL OF DEFECTIVE AND SUSPECT ITEMS.
- Do a food safety assessment to determine disposition of affected product. For example, it could be destroyed or returned to the facility (if it has been shipped) for further testing and analysis.
- Keep a log of all actions taken during the recall.
- When a decision is made to initiate a recall, a food safety assessment may recommend stopping production to prevent the potential for more affected product to be produced and shipped from the facility.
- Once a recall has been completed, investigate the root cause of the problem and take corrective action where necessary to prevent it from happening again.

Traceability 7.3

Written traceability procedures and corresponding records are in use. These procedures include:

- recording traceability information for all incoming food, ingredients, packaging materials and returned products
- recording traceability information whenever products or materials undergo a change in form during processing
- recording traceability information whenever products are shipped from a facility

Suggestions to Meet the Requirements

Develop a traceability procedure and corresponding records for incoming materials.

- Record all key supplier information.
- Record information for all incoming food, ingredients, packaging materials and returned products (ex: the date received, the transporter, quantity, lot code (if applicable), and where applicable, make sure documentation accompanies the shipment (ex: certificate of analysis).
- Record reasons for product return.
- Identify and segregate returned product. For details, see requirement 3.2 CONTROL OF DEFECTIVE AND SUSPECT ITEMS.

Develop detailed production records or logs to document the movement of food, ingredients, and packaging materials throughout the facility. Examples of information to include are:

- name, weight and lot number of ingredients used
- types/lot numbers of packaging used
- quantity of finished product produced
- where the product went after packaging ex: cooler, dry storage etc.
- address re-work (ex: lot numbers, re-processing)
- amount of production waste

Develop procedures and records that identify the immediate transporter and customer who will be receiving the product.

To simplify documentation, traceability can be part of other records (ex: receiving, shipping).

Mock Recalls 7.4

Written procedures and corresponding records are in use for conducting mock recalls. These procedures include:

- instructions for conducting a mock recall

A mock recall is conducted at minimum, once per year or at a frequency adequate to ensure the recall system is current and working properly.

Suggestions to Meet the Requirements

Develop a mock recall procedure.

- Choose a scenario describing a food safety problem. For example:
  "A consumer complaint initiated an investigation which found that product lot code HF 2 010 09 contains metal contaminants."
- When choosing a scenario consider packaging, ingredients and finished product. Choose a different scenario each year.
  - An effective mock recall ensures all product can be accounted for.
  - If the mock recall does not account for all the affected product, the gaps or flaws in the procedures must be investigated and appropriate corrective actions taken.
  - To be considered successful, a mock recall must be completed in a timely manner.

Develop corresponding mock recall records.

8 Water Safety and Supply

The importance of a water safety and supply program

Water, ice and steam can be used in food processing as an ingredient, part of a process (ex: processing aid for chilling or rinsing), for sanitation or personnel hygiene (ex: hand washing). Due to its wide use within food facilities, water can have a large impact on food safety. Food processors must take all possible measures to ensure water is safe.

Non-potable water can lead to contamination of food, ingredients, processing aids and food contact surfaces. Even treated water can become a source of contamination if the treatment procedure isn't done correctly. If there isn't enough water at the correct temperature and pressure, the processes (ex: sanitation) may not be done correctly leading to food safety issues.

A water program is designed to ensure that water, ice and steam used as an ingredient, for processing, sanitation and personnel hygiene, is potable and the water supply is sufficient to perform all activities that require water.

A written water program includes procedures for treating water, sampling and testing water and ice, and monitoring the water supply.

Note: Non-municipal water could include wells, spring water, reservoirs, etc.

Water Treatment 8.1

This standard applies to facilities using non-municipal water or facilities using internal water treatment systems on municipal water.

Written water treatment procedures and corresponding records are in use to ensure that water, ice and steam used for processing, sanitation and personnel hygiene is potable. Water treatment procedures include instructions for:

- preparation and use of water treatment chemicals
- monitoring water treatment equipment

Suggestions to Meet the Requirements

Water treatment ensures that water is potable. For details, see requirement 8.2 WATER TESTING.

Develop water treatment procedures.

- For facilities using chemical water treatment (ex: chlorination, boiler feed water chemicals) include:
  - a list of chemicals required, appropriate volumes, mixing instructions and instructions for use
  - include water treatment chemicals on the company's approved chemical list that will be created under requirement 3.4 CHEMICAL CONTROL.
  - details on how to test water to ensure that the residual level of chemical used is in the correct range (ex: method for chlorine residual test)
  - water treatment frequency that is adequate for the water use/flow in the facility
  - Material Safety Data Sheet (MSDS) of the chemicals used for treatment
- For facilities using physical water treatment (ex: ultraviolet, ozonation, activated carbon, filters, reverse osmosis-membranes) include:
  - instructions for monitoring the treatment system according to the manufacturer's instructions (ex: that it's functioning, warning indicators)
  - replacement of the physical water treatment devices (ex: filters, contactors, boilers, UV light source, membranes) in the 5 PREVENTIVE MAINTENANCE AND CALIBRATION program

Develop a procedure for treatment of recirculated water.

- When choosing treatment methods for recirculated water, consider the types of contaminants the water may have acquired from its previous use (ex: chemical treatment may not be effective if the water contains a lot of organic compounds, UV may not be effective if the water contains particulates).

Develop corresponding water treatment records.

- If using an external company to monitor water treatment equipment ensure the company provides completed service reports with findings that are clear and legible. These reports need to be reviewed, signed and dated by a designated facility employee.

Water Testing 8.2

Written water testing procedures and corresponding records are in use to ensure that water used for processing, sanitation and personnel hygiene, is potable. Water testing procedures include instructions for:

- sampling water and ice
- preventing cross-contamination during sampling
- testing water for *Escherichia coli* and total coliforms
- testing water for the presence of harmful chemicals at a frequency to ensure its safety

For facilities using municipal water, water is tested at minimum, annually for *E. coli* and total coliforms.

For facilities using non-municipal water, water is tested more frequently for *E. coli* and total coliforms.

Suggestions to Meet the Requirements

Develop water testing procedures.

- Include specific instructions for taking water samples and how to avoid contaminating samples.
- Clearly label and identify the sample location.
- Microbiological testing can be done by an external (accredited) laboratory or in-house.
- In-house microbiological testing should include instructions for taking and testing water samples, reagents and precautions, to avoid contamination of the sample.
- All test results should be reviewed and compared to the Manitoba Drinking Water Quality Standards Regulation. Corrective actions must be taken when results indicate presence of *E. coli* and/or total coliform or chemicals are found to be in excess of allowed limits. For example, do a root cause analysis to determine the source of the contamination and ensure necessary corrective action is taken (ex: well disinfection, maintenance on municipal water lines).
- Do a food safety assessment for any product that may have been manufactured with contaminated water. If the product is already in the market, decide if a recall might be necessary.
- Include testing for chemicals (ex: heavy metals, pesticides) in areas with known or suspected high chemical levels (ex: if facility is in an area where pesticides are used).
- If using municipal water, review and retain water reports from your local municipality for chemical results.
- Ensure steam is generated from potable water and do boiler chemical testing to ensure it is suitable for contact with ingredients, processing aids, packaging material or food contact surfaces.

Water Testing 8.2

Develop a water testing schedule.

- Commodity-specific regulations may require more frequent water testing. Check the regulations applicable to your products for specific testing frequencies. Requirement 10.1 FOOD SAFETY MANAGEMENT SYSTEM outlines the obligation to meet all applicable food safety legal requirements.
- Re-circulated water may require more frequent testing to ensure it is potable.

Develop a schematic of the facility indicating the locations where water samples are collected.

- Samples need to be taken at the point where the water enters the facility and throughout the distribution system.
- If water comes from more than one source, the sampling points should be chosen to ensure that water from each source is sampled.

Develop corresponding water testing records.

Develop a plan/procedure to be used in the event of a boil water or water safety alert. The plan should ensure water used for processing, sanitation, and personnel hygiene is potable or the schedule for production must be adjusted.

Water Supply 8.3

Written procedures and corresponding records are in use to ensure water, ice and steam are supplied at adequate volume, pressure and temperature for all processing, sanitation and personnel hygiene activities.

Suggestions to Meet the Requirements

- Consider water, ice and steam used for:
  - chemical mixing and application
  - hand-washing
  - processing (ex: rinsing and chilling)
  - equipment rinsing and other sanitation
  - ingredients
- Consider if there are particular temperatures required for the operation (ex: recommended temperatures for sanitation chemicals, hand washing requires warm water, water chill baths must be cold enough).
- Make sure there is enough water to complete all tasks that would normally happen in a day (ex: running out of water indicates there is insufficient volume).
- Consider activities that require water under pressure (ex: hand washing, rinsing during sanitation).
- Include water storage reservoirs or vessels on the cleaning schedule developed for requirement 4.1 CLEANING AND SANITIZING, to ensure they are all regularly cleaned and sanitized.

Develop procedures and records for monitoring the water supply in the facility.

- Include specific instructions for what to look for and where (ex: how to check the temperature of water).
- Non-municipal water sources (ex: well water) should be monitored to ensure water is under pressure.
- It may helpful to combine the monitoring the water supply with other required documentation. For details see program 9 ENVIRONMENT.

9 Environment

The importance of an environment program

The environment in and outside a facility, can impact the safety of a product. The facility surroundings can harbour pests that could enter the facility. External contaminants (ex: dust and pollutants) can also enter the facility. All aspects of the interior environment of a facility including the structure, layout, equipment, air, temperature, sewage systems and brittle material are potential sources of product contamination.

A well designed environment program will ensure that product is protected from external contaminants and that the facility interior does not present hazards. An effective environment program is key to safe food processing.

When first developing an environment program, all areas of the facility must be examined to determine where hazards may occur. To remove or prevent a hazard, it may be necessary to make some facility upgrades.

As in all other GMP sections, procedures and records are required for employees to use when monitoring the environment. Procedures and records should include instructions for checking for evidence that the potential hazard is controlled, not necessarily for the control that is in place. For example, additional drains may be installed to control pooling water. The monitoring procedure should include instructions to look for pooling water and not simply check that there are drains.

Exterior 9.1

Written procedures and corresponding records are in use for monitoring the facility exterior. The procedures include instructions for ensuring:

- the facility design and structure prevents entry of pests and contaminants
- the facility surroundings are maintained to prevent entry of contaminants and harbourage of pests
- facility surroundings, property, roadways, and parking lots are free from debris

Suggestions to Meet the Requirements

Make property or facility upgrades and/or put controls in place to protect against external contaminants and pests.

- Locate your facility away from sources of external contaminants such as; landfill sites, polluted areas and swamps. If the facility is near a contaminated area and cannot be relocated, extra controls will be necessary to protect the operation. For example, do not have any open windows, make sure to perform air testing and give special consideration to pest control.
- Pave or seal driveways and parking lots to minimize dust or mud.
- Minimize shrubs, weeds and long grass and keep the remaining vegetation well trimmed.
- Have a 45 centimetre (18 inches) perimeter of gravel or pavement around your facility.
- Install drainage if natural drainage is inadequate to prevent pooling water or flooding.
- Locate, design and maintain wellheads to protect against entry of contaminants in the water supply.
- Remove litter.
- Cover or repair any unprotected openings (ex: repair holes in walls, foundation, roof).
- Equip ventilation air intakes and openings with close-fitting screens or filters.
- Filters need to be replaced or cleaned on a regular schedule. Ensure this is included in the 5 PREVENTIVE MAINTENANCE AND CALIBRATION program.
- Seal around pipe work.
- Locate exterior lights away from doors, to prevent attracting pests.
- Design the facility so that handling, preparation, processing, packaging and storage areas do not open directly outside (ex: add a vestibule or foyer).
- Install air curtains at external doorways to prevent pests from entering.
- Install self-closing doors that are tight fitting, (ex: no gaps, visible light).
- Do not store equipment or materials outside on the property surrounding the facility (ex: pallets, bins, drums, construction materials).
- Seal windows or have tight fitting screens.

Exterior 9.1

Develop procedures and records for monitoring the exterior of the facility and any controls put in place.

- Include specific instructions for what to look for and where (ex: holes in external walls, litter on property, bird nests, any vegetation on roof).

Interior 9.2

Written procedures and corresponding records are in use for monitoring the facility interior. The procedures include instructions for ensuring:

- floors, walls, doors, ceilings, windows and fixtures, are cleanable and are constructed and maintained to prevent contamination of the environment, food, ingredients processing aids and packaging materials
- pooling water is prevented or controlled
- lighting is sufficient for all activities including processing, inspection, maintenance, cleaning and sanitizing
- water storage and distribution protects against contamination of the potable water supply
- physical or operational controls are in place to prevent cross-contamination

Suggestions to Meet the Requirements

Make facility upgrades and/or put controls in place, to protect the product from contaminants.

- Build floors, walls, ceilings, windows and doors of material suitable for use in a food facility.
- Build floors, walls, ceilings, windows and doors of smooth, non-porous material that will not contribute contamination and can withstand repeated cleaning and sanitizing.
- Wall, floor and ceiling joints should be sealed or coved where appropriate and maintained in good repair.
- Build ceilings and fixtures (ex: ducts, pipes, beams) to minimize the build up of dirt and condensation (ex: no crevices or ledges, mount exposed pipes away from the wall or ceiling to allow for cleaning).
- Build stairs, catwalks and platforms in processing and handling areas out of smooth, non-porous material that will not contribute to contamination and can withstand repeated cleaning.
- Provide access to the space above drop ceilings to allow cleaning, maintenance and inspection (ex: for pest activity).
- Windows that are located in areas where glass breakage may result in the contamination of food, ingredients processing aids or packaging materials, must be constructed of alternate materials or be adequately protected.
- Alternative materials for window glass include shatterproof or meshed glass. If this is not possible, apply a protective film to the glass surface.
- Install enough drains and sufficiently slope floors to prevent pooling water, including in the washrooms.
  - If water does pool it should be addressed through operational controls. For example, write a procedure and train employees to squeegee water toward the drain to remove pooled water.

- Install grates in all drains. Grates should be easily removed for cleaning and inspection.
- Install sufficient lighting that does not alter the appearance of food and meets regulations.
- Ensure that the water storage and distribution systems protect against contamination.
- Label or otherwise identify all waste lines, potable and non-potable water pipes, conduits and any other lines (ex: refrigeration coolant).
- Label or otherwise identify all non-potable water outlets (ex: sprinklers).
- Ensure any non-potable water supply does not connect with the potable water supply.
- Ensure pipes are designed and installed to prevent contamination (ex: no dead ends, no lead solder, smooth welds).
- Provide hose racks so hoses are not left on the floor when not in use. Include instructions for storing hoses. For details, see requirement 1.3 UTENSILS AND TOOLS.
- Recirculated water (unless treated to be potable) should be distributed in clearly marked systems including pipes, outlets and containers that are separate from potable ones.
- Tanks containing cooling water used for exposed or packaged product should be drained, cleaned and sanitized regularly and refilled with potable water (remember to include these in the 4 SANITATION program).

Make facility upgrades and/or put operational controls in place, to protect against cross-contamination.

- Design the facility so that products flow in a single direction from raw to finished state and control employee flow to prevent cross-contamination as described in requirement 1.5 ACCESS AND TRAFFIC PATTERNS.
- Develop a plant schematic that identifies each area in the facility. Include traffic patterns for personnel, food, packaging materials, chemicals and waste material. Identify areas where cross-contamination may occur (ex: cooked foods versus raw foods, allergens) and establish controls.
- Designate rooms to separate incompatible food or activities (ex: to separate raw product from finished or semi-finished product, segregate allergens, garbage/inedible material or sanitation activities).
- Install physical barriers, partitions, walls, etc., to control flow and prevent cross-contamination.
- Cross-contamination controls may include boot washes.

Develop a procedure to be followed during new construction to ensure it meets the requirements.

- Include an approval process to ensure the construction will satisfy all areas of your GMPs. For example, involve sanitation personnel to ensure the new materials are cleanable and the food safety co-ordinator to ensure cross contamination is minimized.
- Include in the procedure a check that the construction materials are suitable for use in a food facility.

Interior 9.2

Develop procedures and records for monitoring the interior of your facility and the controls put in place.

- Include specific instructions for what to look for and where (ex: walls, ceilings, floors show no evidence of degradation – no flaking paint, rust, corrosion, accumulation of food residue, dust, mould).
- Give special consideration to frequencies. It may be helpful to divide the procedures and records based on how often the item needs to be monitored. For example, it might be sufficient to monitor that windows are sealed shut annually. However, monitor other items, such as the condition of floors, walls, ceilings and doors more frequently.

Personnel Facilities 9.3

Written procedures and corresponding records are in use for monitoring personnel facilities. The procedures include instructions for ensuring:

- washrooms, personal storage facilities and a lunch room are provided, designed, equipped to prevent contamination of the environment, food, ingredients, processing aids, packaging materials and food contact surfaces
- washrooms and lunch rooms do not open directly into food processing, handling and storage areas
- an adequate number of dedicated hand wash stations at appropriate locations
- hand wash stations are equipped with: constant flow of warm potable water, soap from a dispenser, sanitary hand drying equipment or supplies, a waste container and a notice instructing people to wash their hands
- washrooms are equipped with an adequate number of toilets

Suggestions to Meet the Requirements

Make facility upgrades and/or put controls in place, to protect the product from contaminants.

- Provide a dedicated lunch room.
- Provide an easy to clean change room, locker or cupboard for personal storage.
- A designated change room is ideal to minimize the potential for cross-contamination between personal belongings, clothes, etc. and the processing environment.
- Lockers and cupboards should have sloped tops so nothing can be placed on top.
- Specify in 1.1 PERSONAL PRACTICES what items may be stored in personal storage facilities (ex: food is not be stored in lockers or change rooms, store lunches in the lunchroom).
- Locate washrooms, lunch rooms, so they do not open directly into handling, preparation, processing packing and storage areas.
- Provide enough toilets to accommodate the number of personnel working at the establishment. See the Manitoba Building Code and The Work Place Safety and Health Regulations Part 04 - General Workplace Requirements to determine the required number.
- Locate hand wash stations to prevent cross-contamination (ex: at the entrance to all food processing areas).
- Ensure the number of hand wash stations is adequate and install more if needed. Hand wash stations must be sufficient in number to permit the flow of employees to wash hands at the required frequency and still meet the requirements of their job duties. For example: if there are not enough sinks to permit all employees to properly wash their hands after break and return to the line by the required time, the number of sinks is inadequate.

- Dedicate hand wash stations to be used for this purpose only. Hand wash stations should not be used for cleaning equipment utensils, food or ingredients.
- Install hands-free faucets and paper towel dispensers to minimize recontamination of clean hands. Hands-free faucets can be operated by a sensor, knee pedal or foot pedal.
- Ensure hand wash stations have: a constant flow of warm potable water, soap from a dispenser, sanitary hand drying equipment or supplies, a waste container and a notice instructing people to wash their hands.
- To prevent recontamination of hands, use paper towel to open washroom doors and locate garbage can near the door for easy disposal of the paper towel. Do not use reusable cloth towels.
- Post signs instructing people to wash their hands above hand wash stations and at entries into product handling areas.

Develop procedures and records for monitoring the personnel facilities in your facility and the controls put in place.

- Include specific instructions for what to look for and where (ex: hand wash stations are not being used for any other purpose than hand washing, soap dispensers are full and there are no bottlenecks at hand wash stations after break).

Equipment 9.4

Written procedures and corresponding records are in use for monitoring all equipment and utensils that may impact food safety. The procedures include instructions for ensuring:

- equipment and utensils are made of materials that are non-toxic, non-corrosive, non-absorbent, smooth, do not exhibit signs of degradation and can withstand repeated cleaning and sanitizing
- equipment design, location and installation allows effective cleaning, sanitizing, inspection, maintenance, calibration and prevents contamination of product
- equipment is capable of meeting the food safety requirements of the process

Suggestions to Meet the Requirements

Make utensil and equipment upgrades and/or put controls in place, to protect the product from contaminants.

- Use utensils and equipment that are made of material that is not porous, does not have pits or cracks, and will not create any hazard to food or packaging materials (ex: no rust, lead, or exposed wood).
- Use equipment and utensils that are designed for use in a food facility and are able to withstand repeated cleaning and sanitizing.
- Install equipment that is designed to be easily cleaned, sanitized and inspected and that will prevent contamination of product.
- All areas of equipment need to be accessible so that crevices, angles and ledges that can accumulate food can be cleaned effectively.
- Open ends of tubes (ex: legs of tables) should be sealed to prevent accumulation of food.
- If necessary, equipment can be dismantled for cleaning, sanitizing and inspection.
- Seams on equipment should be smoothly bonded with polished, even welds.
- Exhaust equipment outside to prevent condensation and air quality problems.
- Install equipment with proper drainage and/or connect directly to drains (ex: refrigeration units).
- Install equipment with sufficient space to give access under, inside and around it for cleaning, inspection and servicing.
- Install devices to prevent contamination where needed (ex: screens, filters, air treatment, dust extraction).
- Install screens or filters on ventilation openings that can be easily cleaned and replaced.
- Ensure equipment is capable of meeting the requirements of your process. For example, equipment should be able to reach the correct temperature, refrigeration units must be able to maintain the correct temperature, filters must be able to filter the correct size particles.

- Install monitoring devices (ex: thermometers, gauges) where appropriate to monitor parameters required to maintain food safety (ex: temperature, humidity and air flow).
- Install thermometers in all refrigerated rooms. The use of continuous recording thermometers is recommended. Probes need to be located strategically in the warmest part of the room.
- Have a procedure for buying new equipment to ensure it meets the requirements before it is bought or used. For example, maintenance may approve the design and sanitation may sign off that the equipment is cleanable.

Develop procedures and records for monitoring the equipment in your facility and controls put in place.

- Include specific instructions for what to look for and where (ex: equipment has no cracks and crevices, no evidence of degradation, rust, corrosion, accumulation of food residue, dust, mould).
- Give special consideration to frequencies. It may be helpful to divide up the procedure and records based on how often items need to be monitored. For example, it might be sufficient to monitor that equipment has been installed with enough space, annually. However, you should be monitoring other items, such as the condition of your equipment more frequently, especially those which are used daily for signs of cracks, pits, scratches, missing pieces, etc.

Ventilation 9.5

Written procedures and corresponding records are in use for monitoring ventilation. The procedures include instructions for ensuring that:

- air exchange is sufficient to remove airborne contaminants and prevent excessive heat, steam, condensation, vapours, smoke, particulates, dust, aerosols, odours
- ventilation does not permit air to flow from contaminated areas to clean areas

Suggestions to Meet the Requirements

Make equipment or facility upgrades and/or put controls in place, to protect the product from contaminants.

- Install sufficient ventilation and refrigeration.
- Ventilation should be capable of preventing build up of: condensation, heat, steam, smoke, dust, particulates, aerosols and odours.
- Ventilation should be capable of providing sufficient air exchange to maintain a clean air supply and help control temperatures.
- Ventilation in washrooms and waste storage areas should be capable of removing excess moisture and odours.
- Ventilation should maintain positive pressure in ready-to-eat or other sensitive areas.
- Positive pressure results when the pressure is higher within the room than it is outside the room – so air flows out of the room. To test if ventilation is maintaining positive pressure in a room, hold a tissue paper up in the doorway and see which way the tissue blows. The tissue should blow in the direction leaving the room.
- Avoid venting directly onto food, ingredients, processing aids, packaging materials, or food contact surfaces.
- Consider testing your ventilation air for microbial contaminants to ensure your ventilation system is not a source of contamination.

Develop procedures and records for monitoring ventilation in your facility.

- Include specific instructions for what to look for and where, that might indicate poor ventilation (ex: humidity, steam vapours, smoke, particulates, dust, condensation).
- Include ventilation equipment in the 5 PREVENTIVE MAINTENANCE AND CALIBRATION program.
- Be sure to include ventilation equipment in the 4 SANITATION program, including the cleaning and inspection of filters for air makeup units.

Sewage and Liquid Waste 9.6

Written procedures and corresponding records are in use for ensuring:

- sewage and liquid waste disposal systems are designed, constructed, installed and maintained to prevent cross-contamination of food, ingredients, processing aids, packaging materials, food contact surfaces and the potable water supply
- the potable water supply has no cross-connections with the non-potable, sewage and liquid waste systems
- back-flow preventers are in place, where appropriate

Two waste streams exist in food facilities

1. Liquid waste or effluent, which generally consists of wash water, or chill water.
2. Solid waste or sewage which consists of human waste.

Suggestions to Meet the Requirements

Make facility upgrades and/or put controls in place, to protect the product from contaminants.

- Ensure the sewage and liquid waste systems in the facility are designed to prevent cross-contamination.
- Segregate human waste from other waste.
- Ensure liquid waste and sewage lines do not pass directly over or through processing areas.
- Label or colour code visible waste lines to aid in identification. Also, consider identifying potable and non-potable water pipes (ex: sprinklers), conduits and any other lines (ex: refrigeration coolant).
- Equip liquid waste and sewage systems with traps and vents. For example, a P-trap vented to the roof.
- If necessary, install a catch basin or grease trap to separate solid matter from liquid waste and have it emptied at an appropriate frequency.
- Ensure there are no cross-connections between non-potable and potable water lines.
- Ensure that there are current blue prints that show all plumbing.
- Use current blue prints when monitoring your sewage and liquid waste system to confirm that no changes have been made and the facility is still meeting the requirements.
- If there are no blue prints showing pipes, make an assessment for cross-connections. One way to do this is to add a food grade dye to the pipe systems to confirm there aren't any cross-connections.
- Install back flow devices at any outlets where back siphoning could occur (ex: ends of hoses, taps, outlets into tanks) to stop potentially contaminated water from re-entering the facility's potable water supply.
- Check legislation for specific commodities or facility sizes to see if there are any specific requirements for back flow devices.

- Back flow preventers should be accessible for inspection. If they are not, be prepared to demonstrate their location to an auditor (ex: with a blue print).

Develop procedures and records for monitoring sewage and liquid waste in your facility.

- Include specific instructions for what to look for and where (ex: pooling water, drips).
- Remember to include the inspection and cleaning of any drains, drain channels, traps and covers in the 4 SANITATION program.

Glass and Brittle Material 9.7

Written procedures and corresponding records are in use for monitoring all glass and brittle materials in the facility.

The procedure identifies all glass and brittle material in the facility and its location, and includes instructions for ensuring:

- unnecessary glass or brittle material is not present
- required glass and brittle material are used and stored only in designated areas
- windows, gauges, lights, clocks and other permanent glass and brittle materials are protected against breakage in processing, handling and storage areas
- all glass and brittle material is intact
- broken glass and brittle material incidents are fully controlled to protect food, ingredients, processing aids and packaging materials

Suggestions to Meet the Requirements

As much as possible, eliminate glass and brittle material and replace with shatterproof materials or control them by protecting against breakage. Be prepared to provide justification to an auditor for all remaining glass and brittle materials.

- Some glass or brittle material may be required in your facility (ex: glass packaging). In this case, special consideration and emphasis should be given to the breakage procedure.
- Light bulbs need to be either shatterproof or completely covered to protect product in case the bulb breaks.
- Replace windows in processing, handling or storage areas with either shatterproof glass or protect against breakage.
- Cover clocks with a cage to protect against breakage. Plastic clocks are preferred to glass.
- Replace glass thermometers with non-breakable metal probe thermometers.

Develop procedures and records for monitoring all glass and brittle materials in your facility to ensure they are intact and/or protective measures are in place.

- Make a list that identifies all glass and brittle materials in the facility and their location, including: lights, gauges, packaging materials, laboratory glass, clock faces, windows, inline pH meters, UV lights, sight glass covers.
- Provide specific instructions that include the exact locations and what to look for (ex: cracks, missing parts).
- Include instructions for minimizing the movement of required glass and brittle material. For example, it may be used and stored only in designated areas. Instructions may be incorporated into your personnel policies.

Glass and Brittle Material 9.7

Develop procedures and records for what to do in case of breakage. Include instructions for:

- Determining the affected areas and products, considering the line speed, product flow, etc.
- Isolating and controlling the affected food, ingredients, processing aids or packaging materials (ex: line stoppage, cordoning off the affected area).
- Considering what points in the process must be investigated (ex: filters down the line that should be checked).
- Clean up using designated cleaning equipment.
- Inspecting to ensure cleanup was adequate and area is safe to be re-used.

10 Food Safety Management System (FSMS)

The importance of a food safety management system (FSMS)

Your facility must comply with the regulations and acts from federal, provincial and municipal governments and even other countries' governments, if you export your product.

A food safety management system or FSMS requires that you have a procedure to ensure you are aware of all food safety laws that apply to your operation and that you are in compliance with these laws.

Your procedure should follow the format of other GMPs. It will include a list of all applicable food safety laws and at least an annual check of relevant government websites and contact information.

For your program to be effective, everyone at the facility from top management down must be committed to food safety. Management sets the stage for the ongoing success of the program. Without their commitment the personnel's commitment will inevitably fade. A successful FSMS requires that you have a policy stating management's ongoing commitment to food safety.

Food Safety Management System 10.1

A written FSMS policy is in use to ensure the facility meets all applicable food safety legal requirements (acts and regulations) and demonstrates management commitment to food safety.

- a written FSMS procedure and corresponding records are in use for keeping current with changes to food safety legal requirements

Suggestions to Meet the Requirements

Make a list of all food safety regulations that apply to your facility and commodity and ensure the requirements are being met. The information can be accessed either by phone or website:

- For federal acts and regulations, contact the Canadian Food Inspection Agency (CFIA):
  - phone: 1-800-442-2342
  - website: www.inspection.gc.ca
- For provincial acts and regulations contact Manitoba Agriculture, Food and Rural Development (MAFRD):
  - phone: 1-866-626-4862 (Manitoba Government Inquiry)
  - website: www.gov.mb.ca/laws
- Include any municipal bylaws that apply to your facility.
- Include corporate or third party food safety program requirements.

Develop an FSMS policy.

- The policy should include:
  - all food safety legal requirements the facility is obligated to meet
  - any corporate or third party food safety requirements
  - a statement that demonstrates management's commitment to the program
- This commitment statement should be written and signed by senior management, not the designated employee responsible to develop the FSMS policy. This way, senior management will be fully aware of their role in the food safety system.
- Management can also demonstrate commitment to food safety by keeping records of management meetings (food safety should be part of the agenda), reviewing internal audit results and acting on findings and attending audit meetings.

Develop an FSMS procedure that ensures your facility keeps current with the applicable food safety legal requirements.

Develop a record for the FSMS procedure and record any regulatory changes which affect your facility, ensure any documentation that is affected by the regulatory change is updated.

11 Program Review

The importance of a program review

Completing a food safety program is just the first step in ongoing food safety. Processes, products, ingredients, processing aids, packaging materials, equipment, facilities, chemicals and personnel continue to change and it is necessary to check frequently that:

- the program continues to meet the Manitoba HACCP Advantage standard and regulations
- the program is still suitable for the operation
- employees receive the correct training as scheduled

Program review requires a procedure with a set schedule for checking all of the written programs. The procedure should follow the format of other GMP procedures and should include a comparison of the written program with the current requirements as well as logbook entries. This will ensure that all changes were tracked and implemented and that the written program is still applicable for the facility.

Program review also requires a procedure to review, on a set schedule, training documents and records to make sure that the training meets the Manitoba HACCP Advantage standard and that the training matches the written program. The program review procedure must have a review of training records to make sure employees are properly trained and get refresher training. If the written program has been changed, the training procedures must also be updated to reflect the change.

The program review does not need to occur all at once. For example, one or two sections may be reviewed each month, as long as each section of the program is reviewed at least once a year.

Program Review 11.1

A written program review procedure and corresponding records are in use to ensure:

- the written program meets the current Manitoba HACCP Advantage standards and is current for the operation
- the training program reflects the facility's written program
- the program review is completed at least once per year

Suggestions to Meet the Requirements

All sections of the food safety program need to be reviewed at least once per year. Be sure to include all requirements and forms in the program review.

Develop a procedure and corresponding records that include:

- A method for comparing the facility's written program (ex: policies, procedures and records) to the Manitoba HACCP Advantage standard. The entire program does not need to be reviewed at one time, set a schedule that indicates what documents and programs will be reviewed and when.
- Indicate the sources to be used to get current information for the Manitoba HACCP Advantage standard.
  - In Winnipeg, call 204-945-7684 and ask about revisions from the previous date of your program review.
  - Check the MAFRD webpage: www.manitoba.ca/agriculture/foodsafety.
  - Review new scientific information for the product and/or commodity.
- A method to ensure the written program is current for the facility's operations. Items that could affect the food safety program and may introduce program changes are:
  - new regulations
  - new ingredients, processing aids, products or packaging materials
  - new processing lines, equipment, chemicals
  - structural changes/renovations
  - new contractors (ex: pest control)
  - discontinued product, equipment, processing lines or chemicals
- A review to confirm that changes made to the program are entered in the logbook and, to ensure all changes are implemented.
- Instructions that ensure any product or process change within the facility is reflected in the program at the time of the change and not be postponed until the program review is scheduled. All program changes must be entered in the logbook at the time the change is made. See the requirements for 12.1 DOCUMENT CONTROL for more information.

Program Review 11.1

Develop a method for:

- Comparing the facility's training program to the facility's written program.
- Reviewing training records to ensure they have been completed properly and that all employees have received the appropriate training.
- Reviewing the existing training material to ensure that it has been updated if/when any changes were made to the program.
- Include a review of the training schedule:
  - Ensure all employees who are currently employed are listed on the schedule (ex: compare the training list with the payroll list).
  - Ensure all employees who were scheduled to be trained have received training using the correct procedure. This is usually done by comparing the training schedule to the corresponding training records which the employees are required to sign during the training session.

12 Document Control

The importance of a document control program

The Manitoba HACCP Advantage program requires documentation in the form of procedures, policies, records, checklists, schedules and lists. The food safety program depends on this documentation because it is the evidence that written procedures have been put into practise and the program is effectively implemented.

Because the program is continually reviewed and changes are made to the process and facility, procedures will become obsolete and must be updated. A system must be in place to ensure only current versions of all documents are being used. The document control system must include all paper and electronic documents.

There are many ways to control documents and a system must be chosen that best suits the operation. One or two people should be assigned the responsibility of managing the documents. These should be the same people who have the access needed to change and update documents. Documents may be password protected to limit access and should also have a revision number or date to help keep track of current versions.

A logbook must be kept to track any changes made to the program. The logbook should include what was changed, who made the change, the reason for the change, the date the change was made, the revision number or document date and who approved the change. It should ensure that employees who will be affected by the change are retrained in a timely manner.

Document Control 12.1

A written document control procedure is in use and includes procedures to ensure:

- only the current version of documentation is being used
- a logbook is in use and updated when changes are made to the food safety program
- a written policy for record retention is in use
- a document numbering system is in use
- all documents are properly authorized

Suggestions to Meet the Requirements

Develop a procedure for the facility describing the specific document control program. The procedure needs to ensure that obsolete documents are not in use.

- Make sure all documents have a title and a document identification number or code and a revision date or number.
- Create a current list of all documents including all policies, procedures, their corresponding records and any lists, schedules or diagrams.
- Create a logbook to track program changes explaining what was changed, the reason for the change, who made the change, the date the change was made, who approved the change and revision numbers. Examples of what to track in the logbook include:
  - changes to an activity/monitoring or verification frequency
  - change of an employee responsible for an activity/monitoring or verification procedure
  - changes to methods within the procedure
- It is not necessary to track administrative changes such as, typos, page numbers and font.
- Logbook entries need to be made at the time the change is made and must not be delayed.

Develop a record retention policy.

- Keep completed records for the length of the product's shelf life or two years, whichever is longer.
- Include the storage location for completed records. This policy can be included in the document control procedure.

13 Personnel Training

The importance of a personnel training program

Employee training is essential when implementing and maintaining an effective food safety program. A training program ensures employees understand and follow a company's policies and procedures. Everyone from entry level worker to management should be trained. Food safety is everyone's job and all employees contribute to it.

All plant employees require training on personnel practices before they work on the production floor. Training should be done by qualified employees rather than co-workers. (Allowing employees to learn from their co-workers may increase the chance of keeping bad habits in the plant). Training in other programs (ex: sanitation or receiving and shipping) will depend on the workers' role at the facility.

Training is an ongoing process in a food facility. A training schedule and check list keep track of who needs to be trained and when. Losing track of who has been trained or needs to be trained can happen in a busy working environment if it's not recorded.

Retraining is also required when an employee does not follow a procedure or when a record is not completed correctly. Failure to retrain an employee means that an error can reoccur. Refresher training is also important to ensure employees' knowledge remains current.

All training must be documented. A training record is the proof that training is completed and effective.

Personnel Training 13.1

Written procedures and corresponding records are in use for training for all programs. Identify:

- personnel who require training
- the trainer
- training material used
- frequency of training

Training is provided before employees start new job duties, and whenever changes are made to the program. Refresher training is provided at least once per year.

Suggestions to Meet the Requirements

Develop training procedures.

- Include instructions to ensure all the appropriate personnel are present for training (ex: cross-reference training list, training schedule and current employee lists).
  - Materials and methods that can be used to support training include: review of policies and procedures; classroom training; onsite training; demonstration and practice/ job shadowing; videos/ visual aids and presentations.

Develop corresponding records for training material presented.

- Training records list who attended, date of training, topic, material used and name and signature of the trainer.
- The training records have space for employees to initial and sign to indicate they received and understood the training.

Develop a method to assess and prove employees who were trained understood the training material (ex: written or verbal test or observe the task being performed).

Develop a training schedule.

- Regular training schedules must be set and must show the names of personnel that require training and how often refresher training will occur. How often you have refresher training depends on your commodity, employee turnover rate and/or season of production (ex: yearly, seasonally, every six months).

Remember to include deviations and corrective actions in training procedures (ex: documenting employees absent from training and/or reassessing training materials if training is not effective).

All GMP programs require training procedures and records to be developed and used. You may consider combining training procedures and records for some or all GMP sections. If training procedures are combined, be sure to include details from all programs in the combined procedure (ex: materials used to train each section, detailed schedule).

Training is also necessary for Critical Control Points related to HACCP plans, if applicable.

14 Internal Auditing

The importance of having an internal auditing program

Once Manitoba HACCP Advantage has been implemented it is necessary to verify that it is effective, updated and improved. All the elements of the food safety system need to be evaluated to ensure significant hazards are being controlled and no new hazards are being introduced to your product and process. This verification will also check for conformity to the requirements of Manitoba HACCP Advantage.

Internal audits are valuable tools to assess the effectiveness of your GMPs and/or HACCP. They help identify strengths and weaknesses of your food safety system. Other benefits of internal audits:

- identifies deviations (ex: inadequate or lack of control measures, insufficient training)
- identifies areas for improvement
- improves business performance
- identifies trends (inefficient processes, job performance variation by shift, etc.)
- provides feedback to management
- identifies underlying issues (ex: resistance to change, lack of resources, etc.)
- improves internal communication
- allows you to take corrective actions before an external audit occurs

Internal audits are usually done by in-house personnel. Internal auditors should be objective, analytical, observant and good communicators. Having people from different departments doing internal audits broadens expertise, avoids conflict of interest and allows focus on specific areas. Preferably, internal auditors should not have interests in the process audited, to maintain impartiality. Outside auditors may also be hired to do internal audits of a food safety system.

During internal audits the GMP and/or HACCP documentation will be reviewed and assessed for completeness and an onsite verification will be done. The onsite verification ensures that programs, policies and procedures are implemented as written and are reflective of the operation. The audit should be done by observation, personnel interviews and record reviews.

Internal audits need to be strict and rigorous and need to be done regularly. The frequency of internal audits is up to the facility. However, a complete internal audit is required annually. When planning internal audits, wait three to four months after implementation of GMPs and/or HACCP. This allows sufficient time to generate records, identify deviations, take corrective actions and address problems and deviations. This will also help assess the progress in implementing GMPs and/or HACCP.

Internal audit follow-up must be a priority. Make sure to review the effectiveness of corrective actions taken, to ensure continual improvement.

The internal audit program requires:

- procedures on how to manage the internal audits conducted at the facility
- requirements for internal auditors
- records to document audit findings and corrective actions

Instructions on how to plan, do, report and follow up on internal audits are needed for internal auditors to use when auditing.

Internal Auditing 14.1

Internal audits are done at specified intervals to ensure conformance to Manitoba HACCP Advantage standards and that the standards are effectively implemented to ensure food safety. Written procedures and corresponding records are in use for internal auditing.

- A minimum of one complete internal audit is done annually.
- Internal audits include documentation review and onsite verification.
- Corrective actions must be taken for all non-conformities identified during an internal audit.
- Follow up must be done to verify the effectiveness of corrective action.

Suggestions to Meet the Requirements

Develop procedures for planning, doing, reporting and following up on internal audits.

- Include instructions for:
  - selecting and training internal auditors
  - planning internal audits (ex: scheduling, arranging resources, establishing communication among auditee and auditors, using checklists)
  - doing internal audits (ex: documentation review and onsite verification guidelines)
  - documenting internal audit activities, reporting findings
  - following up on corrective actions

Review GMP and/or HACCP documentation for conformance with Manitoba HACCP Advantage standard. Ensure procedures and documents are appropriate for the organization and ensure food safety. As part of the documentation review:

- Assess documents for completeness.
- Ensure all the GMP and/or HACCP requirements are addressed in the program.
- Evaluate all components of GMPs, including sourcing and delivery of ingredients, packaging materials, personnel practices, pest control, shipping and receiving.
- Review all existing HACCP plans and their supporting procedures and documents.

Do onsite verification by visual observation of practices, personnel interviews and records reviews:

- Check that programs and policies are implemented as written, stay current and reflect the operation.
- Review records for completeness and accuracy.
- Observe employee's activities, personnel practices, design, condition and maintenance of internal structures (ex: floors, walls, ceilings and light fixtures), food contact surfaces and equipment.

- Ensure that GMP and/or HACCP programs are effective.
- Ask employees about the activities they perform and the monitoring procedures they follow to ensure proper training.

Verify the implementation and effectiveness of corrective actions.

Develop corresponding records for documenting the results of internal audits and any necessary corrective actions.

Communicate audit findings to applicable people, including senior management.

15 Verification

The importance of a verification program

Verifying GMPs is important because it ensures that the written programs are being followed. It gives early warning of any problems and allows issues that are becoming a trend to be identified. Verification also provides proof that GMPs have been implemented which is required for recognition, as well as for customers, suppliers, insurance companies or anyone else with an interest in a facility. Verification is how you show due diligence if the need ever arises.

Due Diligence

Due diligence refers to all the actions that you can reasonably be expected to take to prevent harm to your customer. You demonstrate your due diligence by doing everything that you can reasonably do to prevent hazards in your product. GMPs and HACCP are two things that you can reasonably be expected to have in place to protect your customers. Due diligence implies actions are taken before an incident. These actions are voluntary but without them, you could be considered negligent because you did not do everything you could.

Verification 15.1

Written procedures and corresponding records are in use for verification of procedures and policies, which confirm at set intervals that activities are being performed as written.

Suggestions to Meet the Requirements

Develop verification procedures. For example:

- To verify the personnel program, the most common method is to observe or interview employees/visitors/contractors and record whether policies are followed.
- To verify the receiving and shipping program, the most common method is to observe the task being performed and record whether the task is performed as written.

Develop a verification schedule for verifying a program based on the risk of the activity being performed.

- If there is a high employee turnover rate in the facility, it might be necessary to increase the frequency of the verification to ensure that personnel are following the policies and procedures.
- When verifying personnel activities, you should consider the best time to do this. It should not be done at the same time each day. For example, the best time to verify hand washing activities may be at the beginning of the shift or after lunches and breaks. Consider the best times to verify the cleanliness of uniform, traffic patterns etc. (ex: in middle of shift).
- To verify that records are being properly completed, all the records, since last verification, should be reviewed. Verification of the records is done to ensure that:
  - Mistakes have been crossed through with a single line and initialled by the designated employee and that liquid paper has not been used.
  - Documents are completed in permanent ink (no pencil).
  - All records are signed and dated by the designated employee.
  - No blank spaces are left on the record, if necessary N/A can be used.
  - The activities are carried out at the appropriate frequency.
  - There is no evidence of falsified entries.
  - All deviations and corrective actions are documented and are suitable.
  - If food safety may have been compromised, affected items are put on hold and a food safety assessment is done.
  - If a deviation is recurring, a root cause analysis is conducted.

Develop corresponding records for verification procedures, or include space on existing monitoring records to record verification activities. Remember to include deviations and corrective actions in all verification procedures and records.

16 Corrective Action

The importance of a corrective action program

To prevent food safety risks it is important to identify all failures of a food safety system. Having corrective action procedures will ensure that employees know what to do when problems arise.

Corrective actions are predetermined activities that are taken to correct the issue when a deviation has occurred. The goal of a corrective action is to:

- regain control of the hazard
- identify food safety risks
- prevent reoccurrence

Corrective actions can be short term or long term. A short term corrective action acts as a "band-aid" to keep an operation safely running until a long term corrective action that addresses the root cause of the problem is made.

Corrective actions apply to all requirements of the Manitoba HACCP Advantage standard.

Corrective Action 16.1

Written procedures and corresponding records are in use for addressing deviations to ensure:

- documentation of the deviation
- assessment of food safety risk
- determination of appropriate corrective actions
- correction and documentation is carried out within an appropriate time frame

Suggestions to Meet the Requirements

Develop corrective action procedures. For example:

- Develop a series of steps that require the monitor or someone with appropriate authority to document the deviation and determine how to correct it.
- Assign the responsibility to complete and document each corrective action to a specific individual or group.

Develop a procedure for determining the root cause of a deviation. When determining the root cause of a problem, some experts suggest that you ask "Why?" five times or until you know the real cause of the problem and then form suitable corrective actions.

Develop corresponding records, or include space on existing records to document the details of deviations and corrective actions. Examples of what to include are:

- the date and time the deviation occurred
- what the deviation is
- what corrective actions are being taken
- the timeframe for completion of the corrective actions
- sign-off of the responsible employee once the corrective actions are complete

Document any changes to the food safety program that result from corrective actions in the logbook, see requirement 12.1 DOCUMENT CONTROL.

Any suspect product that is identified as the result of a deviation must be controlled therefore; corrective action goes hand in hand with requirement 3.2 CONTROL OF DEFECTIVE AND SUSPECT ITEMS.

17 Manitoba HACCP Advantage

Before proceeding with HACCP plans, GMPs must be in place.

What is HACCP?

HACCP (pronounced HASSAP) stands for hazard analysis critical control point. HACCP is:

- a science-based, food safety system
- used to help ensure processing of safe food products
- internationally recognized as the primary means for enhancing food safety
- focused on preventing problems before they occur, rather than trying to detect failures through finished product testing

HACCP plans are designed to prevent, eliminate or reduce to an acceptable level potential biological, chemical and physical food safety hazards, including those caused by cross-contamination. They are designed to control hazards directly related to the finished product, ingredients or process steps, which are not controlled by GMPs.

HACCP Forms

To develop a HACCP plan, eight forms must be completed in sequence.

Form 1 – Product Description

Form 2 – Incoming Materials (Ingredients, Processing Aids, Packaging Materials)

Form 3 – Flow Diagram

Form 4 – Facility Schematic

Form 5 (a and b) – Hazard Description and Critical Control Point Determination

Form 6 – Flow Diagram with Critical Control Points

Form 7 – Uncontrolled Hazards

Form 8 – HACCP Matrix

Remember that the *Manitoba HACCP Advantage Guidebook* provides detailed directions and examples of completed HACCP plan forms and implemented CCPs.

HACCP 17.1

A written HACCP Program is developed and effectively implemented. The program requires:

identifying and training a HACCP team

- a HACCP plan following the principles of the Codex Alimentarius
- a complete and documented scientifically based hazard analysis
- validation

Suggestions to Meet the Requirements

Assemble a HACCP team to lead the development, implementation and maintenance of the GMPs and HACCP plan.

- Select HACCP team members from different departments (ex: quality assurance, maintenance, production, sanitation, management).
- It is important for management to be represented on the HACCP team to demonstrate commitment and to ensure that adequate resources are provided.
- Schedule regular HACCP team meetings to discuss:
  - changes to the facility
  - changes to product
  - hazard analysis
  - root cause of deviations

Identify and evaluate all hazards associated with production of the product. Consider incoming materials (ex: ingredients and packaging), processing activities including rework (if applicable) and areas where cross-contamination may be a concern.

- Evaluate hazards to determine their significance based on severity and likelihood of occurrence.
- To ensure the hazard analysis is scientifically based use scientific literature, history of recalls in the commodity, knowledge of the product and process.

Develop a written HACCP plan(s) based on the seven principles of HACCP as described by the Codex Alimentarius.

- Complete the Manitoba HACCP Advantage Forms 1-8 (or an equivalent).

Validate all control measures to ensure they effectively control the identified hazards. (Ex: Can the x-ray detector detect the identified hazard in the packaged product?)

Review your HACCP plans, including the hazard analysis, flow diagram, plant schematic and any other applicable documents or records to ensure they are current and accurate for the facility.

- Requirements 11.1 PROGRAM REVIEW and 15.1 VERIFICATION apply to the complete Manitoba HACCP Advantage standard which includes GMPs and HACCP.

Develop records for:

- monitoring CCPs and recording deviations and corrective actions.
- verification activities

Form #1: Product Description

Plan Name: _____

Product name	Product type: (ex: cooked, raw, processed, ready-to-eat)	Product characteristics important for food safety: (ex: pH, a_w, salinity, state, other qualities)	Does the finished product and recipe meet the requirements of *Food and Drug Act* and regulations (Y/N)?	Does the label meet the requirements of *Consumer Packaging and Labelling Act* and regulations (Y/N)?	Does the product contain restricted ingredients as per *Food and Drug Act* and regulations (Y/N)? If yes, list restricted ingredients.	Does the product contain allergens as per Health Canada Guidelines (Y/N)? If yes, list allergens.	Shelf-life of product	Storage and distribution instructions (ex: keep refrigerated, keep frozen, humidity control)	Intended use of the product: (ex: for general public, elderly, immuno-compromised, infants, further processing)

Form #2: Ingredients and Incoming Materials

(Ingredients, Processing Aids, Packaging Materials)

Plan Name: _____

List all incoming ingredients, processing aids and packaging materials.

Column 1	Column 2	Column 3
List all ingredients	List all processing aids	List all packaging materials (primary, secondary, tertiary, etc.)

Form #3: Flow Diagram

Plan Name: _____

Process flow diagram

- Create a flow diagram of the manufacturing process.
- Number each step.

Form #4: Plant Schematic

Plan Name: _____

- Create a plant schematic or floor plan of the facility, identifying all equipment and rooms.
- Indicate on the floor plan the flow of product and people through the facility.
- On the floor plan, identify all potential cross-contamination points. Some examples include:
  - raw and cooked crossover
  - allergen products versus non-allergens
  - inedible materials and finished product crossover
  - crossover of personnel from incompatible areas

Form #5a: Hazard Description and Critical Control Point Determination

(Incoming Materials and Potential Points of Cross-Contamination)

Plan Name: _____

Column 1	Column 2	Column 3	Column 4	Column 5
Incoming material/area identified on plant schematic List all: • incoming ingredients and materials (copy these from Form #2) • potential points of cross-contamination (as shown on Form #4)	List all biological, chemical and physical hazards related to: • incoming ingredients and materials listed in column 1 • potential points of cross-contamination listed in column 1	Q1. Does a GMP control the hazard to a level that will prevent it from compromising the safety of the finished product? Answer "yes" or "no" * If yes, list the "GMP(s)" that control the hazard. Stop. Continue with next hazard. * If no, go to question (Q2).	Q2. Is it likely that contamination with the identified hazard could occur in excess of the acceptable level or could increase to an unacceptable level? Answer "yes" or "no" * If yes, go to question (Q3). * If no, stop. Continue with the next hazard.	Q3. Could a control measure (s) be used to eliminate or reduce the hazard to an acceptable level? Answer "yes" or "no" * If yes, list the control measure and ensure the control measure is included in your process, and is identified on Form #5b. * If no, list the hazard on Form #7.

Incoming Materials:

	Biological **Chemical** **Physical**			
	Biological **Chemical** **Physical**			

Points of Cross-contamination:

	Biological **Chemical** **Physical**			
	Biological **Chemical** **Physical**			

Form #5b: Hazard Description and Critical Control Point Determination
(Process Steps)

Plan Name: _____

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Process step List all process steps as shown on form #3.	List all biological, chemical and physical hazards associated with each process step listed in column 1.	Q1. Does a GMP control the hazard to a level that will prevent it from compromising the safety of the finished product? Answer "yes" or "no" If "yes", list the GMP(s) that control the hazard. stop. continue with next hazard. If "no", go to question (q2).	Q2. Is it likely that contamination with the identified hazard could occur in excess of the acceptable level or could increase to an unacceptable level? Answer "yes" or "no" If yes, go to question (q3). If "no", stop. continue with the next hazard.	Q3. Is the process step listed in column 1 the final step designed to eliminate or reduce the hazard to an acceptable level? Answer "yes" or "no" If yes, the step is a CCP. Complete column 8. If no, go to question (q4).	Q4. Will a subsequent step eliminate or reduce the hazard to an acceptable level? Answer "yes" or "no" If yes, the subsequent step is a CCP. List the step. Ensure this information is included when you reach that process step on this form. If no, go to question (q5).	Q5. Could a control measure be used to eliminate or reduce the hazard to an acceptable level? Answer "yes" or "no" If "yes," the process must be modified to include the control measure listed in column 5, and then forms 1, 2, 3, 4 and 5 must be revised to reflect the changes. If no, list hazard on form #7.	CCP number Proceed to next identified hazard.

Process Steps:

	Biological **Chemical** **Physical**						

Form #6: Flow Diagram with Critical Control Points

Plan Name: _____

PROCESS FLOW DIAGRAM WITH CRITICAL CONTROL POINTS IDENTIFIED

- Using Form #3, identify beside each step potential biological, chemical or physical hazards and mark with a B,C, and/or P.
  - Are potential biological hazards associated with the step (ex: bacterial contamination, bacteria on surfaces, bacterial growth)?
  - Are potential chemical hazards associated with the step (ex: sanitation residues, chemical contamination)?
  - Are potential physical hazards associated with the step (ex: flaking paint, metal on metal contact)?
- Identify beside the appropriate steps where the critical control points for the HACCP plan have been identified.

Form #7: Uncontrolled Hazards

Plan Name: _____

UNCONTROLLED HAZARDS

Summarize all *biological, chemical* and *physical* hazards in your facility as identified by a "NO" answer in:

- Q3 on Form #5a
- Q5 on Form #5b

Indicate how each hazard will be controlled before or after the process (ex: cooking prior to consumption, farm level Good Agricultural Practices).

Hazards	How the hazard could be addressed

Form #8: HACCP Matrix
(Process Steps)

Plan Name: _____

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Process Step Number and description as indicated on Form #3.	**CCP Hazard Number** Number sequentially.	**Hazard Description** Identify whether the hazard is biological, chemical or physical. Describe hazard.	**Critical Limits** Define the value(s) that are acceptable to maintain the CCP under control.	**Monitoring Procedures** Identify the following: • who is responsible for the task; • what procedure is to be followed; • what observation is to be made or what measurement is to be taken; • how often the task is to be performed; • where the observations are to be recorded	**Deviation and Corrective Action Procedures** If monitoring indicates a deviation, describe: • who takes the corrective actions; • what procedures are to be followed; • where the actions are to be recorded.	**Verification Procedures** Identify the following: • who is responsible for the task; • what procedure is to be followed; • what observation is to be made or what measurement is to be taken; • how often the task is to be performed; • where the observations are to be recorded. If verification indicates a deviation, describe: • who takes the corrective actions; • what procedures are to be followed; • where the actions are to be recorded.	**HACCP Records** List records to be used.

Glossary

Allergen – a substance that causes some individuals to experience an immune system response, such as an allergic reaction.

a_w (water activity) – a measure of the free water available, in a food, for biological or chemical reactions.

Biological hazard – any micro-organism that can cause food-borne illness when ingested.

Brittle material – any material that is hard or rigid, that will readily break causing a potential physical hazard (ex: hard plastics, ceramic).

CCP (Critical Control Point) – a point, step or procedure at which a control measure can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

CCP decision tree – a sequence of questions used to determine where CCPs are located.

Certificate of Analysis (CoA) – a document accompanying incoming loads that attests to the safety, quality or purity of a specific lot of goods (ex: laboratory test results demonstrating a lot of raw ingredients is free of pathogens).

CFIA (Canadian Food Inspection Agency) – an agency of the federal government dedicated to safeguarding food, animals and plants.

Chemical hazard – any chemical agent that may cause poisoning when ingested or inhaled (ex: toxin produced by a micro-organism).

Codex Alimentarius Commission – a commission set up by the Food and Agriculture Organization (FAO) and World Health Organization (WHO) of the United Nations to develop internationally recognized food standards, guidelines and related texts such as codes of practices.

Consumer Packaging and Labelling Act – a federal act that provides for a uniform method of labelling and packaging of consumer goods as well as prevention of fraud and deception by provision of factual label information.

Corrective actions – measures taken to regain control of a hazard, to determine the disposition of affected product and to prevent a reoccurrence of the problem.

Critical limits – the maximum and/or minimum value to which a biological, chemical or physical parameter must be controlled at a CCP to prevent, eliminate or reduce the occurrence of a food safety hazard to an acceptable level.

Cross-contamination – the physical movement, or transfer, of harmful micro-organisms, allergens, chemical contaminants, or any foreign substance from one person, object, food or place to another.

Defective – items that are damaged, compromised or out of specifications.

Disposition – the decision to rework, reuse or dispose of suspect food, ingredients, processing aids or packaging materials.

Documentation – all of the written parts of your GMP program including policies, procedures, records, schedules, checklists, schematics.

Due diligence – actions that can reasonably be taken to prevent illness or injury.

Environment – the outside and inside of a food processing facility that could impact the food safety of a food product (ex: equipment, ventilation, water, storage conditions, temperature).

External contaminants – includes environmental contaminants (ex: excessive dust, foul odours, smoke, airborne microbes, chemicals).

Facility schematic – diagram showing where each step of the manufacturing process occurs within the facility.

FIFO (First-in, First-out) – a rule for rotating stock so the oldest items get used first.

Flow diagram – a systematic representation of the sequence of steps or operations used in the manufacture of a particular food.

Food and Drugs Act – a federal act that established regulations about food, drugs, cosmetics and therapeutic devices.

Food Safety Assessment – a tool for assessing and making a decision whether food, ingredients, processing aids and packaging material are safe to use.

FSMS (food safety management system) – a requirement of the Manitoba HACCP Advantage for a policy and procedure to ensure all applicable laws are being met.

GMP (good manufacturing practices) – practices, policies and procedures that promote effective hygiene and the processing of safe food.

HACCP (hazard analysis critical control point) – a tool used to analyze food safety hazards specific to your process.

HACCP co-ordinator – a person designated to oversee the development, implementation and maintenance of the HACCP system.

HACCP plan – a document prepared using the principles of HACCP to ensure control of hazards that are significant for food safety in the segment of the food chain under consideration.

HACCP principles – seven standard principles (or steps) by the Codex Alimentarius Commission for the development of a HACCP plan.

HACCP system – identifies, evaluates and controls hazards which are significant for food safety.

HACCP team – the group of people involved in the development, implementation and maintenance of the HACCP system.

Hazard analysis – the process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP plan.

Handling – transporting, processing or storing food ingredients, processing aids and packaging material within in a facility.

Housekeeping – the ongoing, routine steps taken to maintain a tidy processing environment.

Immuno-compromised – individuals who may be more susceptible to food-borne illness because of an immune deficiency.

Legislation – the laws, regulations or acts that legally must be followed.

Letter of guarantee – written assurance from a supplier that their products meet specified requirements (ex: their products do not come into contact with specified allergens).

Maintain – making sure GMPs are running properly, includes ongoing refresher training and verification.

MAFRD (Manitoba Agriculture, Food and Rural Development) – the provincial department dedicated to Manitoba's agriculture and food sectors and responsible for the development and delivery of Manitoba HACCP Advantage.

Monitoring – doing a planned sequence of observations or measurements to determine if a GMP program or CCP is under control.

Operational control – activity or action to control a hazard (ex: instead of sloping floors (a physical control) to control pooling water, have an employee squeegee pooling water toward a drain).

Organoleptic testing – uses one or more of the five senses – smelling, hearing, seeing, touching or tasting.

Pathogen – a micro-organism that can cause illness or disease in humans.

Pest control devices – include rodent traps, bait stations, glue boards, insect lights, bird deterrents.

pH – a way of expressing the acidity or alkalinity of substances on a scale from 0 to 14, where 0 is extremely acidic, 7.0 is neutral and 14 is extremely alkaline.

Physical hazard – any extraneous material in food that could cause injury or illness.

Policy - the rules of your plant (ex: personal practices, storage conditions, use of approved suppliers).

Prerequisite programs – another name for good manufacturing practices (GMPs).

Procedure – a specific, step-by-step instruction to perform a task.

Program – a component of the Manitoba HACCP Advantage standard that requires written policies or procedures, training and verification. There are nine advantage GMP programs and six supporting programs.

Processing aid – a substance used to process food but not present in the final product.

Record – written documents that capture specific information about GMPs to provide proof that GMPs are being followed.

Root cause analysis – determining and evaluating the source of a problem to address the source.

Salinity – a measure of the salt concentration.

Standard – the requirements of Manitoba HACCP Advantage.

Suspect – items that are questionable or potentially unsafe and require further testing or assessment (ex: returned product, or food, ingredients, processing aids, packaging materials).

Uncontrolled hazard – a hazard that cannot be controlled by a facility's HACCP system.

Utensils – any mobile utensil or piece of equipment that personnel can move around and potentially cause cross-contamination (ex: ingredient scoops, chemical scoops, pails, garbage containers, knives, spatulas, cleaning brushes, brooms, dust pans, squeegees, ingredient containers, shovels, carts, bins, totes, scales, maintenance tools, lift trucks, portable metal detectors, pumps, foamers).

Validation – process of obtaining evidence that the elements of the HACCP system are effective.

Verification – the application of methods, procedures, tests and other evaluation, in addition to monitoring, to determine compliance with the HACCP plan. (It confirms that the HACCP plan is operating effectively and according to written procedures.)

Manitoba Agriculture, Food and Rural Development
foodsafety@gov.mb.ca
manitoba.ca/agriculture/foodsafety

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