

POTATO PRODUCER AND PACKER ON-FARM FOOD SAFETY MANUAL [©]



CHC / CCH

CANADIAN HORTICULTURAL COUNCIL
CONSEIL CANADIEN DE L'HORTICULTURE

9 Corvus Court
Ottawa, Ontario, Canada K2E 7Z4

Version 5.4

2011_v5.4

Acknowledgment

The ***Potato Producer and Packer On-Farm Food Safety Manual*** and related materials have been developed by the Canadian Horticultural Council with the funding and support of Agriculture and Agri-Food Canada.

Technical support for the development of this document was provided by various federal and provincial governments, regional producer associations and technical resources. This manual was developed by a group of producers, packers and their representatives from across Canada.

Every effort has been made to ensure the material presented herein is up-to-date and accurate; however, the organizations and individuals involved in the development processes cannot be held responsible for any error or consequences that could result from use of this information.

Disclaimer

“While the Canadian Horticultural Council has produced the contents of this Food Safety Program, it does not guarantee that it will identify all potential risks and all measures that may be required to eliminate or manage those risks. Risk management is the responsibility of the operator. To the full extent allowed by law, the Canadian Horticultural Council excludes liability for any loss arising through the provision of services by itself, its servants and its agents (including liability for negligence) and where liability cannot be excluded, limits that liability to either, at its choice supplying the relevant services again or paying the cost of having those services supplied.”

This document is intended to provide general food safety guidelines for the production and distribution of horticultural products. It is not intended to serve as, and does not constitute recommendations or legal advice for any of the material contained herein. Because food safety plans and issues are evolving, may vary, and could involve legal implications, the reader should consult legal counsel for advice on particular legal or regulatory matters that may arise.



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

Canada

CANADIAN HORTICULTURAL COUNCIL
CONSEIL CANADIEN DE L'HORTICULTURE

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CHC / CCH VERSION 5.4

*Potato Producer and Packer
On-Farm Food Safety Manual
2011_v5.4*



Canadian Food Inspection Agency Agence canadienne
d'inspection des aliments

159 Cleopatra Drive
Ottawa, Ontario K1A 0Y9

November 21, 2006

Anne Fowlie
Executive Vice President
9 Corvus Court
Ottawa ON, K2E 7Z4

Dear Ms. Fowlie:

On behalf of the Canadian Food Inspection Agency (CFIA), I congratulate you and your staff on successfully completing the requirements related to the technical review Part 1 of an on-farm food safety program. On November 7, 2006, the CFIA-led technical review team completed their examination of the "Potato Producer and Packer On Farm Food Safety Program" and found that it meets federal, provincial and territorial regulatory requirements. It also meets the definition of "technical soundness" in that it promotes the production of safe food at the farm level and adheres to Hazard Analysis Critical Control Point (HACCP) principles as defined by *Codex Alimentarius*.

Part 1 concludes the technical review of the generic HACCP model and producer manual elements of your CHC on-farm food safety program. Part 2 of the technical review, will evaluate the management system developed to support it.

When the Canadian Horticulture Council (CHC) has completed the development of their Management System, it can begin the next stage leading to recognition by requesting a Technical Review Part 2 (management manual and associated documentation) to:

Canadian Food Inspection Agency
On Farm Food Safety Recognition Section
Food Safety Directorate
59 Camelot Dr.
Ottawa, ON K1A 0Y9

12....

Once again, congratulations on successfully completing this part of the technical review, leading towards official recognition of the "Potato Producer and Packer On Farm Food Safety Program".

Yours sincerely,

A handwritten signature in black ink, appearing to read "Paul Kittner". The signature is written in a cursive style with a large initial "P".

Paul Kittner
A/Manager
On-Farm Food Safety Recognition Section
Food Safety Directorate

cc:

Debra Bryanton, Director, Food Safety Directorate, CFIA
Krista Mountjoy, Vice-President Programs, CFIA
Warren Smandych, National Coordinator, On-Farm Food Safety Recognition Program, CFIA
Germain Brazeau, Policy Analyst, On-Farm Food Safety Recognition Program, CFIA

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I. Introduction

This document is intended to bring into focus the potential sources of biological (B), chemical (C) and physical (P) hazards for horticultural products from the field through to shipping. It contains basic information to support the horticultural industry as it develops, refines and implements measures to enhance the safety of the Canadian food supply.

Producers and packers are already carrying out many of the Good Agricultural Practices (GAPs) described in this Manual. However, in some instances very little documentation of these good practices exists. This Manual will help producers and packers document their on-farm food safety practices. It is recommended that producers/packers keep an electronic backup of the Manual.

The producer or packer is responsible for implementation of the food safety program within their operation. This manual provides users with the toolkit to document compliance with food safety management system requirements. At all times, ownership and responsibility for the company's food safety program belongs to the producer or packer, not with the CHC as developer of the Manual.

Senior Management Commitment to Food Safety Management System

Completion and implementation of the OFFS Manual constitutes a commitment on the part of the producer or packer and the company's senior management to the development, management and continuous improvement of their food safety system.

II. Background

Horticultural products are grown, harvested and handled under a wide range of climatic conditions, using a variety of agricultural inputs and technologies (e.g., agricultural chemicals, commercial fertilizers) and on various sizes of farms. Biological, chemical and physical hazards may therefore vary significantly from one production site to another. Each production site will need to consider the GAPs that promote the safety of products, taking into account the conditions specific to the site, the type of product produced and the production methods used. Once produce is contaminated, removing or killing pathogens is difficult. Therefore, prevention of microbial contamination at all steps from production to distribution is strongly favoured over treatments to eliminate contamination after it has occurred. The individual producer/packer shall consider any additional testing that may be critical to confirming product safety within his operation; and based on the risk assessment of biological, chemical and physical hazards, prepare and implement a system to ensure that product/ingredient analyses critical to the confirmation of product safety are undertaken and that such analyses are performed to standards equivalent to ISO 17025.

Procedures associated with the production, harvesting and handling of horticultural products must be conducted under clean, sanitary conditions that minimize potential human health hazards due to contamination.

The Producer and Packer On-Farm Food Safety (OFFS) Manual has been developed based on a Potato Generic OFFS Hazard Analysis and Critical Control Points (HACCP) Model. The HACCP-based Model is the tool used to assess the potential hazards associated with the growing and packing of products and in determining areas of higher risk. Producers can obtain the Generic HACCP Model if they wish. The Generic HACCP Model was developed according to the Canadian Food Inspection Agency's Hazard Analysis and Critical Control Point (CFIA HACCP) and Canadian On-Farm Food Safety (COFFS) Program requirements. For complete details on this program and its requirements refer to the CFIA website at www.inspection.gc.ca.

For further background information about specific OFFS hazards, please visit the Index of References on the CHC web site at: www.canadagap.ca.

The CHC is committed to reviewing at least every eighteen months the Generic HACCP Model, which provides the technical backdrop to the requirements and procedures in the OFFS Manual. Corresponding review and updates to the Manual and record-keeping templates will take place at the same time. The CHC's commitment is to keep pace with advances in food safety science, and reflect new developments in industry practice, maintain the technical soundness and Canadian Government recognition status of the CHC OFFS Program materials, and ensure the continuing suitability, adequacy and effectiveness of the Generic HACCP Model and OFFS Manual for implementation by users.

The producer or packer, and senior management of each operation using and implementing this Manual, are required to review the OFFS program within the company at least annually, to ensure the continuing suitability, adequacy and effectiveness of their food safety system. Section 24 requires an annual review of the OFFS Manual to update procedures; account for new equipment, buildings or processes; take stock of deviations, complaints, corrective actions and any changes in procedures that arose as a result; and evaluate the need for changes to the food safety system, including related policies and objectives

III. Scope

The CHC OFFS Manuals are intended for use by horticultural producers and packers in Canada. They cover the production, packing (including field packing and both on and off farm packinghouses) and storage of horticultural products.

The CHC has divided the horticultural sector into the following crop groups: Combined Vegetables (Asparagus, Sweet Corn and Legumes; Bulb and Root Vegetables; Fruiting Vegetables); Greenhouse Production; Leafy Vegetables and Cruciferae; Potatoes; Small Fruit and Tree and Vine Fruit. Refer to the appropriate Manual(s) for the crops you produce.

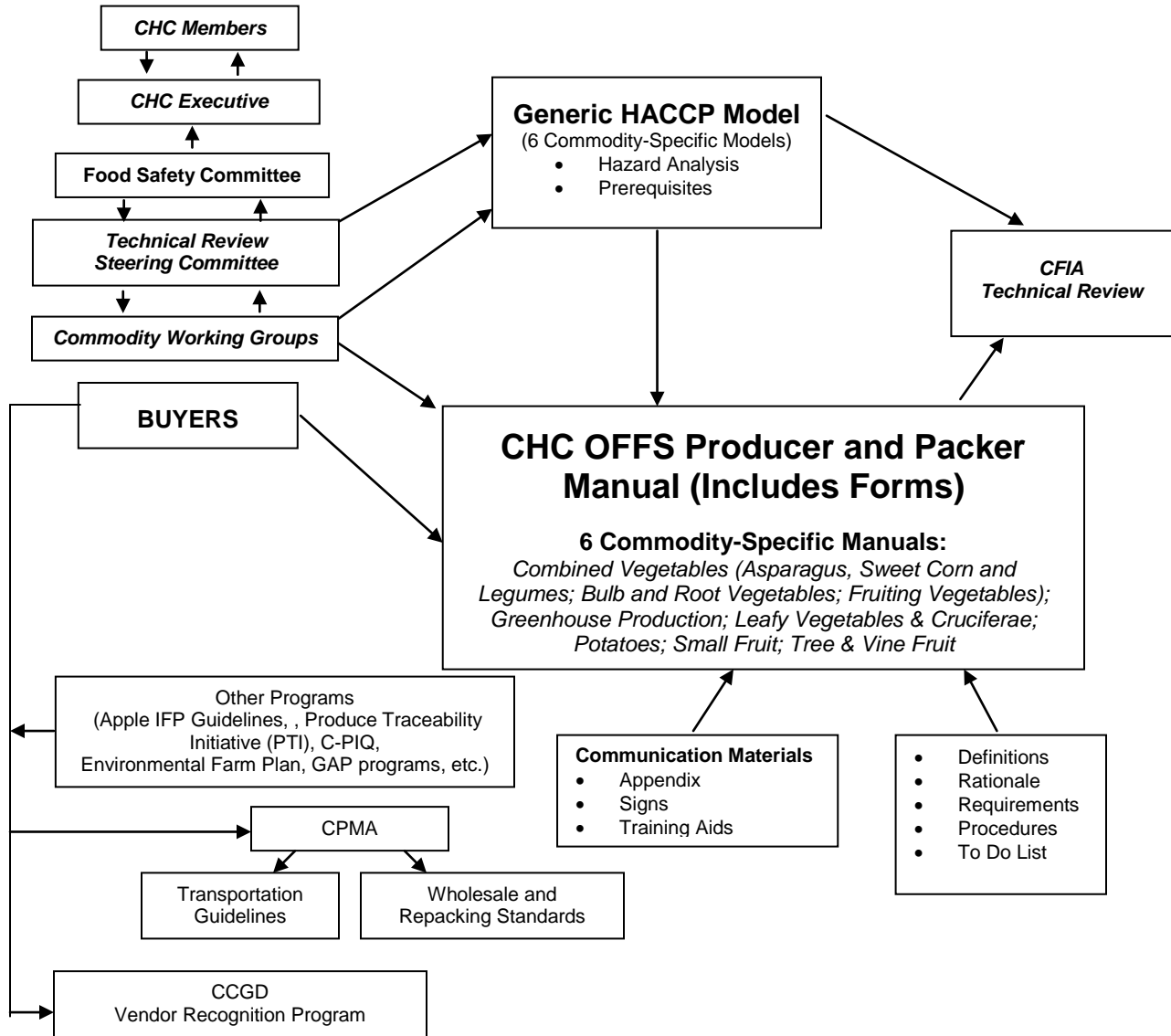
This Manual is intended for all potato producers and/or packers. It covers production, storage and packing of field grown potatoes.

IV. Purpose

The OFFS Manual has been created to make the contents of the Generic HACCP Model operational and commodity-specific. The purpose of this OFFS Manual is to be the minimum requisite program for On-Farm Food Safety (i.e., recognized national standard). Producers or packers with an existing program should review the Potato Producer and Packer OFFS Manual and should integrate the requirements with their existing program to form an all-encompassing/equivalent food safety system suited to their needs.

The schematic diagram on the following page provides an overview of food safety initiatives within horticulture.

V. Food Safety Roadmap for Horticulture



VI. How Do I Use this Manual?

IMPORTANT NOTE

It is very important that you read carefully the next few pages (Sections VI.i – VI.v) before proceeding to Section 1: Commodity Starter Products of the Manual, and that you refer often to the Glossary as you work through the Manual. This will help you successfully implement your OFFS Program by ensuring that you have a clear understanding of how to complete the Manual and of the terms and abbreviations used.

VI.i OFFS Tools for Potato Producers and Packers

The On-Farm Food Safety tools developed by the CHC include the following:

Potato Producer and Packer On-Farm Food Safety Manual and Communication Materials

The communication materials complement the manual and include items such as signs, training support aids, appendices (which provide tools/information for implementation) and any additional items/information required for OFFS implementation. To source these communication materials, visit the CHC website at: www.canadagap.ca.

VI.ii How is this Manual Organized?

The Manual is divided into two parts:

- i) Sections - The Manual content is organized into sections (e.g., Premises, Transportation, Traceability, etc.). The division of these sections has been pre-determined for all fruits and vegetables. Certain sections may not pertain to all products; however, they are included in this Manual. This is to ensure consistency with the other commodity-specific manuals being developed within horticulture so that those producers growing a number of different products and thus, requiring more than one manual, will have consistent numbering. Sections that are not applicable to specific crops have been clearly identified as N/A. The sections are further divided into Requirements (food safety requirements specific to horticultural products) and Procedures (how these requirements are to be met).
- ii) Record-Keeping Form Templates - These Forms are found at the end of the Manual in the Compendium of Food Safety Forms. Two types of record-keeping form templates exist based on the frequency of completion.
 - a) Forms that need to be completed once, annually, or as changes are made to the operation.
 - b) Forms that need to be completed on an ongoing basis during the season (e.g., daily, weekly, monthly).

IMPORTANT NOTE

Producers and packers are responsible to follow all applicable federal, provincial, territorial and municipal legislation and regulations. The producer/packer is responsible for finding out whether legislation and regulations exist in the following or other areas:

- **Purchasing, applying and storing commercial fertilizers and soil amendments**
- **Purchasing, receiving, applying and storing pulp sludge**
- **Spreading and storing manure and compost**
- **Purchasing, applying and storing agricultural chemicals**
- **Purchasing tertiary water**
- **Disposing of garbage, recyclables and compostable waste**
- **Disposing of empty agricultural chemical containers**
- **Disposing of production wastewater and waste from toilets and hand washing facilities**
- **Providing personal hygiene facilities**
- **Controlling pests inside buildings**
- **Human rights, privacy and employment standards**
- **Drinking water standards**

Federal, provincial, territorial and municipal legislation and regulations SUPERSEDE the requirements in the manual and must be followed (e.g., Ontario regulations ask that all agricultural chemical applicators are licensed/certified, while the manual gives a choice that they are certified, trained or supervised by a licensed person. Therefore, an Ontario producer must follow the regulations and be licensed/certified.) However, if the manual requires something that legislation or the regulations do not, then the manual must be followed (e.g., in Alberta, according to the regulations, a producer does not have to have a license/certificate, training or be supervised by someone who is licensed. In order to follow the manual requirements, an Alberta producer would have to do one of the above).

VI.iii How to Complete the Manual

The Manual can be completed by the producer/packer on their own or they may seek assistance to help them address food safety requirements and concerns on their operation. While the person responsible for the operation becomes the “Producer/packer” named in this manual, it is important to note that all employees involved in a food operation have responsibility for the safe production of food. Food safety involves more than a single designated producer/packer. The procedures in this manual may be carried out by a number of different individuals. The person responsible for overseeing and carrying out your OFFS program may be someone other than the producer/packer. Some operations may have a full- or part-time Food Safety or HACCP coordinator and/or an OFFS team involving some or all employees. Regardless of the structure, the program will succeed only if everyone involved is aware of his or her role in achieving food safety.

Completion and implementation of the OFFS Manual constitutes a commitment on the part of the producer or packer and the company’s senior management to the development, management and continuous improvement of their food safety system. Senior management must determine and provide, in a timely manner, all the resources needed to implement and improve the processes of the food safety program and to address customer satisfaction.

The following steps must be carried out in order to complete the OFFS Program:

1. Read and complete each section of the Manual.

When first implementing the OFFS Manual, complete it section by section. Do not continue to the next section until you have completed each of the previous sections or identified outstanding items that need to be completed (use the To Do List – Outstanding Items to Complete in Manual). The Manual is not complete until all items have been checked off your To Do List. The following box appears at the end of each section. The confirmation/update log is NOT to be signed and dated (by the OFFS Program Contact or designate) until all items have been completed in the section AND on the To Do List.

Confirmation/Update Log:

Date	Jan 10, 2011					
Initials	JD					

Make copies of Sections as needed, e.g., you may want to keep a clean copy and a working copy of each page.

<p>IMPORTANT NOTE</p> <p>!</p>	<p><i>Procedures for hazards that require both monitoring and record-keeping, as determined by the Generic HACCP Model for Potatoes are marked with an exclamation mark throughout this Manual. These procedures link to the table of deviations and corrective actions in Section 23.</i></p>
--	---

The schematic diagram on the next page provides an example of how to complete the Manual.

How to Complete the Manual

Legend: The Reference box in the top right-hand corner of each section details whether the section applies to the producer/packer and which Form(s) are applicable to the section.

Rationale: Provides the producer/ packer with background information appropriate to each section.

Requirement: Outlines the actions and activities that must be followed in the operation.

Procedures: Describes how the producer/ packer is to fulfill the requirements in each section.

Certain sections allow for you to provide details on methods or procedures used in your operation. Please provide as much detail as possible.

Forms Required H2	Producer: Yes Storage Intermediary: No Packer: No
-------------------	---

3. Commercial Fertilizers, Pulp Sludge and Soil Amendments

RATIONALE:

Commercial fertilizers, pulp sludge and soil amendments can potentially contaminate product with toxic matter if the incorrect types are spread (e.g., materials containing mercury, arsenic, lead, etc.).

- Commercial fertilizers are used on the premises
- Pulp sludge is used on the premises
- Soil amendments are used on the premises

*# ANY of the above circles has been checked off, proceed below.
not, proceed to Section 4: Manure, Compost and Other By-Products.*

3.1 Purchasing and Receiving

REQUIREMENT	Commercial fertilizers, pulp sludge and soil amendments must be purchased/selected and received properly to minimize chemical contamination.
--------------------	--

PROCEDURES:

- Producer purchases or selects:
 - Commercial fertilizers from suppliers licensed under the *Fertilizers Act* or suppliers that meet provincial regulations
 - N/A** Pulp sludge that meets provincial regulations
 - Soil amendments that meet provincial regulations
- Producer receives only the commercial fertilizers and soil amendments that were purchased or selected
- N/A** Producer receives only pulp sludge that was purchased or selected according to provincial regulations

3.2 Application

REQUIREMENT	Commercial fertilizers, pulp sludge and soil amendments must be applied properly to minimize contamination.
--------------------	---

PROCEDURES:

- Producer ensures that commercial fertilizers, pulp sludge and soil amendments are applied according to label directions and/or expert recommendations
- Applicator records all application details on Form (H2) Agronomic Inputs OR _____

See Crop Management Form in files

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2011 #

There are **circles** (○) at the beginning of each section to check (✓) if the section pertains to your operation.

If the section does not pertain to your operation, leave the circle blank and follow the instructions to proceed to the next relevant section. The entire section can be left blank, including all check boxes (☐) within the section.

Solid circles (●) are used to introduce general procedures that may have several components. You do NOT need to check off solid circles (●). Each **component step** is listed below the general statement and is introduced with a box (☐) to check off (✓).

Every **check box** (☐) in the Manual must be completed, unless the entire section does not apply to your operation. Check (✓) all boxes (☐) unless there is an option indicating otherwise. When you check a box this indicates that you have understood and properly completed the requirement(s). If additional pages are required, make copies of the applicable sections, complete and add to the relevant section (e.g., if you have more than one water source, multiple storages).

If you do not check a box, you are not following the required GAP. You must make the necessary changes, additions, etc. to your operation. Once this has been completed, you can check off the box.

Arrow bullets (➤) are suggestions only and do not need to be checked.

If the procedure is not applicable to your operation, **write N/A** through the box (☐).

Forms Required H2	Producer: Yes Storage Intermediary: No Packer: No
-------------------	---

3. Commercial Fertilizers, Pulp Sludge and Soil Amendments

RATIONALE:

Commercial fertilizers, pulp sludge and soil amendments can potentially contaminate product with toxic matter if the incorrect types are spread (e.g., materials containing mercury, arsenic, lead, etc.).

- Commercial fertilizers are used on the premises
- Pulp sludge is used on the premises
- Soil amendments are used on the premises

*# ANY of the above circles has been checked off, proceed below.
not, proceed to Section 4: Manure, Compost and Other By-Products.*

3.1 Purchasing and Receiving

REQUIREMENT	Commercial fertilizers, pulp sludge and soil amendments must be purchased/selected and received properly to minimize chemical contamination.
--------------------	--

PROCEDURES:

- Producer purchases or selects:
 - Commercial fertilizers from suppliers licensed under the *Fertilizers Act* or suppliers that meet provincial regulations
 - N/A* Pulp sludge that meets provincial regulations
 - Soil amendments that meet provincial regulations
- Producer receives only the commercial fertilizers and soil amendments that were purchased or selected
- N/A* Producer receives only pulp sludge that was purchased or selected according to provincial regulations

3.2 Application

REQUIREMENT	Commercial fertilizers, pulp sludge and soil amendments must be applied properly to minimize contamination.
--------------------	---

PROCEDURES:

- Producer ensures that commercial fertilizers, pulp sludge and soil amendments are applied according to label directions and/or expert recommendations
 - Applicator records all application details on Form (H2) Agronomic Inputs OR _____
- See Crop Management Form in files

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2008

If deviations from a procedure occur (e.g., non-compliance, incompleteness), refer to Section 23: Deviations and Crisis Management for the appropriate corrective action.

2. Complete each applicable record found in the Compendium of Food Safety Forms (or your own equivalent records).

When you are asked to complete a Form, remove the template from the Compendium of Food Safety Forms and follow the instructions. Do not continue to the next section until you have completed each of the required Forms. The Forms are proof of activities performed. Make additional copies of these Forms as necessary and complete Page ___ of ___ where applicable to indicate that more than one page is used.

Annual Forms: For those Forms that are to be completed on an **annual** basis, the producer/packer (or OFFS Program Contact or designate) must sign and date the log at the bottom of the Form. **EXAMPLE:**

The following box appears at the bottom of Forms completed annually*. Each year the producer/packer (or OFFS Program Contact or designate) must review the annual Forms, update them as needed, sign and date the log:

Confirmation/Update Log:

Date	Jan 10, 2011					
Initials	JD					

Ongoing Forms: For those Forms that are completed on an **ongoing** basis (e.g., daily, weekly, monthly), once the Form has been completed or is full, the producer/packer (or OFFS Program Contact or designate) must confirm that the Form was completed accurately and that all requirements were met by signing and dating the bottom of the Form. **EXAMPLE:**

The following appears at the bottom of Forms that are completed on an ongoing basis*.

Confirmation Signature: John Doe **Date:** January 10, 2011

IMPORTANT NOTE	<p>If you have existing forms, separate records or other methods of documentation you may use these instead (e.g., custom applicator documents, invoices, receipts); ensure they contain all of the same information as the template forms in this Manual.</p> <p>A space has been left at the end of each line requiring the completion of a Form (i.e., complete Form (A) Buildings Sketch (Interior Floor Plan OR _____). The space is for you to document what the other method/form may be and where the documentation can be found. This is important if anyone would like to see your program (e.g., auditors). You may also modify the Forms in any way you like so they meet the needs of your operation, as long as they contain all of the relevant information (e.g., if a Form states it is for EACH field you may use it for ALL fields). Refer to Appendix P -- Customizing Record Keeping Forms</p>
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3. Perform an annual review.

The producer/packer must review and update each section of the Manual annually. The producer/packer (or OFFS Program Contact or designate) signs off and dates the Confirmation/Update Log found at the end of each Section as it is reviewed*. **EXAMPLE:**

Confirmation/Update Log:

Date	Jan 10, 2011					
Initials	JD					

VI.iv Form Retention

All Sections (1-24), Forms, receipts, letters of assurance and certificates must be kept for a minimum of two years for audit, recall or other purposes.

Producers/packers seeking OFFS Program Certification are required to have at least three months of records prior to date of the initial audit.

VI.v Food Safety Manual Document Control

Changes to the Manual will occur as a result of new science, emerging pathogens, new hazards, legislative requirements and changes in practices on the farm. Therefore, document control is necessary to ensure that all documentation is properly updated and maintained, ensuring each and every page is current.

The CHC document control box is located in the footer of each page. As CHC updates the Manual content, the document control box will also be updated. The **indexes** will also be updated and reissued. If pages are added, an alphanumeric system will be used (e.g., if page 18 requires an additional page, the format of 18a, 18b, etc. will be used). **EXAMPLE:**



Annual updates will be posted on the CHC web site at www.canadagap.ca.



Glossary

Accredited laboratory: One that has been formally accredited/certified by a recognizing authority. A recognizing authority can include the Standards Council of Canada (SCC) Analyses must be performed to standards equivalent to ISO 17025.

Active ingredient: That ingredient of an agricultural chemical that actually controls the targeted pest.

Adjacent: Refers to areas across from or beside the production site.

Agricultural activities: Livestock and crop production, processing activities, etc.

Agricultural chemicals: A subset of pest control products used to control crop pests such as insects, diseases, weeds (e.g., pesticides such as herbicides, fungicides and insecticides). These can be used on seed potatoes, and during the production, storage and packing of potatoes.

Agricultural water: See “Water”.

Agronomic inputs: Include agricultural chemicals, biological controls, pollinators, commercial fertilizers, compost, cover crops/green manure, manure (livestock waste), mulch and row cover materials other by-products, soil amendments and pulp sludge.

Animal and bird activity: Includes activity from both wild and domestic animals and birds.

Bait: Anything intended to attract, tempt or kill pests. It may NOT be used in the interior of buildings unless inside a trap.

Biannually: Twice a year.

Biosolids: The material, predominantly organic in nature, resulting from treatment of industrial sewage, municipal sewage and septic system waste.

Building: Any structure where potatoes are handled and/or stored, and any structure where market ready packaging materials, agricultural chemicals, commercial fertilizers, etc. are stored (e.g., packinghouse, storage areas, etc.).

Building equipment: Used in the packinghouse or storages (e.g., scales, baggers, hoppers, bin pilers, tables, pallets, forklifts, curtain doors, packing, washing, drying, grading, sorting and handling equipment).

Bulk: Harvested potatoes that are not contained in packaging materials (e.g., in the cargo area of a truck, etc.).

Bulk transport: Putting harvested potatoes directly into the cargo area of a vehicle without being contained in packaging materials.

Calibration: Determination of the accuracy of an instrument, usually by measurement of its variation from a standard, to ascertain necessary correction factors.

Cargo Area: The part of the vehicle that is intended to transport potatoes (e.g., wagon, trailer, box).

CCGD: Canadian Council of Grocery Distributors.



CCP: Critical Control Point; a step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Certified applicator: A person, who has successfully completed a voluntary or mandatory certification course, paid the certification fee and may apply agricultural chemicals.

CFIA: Canadian Food Inspection Agency.

CHC: Canadian Horticultural Council.

Chlorine: A chemical element that is widely used for disinfection, water purification and cleaning.

Total chlorine: is the total amount of chlorine that has been used (e.g., 1 cup/250 mL, 2 tsp/10 mL). Measuring total chlorine is most useful when determining and checking how much chlorine to start with. 50-150 ppm is recommended for fresh fruit and vegetable applications (*See Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example*).

Free chlorine: is the amount of chlorine (from the total chlorine) that remains active when used. Measuring free chlorine is a much more accurate way of monitoring the effectiveness of a chlorination system over time. 2-7 ppm is recommended (*See Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example*).

Cistern: A container for collecting or holding water (e.g., well water in a tank, delivered commercial water, a tank for catching rainwater).

Cleaning materials: Products used to clean, sanitize or disinfect (e.g., cleaning agents, water treatment chemicals, sanitizers, brushes, scrubbers).

Cleaning water: See “Water”.

Commercial fertilizers: Substances containing one or more recognized plant nutrients that are designated for use in promoting plant growth. Includes calcium.

Commodity Starter Products: Beginning materials used to produce a product such as seeds, seedlings, plants, cuttings, canes, seed potatoes, nursery stock, etc.

Compost: Solid mature product resulting from a managed process of bio-oxidation of a solid heterogeneous organic substrate including a thermophilic phase. (**Note:** *Follow provincial/territorial guidelines for procedures to compost plant debris, deadstock, animal excrement, etc.*) For further information, see *Appendix C -- Composting Livestock Manure – An Example and Compost Tea Information* for an example of a general procedure to compost animal excrement.

Compost tea: A liquid solution made by steeping compost (produced properly by a managed process that includes a thermophilic phase) in water. It is used as both a fertilizer and a spray to control plant disease. For further information see *Appendix C -- Composting Livestock Manure – An Example and Compost Tea Information*.

Compostable waste: Organic matter that will decay over time is NOT compost and requires disposal.

Contamination: Infection or pollution with biological, chemical or physical substances.

Controlled-access area: An area that only authorized persons are allowed to enter (e.g., packing area, storage area for packaging materials, agricultural chemical or potato storages).

Corrective action: An organized activity to fix a problem.

CPMA: Canadian Produce Marketing Association.

Crisis management: The act or practice of dealing with a crisis when it develops.

Curtain doors: Plastic strips that may cover an entrance/opening.

Deviation: An alteration from the standard.

Drip irrigation: A low-pressure method of directing agricultural water to the root zone of the plant, with or without commercial fertilizers and/or agricultural chemicals.

Earliest Allowable Harvest Date (EAHD): The date on or after which product can be harvested; this date takes into consideration the agricultural chemical application date, and PHI (e.g., if an agricultural chemical has a PHI of 21 days and it was applied on June 1st, then the EAHD would be June 22nd) and the 120 days between manure application and harvest (e.g., if producers spread manure on April 1st they can not harvest that product until August 1st).

E. coli: A bacillus (*Escherichia coli*) normally found in the animal and human gastrointestinal tract and existing as numerous strains, some of which are responsible for diarrheal diseases.

Employee: A person who works for another in return for financial or other compensation.

Fertigation: The application of commercial fertilizers through the irrigation system (using agricultural water).

Fertilizers Act: A federal act that regulates some commercial fertilizers imported into or sold in Canada.

Final rinse water: See “Water”.

First Aid Kits: Must include bandages to cover wounds.

Fluming water: See “Water”.

Food contact surface: Surface where unpackaged potatoes may touch (e.g., conveyor belt, grading table, equipment, cargo area of a vehicle).

Free Chlorine: See “chlorine”.

Generic: Applies nationally to all producers involved in the production of a commodity.

Generic HACCP Model: Applies nationally to all producers involved in the production of a commodity, and involves conducting a hazard analysis for all production steps that results in the GAPs reflected in the OFFS Manual.

Glue boards: Larger versions of sticky traps. They are made of cardboard or plastic, coated with extremely strong, sticky glue. They are used for monitoring and control of rats and mice.

Good Agricultural Practices/Good Production Practices (GAPs/GPPs): General steps, measures or procedures that control the operational conditions within a production unit allowing for the environmental conditions that are favourable to the production of safe food.



Grading: Categorizing or separating potatoes by size, colour or quality (i.e., into pre-determined grades).

Ground water: See “Water”.

Grower Requested Own Use Program: A program managed by the Pest Management Regulatory Agency that allows growers to import the US version of Canadian-registered pest control products for their own use should they be available in that market at a lower price. More information can be found at: www.hc-sc.gc.ca.

Growing: The development and maturation process of potatoes that occurs in the production site and ends at harvest.

Growing Medium: Material in which plants can grow (e.g., soil, peat, water, etc.).

HACCP: Hazard Analysis Critical Control Points; a system that is science-based and systematic and identifies specific hazards and measures for their control to ensure the safety of food. HACCP is a tool to assess hazards and establish control systems that focus on prevention rather than relying on end product testing.

HACCP-based program: A food safety program based on HACCP principles in which the hazard analysis conducted is **generic** (i.e., covers all of the producers in a given commodity sector) and results in a list of commonly accepted hazards and related controls, which are then translated into a series of good agricultural practices to which primary producers adhere.

HACCP program: An **operation-specific** (e.g., ABC Farms’ HACCP Plan) hazard analysis-applying HACCP principles and resulting in a site-specific HACCP plan. The hazard analysis conducted results in the identification of specific farm/packinghouse hazards and related controls, which are then translated into a series of good production practices to which the producer/packer adheres.

Hand sanitizer: Waterless, antibacterial liquid or gel used to disinfect hands.

Hand wipes: Disposable towels used to remove organic matter from hands (e.g., dirt, mud).

Harvested potatoes: Potatoes that have been harvested by a producer, or purchased by a packer. Includes potatoes packed in bulk.

Harvested potato packaging materials: Containers that **will not go to the end consumer**. These materials may be reused and include bins for harvested potatoes.

Harvesting: The physical act of the producer moving the potatoes from the production site to the container or taking the potatoes away from the production site, which can be done either manually or mechanically.

Hazard: A biological, chemical or physical agent in, or condition of, food having the potential to cause an adverse health effect.

Hazard analysis: A comprehensive analysis of all the steps in a production system in accordance with HACCP principles in order to determine hazards, develop a HACCP model and elaborate controls for each hazard.

Holding: Keeping potatoes in a non-temperature controlled (ambient) environment for a few minutes to a few days.

IFP: Integrated Fruit Production; a systems approach to fruit production that promotes sustainable agriculture practices to produce optimal yields of high-quality fruit while protecting the environment.

Input: Anything needed to produce a crop.

Inspect: To examine carefully and critically.

IPM: Integrated Pest Management; a decision-making process that uses all necessary techniques to suppress pests effectively, economically and in an environmentally sound manner.

Letter of assurance: A written statement from a supplier/dealer that the product he or she is selling was produced under specified conditions and steps were taken to reduce biological, chemical or physical contaminants in accordance with all applicable legislation.

Licensed applicator: A person who has successfully completed the applicators' course, paid the licensing fee and may apply agricultural chemicals.

Licensed dealer: A person who has successfully completed the dealers/dispensers course, paid the licensing fee and may sell agricultural chemicals.

Lot: Potatoes packed during a period of time or according to a specific ID.

Lot ID: Any combination of letters OR figures, or letters AND figures, by which a unit of market potatoes can be traced and identified in the packer's records (e.g., skid, block, box). Linked to Pack ID for complete traceability.

Maintenance materials: Products used on, or to repair, equipment and buildings (e.g., light bulbs, paints, lubricants, oil, fuels).

Major deviations: Deviations that could lead to a major food safety concern; employees must advise the producer/packer immediately of the problem (see Section 23: Deviations and Crisis Management for a list of major deviations).

Manure: Animal excrement with or without bedding that has not been composted and is used to fertilize the soil. Includes all types (e.g., cow, sheep, horse, pig, chicken, etc.) as well as aged manure.

Market potatoes: Includes potatoes that are ready for sale (e.g., to a processor, packinghouse, retail, roadside stand) and encompasses the packing of these in the production site and in the packinghouse.

Market ready packaging materials: Containers that **will go to food service, retail (including retail wholesaler/broker/distribution centre) or directly to the end consumer**. There are two types:

- 1) Market ready **PRIMARY** packaging materials that come into direct contact with potatoes (e.g., bags, baskets) and
- 2) Market ready **SECONDARY** packaging materials (e.g., masters, dividers) that may be reused and do not come into direct contact with potatoes.

Minor deviations: Deviations from procedures and the intent/plan of the food safety program that can be rectified immediately by the employee and that are not a major food safety concern (e.g., potatoes that fall on the floor).

Mock recall: A procedure to test the recall team's ability to find and trace their product during a recall



Mulch materials: Materials used to cover the soil in the production site to retain soil moisture, heat and humidity, and suppress weeds (e.g., straw, bark chips, sawdust, plastic film).

Municipal water: See “Water”.

Non-agricultural activities: Dump sites, industrial activities and other human activities (e.g., golf course).

Non-porous surface: A smooth solid surface that limits absorption and penetration of liquid (e.g., metal, stainless steel, hard plastic material, rubber).

OFFS: On-Farm Food Safety.

Off-site: Beyond the premises of the operation.

On-site: Within the premises of the operation.

ORP: Oxidation-Reduction Potential. A rapid and accurate way to measure chlorine effectiveness. ORP is measured using an ORP meter, similar to a digital thermometer or pH probe. Research has shown that water with an ORP value of 650-700 mV can kill bacteria such as *E. coli* in a few seconds while more resistant types of microorganisms are killed within a few minutes.

Other by-products: Include plant or animal debris used for soil and crop improvement (e.g., seafood waste, seaweed, peat moss, wood shavings, crop culls, cover crops/green manure, pomace, teas), i.e. to improve the biological, chemical and physical characteristics of the soil, including improving the tilth, porosity, aeration, aggregation, water holding potential, or to increase the organic content, ion exchange capacity and microbial viability, feather meal from chicken rendering.

Own Use Import Program: Allows the import of registered foreign pest control products, provided they are deemed to be chemically equivalent to registered Canadian pest control products, are on the eligibility list and have received a permit from the PMRA. They also must bear the equivalent label information to that of the registered Canadian pest control product. Information can be found at www.pmra-arla.gc.ca.

Pack ID: Information identifying the producer and when the product is packed. Linked to Lot ID for complete traceability.

Packaging accessories: Materials used to fasten, contain, protect or identify product or packaging materials (e.g., liners, ties, tags, labels, elastics, rope, trays, dividers, slats, staples, ink, stickers, and wrap such as shrink wrap, pallet wrap or mesh/net).

Packaging materials: Includes all containers and packaging accessories used for packing harvested and market potatoes.

Packer: Person who packs potatoes in preparation for sale, whether his/her own or another person's potatoes.

Packing: The physical act of taking harvested potatoes and putting them into packaging materials. This includes packing done in the production site and in the packinghouse.

Personal effects: Includes employees' lunches, clothing, shoes, smoking materials, etc.

Personal hygiene facilities: Toilets, hand washing facilities, hand sanitizers and hand wipes. These may be located inside or outside and can be portable or non-portable.

Pest: An animal, plant or other organism that is directly or indirectly injurious, noxious or troublesome, and an injurious, noxious or troublesome condition or organic function of an animal, a plant or other organism (e.g., rats, mice, birds, reptiles, beetles, weeds, disease, etc.).

Pest control product: Any product, device, organism, substance or thing that is manufactured, represented, sold or used as a means for directly or indirectly controlling, preventing, destroying, mitigating, attracting or repelling any pest. Control products include active ingredients used in the manufacture of end-use products and the end-use products themselves. Includes herbicides, insecticides, fungicides, antimicrobial agents, pool chemicals, microbials, material and wood preservatives, animal and insect repellents, and insect- and rodent-controlling devices.

Pest Control Products Act (PCP Act) and Regulations: A federal Act that enables the Pest Management Regulatory Agency (PMRA) to regulate all pest control products imported into, sold or used in Canada.

Pest Management Regulatory Agency (PMRA): Federal body responsible for administering the legislation under the *PCP Act*.

Pest program: Includes the control and monitoring of pests.

pH: A measure of acidity or alkalinity.

PHI: Pre-harvest interval; the time between the application of the agricultural chemical and harvest, as defined on the pest control product label.

pH meter: A device used to measure pH.

Plants with Novel Traits: A plant variety possessing characteristics that demonstrate neither familiarity nor substantial equivalence to those present in a distinct, stable population of a cultivated species of plant in Canada and that have been intentionally selected, created or introduced into a population of that species through a specific genetic change (e.g., GMO's).

Potable water: See "Water".

Pre-planting: Time from harvest of prior crop to beginning of planting the current crop.

Premises: Includes production site(s), building(s) and immediate surrounding land.

Preventative measures: Actions taken that are intended to hinder or avert.

Producer: Person who grows potatoes.

Product: Refers to both harvested and market produce.

Production site: Location where potatoes are grown. Also referred to as a field.

Production site equipment: Equipment used in the field including field-packing equipment (e.g., agricultural chemical, manure or commercial fertilizer applicators, irrigation pipe, pump, nozzles, tubes, fittings, filters, tape, tractors, spreaders, planters, harrows, cultivators, tillers, windrowers, harvesters).



Production wastewater: Water remaining from the cleaning of potatoes or equipment (e.g., flume, dump tank or wash water).

Pulp sludge: A solid residue that remains after wastewater is treated at pulp and paper mills. It is composed of input materials for making paper, which are primarily wood fibre, lime, clays, as well as excess organisms produced as part of the wastewater treatment process.

Purchasing: Buying or ordering a product.

Recall: Means for an operation to remove from further sale or use, or to correct, a marketed product (i.e., that has been sold or distributed) that may have an impact on food safety.

Receiving: Taking delivery of a product or an input that was purchased and/or selected.

Recyclables: Containers from maintenance materials, agricultural chemicals, commercial fertilizers, cleaning agents or water treatment containers, etc.

Re-circulated water: See "Water".

Registered agricultural chemicals: Refers to products that have been approved under the *PCP Act* and that bear a Pest Control Products Number (PCP #).

Reservoir: A natural or artificial pond or lake used for collection or storage of water.

Seed potato: A tuber or any part of a tuber used for propagation purposes.

Seed potato preparation: Includes the treating (with agricultural chemicals) and the cutting (into smaller pieces) of potatoes for planting.

Selecting: Obtaining or sourcing a product where it is not purchased (e.g., choosing a water source, building your own equipment).

Separate: Not on top of or underneath.

Sewage sludge: Includes all biosolids.

Soap: Cleaning agent used with water. Can be antibacterial or other.

Soil amendments: Ashes, gypsum and liming materials added to the soil for the purpose of improving the chemical properties (pH) of the soil. If liming materials are derived from biosolids, see requirements for sewage sludge/biosolids. If liming materials are derived from pulp and paper waste, refer to the requirements for the application of pulp sludge.

Sorting: Separating potatoes (e.g., edible from non-edible; removing green, leaves, stones, other plant debris).

SSOP: Sanitation Standard Operating Procedure; specific sanitation practices that include detailed cleaning instructions (*refer to Appendix N -- Sanitation Standard Operating Procedures (SSOP) – An Example*).

Sticky traps: Devices used to monitor or control crawling insects/pests. Sticky traps for insects are made of heavy paper or cardboard coated with a non-repellent, sticky glue. Insects that crawl over the trap are held fast by the glue. In dusty sites, these traps may need to be replaced weekly to maintain

effectiveness. To prevent dust from coating sticky traps, they can be placed inside open-ended tubes that allow pests access.

Storage: Keeping potatoes in a pre-determined and controlled location for a period of days to months (e.g., atmosphere controlled or modified; cooled, dry, contained location) or the location where potatoes are kept.

Surface water: See “Water”.

Tertiary water: See “Water”.

Total Chlorine: See “chlorine”.

Total Coliforms: A measurement of several bacteria belonging to the family Enterobacteriaceae spp., including *Escherichia coli* (*E. coli*) and various members of the genera Enterobacter spp., Klebsiella spp. and Citrobacter spp. These bacteria are typically found as a part of the intestinal microflora of warm-blooded animals and so are associated with fecal material. In addition, some members of this group of organisms can originate from nonenteric sources.

Total glycoalkaloids: Naturally occurring chemicals found in potatoes that may cause illness in humans at high levels (mainly solanine and chaconine). Potato cultivars/varieties are bred for low levels of glycoalkaloids and, to be registered, must not exceed established federal levels. Levels may increase if tubers are exposed to light during the growing period, harvest, storage or transportation.

Traceability: Permits the source of the potatoes to be identified and maintained at any stage in the supply/distribution system.

Training: The transfer of technical and/or food safety-related information to employees. Employees include offshore, local, seasonal, part-time and management personnel. Training may take a variety of forms including on-the-job demonstrations, job shadowing, formal sessions, reading and discussing protocols or presentations.

Transportation: Includes all movement of potatoes, both on and off the premises.

Traps: Devices (baited or not) that pests enter and are unable to escape from. These may be used in the interior and exterior of buildings.

Vehicles: The means to transport potatoes (e.g., personal and private carriers, trucks, flatbeds, wagons).

Visitor: Includes anyone not directly involved/employed in the operation (e.g., transportation drivers, contractors, auditors).

Wash water: See “Water”.

Waste: Refers to any item or material requiring disposal (i.e., garbage).

Water:

Agricultural water: Water used for irrigation and the application of agricultural chemicals and commercial fertilizers.



Cleaning water: Includes all water except for agricultural water and is used for fluming, washing, and rinsing potatoes. It also includes water used to wash hands in hygiene facilities and for cleaning equipment, harvested potato packaging materials, buildings, etc.

Final rinse/chemical application (during packing) water: Water used in the final step of the cleaning process and the water used to apply agricultural chemicals at the final rinse stage before potatoes are packed into market ready packaging materials (i.e., high volume spray or drench).

Fluming water: Water used for transporting potatoes or for the initial step of the cleaning process.

Ground water: Water beneath the earth's surface, often between saturated soil and rock that supplies wells and springs.

Municipal water: Water supplied by the local government that is potable.

Potable water: Water that meets the parameters under the Canadian Water Quality Guidelines for Drinking Water Quality or other provincial and/or municipal drinking water quality standards. (i.e., biological parameters 0 total coliform and 0 *E. coli*).

Re-circulated water: Water that is being reused.

Surface water: Water that is exposed to the environment [e.g., ponds, streams, lakes, rivers, canals, creeks, dugouts, rain (e.g., collected from the roof)].

Tertiary water: Waste water (e.g. municipal, industrial) that has received the third, or final, stage of water treatment. Primary treatment screens particulates and settles sludge in ponds. Secondary treatment removes harmful microorganisms and tertiary treatment passes the water through filters to remove organic pollutants that bacteria cannot break down. Tertiary treatment also uses chemicals to remove chemical pollutants such phosphorous and nitrogen.

Wash water: Water used during the cleaning process to remove organic material from potatoes (e.g., dump tanks, pits, sprays, drums).

Water sources: Ground, surface, municipal or tertiary water.

To Do List – Outstanding Items to Complete in Manual

Instructions: When you are completing your OFFS manual have this “To Do List” handy. If you need to make a change in your operation or are unable to check off a procedure immediately due to circumstances outside of your control (i.e., will complete the task at a later date), record the information in the appropriate section below. Once you have gone through the entire manual those areas requiring change/completion will be documented and this will save you from having to look for those items later. After you have completed the procedure, record the date, go back to the manual and check both the appropriate box there and the last column below.

Section in Manual		Items Not Yet Complete	Item(s) Completed (✓) and Date	Item(s) Checked Off in Manual (✓)
Example:		Portable toilets ordered – to be delivered April 12	✓ April 15/11	✓
1. Commodity Starter Products				
1.1	Purchasing and Receiving			
1.2	Preparation			
1.3	Storage			
2. Premises				
2.1	Production Site and Surroundings Assessment			
2.2	Building Exterior and Surroundings Assessment, Cleaning, Maintenance, Repair and Inspection			
2.3	Building Interior Assessment, Cleaning, Maintenance, Repair and Inspection			
3. Commercial Fertilizers, Pulp Sludge and Soil Amendments				
3.1	Purchasing and Receiving			
3.2	Application			
3.3	Storage			



Section in Manual		Items Not Yet Complete	Item(s) Completed (✓) and Date	Item(s) Checked Off in Manual (✓)
4. Manure, Compost/Compost Tea and Other By-Products				
4.1	Purchasing and Receiving			
4.2	Application			
4.3	Storage			
5. Mulch and Row Cover Materials				
5.1	Purchasing and Receiving			
5.2	Application			
5.3	Storage			
6. Agricultural Chemicals				
6.1	Purchasing and Receiving			
6.2	Application			
6.3	Storage			
7. Agricultural Water				
7.1	Source Assessment			
7.2	Storage			
8. Equipment				
8.1	Purchasing, Receiving and Installation			
8.2	Use, Cleaning, Maintenance, Repair and Inspection			

Section in Manual		Items Not Yet Complete	Item(s) Completed (✓) and Date	Item(s) Checked Off in Manual (✓)
8.3	Calibration			
8.4	Storage			
9. Cleaning and Maintenance Materials				
9.1	Purchasing and Receiving			
9.2	Use			
9.3	Storage			
10. Waste Management				
10.1	Storage and Disposal of Garbage, Recyclables and Compostable Waste			
10.2	Storage and Disposal of Empty Agricultural Chemical Containers			
10.3	Disposal of Production Wastewater and Waste from Toilets and Hand Washing Facilities			
11. Personal Hygiene Facilities				
11.1	Facilities			
12. Employee Training				
12.1	Employee Training			
12.2	Employee Illness			
13. Visitor Policy				
13.1	Visitor Protocols			
14. Pest Program for Buildings				
14.1	Control and Monitoring			

Section in Manual		Items Not Yet Complete	Item(s) Completed (✓) and Date	Item(s) Checked Off in Manual (✓)
15. Water (for Fluming and Cleaning)				
15.1	Water Assessment			
15.2	Storage			
15.3	Treatment			
16. Ice – N/A				
17. Packaging Materials				
17.1	Purchasing and Receiving			
17.2	Use of Packaging Materials			
17.3	Storage			
18. Growing and Harvesting				
18.1	Growing			
18.2	Harvesting			
19. Sorting, Grading and Packing				
19.1	Purchasing and Receiving Harvested Potatoes			
19.2	Sorting and Grading			
19.3	Packing			
20. Storage of Potatoes				
20.1	Storage Conditions for Harvested Potatoes			

Section in Manual		Items Not Yet Complete	Item(s) Completed (✓) and Date	Item(s) Checked Off in Manual (✓)
20.2	Storage Conditions for Market Potatoes			
21. Transportation				
21.1	Transportation of Potatoes in Harvested Potatoes Packaging Materials			
21.2	Transportation of Potatoes in Market-Ready Packaging Materials			
22. Identification and Traceability				
22.1	Traceability System			
23. Deviations and Crisis Management				
23.1	Minor Deviations and Corrective Action			
23.2	Major Deviations and Corrective Action			
23.3	Crisis Management			
23.4	Complaint Handling			
24. On-Farm Food Safety Manual Review				
24.1	Protocols			



Compendium of Food Safety Forms		Item(s) Not Yet Complete	Item(s) Completed (✓)	Item(s) Checked Off in Manual (✓)
ANNUAL FORMS				
A.	Buildings Sketch (Interior Floor Plan)			
B.	Storage Assessment			
C.	Employee Personal Hygiene and Food Handling Practices Policy - Production Site			
D.	Employee Personal Hygiene and Food Handling Practices Policy – Packinghouse/Product Storage			
E.	Pest Control for Buildings			
F.	Water (for Fluming and Cleaning) Assessment			
ONGOING FORMS				
G.	Cleaning, Maintenance and Repair of Buildings			
H1.	Agronomic Inputs (Agricultural Chemicals)			
H2.	Agronomic Inputs (Other)			
H3.	Agricultural Chemical Application (During Packing)			
I.	Equipment Cleaning, Maintenance and Calibration			
J.	Cleaning and Maintenance – Personal Hygiene Facilities			
K.	Training Session			
L.	Visitor Sign-In Log			

Compendium of Food Safety Forms		Item(s) Not Yet Complete	Item(s) Completed (✓)	Item(s) Checked Off in Manual (✓)
M.	Pest Monitoring for Buildings			
N1.	Water Treatment Control and Monitoring			
O.	Transporting Potatoes			
P.	Harvesting and Storing Potatoes			
Q.	Packing Market Potatoes			
R.	Deviations and Corrective Actions			

Farm/Packinghouse Information

Note: The purpose of completing this section of the Manual is to provide reviewers (e.g., auditors) with a general overview of your operation.

Legal Operating Name: _____

Name of Person(s)
Responsible for the Operation: _____
(Note: This person(s) becomes the producer/packer referred to in this Manual.)

Address: _____
(Physical address of office location)

Telephone: (____) _____

Cell: (____) _____

Fax: (____) _____

Email Address: _____

OFFS Program Contact(s) and Contact(s) Information (if different from above): _____
(Person(s) responsible for the OFFS Program)

Recall Coordinator(s) and Contact(s) Information (if different from above): _____

Brief Background

Amount of Land in Potato Production (owned and rented); length of growing/packing season; who packer is packing/storing for: _____

Farm/Packinghouse Description

Describe [e.g., number of locations (production sites, packinghouses, storages, etc.)] _____

Please check and List All Applicable Items Below:

Type of Potatoes Produced:	Type of Potato Operation:
<input type="checkbox"/> For Seed <input type="checkbox"/> For Fresh Consumption <input type="checkbox"/> For Processing (<i>list</i>): _____ _____ <input type="checkbox"/> Other Uses (<i>describe</i>): _____ _____ _____	<input type="checkbox"/> Producer <input type="checkbox"/> Production Site Packing into Market Ready Packaging Materials <input type="checkbox"/> Packinghouse with Washing Activities <input type="checkbox"/> Packinghouse with No Washing <input type="checkbox"/> Packing for Other Producers (i.e., co-packing) <input type="checkbox"/> Storage <input type="checkbox"/> On-Farm Processing: _____ _____ _____ <input type="checkbox"/> Other (<i>describe</i>): _____ _____
<input type="checkbox"/> Producing Own Seed Potatoes	<p>Other Farm Programs:</p> <input type="checkbox"/> Environmental Farm Plan: _____ <input type="checkbox"/> Other Food Safety Program(s)/Audits: _____ _____ <input type="checkbox"/> Other Certifications Achieved: _____ _____ _____ <input type="checkbox"/> Nutrient Management Plan: _____ <input type="checkbox"/> Reduced Input (e.g., no spray, IPM, IFP): _____ <input type="checkbox"/> Organic Production: _____ <input type="checkbox"/> Other (<i>describe</i>): _____ _____ _____
<p>Other Crops Produced:</p> <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <p>Livestock/Poultry Operations (<i>specify type</i>):</p> <input type="checkbox"/> _____ <input type="checkbox"/> _____	

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1. Commodity Starter Products

Forms Required N/A	Producer Yes
	Packer No

RATIONALE:

Commodity starter products such as seed potatoes may be a source of chemical contamination if not treated properly or if certain cultivars/varieties are selected [i.e., those with high levels of glycoalkaloids, Plants with Novel Traits (PNT's)]. The development of new varieties of potatoes, through conventional breeding or modern biotechnology, has the potential to create varieties with unknown chemical compositions that pose risks to human health. If new varieties are considered different enough from existing varieties they may be considered Plants with Novel Traits by the federal government and are subject to regulation. Before being grown for human consumption, a food safety assessment of these new varieties must be completed by the federal government.

1.1 Purchasing and Receiving

REQUIREMENT	<i>Seed potatoes must be purchased and received properly to minimize chemical contamination. Plants with Novel Traits must be assessed for food safety by the federal government before being grown in Canada for food use.</i>
--------------------	---

PROCEDURES:

- Producer purchases or selects varieties that have been tested for total glycoalkaloids (Letter of assurance or invoice from breeder/agent showing total glycoalkaloids below 20mg/100g may be obtainable for non-registered varieties)
- Producer purchases or selects seed potatoes that have been approved for use by the federal government or that have been issued a letter of non-objection by Health Canada (Refer to the CFIA website <http://active.inspection.gc.ca/eng/plaveg/bio/pntvcne.asp> or talk to your supplier)
- Producer purchases or selects seed potatoes that have been treated (i.e., agricultural chemicals) properly (e.g., by a certified seed potato producer)
- Producer receives the seed potatoes that were purchased

1.2 Preparation

REQUIREMENT	<i>Seed potatoes must be prepared in a manner that minimizes sources of contamination.</i>
--------------------	--

PROCEDURES:

- Producer treats seed potatoes with agricultural chemicals according to the instructions in Section 6: Agricultural Chemicals

1.3 Storage

REQUIREMENT	<i>Seed potatoes must be stored in a manner that minimizes sources of contamination.</i>
--------------------	--

PROCEDURES:

- Producer stores seed potatoes separate from agricultural chemicals and harvested and market potatoes

Confirmation/Update Log:

Date						
Initials						

2. Premises

Forms Required A, B, G	Producer Yes
	Packer Yes

RATIONALE:

Direct and indirect contamination of potatoes can occur due to previous activities on a site or activities on adjacent lands. Animals (both wild and domestic), insects and birds are potential sources of contamination to potatoes because they may carry a variety of pathogens. Therefore, production sites must be assessed before use to ensure all biological, chemical and physical hazards are minimized.

The design and construction of both the interior and exterior of buildings is important in preventing the contamination of potatoes. For example, improper drainage results in standing water or wet areas around facilities that can create breeding grounds for insects and other pests. Long grass and bushes around the exterior walls of buildings may also harbour pests. Pests allowed to live and breed directly outside of buildings have a greater chance of entering the buildings and contaminating potatoes.

2.1 Production Site and Surroundings Assessment

REQUIREMENT	<i>Production sites must be assessed before use for biological, chemical and physical hazards due to previous use, and adjacent agricultural and non-agricultural activities.</i>
--------------------	---

PROCEDURES:

- Producer considers production site activities for the past five years of any site the producer is farming for the first time and assesses potential hazards. Each new site is assessed for historical use of:
 - Persistent heavy metals such as mercury, lead, etc. remaining from previous applications of fertilizers, agricultural chemicals, sewage sludge or liming materials
 - Contaminants remaining from previous non-agricultural uses (e.g., landfills, refineries, buildings)
- Annually – Producer considers production site activities and assesses potential hazards for ALL production sites. Producer check that EACH site has NO:
 - Adjacent areas where livestock excrement, dust, aerosols or feathers may drift or leach
 - Adjacent areas where crop production inputs may drift or leach (e.g., agricultural chemicals, soil amendments, fertilizers, pulp sludge)
 - Adjacent areas where non-agricultural activities contribute to air, water or soil pollution [i.e., industrial activities, roadside debris, road salt, foreign objects (e.g., glass bottles)]
 - Unusually high levels of animal and bird activity (e.g., migratory paths, nesting or feeding areas)

Note: *If any of the above-noted hazards was identified, the following corrective actions are suggested as options:*

- Seeking and following expert advice
- Testing soil using an accredited lab where analyses are performed to standards equivalent to ISO 17025 (File under Tab: Test Results)
- Avoiding growing an edible crop
- Incorporating manure into the soil in adjacent fields
- Constructing and maintaining barriers or production site perimeters (e.g., fences, ditches, storage pits, buffer zones)
- Using scaring devices (e.g., bangers, wailers)
- Other (*describe*): _____

Note: You may refer to the chart provided in Appendix K -- Production Site and Agricultural Water Source Assessment to help with your assessment.

2.2 Building Exterior and Surroundings Assessment, Cleaning, Maintenance, Repair and Inspection

REQUIREMENT	<i>The exterior of buildings and their surroundings must be assessed for the risk of biological, chemical and physical hazards and must be cleaned, maintained, repaired and inspected to minimize sources of contamination.</i>
--------------------	--

Note: Agricultural chemical storage buildings are not included in this section; see Section 6.3: Storage, for requirements on storage conditions for agricultural chemicals.

PROCEDURES:

- Annually – Producer/packer, for EACH packinghouse and storage area, assesses all of the following potential exterior hazards:
 - Each building (when in use) is located where:
 - crop production inputs will not drift or leach (i.e., agricultural chemicals, soil amendments, fertilizers, pulp sludge or manure)
 - non-agricultural uses are not a source of air, water or soil pollution (e.g., landfills, refineries, water treatment plant, chemical processing plant, etc.)
 - livestock production is not a source of contamination
 - the area is not prone to flooding; there is proper drainage around the building (i.e., no standing water or wet areas)
 - any other air, soil or water pollutants are not a source of contamination
 - Each building is designed or constructed where there is or are:
 - no areas where pests (e.g., insects, mice, birds, rats) can hide/live/feed (e.g., junk piles, long grass, bushes, garbage, unused machinery)
 - no holes/crevices/leaks (e.g., walls, windows, screens)
 - doors that fit properly
 - doors that can be secured (i.e., to lock storages when unsupervised)
 - windows that can be closed OR have close-fitting screens (i.e., no gaps)
- ! Monthly (when in use) – Producer/packer conducts an inspection of the exterior of buildings and completes Form (G) Cleaning, Maintenance and Repair of Buildings OR _____

2.3 Building Interior Assessment, Cleaning, Maintenance, Repair and Inspection

REQUIREMENT	<i>The interior of buildings must be assessed for biological, chemical and physical hazards and must be cleaned, maintained, repaired and inspected to minimize sources of contamination.</i>
--------------------	---

PROCEDURES:

Note: Agricultural chemical storage buildings are not included in this section; see Section 6.3: Storage, for requirements on storage conditions for agricultural chemicals.

- ! Annually – Producer/packer completes or updates Form (A) Buildings Sketch (Interior Floor Plan) OR _____

- Annually – Producer/packer, for EACH building, assesses all of the following potential interior hazards. Each building IS or HAS:
 - No animals, either wild or domestic (including pets), pests (e.g., birds, rodents) or bird nests Designated where livestock/poultry slaughter or meat processing activities do not occur (whether the building is in use or not)
 - Lighting that is adequate (e.g., easy to see corners, suitable for grading) *Refer to Appendix F -- General Guidelines for Adequate Lighting*
 - Lighting that is shatterproof or covered (e.g., prevent glass from falling onto potatoes/materials) where potatoes or market ready packaging materials are handled or stored
 - Adequate drainage (i.e., floor sloped, sump pump for back up, drain covers)
 - Pipes or condensation that do not leak onto potatoes or packaging materials
 - Clean areas where potatoes and packaging materials are handled and stored (e.g., free from garbage, spills, pests and pest droppings)
 - Walls, floors and ceilings without crevices
- ! Monthly (when in use) – Where possible (i.e., not a sealed storage), producer/packer conducts a monthly inspection of the interior of buildings, and completes Form (G) Cleaning, Maintenance and Repair of Buildings OR _____

For Harvested and Market Potato Storages

- ! Annually [prior to first time (in a season) use] – Producer /packer inspects the potato storage(s) and completes Form (B) Storage Assessment OR _____

Confirmation/Update Log:

Date						
Initials						

3. Commercial Fertilizers, Pulp Sludge and Soil Amendments

Forms Required H2	Producer Yes
	Packer No

RATIONALE:

Commercial fertilizers, pulp sludge and soil amendments can potentially contaminate potatoes with toxic matter if the incorrect types are spread (e.g., materials containing mercury, arsenic, lead, etc.).

- Commercial fertilizers are used on the premises
- Pulp sludge is used on the premises
- Soil amendments are used on the premises

If ANY of the above circles has been checked off, proceed below.

If not, proceed to Section 4: Manure, Compost/Compost Tea and Other By-Products.

3.1 Purchasing and Receiving

REQUIREMENT	<i>Commercial fertilizers, pulp sludge and soil amendments must be purchased/selected and received properly to minimize chemical contamination.</i>
--------------------	---

PROCEDURES:

- Producer purchases or selects:
 - Commercial fertilizers that meet applicable regulations
 - Pulp sludge that meets provincial regulations
 - Soil amendments that meet provincial regulations
- Producer receives only the commercial fertilizers and soil amendments that were purchased or selected
- Producer receives only the pulp sludge that was purchased or selected according to provincial regulations

3.2 Application

REQUIREMENT	<i>Commercial fertilizers, pulp sludge and soil amendments must be applied properly to minimize contamination.</i>
--------------------	--

PROCEDURES:

- Producer ensures that commercial fertilizers, pulp sludge and soil amendments are applied according to expert recommendations
 - Applicator records all application details on Form (H2) Agronomic Inputs (Other) OR _____
-

3.3 Storage

- Commercial fertilizers are stored on premises
- Pulp sludge is stored on premises
- Soil amendments are stored on premises

If **ANY** of the above circles has been checked off, proceed below.

If not, proceed to Section 4: Manure, Compost/Compost Tea and Other By-Products.

REQUIREMENT	Commercial fertilizers, pulp sludge and soil amendments must be stored in designated areas and under the proper conditions.
--------------------	---

PROCEDURES:

- Producer stores commercial fertilizers, pulp sludge and soil amendments:
 - Separate from potatoes and packaging materials
 - In a covered, clean and dry location if necessary
 - With labels intact and legible if applicable
 - In a manner that maintains the integrity of the containers and its contents
 - Other (describe): _____

Confirmation/Update Log:

Date						
Initials						

4. Manure, Compost/Compost Tea and Other By-Products

Forms Required H2	Producer Yes
	Packer No

RATIONALE:

Potatoes may become contaminated with biological, chemical or physical contaminants if manure and compost and compost teas are not properly handled, applied or stored. It is important when purchasing manure to know the type (e.g., cow, sheep, chicken). Manure is known to carry pathogenic bacteria (e.g., *E. coli* O157:H7, Salmonella). These organisms can be eliminated through proper composting of manure (e.g., time, temperature) so that it is not a source of contamination to potatoes. Presently there is little scientific information on pathogen survival when other by-products are applied in the field (e.g., seafood waste, vegetable culls). Refer to Section 23: Deviations and Crisis Management 23.2 Major Deviations and Corrective Action – Chart Section 4: Manure, Compost/Compost Tea and Other By-Products for action to take if deviations occur when purchasing/selecting/receiving compost and compost tea.

- Manure is used on the premises
- Compost/compost tea is used on the premises
- Other by-products are used on the premises

If **ANY** of the above circles has been checked off, proceed below.
If not, proceed to Section 5: Mulch and Row Cover Materials.

4.1 Purchasing and Receiving

REQUIREMENT	<i>Manure, compost/compost tea and other by-products must be purchased or selected and received with knowledge of origin and handling.</i>
--------------------	--

PROCEDURES:

- Producer does NOT purchase or use sewage sludge on any production site intended for potato production even in rotational years
- When purchasing or selecting manure or other by-products from a supplier (e.g., company, self, neighbour), producer is aware of the type (e.g., cattle, horse or hog manure; vegetable culls; seafood waste) and its origin [i.e., produced under conditions that are not a source of chemical (e.g., heavy metals) or physical (e.g., glass) contamination]
- Producer receives only:
 - Manure and other by-products that were purchased or selected

Purchased Compost/Compost Tea (If not applicable, proceed to the next sub-section: Compost/Compost Tea Produced On-Site)

- Producer purchases compost/compost tea from a supplier and is aware of origin [i.e., produced under conditions that are not a source of biological (e.g., pathogens), chemical (e.g., heavy metals) or physical (glass) contamination] and requests a letter of assurance
- ! Producer receives only compost/compost tea that was purchased along with the letter of assurance (one letter per supplier per season) (File under Tab: Letters of Assurance/Certificates)

Compost/Compost Tea Produced On-Site *(If not applicable, proceed to Section 4.2: Application)*

- Producer produces compost/compost tea under conditions that are not a source of biological (e.g., pathogens), chemical (e.g., heavy metals) or physical (glass) contamination, and records the composting procedure (See Appendix C -- Composting Livestock Manure – An Example and Compost Tea Information)
- ! Producer/packer receives only the compost/compost tea that was produced following a completed composting procedure. (File procedures/records under Tab: Letters of Assurance/Certificates)

4.2 Application

REQUIREMENT	<i>Manure and compost/compost tea must be spread at the appropriate time to minimize contamination of potatoes.</i>
--------------------	---

PROCEDURES:

- Producer spreads:
 - ! Manure only when the interval between application and harvest is greater than 120 days
 - Compost/compost tea (at any time)
- ! Producer records manure, compost/compost tea and other by-products (except cover crops/green manure) application details on Form (H2) Agronomic Inputs (Other) OR _____

4.3 Storage

- Producer stores manure on the premises
- Producer stores compost/compost tea on the premises
- Producer stores other by-products on the premises

*If ANY of the above circles has been checked off, proceed below.
If not, proceed to Section 5: Mulch and Row Cover Materials.*

REQUIREMENT	<i>Manure, compost/compost tea and other by-products must be stored in designated areas.</i>
--------------------	--

PROCEDURES:

- Producer stores manure, compost/compost tea and other by-products separate from each other, potatoes, market ready packaging materials, fuels, oils, chemicals and cleaning agents
- Producer stores manure and other by-products away from water sources
- Producer stores manure and compost/compost tea in a location where drifting or leaching will not be a source of contamination to product, OR in a way that protects from leaching or drifting (e.g., tarped, lagoon, barrier, etc.)

Confirmation/Update Log:

Date						
Initials						

5. Mulch and Row Cover Materials

Forms Required H2	Producer Yes
	Packer No

RATIONALE:

Potatoes may become contaminated if mulch and row cover materials are inappropriately used, handled or stored.

- Mulch material is used on the premises
- Row cover material is used on the premises

*If ANY of the above circles has been checked off, proceed below.
If not, proceed to Section 6: Agricultural Chemicals*

5.1 Purchasing and Receiving

REQUIREMENT	<i>Mulch and row cover materials must be acquired with knowledge of origin and handling.</i>
--------------------	--

PROCEDURES:

- When purchasing or selecting mulch or row cover material from a supplier (e.g., self, neighbour, company), producer has knowledge of its origin [i.e., materials that are appropriate for intended use (e.g., from a reputable supplier, clean, free of excrement, heavy metals, glass, metal)]
- Producer receives only the mulch and row cover materials that were purchased

5.2 Application

REQUIREMENT	<i>Application of mulch and row cover materials must be recorded.</i>
--------------------	---

PROCEDURES:

- Producer records mulch and row cover material (except for plastic) applications on Form (H2) Agronomic Inputs (Other) OR _____

5.3 Storage

- Mulch material is stored on the premises
- Row cover material is stored on the premises

*If ANY of the above circles has been checked off, proceed below.
If not, proceed to Section 6: Agricultural Chemicals.*

REQUIREMENT	<i>Mulch and row cover materials must be stored in designated areas.</i>
--------------------	--

PROCEDURES:

- Producer stores new plastic mulch and row cover materials separate from potatoes, agricultural chemicals, manure, fuels, oils and cleaning agents
- Producer stores all other mulch materials (including reused plastic mulch and row covers) separate from potatoes, market ready packaging materials, manure, fuels, oils, chemicals and cleaning agents

Confirmation/Update Log:

Date						
Initials						

6. Agricultural Chemicals

Forms Required A, H1, H3, P	Producer Yes
	Packer Yes

RATIONALE:

Production of safe potatoes requires a non-contaminated environment. The inappropriate use, handling and storage of agricultural chemicals may result in a chemical hazard. All federal and provincial regulations must be adhered to.

- Agricultural chemicals are used on the premises, *proceed below.*
If not, proceed to Section 7: Agricultural Water.

6.1 Purchasing and Receiving

REQUIREMENT	<i>Agricultural chemicals of the appropriate type must be purchased and received to minimize chemical contamination of potatoes.</i>
--------------------	--

PROCEDURES:

- Producer/packer purchases agricultural chemicals registered for use on the applicable potatoes in Canada or permitted under the Own Use Import Program or the Grower Requested Own Use (GROU) program
- Producer/packer purchases agricultural chemicals from licensed dealers
- !● Producer/packer receives:
 - ! Only the agricultural chemicals that were purchased
 - ! Containers that are not damaged
 - ! Containers that are clearly and properly labelled and legible (name of product, active ingredient(s), concentration, PCP#, manufacturer's name, address and contact information and instructions for use are on the label)
 - ! A receipt, and signs the receipt (File under Tab: Letters of Assurance/Certificates OR _____)

6.2 Application

REQUIREMENT	<i>Agricultural chemicals must be applied by the appropriate person, following label instructions.</i>
--------------------	--

PROCEDURES:

- ! Applicator has an applicator's license or is certified or is trained or supervised by a licensed person (File under Tab: Letters of Assurance/Certificates)
- ! Producer/packer applies agricultural chemicals that are registered for use on potatoes in Canada and not in excess of label recommendations and directions
- ! When agricultural chemicals are applied to the production site or to seed potatoes, the producer completes Form (H1) Agronomic Inputs (Agricultural Chemicals) OR _____

FOR PRODUCT DESTINED FOR EXPORT MARKETS:

- Producer/storage intermediary/packer ensures that agricultural chemical residues on product do not exceed the published Maximum Residue Limits (MRL) in the destination market. Person responsible:
 - Has information (e.g., registration for the specific crop, product labels, Maximum Residue Limits, banned lists, etc.) for agricultural chemicals in destination market(s)
 - Uses only chemicals approved for use in the destination market(s)
 - Ensures chemical applications and application rates for target pests and diseases comply with label recommendations applicable to the destination market(s)

- Demonstrates the timing between chemical application and harvest complies with the approved harvest interval in the destination market(s)
- For those whose customers require agricultural chemical residue testing: Annually - Conducts agricultural chemical residue testing of market product using an accredited lab where analyses are performed to standards equivalent to ISO 17025, or participates in a third party agricultural chemical residue monitoring system which is traceable to the farm

Refer to Appendix Q: Documentation Requirements on Agricultural Chemicals for Producers or Packers who are Exporting Product.

- ! When agricultural chemicals are applied during storage, producer/packer completes Form (P) Harvesting and Storing Potatoes OR _____
- ! When agricultural chemicals are applied during packing, producer/packer completes Form (H3) Agricultural Chemical Application (During Packing) OR _____

Note: *Refer to Section 8.2: Use, Cleaning, Maintenance, Repair and Inspection for rinsing and flushing application equipment. Further pest control product information is available on the Pest Management and Regulatory Agency (PMRA) web site (<http://www.hc-sc.gc.ca/ahc-asc/branch-dirigen/pmra-arla/index-eng.php>) and the Crop Life Canada (www.croppro.org) MRL database.*

6.3 Storage

- Agricultural chemicals are stored on premises, proceed below.
If not, proceed to Section 7: Agricultural Water.

REQUIREMENT	Agricultural chemicals must be stored in designated areas and under the proper conditions.
--------------------	--

PROCEDURES:

- ! Annually – Producer/packer records where agricultural chemicals are stored on Form (A) Buildings Sketch (Interior Floor Plan) OR _____
- ! ● Agricultural chemicals are stored:
 - ! In an area dedicated only to agricultural chemicals and commercial fertilizers. Contained fertilizers (e.g., bag, jug, tote) may be stored in the chemical storage except where prohibited by applicable regulations. Fertilizers must be stored in a designated area separate from agricultural chemicals
 - ! In a clearly identified location (i.e., sign on door)
 - ! In a locked or controlled-access location
 - ! In a covered, clean and dry location that is temperature appropriate (e.g., to prevent chemicals from freezing)
 - With labels/identification intact and legible (name of product, active ingredient(s), concentration, PCP#, manufacturer's name and address are on the label; the manufacturer's contact information and the instructions for use do not need to be on the label but are readily available)
 - In a manner that maintains the integrity of the containers and prevents leakage (e.g., closed bag, in a container, with a lid)

Note: *Refer to Section 10.2: Storage and Disposal of Empty Agricultural Chemical Containers.*

Confirmation/Update Log:

Date						
Initials						

7. Agricultural Water

Forms Required A	Producer Yes
	Packer Yes

RATIONALE:

Agricultural water is an essential element used for multiple purposes in the production of horticultural products. However, water may also be a source of biological or chemical contamination. The risk of contamination is dependent on the quality of the agricultural water source and the way in which it is stored and used to irrigate crops (e.g., drip, overhead, sprinkler, trickle).

- Agricultural water is used on the premises, *proceed below.*
If not, proceed to Section 8: Equipment.
- All sources of agricultural water are municipal.
If so, proceed to Section 8: Equipment.

7.1 Source Assessment

REQUIREMENT	<i>Each agricultural water source must be identified, potential hazards must be assessed and preventative measures and/or corrective actions must be taken (when necessary).</i>
--------------------	--

Note: *EACH water source used for irrigation and agricultural chemical or commercial fertilizer applications (e.g., overhead, spray, drip, trickle, furrow) must be assessed (e.g., ponds, streams, lakes, rivers, canals, creeks, springs, cisterns, reservoirs, ground water, tertiary water).*

PROCEDURES:

- Producer/packer does NOT use untreated sewage
- If purchasing or selecting tertiary water, producer/packer purchases or selects it following provincial regulations
- If an abnormal event occurs to cause contamination of the water source (e.g., publicly announced breach of sewage system, chemical leakage), the producer does not spray or irrigate from that source
- Annually – Producer assesses all of the following potential hazards for each agricultural water source:
 - Unusually high levels of wild animal and bird activity (e.g., migratory paths, nesting or watering areas)
 - Access by livestock, domestic animals and birds
 - Recreational use (e.g., swimming area)
 - Upstream contamination sources
 - Runoff or spills from agricultural chemicals, oil, fuel, manure, etc.
 - Contamination in pipes
 - Storage of irrigation pipes where they could be contaminated by manure or agricultural chemicals
 - Working condition of the well (e.g., seals and well casings fit tightly, pump functioning)
 - Leaching of sunken wells overland flooding

Refer to the following to help with the assessment:

- If the agricultural water is potable then there is NO risk from the source itself
- *Water quality varies depending on the water source. The chart below is provided to help producers assess the risk associated with their different water sources*

Water Source	Level of Risk
Municipal Water	Lowest
Well Water and Tertiary Water	Low
Pond/Reservoir/Dugout Fed by Groundwater (springs/wells) or Rainwater	Moderate
Lake	Medium
Pond/Dugout Fed by Stream, Ditch or Run-Off	High
River, Stream, Creek, Canal, Flooding	Highest

- *Water testing conducted early in the irrigation season may be used as an indicator of the risk associated with different water sources*
- *Water testing may provide evidence of (or increase) a producer's due diligence*
- *It is strongly recommended that producers test their agricultural water sources. The test will provide a general idea of the quality of the water and help to determine if possible contamination is present. Producers would test water for Total Coliforms and E. coli using an accredited lab where analyses are performed to standards equivalent to ISO 17025. See Appendix G -- Water Testing for examples of how to take a sample, where to take it and how to interpret the results.*

Note: *You may refer to the chart provided in Appendix K -- Production Site and Agricultural Water Source Assessment to help with your assessment (and for preventative measures/corrective actions).*

- After assessing the source, if the producer determines that it may be contaminated an alternate source is used (if available)
- If no alternate source is available, **corrective actions are required.** The following are some options (*check those that apply*):
 - Construct barriers (e.g., fences, ditches, storage pits)
 - Control runoff with sod strips, grass waterways, vegetative buffers, etc.
 - Spread manure during dry weather or incorporate manure within 24 hours of spreading
 - Leave a manure-free protective strip 10 m wide around surface water sources
 - Ensure all equipment is well-maintained
 - Ensure equipment is not cleaned, maintained or drained where the source may become contaminated
 - Install aeration or filtration systems
 - Follow expert advice
 - Level ground to prevent runoff
 - Irrigate in the morning to increase rapid drying and reduce pathogen survival with ultra violet light
 - Allow as long a period as possible between irrigating and harvest (e.g., two days, one week)
 - Ensure proper operation of sewer/septic system
 - Retest water for Total Coliforms and E. coli using an accredited lab *where analyses are performed to standards equivalent to ISO 17025. See Appendix G -- Water Testing*
 - Does not irrigate

- **Preventative measures are also required to reduce the risk of contamination in the water source.** The following are some options (*check those that apply*):
 - Construct barriers (e.g., fences, ditches, storage pits)
 - Control runoff with sod strips, grass waterways, vegetative buffers, etc.
 - Level ground to prevent runoff
 - Spread manure during dry weather or incorporate manure within 24 hours of spreading
 - Leave a manure-free protective strip at least 10 m wide around surface water sources
 - Ensure all equipment is well-maintained
 - Ensure equipment is not cleaned, maintained or drained where the water source may become contaminated
 - Ensure proper operation of sewer/septic system
 - Install aeration or filtration systems
 - Follow expert advice
 - Irrigate in the morning to increase rapid drying and reduce pathogen survival with ultraviolet light
 - Allow as long a period as possible between irrigating and harvest
 - Test water for chemicals if you know of a particular problem (e.g., agricultural chemical spill where you know what chemical was spilled) and if the test is available
 - Test water for Total Coliforms and *E. coli* using an accredited lab *where analyses are performed to standards equivalent to ISO 17025*. See Appendix G -- Water Testing
 - Does not irrigate

7.2 Storage

- Producer stores agricultural water, *proceed below*.
If not, *proceed to Section 8: Equipment*.

REQUIREMENT	<i>Cisterns, tanks or containers used to store agricultural water must not be a source of contamination to water or potatoes.</i>
--------------------	---

PROCEDURES:

- Prior to first use (in a season) – Producer:
 - Cleans the cistern, tank or container used to store water (e.g., power washes, sanitizer)
 - Follows instructions in Appendix H -- Cleaning and Treating Cisterns – An Example OR _____

OR

- Tests water for Total Coliforms and *E. coli* using an accredited lab *where analyses are performed to standards equivalent to ISO 17025* (File under Tab: Test Results) See *Appendix G -- Water Testing*
- Producer ensures the tank, container or cistern has a lid, is free from rust and is closed when not in use
- Annually - Producer records location of water storage tank/container/cistern on Form (A) Buildings Sketch (Interior Floor Plan) OR _____

Confirmation/Update Log:

Date						
Initials						

8. Equipment

Forms Required A, I	Producer Yes
	Packer Yes

RATIONALE:

A good agricultural practice is to clean and maintain production site, packinghouse and storage equipment to reduce the potential for biological, chemical (residues) and physical (e.g., metal, glass, plastic, wood) contamination. The appropriate cleaning methods and materials will depend on the type of equipment and the nature of the potatoes. Procedures may include the removal of debris from equipment surfaces, application of soaps/detergents, scrubbing/friction, rinsing with water, and where, appropriate, disinfection/sanitization. When required, equipment must be calibrated to ensure accurate application and delivery.

8.1 Purchasing, Receiving and Installation

REQUIREMENT	<i>Equipment must be purchased or built so that its design, construction and installation are not a source of contamination to potatoes.</i>
--------------------	--

Note: This section includes both new and current equipment.

PROCEDURES:

Production Site Equipment

- Producer ensures that calibration instructions are received with equipment or are written and made available (File under Tab: Calibration Instructions OR _____). If manufacturer's instructions are not available, refer to *Appendix E -- Agricultural Chemical Application Equipment Calibration - An Example*.
- Producer ensures that design and construction of production site equipment that may have an impact on food safety (e.g., mechanical harvesters), will not be a source of contamination to potatoes. **All equipment and components that come in direct contact with potatoes:**
 - Have food contact surfaces that are easy to clean
 - Are easily accessible for cleaning and maintenance
- Producer receives only the equipment that was purchased or selected

Building Equipment

- Annually – Producer/packer records where equipment is located/installed on Form (A) Buildings Sketch (Interior Floor Plan) OR _____
- Producer/packer ensures that design and construction of building equipment that may have an impact on food safety (e.g., sorting and grading equipment, packing surfaces), will not be a source of contamination to potatoes. **All equipment and components that come into direct contact with potatoes:**
 - Have food contact surfaces that are easy to clean
 - Are easily accessible for cleaning and maintenance
 - Are made of non-porous surfaces (e.g., metal, stainless steel, puckboard, rubber)
 - Are equipped with shatterproof lights (if applicable), or are covered (e.g., prevent glass from falling onto potatoes or packaging material) (e.g., packing line, forklift, bin pilers)
- Producer/packer receives only the equipment that was purchased or selected

- Producer/packer ensures that calibration instructions are received with equipment or are written and made available (File under Tab: Calibration Instructions OR _____) (e.g., for scales to weigh agricultural chemicals, water treatment equipment)
- When installing equipment (e.g., the packing line), producer/packer ensures that the equipment is installed with sufficient space between walls, floors and other equipment to allow easy access for cleaning and maintenance
- Producer/packer ensures that :
 - If catwalks are located above packing lines or areas where market potatoes are handled or stored, or where market ready packaging materials are stored, they are protected and have kick plates and solid floors (e.g., rubber mats) to prevent contamination of potatoes
 - Barriers are in place to eliminate unauthorized access to equipment (e.g., walls, doors, ropes, signs). *Refer to section 13.1: Visitor Protocols*

8.2 Use, Cleaning, Maintenance, Repair and Inspection

REQUIREMENT	<i>Equipment use must not contribute to the contamination of potatoes. Equipment must be properly cleaned, maintained, repaired and inspected.</i>
--------------------	--

PROCEDURES:

Production Site Equipment

- Equipment is not used (whether in use or not) for livestock/poultry slaughter or meat processing activities
- Annually (prior to initial use) – Producer ensures that production site equipment in direct contact with potatoes is clean by:

Cleaning Procedure (choose at least one of the following options):

- Washing with (choose at least one of the following options):
 - Water with friction (e.g., pressure wash, wiping, scrubbing)
 - Water and a sanitizer (e.g., chlorine, quaternary ammonium)
 - Water and soap
- Dry cleaning (e.g., broom, brushes, air)

Describe your step-by-step cleaning instructions [include any soaps or sanitizers, concentrations and equipment used (*refer to Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example for examples of chlorine solutions for equipment cleaning*) and *Appendix N -- Sanitation Standard Operating Procedures (SSOP) – An Example*]:

1. _____
2. _____
3. _____
4. _____
5. _____

6. _____

7. _____

8. _____

[Filling in the above description completes your Sanitation Standard Operating Procedure (SSOP) for equipment cleaning.]

- Before each use of production site equipment that comes into direct contact with potatoes or that may have an impact on food safety, producer conducts a general inspection and ensures the equipment does not contribute to the contamination of potatoes (e.g., checks for leaks, broken, corroded or damaged parts, cleanliness)
- Scales are cleaned between uses if the same scale is used to weigh potatoes and agricultural chemicals
- Agricultural chemical application equipment is rinsed or flushed according to label instructions when applying agricultural chemicals (e.g., on a crop for which the previous chemical used is not registered)
- Agricultural chemical application equipment is NOT used for mixing, cleaned, maintained, rinsed or flushed where water source(s) or the production site may become contaminated
- Backflow prevention or other devices are used when filling agricultural chemical application equipment to prevent backflow of agricultural chemicals into water sources (*refer to Appendix O -- Examples of Backflow Prevention During Mixing of Agricultural Chemicals*)

Building Equipment

- Equipment is not used (whether in use or not) for livestock/poultry slaughter or meat processing activities
- Before initial use of building equipment, producer/packer conducts a general inspection and ensures the equipment does not contribute to the contamination of potatoes (e.g., checks for leaks, broken, loose, corroded or damaged parts, chipping paint, rust, rotting wood, cleanliness)
- !** Weekly (at a minimum when in use) – Producer/packer inspects equipment in direct contact with potatoes (e.g., grading table, packing line, baggers) or that may have an impact on food safety for proper functioning (e.g., checks for faulty or loose parts). Producer/packer records the results of the inspection on Form (I) Equipment Cleaning, Maintenance and Calibration OR _____

- !** Weekly (at a minimum when in use) – Producer/packer ensures that building equipment in direct contact with potatoes is clean by:

Cleaning Procedure (*choose at least one of the following options*):

- Washing with (choose at least one of the following options):
 - Water with friction (e.g., pressure wash, wiping, scrubbing)
 - Water and a sanitizer (e.g., chlorine, quaternary ammonium)
 - Water and soap

- Dry cleaning (e.g., broom, brushes, air)

Describe your step-by-step cleaning instructions [include any soaps or sanitizers, concentrations and equipment used (*refer to Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example for examples of chlorine solutions for equipment cleaning and Appendix N -- Sanitation Standard Operating Procedures (SSOP) – An Example*)]:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

[Filling in the above description completes your Sanitation Standard Operating Procedure (SSOP) for equipment cleaning.]

- Scales are cleaned between uses if the same scale is used to weigh product and agricultural chemicals
- Agricultural chemical application equipment is rinsed or flushed according to label instructions when applying agricultural chemicals (e.g., on a crop for which the previous chemical used is not registered)
- Agricultural chemical application equipment is NOT cleaned, used for mixing, maintained, rinsed or flushed where water source(s) may become contaminated
- Backflow prevention or other devices are used when filling agricultural chemical application equipment to prevent backflow of agricultural chemicals into water sources (*refer to Appendix O -- Examples of Backflow Prevention During Mixing of Agricultural Chemicals*)
- !** Weekly - Producer/packer records cleaning of equipment in direct contact with potatoes on Form (I) Equipment Cleaning, Maintenance and Calibration OR _____

8.3 Calibration

REQUIREMENT	<i>An effective calibration program must be followed for all equipment requiring calibration.</i>
--------------------	---

PROCEDURES:

Production Site Equipment

- !** At the start of the season, when inspection results indicate a need, when key components are replaced (e.g., sprayer nozzles, belts or sprockets are changed) and/or if tractor speeds are

adjusted, producer calibrates production site equipment as per manufacturer's recommended calibration procedures. If manufacturer's procedures are not available refer to *Appendix E -- Agricultural Chemical Application Equipment Calibration – An Example*

- Producer calibrates the following production site equipment (*check all that apply; if not applicable proceed to the next sub-section: Building Equipment*):
 - ! Agricultural chemical applicator (e.g., sprayer nozzle, seed treaters, granular/liquid applicator, etc.)
 - Spreader (e.g., manure, fertilizer)
 - Scales (if used to weigh agricultural chemicals)
- ! Producer records the calibration activity on Form (I) Equipment Cleaning, Maintenance and Calibration OR _____

Building Equipment

- ! At the start of the season, or when inspection results indicate a need, or when key components are replaced, producer/packer calibrates the equipment as per manufacturer's recommended calibration procedures
- ! ● Producer/Packer calibrates the following building equipment (*check all that apply; if not applicable, proceed to the next Section 8.4: Storage*):
 - ! Chlorinator
 - ! pH meter (if used to verify water treatment)
 - ! ORP meter (if used to verify water treatment)
 - Scales (if used to weigh agricultural chemicals)
 - Other (*specify*): _____
- ! Producer/Packer records the calibration activity on Form (I) Equipment Cleaning, Maintenance and Calibration OR _____

8.4 Storage

REQUIREMENT	<i>Equipment must be stored in designated area(s) so that it will not contribute to the contamination of potatoes.</i>
--------------------	--

PROCEDURES:

- Producer stores production site equipment (when not in use) separate from potatoes, water sources and market ready packaging materials
- Producer/packer stores building equipment (when not in use) in a manner that prevents leakage of fuel, oil, gases, etc. from equipment coming into contact with potatoes, water sources and market ready packaging materials

Confirmation/Update Log:

Date						
Initials						

9. Cleaning and Maintenance Materials

Forms Required N/A	Producer Yes
	Packer Yes

RATIONALE:

Cleaning and maintenance materials can be a source of chemical and physical contamination if the proper materials and procedures are not used.

9.1 Purchasing and Receiving

REQUIREMENT	<i>Cleaning and maintenance materials must be properly purchased and received to ensure the appropriate type for use.</i>
--------------------	---

PROCEDURES:

- When purchasing or selecting cleaning and maintenance materials that **come into direct contact with potatoes** (including materials used on food contact surfaces), producer/packer purchases or selects materials that were manufactured with ingredients that are appropriate for their intended use
- Producer/packer receives only the cleaning and maintenance materials that were purchased or selected and verifies the label contains the name of product, active ingredient(s), concentration and the manufacturer's name and address; the manufacturer's contact information and instructions for use do not need to be on the label but are readily available

Note: For materials, refer to Appendix D -- Reference Lists: Packaging Materials, Inks, Lubricants, Maintenance Materials, Sanitizers, Water Treatment Aids and Food and Incidental Additives.

9.2 Use

REQUIREMENT	<i>Cleaning and maintenance materials must be used so as not to be a source of contamination to potatoes.</i>
--------------------	---

- When using cleaning and maintenance materials, producer/packer:
 - Mixes materials by following the instructions for use and the concentration guidelines
 - Uses the appropriate material for its intended use
 - Follows the instructions for use during the application process

Note: Refer to Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment- An Example, for examples and information on using chlorine to sanitize equipment.

9.3 Storage

REQUIREMENT	<i>Cleaning and maintenance materials must be stored in designated areas and under proper conditions.</i>
--------------------	---

- Producer/packer stores cleaning and maintenance materials:
 - Separate from potatoes, equipment, waste, agricultural chemicals and market ready packaging materials
 - In a clean and dry location

- With labels/identification intact and legible [name of product, active ingredient(s), concentration and the manufacturer's name and address are on the label; the manufacturer's contact information and the instructions for use do not need to be on the label but are readily available]
- In a manner that maintains the integrity of the container/contents and prevents leakage (e.g., closed bag, in a closed container, with a lid)

Confirmation/Update Log:

Date						
Initials						

10. Waste Management

Forms Required N/A	Producer Yes
	Packer Yes

RATIONALE:

Proper waste management is required to prevent biological, chemical or physical contamination of your premises (e.g., cull potatoes left to rot in a pile near a building can attract pests).

10.1 Storage and Disposal of Garbage, Recyclables and Compostable Waste

REQUIREMENT	<i>Areas for garbage, recyclables and compostable waste (when applicable) must be identified and all waste must be stored and disposed of in a manner to minimize contamination.</i>
--------------------	--

PROCEDURES:

- Producer/packer provides dedicated containers for waste that are:
 - In the appropriate areas/rooms (e.g., lunchroom, washroom, packinghouse, production site, storage)
 - Separate from potatoes, water source(s) and market ready packaging materials
 - Designated or labelled for each applicable type of waste (i.e., garbage, recyclables, compost, etc.)
 - Covered where pest or animal intrusion may be a problem
 - Of sufficient quantity and size
 - Cleaned thoroughly at least monthly (e.g., pressure washed, scrubbed, change plastic liners) in an area separate from potatoes and market ready packaging materials
- Producer/packer disposes of waste as soon as the container is full (or before), or as frequently as required to avoid attracting pests (e.g., flies, rodents)

10.2 Storage and Disposal of Empty Agricultural Chemical Containers

REQUIREMENT	<i>Empty agricultural chemical containers must be stored and disposed of in a manner that minimizes the potential for chemical contamination of potatoes and the premises.</i>
--------------------	--

PROCEDURES:

- Producer/packer does not reuse empty agricultural chemical containers for any purpose, as prescribed by the *Pest Control Products Act and Regulations*
- Producer /packer triple rinses containers and empties the rinsate into the applicator tank
- Producer/packer stores empty agricultural chemical containers:
 - Separate from potatoes, water sources and market ready packaging materials
 - In a designated or labelled area/container
- Producer/packer disposes of empty agricultural chemical containers by following applicable federal, provincial, territorial and municipal regulations for disposal of empty containers

10.3 Disposal of Production Wastewater and Waste from Toilets and Hand Washing Facilities

REQUIREMENT	<i>Production wastewater and waste from toilets and hand washing facilities must be disposed of in a manner that minimizes biological and chemical contamination of potatoes, water sources and the premises.</i>
--------------------	---

PROCEDURES:

- Producer/packer does not dispose of waste from toilets and hand washing facilities in the production site
- Producer/packer disposes of waste from toilets in a manner that prevents contamination of packaging materials, potatoes, water sources, compost and other by-products
- Producer/packer disposes of waste from toilets (*choose at least one of the following*):
 - Into a septic system or municipal sewer system
 - By contracting with a portable toilet company or cleaning service
 - Other (*specify where and how waste is disposed of*):

Describe: _____

- Producer/packer disposes of waste from hand washing stations in a manner that prevents contamination of packaging materials, potatoes, water sources, compost and other by-products
- Producer/packer disposes of waste from hand washing stations (*choose at least one of the following*):
 - Into a septic system or municipal sewer system
 - By contracting with a portable toilet company or cleaning service
 - Other (*specify where and how waste is disposed of*):

Describe: _____

- Producer/packer disposes of production wastewater in a manner that prevents contamination of packaging materials, potatoes, water sources, compost and other by-products
- Producer/packer disposes of production wastewater by (*specify where and how wastewater is disposed of*):

Describe: _____

Confirmation/Update Log:

Date						
Initials						

11. Personal Hygiene Facilities

Forms Required A, J	Producer Yes
	Packer Yes

RATIONALE:

Humans may be a source of biological contamination (e.g., Hepatitis A, Salmonella, *E. coli* O157:H7) especially if unable to properly wash their hands. Therefore, it is important to provide personal hygiene facilities and to keep them well-maintained.

11.1 Facilities

REQUIREMENT	<i>Sufficient personal hygiene facilities must be available. All facilities must be accessible, properly stocked, cleaned and well-maintained.</i>
--------------------	--

PROCEDURES:

In the Production Site

- Personal hygiene facilities are provided for employees who are in the production site and include:
 - Washrooms:
 - 1 washroom per 75 employees
 - toilet(s) (portable and non-portable) located so as not to be a source of contamination to water sources and potatoes
 - on-site toilets (e.g., 500 m or 5 minute walk) or accessible through transportation provided by producer/packer/other (e.g., employee vehicle)
 - fully equipped (i.e., garbage container and toilet paper)
 - Personal hygiene facilities are provided for those employees handling potatoes in the production site and include:
 - ! ● Properly stocked hand washing facilities (*choose at least one of the following*):
 - ! hot and/or cold running **potable** water (with a receptacle to collect wastewater), disposable paper towels, soap and a garbage container
 - OR**
 - ! water to remove soil from hands (with a receptacle to collect wastewater), paper towel to dry hands, hand sanitizer and a garbage container
 - OR**
 - ! hand wipes, hand sanitizer and a garbage container
 - AND**
 - all personal hygiene facilities have hand washing signs with understandable instructions (e.g., appropriate language for employees, pictograms) *Refer to Appendix I -- Hand Washing Sign Templates*
- ! Weekly (while in use) and daily (during the peak season) – Producer/packer cleans and maintains the personal hygiene facilities and records the activity on Form (J) Cleaning and Maintenance – Personal Hygiene Facilities OR _____

In the Packinghouse/Product Storage *[If not applicable, proceed to the next sub-section: Other Facilities in the Production Site and Building(s)]*

- Annually – Producer/packer records all locations of personal hygiene facilities on Form (A) Buildings Sketch (Interior Floor Plan) OR _____

- Packer provides personal hygiene facilities in the packinghouse/product storage including:
 - !• Properly stocked hand washing facilities (*choose at least one of the following*):
 - ! hot and/or cold running **potable** water (with a receptacle to collect wastewater), disposable paper towels, soap and a garbage container
 - OR**
 - ! water to remove soil from hands (with a receptacle to collect wastewater), paper towel to dry hands, hand sanitizer and a garbage container
 - OR**
 - ! hand wipes, hand sanitizer and a garbage container
 - AND**
 - all personal hygiene facilities have hand washing signs with understandable instructions (e.g., appropriate language for employees, pictograms) *Refer to Appendix I -- Hand Washing Sign Templates*

- Washrooms:
 - ! in the packinghouse/product storage
 - OR**
 - ! in the immediate vicinity of the packinghouse/product storage (e.g. portable toilet, packer's residence, bunkhouse)

- **Washrooms include:**
 - 1 toilet per 35 employees
 - Fully equipped facilities (i.e., garbage container and toilet paper)
 - If the washroom is in the vicinity of the packinghouse/product storage, describe where it is located: _____

- ! Weekly (while in use) and daily (during the peak season) – Packer cleans and maintains the personal hygiene facilities and records the activity on Form (J) Cleaning and Maintenance – Personal Hygiene Facilities OR _____

Other Facilities: In the Production Site and Building(s) (e.g., lunchroom, break area)

- Producer/packer provides:
 - Fully stocked first aid kits
 - Waterproof covering for bandaged wounds on hands (e.g., rubber gloves)
- Producer/packer provides a dedicated storage area for personal effects separate from potato handling areas and washrooms
- Producer/packer provides a dedicated lunchroom/break area separate from potato handling areas
- Producer/packer ensures employees remove working effects prior to entering washrooms and before breaks (e.g., reusable gloves/aprons)
- Producer/packer ensures employees store working effects in a designated location separate from smoking areas and surfaces where food is prepared or eaten

Confirmation/Update Log:

Date						
Initials						

12. Employee Training

Forms Required C, D, K	Producer Yes
	Packer Yes

RATIONALE:

Employees must be trained on good personal hygiene practices and safe product handling to help to prevent the biological, chemical and physical contamination of potatoes. Job-specific training is also important to ensure food safety related practices are adhered to.

12.1 Employee Training

REQUIREMENT	<i>All employees must receive training on their role in food safety, food handling, personal hygiene practices, biosecurity and any other area related to food safety for their job. Senior management must demonstrate its commitment to determining and providing, in a timely manner, all the resources needed to implement and improve the processes of the food safety system.</i>
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PROCEDURES:

- Annually – Producer/packer assigns a person responsible for overseeing employee training
 - Annually – Producer/packer uses the following Employee Personal Hygiene and Food Handling Practices Policy Forms for training (*check those that are applicable*):
 - Form (C) Employee Personal Hygiene and Food Handling Practices Policy - Production Site
 - Form (D) Employee Personal Hygiene and Food Handling Practices Policy – Packinghouse/Product Storage
 - The person responsible provides training (to employees in direct contact with potatoes/packaging materials/food contact surfaces):
 - To all employees at the beginning of each season
 - To new employees
 - As a refresher to reinforce good practices (i.e., as a result of non-conformances or mid-way through the season)
 - To provide feedback from an audit, or information on new techniques, new science or other technical findings
 - Person responsible provides training and training materials in a language and comprehension level applicable to employee(s) (Refer to the CHC web site to obtain training materials: www.canadagap.ca)
 - Person responsible records employee personal hygiene and food handling practices training activities and employees' attendance on Form (K) Training Session OR _____
-
- Producer/packer observes employees for compliance with the personal hygiene and food handling practices policy
 - Producer/packer trains employees on minor and major food safety deviations (*Refer to Section 23: Deviations and Crisis Management*)

- Producer/packer provides job-related training to employees performing tasks that could lead to biological, chemical or physical contamination of potatoes (*check those that are applicable*):
 - Calibration of production site equipment
 - Calibration of building equipment
 - Use of cleaning and maintenance materials (including water treatment chemicals)
 - Production site equipment cleaning and maintenance procedures
 - Building equipment cleaning and maintenance procedures
 - Record keeping procedures (i.e., forms applicable to job)
 - Application of agronomic inputs
 - Harvesting procedures
 - Sorting, grading and packing procedures

12.2 Employee Illness

REQUIREMENT	<i>Producer/packer must be aware of and how to manage the risks associated with illnesses transferable to food. All employees must be informed of their role in the potential transfer of illness to food and trained to report illnesses or symptoms to their supervisor.</i>
--------------------	--

PROCEDURES:

- Producer/packer abides by appropriate legislation (e.g., human rights, privacy, employment standards) and producer/packer policies (written and verbal)
- Producer/packer is aware that there are illnesses transferable to food (e.g., Hepatitis A, Salmonella, *E. coli* O157:H7)
- Producer/packer informs employees to see a doctor if they are ill and excludes employees with symptoms of an active infectious disease from activities that may contaminate product, packaging or food contact surfaces
- Producer/packer is alert to signs of employee illness, and encourages those employees to seek medical attention as soon as possible
- If producer/packer is advised that an employee has an illness transferable to food (e.g., Hepatitis A, Salmonella, *E. coli* O157:H7), producer/packer seeks advice, guidance and collaboration with their local public health authority including advice on when the employee can return to work
- Producer/packer keeps all records confidential, including copies of correspondence, doctor's notes, etc. in a secure location that is not accessible to unauthorized people

Confirmation/Update Log:

Date						
Initials						

13. Visitor Policy

Forms Required L	Producer Yes
	Packer Yes

RATIONALE:

Restricting visitors from areas where potatoes or market ready packaging materials are handled or stored helps to prevent contamination. Controlling visitor access to other areas such as agricultural chemical storages is for their own safety as well as the prevention of chemical contamination of potatoes (e.g., carrying chemicals on their feet into storages).

13.1 Visitor Protocols

REQUIREMENT	<i>Visitors must adhere to protocols when on the premises so as not to be a source of contamination.</i>
--------------------	--

PROCEDURES:

- Producer/packer determines controlled-access areas within the building(s) including areas where harvested and market potatoes, market ready packaging materials and agricultural chemicals are handled or stored, and controls access to those designated areas (e.g., puts up signs, walls) *Refer to Appendix J -- Controlled Access Area Sign Templates*
- Producer/packer accompanies or designates a person to accompany first time visitors entering controlled-access areas
- Producer/packer ensures visitors are informed of and understand the visitor policy on Form (L) Visitor Sign-In Log OR _____
- Producer/packer or designated person ensures all visitors entering controlled-access areas sign in using Form (L) Visitor Sign-In Log OR _____

Confirmation/Update Log:

Date						
Initials						

14. Pest Program for Buildings

Forms Required
A, E, G, M

Producer Yes
Packer Yes

RATIONALE:

Pests such as rodents, birds and insects are potential sources of contamination to potatoes as they may carry a variety of pathogens. The use of traps, chemicals or bait, and monitoring these continually can be effective in controlling pests.

14.1 Control and Monitoring

REQUIREMENT	<i>An effective pest program must be in place for the exterior and interior of buildings to monitor and control pests.</i>
--------------------	--

Note: This section does not apply to stand-alone agricultural chemical storage buildings.

PROCEDURES

- Producer/packer completes pest risk assessment for the interior and exterior of buildings by reviewing Sections 2.2: Building Exterior and Surroundings Assessment, Cleaning, Maintenance, Repair and Inspection and 2.3: Building Interior Assessment, Cleaning, Maintenance, Repair and Inspection of the Manual and Form (G) Cleaning, Maintenance and Repair of Buildings OR _____

- Producer/packer prevents nesting of birds on the interior and exterior of buildings
- Producer/packer does NOT allow animals including pets into buildings
- Producer/packer, if using traps, ensures that:
 - They are flush against the wall
 - If using bait inside buildings, it is in a trap from which rodents cannot escape (e.g., tin cat, iron cat, ketch-all)
 - Pest control products in bait or baited traps are registered for use in Canada
 - They are set, at a minimum, on the inside of each entrance (doorways) on both sides (i.e., two traps per door)
- ! Producer/packer adheres to a pest control and monitoring program (you **MUST** choose one of the two options listed on the following page and complete the associated sub-bullets):

! <input type="checkbox"/> Third Party Pest Program	! <input type="checkbox"/> Self-Managed Pest Program
<p>! ● Producer/packer hires a licensed third party pest control company to monitor buildings (when in use). The company provides the producer/packer with:</p> <ul style="list-style-type: none"> ! <input type="checkbox"/> A contract/agreement/letter of assurance showing company's name and the applicator's license number ! <input type="checkbox"/> A written pest control manual detailing the procedures, pest control products used, PCP number, frequencies (minimum of once monthly) and methods used <p>! ● The company ensures that:</p> <ul style="list-style-type: none"> ! <input type="checkbox"/> Bait (unless inside a trap) is not used in the interior of buildings ! <input type="checkbox"/> Bait is not in contact with potatoes ! <input type="checkbox"/> Pest control products are registered in Canada for this use and are used according to label directions ! <input type="checkbox"/> All pest control devices are clearly numbered/labelled/identified ! <input type="checkbox"/> The location of building exterior and interior pest control devices is recorded and provided to the producer/packer ! <input type="checkbox"/> All leftover bait, damaged traps, used glue boards and pests are disposed of in a sealed container and placed in the garbage ! <input type="checkbox"/> A record of detailed findings and suggested control measures are provided after each scheduled visit 	<p>! ● Producer/packer implements a self-managed pest program. Producer/packer ensures that:</p> <ul style="list-style-type: none"> ! <input type="checkbox"/> Bait (unless inside a trap) is not used in the interior of buildings ! <input type="checkbox"/> Bait is not in contact with potatoes ! <input type="checkbox"/> Pest control products are registered in Canada for this use and used according to label directions ! <input type="checkbox"/> All pest control devices are clearly numbered/labelled/identified ! <input type="checkbox"/> The location of building exterior and interior pest control devices is recorded on Form (A) Buildings Sketch (Interior Floor Plan) OR _____ ! <input type="checkbox"/> All leftover bait, damaged traps, used glue boards and pests are disposed of in a sealed container and placed in the garbage ! <input type="checkbox"/> After handling bait, devices, or disposing of pests, proper hand washing techniques are followed ! <input type="checkbox"/> Producer/packer records PCP # on Form (E) Pest Control for Buildings OR _____
<p>! <input type="checkbox"/> After each visit, producer/packer reviews the record left by the company and signs the record for confirmation of activities</p>	<p>! <input type="checkbox"/> Annually – Producer/packer describes the pest program on Form (E) Pest Control for Buildings OR _____</p>
<p>! <input type="checkbox"/> Producer/packer files all records under Tab: Third Party Pest Control Records OR _____</p>	<p>! <input type="checkbox"/> Monthly (when in use) – Producer/packer monitors the pest program and records findings on Form (M) Pest Monitoring for Buildings OR _____</p>
<p><input type="checkbox"/> Annually - Producer/packer reviews the company's program (procedures, numbering of devices, monitoring frequency, etc.) for effectiveness</p>	<p><input type="checkbox"/> If a persistent problem, pattern or increases in pest populations is observed, the producer /packer takes corrective action and/or seeks expert advice on alternative control measures</p>

Confirmation/Update Log:

Date						
Initials						

15. Water (for Fluming and Cleaning)

Forms Required
A, F, N1

Producer Yes
Packer Yes

RATIONALE:

Water may be used in an operation for a number of different reasons using a variety of practices. It is important to assess the quality of the water as it may be a source for biological or chemical contamination.

- Water is used for fluming, washing or rinsing of potatoes
- Water is used for cleaning equipment, containers, buildings, etc.
- Water is used in personal hygiene facilities for hand washing

*If **ANY** of the above circles has been checked off, proceed below.
If not, proceed to Section 16: Ice.*

15.1 Water Assessment

REQUIREMENT	<i>Water source must be identified and potential hazards assessed. The required preventative measures must also be determined and implemented to prevent biological contamination (pathogenic bacteria, parasites, viruses) and chemical contamination.</i>
--------------------	---

PROCEDURES:

- Producer/packer never uses:
 - Untreated sewage
 - Tertiary Water
- If an abnormal event occurs to cause contamination of the water (e.g., chemical leakage, leaching of well by overland flooding, municipal boil water advisory) the producer/packer does not use the water until remediation is possible to eliminate the contaminant, or testing [i.e., contaminant (e.g., agricultural chemical) is known and tests are available] indicates the water is safe to use
- ! ● Annually – By completing or updating Form (F) Water (for Fluming and Cleaning) Assessment OR

producer/packer:
 - ! Identifies the water sources
 - ! Describes the intended use of each water source
 - ! Describes the method of application
 - ! Assesses the potential hazards for each source considering its use
 - ! Determines the appropriate action or preventative measures needed to control the hazards

Note: To assist with the assessment, the following **MUST** be adhered to:

Private Well Water (If not applicable, proceed to the next sub-section: Municipal Water)

- ! At least twice annually [once prior to use and at least once more during the season to ensure water potability is being maintained] – If water is from a private well, producer/packer tests the well water for Total Coliforms and *E. coli* using an accredited lab where analyses are performed to standards equivalent to ISO 17025, to ensure that the well water is potable (meets provincial/municipal standards). (File under Tab: Test Results) Refer to Appendix G -- Water Testing

- Producer/packer ensures the water sample is taken from the tap closest to the water source (unless water is being treated, in which case the sample is taken after treatment)

Municipal Water *(If not applicable, proceed to the next sub-section: Surface Water)*

- If water is provided by the municipality, the producer/packer receives notification if the supply becomes contaminated along with the appropriate treatment method(s)

Surface Water *(If not applicable, proceed to the next sub-section: Water for Fluming and Washing Potatoes)*

- ! ● If water is from a surface water source, the producer/packer:
 - ! Follows a water treatment program to make it potable as per Section 15.3: Treatment below
 - ! At least twice annually [once prior to use and at least once more during the season to ensure water potability is being maintained] - tests the treated water for Total Coliforms and *E. coli* using an accredited lab where analyses are performed to standards equivalent to ISO 17025, to ensure that the treated water is potable (meets provincial/municipal standards) (File under Tab: Test Results) *Refer to Appendix G -- Water Testing*

Water for Fluming and Washing Potatoes *(If not applicable, proceed to the next sub-section: Final Rinse/Chemical Application (during packing) Water)*

- ! Water used to fill or replenish flumes, dump tanks, drums or pits for potatoes destined for fresh market is from a **potable source**

NOTE: Potable water **is not required** for fluming or washing potatoes grown for processing.

Final Rinse/Chemical Application (during packing) Water *(If not applicable, proceed to the next sub-section: Water for Cleaning)*

- ! If water has been used to flume or wash potatoes destined for fresh market, producer/packer provides a **final potable water rinse**
- ! Chemical application (during packing) water is from a **potable source** if used on potatoes destined for fresh market
- ! At least twice annually [once prior to use and at least once more during the season to ensure water potability is being maintained] – If providing a final rinse/chemical application (during packing), producer/packer tests the water (even if it is from a municipal source) for Total Coliforms and *E. coli* using an accredited lab where analyses are performed to standards equivalent to ISO 17025, to ensure that the water is potable (meets provincial/municipal standards) (File under Tab: Test Results) *Refer to Appendix G -- Water Testing*
- Producer/packer ensures water sample is taken directly from rinse/application equipment when testing for potability

Water for Cleaning (equipment, buildings, containers, etc. and hand washing in personal hygiene facilities)

- ! ● Producer/packer uses **potable water**:
 - ! For cleaning buildings, equipment, containers, etc. for potatoes destined for fresh market
 - ! In personal hygiene facilities for hand washing

NOTE: Potable water **is not required** for cleaning buildings, equipment, containers, etc. that come into direct contact with potatoes grown for processing.

15.2 Storage

- Producer/packer stores water for fluming and cleaning, *proceed below.*
If not, proceed to Section 15.3: Treatment.

REQUIREMENT	<i>Cisterns, tanks or containers used to store water may be a source of contamination. Water must be stored in clean cisterns, tanks and/or containers.</i>
--------------------	---

PROCEDURES:

- ! Regardless of water source (e.g., rain, municipal, private well water) - At least twice annually [once prior to use and at least once more during the season] and after abnormal events – producer/packer tests water from the cistern/tank/container for Total Coliforms and *E. coli* using an accredited lab where analyses are performed to standards equivalent to ISO 17025, to ensure that the water is potable (meets provincial/municipal standards) (File under Tab: Test Results). Refer to *Appendix G -- Water Testing*
- If water tests show that water in the cistern/tank/container is NOT potable– Producer/packer:
 - Cleans the cistern, tank or container used to store water (e.g., power washes, sanitizer)
 - Follows instructions in Appendix H -- Cleaning and Treating Cisterns – An Example OR _____

Note: *It is recommended that cisterns/tanks/containers are cleaned annually regardless of water test results.*

- Producer/packer ensures the water storage tank, container or cistern has a lid, is free from rust, is closed and is protected from chemical contamination when not in use
- Annually - Producer/packer records location of water storage tank/container/cistern on Form (A) Buildings Sketch (Interior Floor Plan) OR _____

15.3 Treatment

REQUIREMENT	<i>The treatment of water (for fluming and cleaning) with chlorine or other methods must be controlled and monitored to ensure appropriate chemical concentrations or functioning of equipment and to prevent both the biological and chemical contamination of potatoes.</i>
--------------------	---

PROCEDURES:

- Producer/packer treats water, *proceed below.*
If not, proceed to Section 16: Ice.
- When treating water, producer/packer (*choose those that are applicable*):
 - ! Follows instructions in *Appendix A -- Shock Chlorination of Well Water – An Example* OR _____
 - ! Follows instructions in *Appendix B-- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example* OR _____
 - ! Follows instructions in *Appendix H -- Cleaning and Treating Cisterns – An Example* OR _____

- ! Other instructions (specify or describe): _____

- ! Uses an alternative method to chlorination (e.g., hydrogen peroxide, ozone, ultra violet light, reverse osmosis) as per manufacturer's instructions (describe method): _____

- ! Records the control and monitoring of alternative water treatment on (indicate name and location of form): _____
(File under Tab: _____)

Note: Seek expert or professional advice for proper setup and monitoring of alternative water treatment systems.

- ! If adding water treatment aids (i.e., chlorine) manually, and monitoring treatment with chlorine/pH strips or ORP, producer/packer establishes a standard operating procedure following instructions in Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example OR _____
_____ AND fills out the right hand column of the chart below

Volume of water in wash tank or system: _____

Water treatment used (e.g., 5.25% household bleach): _____

Initial amount of treatment chemical added and target concentration (ppm) (e.g., ¾ cups of chlorine per 50 gallons to reach 50 ppm): _____

What are you using to monitor levels (e.g., chlorine strips/pH strips, ORP)? _____

How often do you check treatment levels (e.g., every hour during use)? _____

How often is water changed (e.g., daily, weekly)? _____

What is the target level (for ORP/chlorine/pH)? ORP =700 or greater; pH=6-0-7.5; free chlorine = between 2-7 ppm
Other:

Actions taken if:

ORP is between 650-700 (e.g., add ¾ cups of chlorine per 50 gallons) Add: _____

Recheck ORP/free chlorine/pH and record on Form N1 or _____

ORP is below 650 or free chlorine is below 2ppm (e.g., add 2 cups of chlorine) Discard or rewash any product that has come in contact with contaminated water

- ! Daily (for chlorination) – Producer/packer controls and monitors (as applicable) chlorine/pH levels or Oxidation-Reduction Potential (ORP) in water and records these on Form (N1) Water Treatment Control and Monitoring OR _____

- ! Daily (for alternative water treatment methods) – Producer/packer monitors the equipment for proper functioning and records this on (*indicate name and location of form*): _____

 (File under Tab: _____)

- ! At least twice annually [once at the beginning of the season and once more during the season to ensure water potability is being maintained] – Producer/packer tests the treated water for Total Coliforms and *E. coli* using an accredited lab where analyses are performed to standards equivalent to ISO 17025, to ensure that the water is potable (meets provincial/municipal standards) (File under Tab: Test Results). *Refer to Appendix G -- Water Testing*

- Producer/packer ensures water is taken directly from equipment when testing treated water for potability

Confirmation/Update Log:

Date						
Initials						

16. Ice

Forms Required N/A	Producer No
	Packer No

This section is not applicable to potato production and packing.

17. Packaging Materials

Forms Required
A, I, Q

Producer
Yes
Packer
Yes

RATIONALE:

Packaging materials that are not handled or stored properly may contribute to the biological, chemical and physical contamination of potatoes.

- Harvested potato packaging materials are used on the premises
- Market ready packaging materials are used on the premises
- Packaging Accessories are used on the premises

If **ANY** of the above circles has been checked off, proceed below.
If not, proceed to Section 18: Growing and Harvesting.

17.1 Purchasing and Receiving

REQUIREMENT	<i>Packaging materials must be obtained with knowledge of origin and must be appropriate for use in the packaging of potatoes.</i>
--------------------	--

PROCEDURES:

Harvested Potato Packaging Materials

- Producer/packer purchases or selects materials that are:
 - Free of objects that may become embedded in potatoes (e.g., material is in good repair, no splinters, glass)
 - Clean and free of debris (e.g., from other crops, compostable waste, garbage)
 - Have not been used for any other purpose that may be a source of contamination (e.g., to carry tools, personal effects, cleaning agents, agricultural chemicals, maintenance materials)
- Producer/packer receives only the materials that were purchased or selected

Market Ready (Primary and Secondary) Packaging Materials

- When purchasing or selecting packaging materials, packer is aware of their origin (i.e., manufactured with components that are not a source of chemical contamination)
- Packer purchases or selects **primary** materials (e.g., bags) that are (*choose one of the following*):
 - New OR
 - If reused, new liners are used (**Note:** *Liners are considered packaging accessories, not primary packing materials*)
- Packer purchases or selects materials (e.g., masters) that are free of loose objects that may become embedded in potatoes (e.g., splinters, glass)
- Packer receives only the materials that were purchased or selected

Note: For materials, refer to Appendix D -- Reference Lists: Packaging Materials, Inks, Lubricants, Maintenance Materials, Sanitizers, Water Treatment Aids and Food and Incidental Additives.

Packaging Accessories

- When purchasing or selecting packaging accessories, packer is aware of their origin (i.e., manufactured with components that are not a source of chemical or physical contamination)
- Packer purchases or selects new packaging accessories if coming into direct contact with potatoes (e.g., liners, ties, tags, rubber bands)
- Packer receives only the packaging accessories that were purchased or selected

Note: For packaging accessories, refer to Appendix D -- Reference Lists: Packaging Materials, Inks, Lubricants, Maintenance Materials, Sanitizers, Water Treatment Aids, and Food and Incidental Additives.

17.2 Use of Packaging Materials

REQUIREMENT	<i>Harvested potato packaging materials must be clean and properly maintained and repaired before use, and market ready primary packaging materials and accessories (in direct contact with potatoes) must not be a source of contamination</i>
--------------------	---

PROCEDURES:

Harvested Potato Packaging Materials

- Producer/packer uses materials that are:
 - Free of objects that may become embedded in potatoes (e.g., material is in good repair, no splinters, glass)
 - Clean and free of debris (e.g., from other crops, compostable waste, garbage)
 - Have not been used for any other purpose that may be a source of contamination (e.g., to carry tools, personal effects, cleaning agents, agricultural chemicals, maintenance materials, or previously used to harvest other crops where agricultural chemical residues may contaminate potatoes)
 - Any materials that have been used for other purposes are clearly marked (e.g. with paint) so they will not subsequently be used for potatoes

Market Ready Primary Packaging Materials

- Producer/packer uses materials that are:
 - ! New or reusable containers that are in good repair
 - ! Reusable containers made of porous materials (e.g., wood, wicker, cardboard) with a new liner
 - ! Reusable containers made of non-porous materials (e.g., plastic, stainless steel) with a new liner OR that are cleaned before use by washing with (*choose at least one of the following three options*):
 - ! water with friction (e.g., pressure wash, wiping, scrubbing)
 - ! water and a sanitizer (e.g., chlorine, quaternary ammonium)
 - ! water and soap
 - ! Packer describes the step-by-step cleaning instructions [include any soaps or sanitizers, concentrations and equipment used (*refer to Appendix B -- Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment - An Example*, for suggested chlorine solutions for cleaning and *Appendix N -- Sanitation Standard Operating Procedures (SSOP) – An Example*)]:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

[Filling in the above description completes your Sanitation Standard Operating Procedure (SSOP) for cleaning of packaging materials.]

- ! Packer records cleaning of reusable packaging materials on Form (I) Equipment Cleaning, Maintenance and Calibration OR _____
- Packer uses materials that are:
 - Not previously used for any other purposes that may be a source of contamination (e.g., to carry tools, personal effects, cleaning agents, agricultural chemicals, maintenance materials)
 - Any materials that have been used for other purposes are clearly marked (e.g., with paint) so they will not subsequently be used for potatoes
 - Handled in a way that maintains their integrity [e.g., protected from the elements, protected from chemicals, properly stacked, kept off the ground (including platforms, stairs and catwalks where employees walk) etc.]
 - Labelled with the correct identifying information of the producer, packer or company for whom the potatoes were packed (i.e., name and address of operation)
 - Labelled with Pack ID if there is no secondary packaging materials
- ! Producer/Packer conducts a visual inspection of all materials before use and records this information for each product lot on Form (Q) – Packing Market Potatoes OR _____

Market Ready Secondary Packaging Materials

- Producer/packer uses materials that are:
 - Clean, free of debris and in good repair
 - Have not been used for any other purposes that may be a source of contamination (e.g., to carry tools, personal effects, cleaning agents, agricultural chemicals, maintenance materials)
 - Any materials that have been used for other purposes are clearly marked (e.g. with paint, marker) so they will not subsequently be used for potatoes
 - Handled in a way that maintains their integrity [e.g., protected from the elements, protected from chemicals, properly stacked, kept up off the ground (including platforms, stairs and catwalks where employees walk), etc.]
 - Labelled with the correct identifying information of the producer, packer or company for whom the potatoes were packed (i.e., name and address of operation)
 - Labelled with Pack ID

● If there is **NO** market ready primary OR secondary packaging materials used, the packer labels the pallet/skid with:

- The correct identifying information of the producer, packer or company for whom the potatoes were packed (i.e., name and address of operation)
- The Pack ID

Packaging Accessories

- Producer/packer uses only **new** packaging accessories that may come into direct contact with the potatoes or have a food safety impact on the potatoes such as liners, shrink and pallet wrap, coupons, tags, ties and staples
- Producer/packer may reuse packaging accessories that do not come into direct contact with the potatoes such as pallet dividers, slats and rope

17.3 Storage

- Harvested potato packaging materials are stored on the premises
- Market ready packaging materials are stored on the premises
- Packaging accessories are stored on the premises

*If **ANY** of the above has been checked off, proceed below.
If not, proceed to Section 18: Growing and Harvesting.*

REQUIREMENT	<i>Packaging materials must be stored in designated areas and under the proper conditions to prevent biological, chemical and physical contamination.</i>
--------------------	---

PROCEDURES:

- ! Annually – Producer/packer records the storage locations for market ready packaging materials and accessories on Form (A) Buildings Sketch (Interior Floor Plan) OR _____
- _____

Harvested Potato Packaging Materials

- Producer/packer stores these separate from potential sources of contamination and damage (e.g., equipment, fuels, agricultural chemicals)

Market Ready Primary and Secondary Packaging Materials and Accessories

- Packer stores these:
 - In a clean, covered and dry location and off of the ground (e.g., on a shelf or a pallet)
 - Separate from potential sources of contamination and damage (e.g., potatoes, water, equipment, fuels, agricultural chemicals)
 - At least 8 cm away from any wall

Confirmation/Update Log:

Date						
Initials						

18. Growing and Harvesting

Forms Required H1, H2, P, Q	Producer Yes
	Packer No

RATIONALE:

Potatoes harvested less than four months after the application of manure may be a source of biological contamination. Similarly, potatoes harvested before a pre-harvest interval (PHI) has elapsed may be a source of chemical contamination. Certain conditions during the growing period may encourage the formation of glycoalkaloids in potatoes. Product release procedures include checking that the appropriate intervals have elapsed, and that the production site is assessed before harvest.

18.1 Growing

Note: Refer to Sections 3, 4, 5, 6, 7 for requirements and procedures related to inputs used during the growing period.

REQUIREMENT	<i>During the growing period potatoes must be managed to minimize chemical contamination (i.e., formation of glycoalkaloids).</i>
--------------------	---

PROCEDURES:

- Producer maintains soil cover over the potato seed pieces to allow new tubers to develop underground

18.2 Harvesting

REQUIREMENT	<i>Potatoes must be harvested at appropriate times to minimize the source of contamination.</i>
--------------------	---

PROCEDURES:

- ! ● Before harvesting – Producer refers to Forms (H1) and (H2) Agronomic Inputs and ensures that:
 - ! A minimum 120 day period has elapsed between the spreading of manure and the initial harvest period
 - ! The required pre-harvest interval (PHI) has elapsed between the application of agricultural chemicals and the initial harvest
- Before harvesting – Producer surveys the production site to ensure there are no signs of obvious contamination (e.g., oil or chemical spill, portable toilet leaking, flooding, etc.)
- ! ● Producer records all harvesting information:
 - ! If harvesting into **harvested potato packaging materials**, by completing Form (P) Harvesting and Storing Potatoes OR _____
 - ! If harvesting into **market ready packaging materials**, by completing Form (Q) Packing Market Potatoes OR _____

Confirmation/Update Log:

Date						
Initials						

19. Sorting, Grading and Packing

Forms Required P, Q	Producer Yes
	Packer Yes

RATIONALE:

Potatoes that are properly handled or packed will have a reduced likelihood of biological, chemical and physical contamination.

- Producer/packer sorts, grades or packs potatoes, *proceed below.*
If not, proceed to Section 20: Storage of Potatoes.

19.1 Purchasing and Receiving Harvested Potatoes

- Packer purchases harvested potatoes, *proceed below.*
If not, proceed to Section 19.2: Sorting and Grading.

REQUIREMENT	<i>Harvested potatoes must be purchased and received to not be a source of contamination.</i>
--------------------	---

PROCEDURES:

- Packer purchases harvested product from CanadaGAP-certified producers and requests a copy of the certificate or requests a letter of assurance from non-certified producers
- ! Packer receives only the harvested product that was purchased along with the certificate or letter of assurance (one letter per season per supplier) (File under Tab: Letters of Assurance/Certificates)
- Packer inspects the received harvested potatoes for sources of contamination (e.g., glass, rodent droppings/feces) and if contamination is observed, packer notifies producer of the problem and takes appropriate action (e.g., sorts, grades, removes contamination, refuses product, etc.)

19.2 Sorting and Grading

REQUIREMENT	<i>Harvested potatoes, in the production site or in the packinghouse, must be sorted and graded in a manner that minimizes sources of biological, chemical and physical contamination.</i>
--------------------	--

PROCEDURES:

In the Production Site

- During sorting and grading, employees:
 - Separate foreign objects (e.g., stones), damaged, rotten or green potatoes and crop debris (e.g., stems, leaves) from marketable potatoes
 - Discard foreign objects, culls and debris in the appropriate location (e.g., back in the field, labelled container)

In the Packinghouse

- During sorting and grading, employees or equipment:
 - Separate foreign objects (e.g., stones), damaged, rotten or green potatoes and crop debris (e.g., stems, leaves) from marketable potatoes
 - Discard foreign objects, culls and debris in the appropriate container
 - Discard potatoes or return potatoes to the beginning of the cleaning process if they become contaminated (e.g., falls on the floor)

19.3 Packing

REQUIREMENT	<i>Harvested and market potatoes, whether out in the production site or in the packinghouse, must be packed in a manner that minimizes sources of biological, chemical and physical contamination.</i>
--------------------	--

PROCEDURES:

In the Production Site

- Packing is done in the production site, *proceed below.*
If not, proceed to sub-section: In the Packinghouse.

- Producer records all packing information by completing:

- Form (P) Harvesting and Storing Potatoes OR _____

AND/OR

- Form (Q) Packing Market Potatoes OR _____

In the Packinghouse

- Packing is done in the packinghouse, *proceed below.*
If not, proceed to Section 20: Storage of Potatoes.

- Producer/packer places bags with a window face down to minimize light exposure

- Packer records all packing information by completing Form (Q) Packing Market Potatoes OR _____

Confirmation/Update Log:

Date						
Initials						

20. Storage of Potatoes

Forms Required A, P, Q	Producer Yes
	Packer Yes

RATIONALE:

Proper storage of potatoes will reduce the risk of biological, chemical and physical contamination.

20.1 Storage Conditions for Harvested Potatoes

- Potatoes are held or stored in harvested potato packaging materials, *proceed below.*
If not, proceed to Section 20.2: Storage Conditions for Market Potatoes.

REQUIREMENT	<i>Harvested potatoes must be held or stored in designated areas and handled under the proper conditions to minimize contamination.</i>
--------------------	---

PROCEDURES:

- ! Annually – Producer records the storage locations for harvested potatoes on Form (A) Buildings Sketch (Interior Floor Plan) OR _____

Holding

- Harvested potatoes are held on the premises, *proceed below.*
If not, proceed to the next sub-section: Storage.
- Producer/packer holds harvested potatoes in an environment that:
 - Does not contaminate the potatoes or the containers they are in (e.g., clean and well-maintained holding area)
 - Is separate from market potatoes, equipment, fuels, agricultural chemicals and market ready packaging materials

Storage

- Harvested potatoes are put into storage on premises, *proceed below.*
If not, proceed to Section 20.2: Storage Conditions for Market Potatoes.
- Producer/packer stores harvested potatoes:
 - In a predetermined environment (e.g., temperature is appropriate for potatoes)
 - In the dark
 - In an environment that does not contaminate potatoes or the containers they are in (e.g., clean and well-maintained storage area)
 - Separate from market potatoes, equipment, fuels, agricultural chemicals and market ready packaging materials
- When harvested potatoes are put into storage, producer/packer records all storing information by completing Form (P) Harvesting and Storing Potatoes OR _____

20.2 Storage Conditions for Market Potatoes

- Potatoes are held or stored in market ready packaging materials, *proceed below.*
If not, proceed to Section 21: Transportation.

REQUIREMENT

Market potatoes must be held or stored in designated areas and handled under the proper conditions to minimize contamination.

PROCEDURES:

- ! Annually – Packer records the storage locations for market potatoes on Form (A) Buildings Sketch (Interior Floor Plan) OR _____

Holding

- Market potatoes are held on the premises, *proceed below.*
If not, proceed to the next sub-section: Storage.
- Packer holds market potatoes in an environment that:
 - Does not contaminate the potatoes or the containers they are in (e.g., clean and well-maintained holding area)
 - Is separate from harvested potatoes, equipment, fuels, agricultural chemicals and packaging materials

Storage

- Market potatoes are put into storage on premises, *proceed below.*
If not, proceed to Section 21: Transportation.
- Producer/packer stores market potatoes:
 - In a predetermined environment (e.g., temperature is appropriate for potatoes)
 - In the dark
 - In an environment that does not contaminate potatoes or the containers they are in (e.g., clean and well-maintained storage area)
 - Separate from harvested potatoes, equipment, fuels, agricultural chemicals and packaging materials
 - 8-30 cm away from any wall
 - Off of the floor/ground
- ! When market potatoes are put into storage, packer records all storing information by completing Form (Q) Packing Market Potatoes OR _____

Confirmation/Update Log:

Date						
Initials						

21. Transportation

Forms Required O	Producer Yes
	Packer Yes

RATIONALE:

Transportation vehicles that do not have properly cleaned and/or maintained food contact surfaces may be a potential source of contamination to potatoes. Bulk transport is included within 21.1 of this section. Product release procedures include inspecting outgoing product for signs of contamination before loading onto vehicles.

21.1 Transportation of Potatoes in Harvested Potato Packaging Materials

REQUIREMENT	<i>To minimize the potential for contamination, vehicles transporting potatoes in harvested potato packaging materials or in bulk must have a clean and well-maintained cargo area.</i>
--------------------	---

PROCEDURES:

- Before loading each vehicle, producer/packer ensures that an inspection is made of the cargo area of the vehicle to ensure it is clean and well-maintained
- Producer/packer records information about potatoes being transported to someone else's premises on Form (O) Transporting Potatoes OR _____

21.2 Transportation of Potatoes in Market-Ready Packaging Materials

REQUIREMENT	<i>To minimize the potential for contamination, vehicles transporting potatoes in market ready packaging materials must have a clean and well-maintained cargo area, potatoes must be covered, and care must be taken to prevent cross contamination from products other than potatoes.</i>
--------------------	---

PROCEDURES:

- Before loading each vehicle, producer/packer ensures that:
 - An inspection is made of the cargo area of the vehicle to ensure it is clean and well-maintained (e.g., no holes, splinters, debris, signs of pest intrusion, etc.)
 - If the potatoes are transported to someone else's premises, the findings and any corrective actions are recorded on Form (O) Transporting Potatoes OR _____
- Before loading, producer/packer inspects outgoing product for sources of contamination (e.g., glass, rodent droppings) and if contamination is observed, takes appropriate action (e.g., sorts, removes product, removes contamination, etc.)
- When loading, producer/packer ensures that potatoes do not come in contact with other products/material being transported that may be a source of contamination
- During transportation, producer/packer ensures that:
 - Covered vehicles are used to transport market potatoes in market ready packaging materials, or that the integrity of the load is secured with a protective covering (e.g., tarp, plastic sheeting)
 - If potatoes are transported to someone else's premises, this information is recorded on Form (O) Transporting Potatoes OR _____

- Producer/packer records information about potatoes being transported to someone else's premises on Form (O) Transporting Potatoes OR _____

Confirmation/Update Log:

Date						
Initials						

22. Identification and Traceability

Forms Required O, P, Q	Producer Yes
	Packer Yes

RATIONALE:

Potatoes that are identifiable and traceable are easily and quickly traced back to the point of origin. Contaminated potatoes can be distinguished from those that are not, and product loss may be limited in the event of a recall (i.e., one identified lot versus an entire harvest).

22.1 Traceability System

REQUIREMENT	<i>A traceability system allowing all potatoes to be traced in the event of a recall, must be in place.</i>
--------------------	---

PROCEDURES:

Note: *As much identification as is practically possible will assist in minimizing producer/packer financial losses in the event a recall is necessary (i.e., being able to identify a pallet as opposed to a field). For complete traceability, it is recommended that the packer assign a lot ID to all market potatoes, if not directly on packaging materials, then on Form (Q) Packing Market Potatoes. Refer to Appendix M -- Traceability and Product Identification – Some Examples.*

- Producer/packer keeps track of stored potatoes (e.g., harvest dates or date received from producer) through the use of pallet/bin tags or some other form of identification
- Producer records field information for harvested potatoes on:
 - Form (P) Harvesting and Storing Potatoes OR _____

AND

 - Form (O) Transporting Potatoes OR _____
- Packer identifies all market potatoes with a Pack ID on the primary or secondary market ready packaging materials or, if no packaging material is used, then on the pallet/skid as per Section 17: Packaging Materials
- Packer records Pack ID and, if applicable, lot ID for market potatoes on:
 - Form (Q) Packing Market Potatoes OR _____

AND

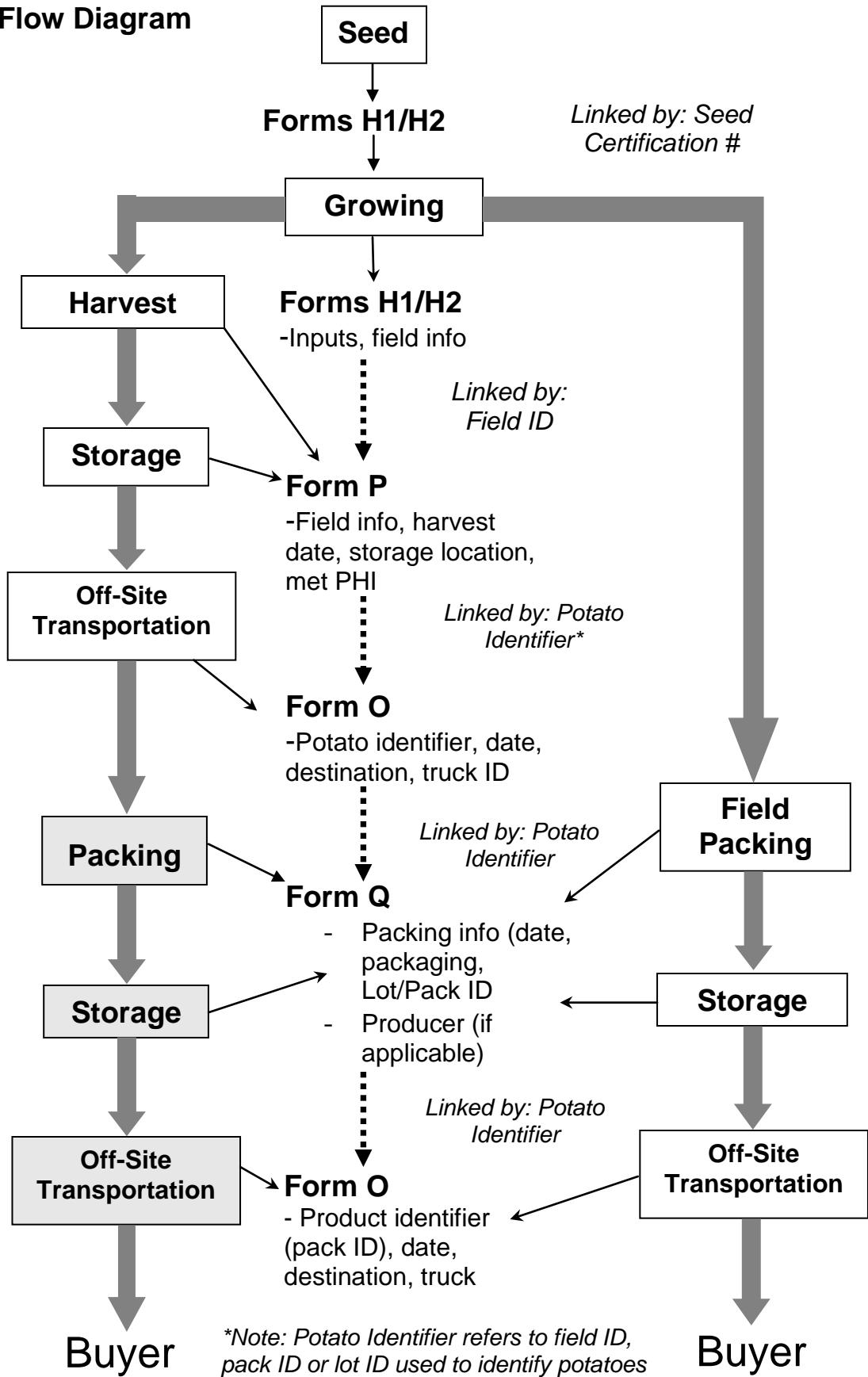
 - Form (O) Transporting Potatoes OR _____

The diagram below shows the basic steps in potato production, the forms and information recorded at each step and how the records link to the potato identification (such as a pack ID labelled on a box) for traceability.



Confirmation/Update Log:



Date						
Initials						

Traceability Flow Diagram



LEGEND

-  Potato flow
-  Information flow

-  Producer
-  Packer

**Note: Potato Identifier refers to field ID, pack ID or lot ID used to identify potatoes*

23. Deviations and Crisis Management

Forms Required R	Producer Yes
	Packer Yes

RATIONALE:

The key to an effective On-Farm Food Safety Program is identifying, rectifying and documenting major deviations in order to prevent recurrence.

23.1 Minor Deviations and Corrective Action

REQUIREMENT	<i>A minor deviation must be identified and assessed. Corrective actions must be taken immediately.</i>
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PROCEDURES:

- When an employee identifies a minor deviation, the employee:
 - Takes immediate corrective action
 - Communicates the minor deviation and corrective action to the producer/packer

23.2 Major Deviations and Corrective Action

REQUIREMENT	<i>A major deviation must be identified, reported immediately to the producer/packer or OFFS program contact and recorded. Corrective actions must be taken immediately by the producer/packer or OFFS program contact and recorded.</i>
--------------------	--

PROCEDURES:

Note: See table below for major deviations and corrective actions.

- When an employee identifies a major deviation, the employee immediately reports it to the producer/packer or OFFS program contact
- Producer/packer or OFFS program contact assesses the situation and determines:
 - The required corrective action
 - The cause of the major deviation
 - The required preventative action needed to prevent recurrence of the major deviation
 - New procedures or modifications to current procedures as required to address the identified major deviation, and trains employees on the new or modified procedures
- Producer/packer or OFFS program contact completes Form (R) Deviations and Corrective Actions
OR _____

The following are major deviations that may occur at a producer's/packer's operation and their respective corrective actions. These represent deviations from the procedures that are identified in the manual with an exclamation mark (Level B Good Agricultural Practices). It is assumed that the deviation can be corrected on the premises and that the potatoes have not left the operation. In certain situations, there may be other appropriate actions and guidance should be sought from qualified experts. These are not all of the deviations that may occur; see Section 23.3: Crisis Management for further suggestions.

Section	Major Deviations	Specific Examples	Corrective Action(s)
Section 2: Premises	Producer/packer selects a packinghouse or storage area that could contaminate potatoes or packaging materials	<ul style="list-style-type: none"> • Debris or spills on the floor • Animals present • Broken glass or lights • Incorrect lights (not shatterproof or covered) • Leaking of fluid or liquid on to potatoes or packaging materials 	<p>Producer/packer:</p> <ul style="list-style-type: none"> • Identifies and isolates any contaminated potatoes, packaging materials or equipment • Cleans and maintains the packinghouse and storage areas (i.e., storage for potatoes and market ready packaging materials) • Selects another storage area if storage area cannot be cleaned (i.e., is not usable) • Replaces lighting (uses shatterproof or covered lighting) • Disposes of potatoes and market ready packaging materials if they have come into direct contact with contamination OR if potatoes are exposed to light for extended periods of time they must be (re)sorted to remove any green potatoes.
Section 4: Manure, Compost/ Compost Tea and Other By-Products	Producer receives compost/compost tea that has not been properly composted, or without knowing if it has not been properly composted	<ul style="list-style-type: none"> • No letter of assurance • Composting records are incomplete or missing • Composting records indicate full composting process has not been achieved 	<p>Producer:</p> <ul style="list-style-type: none"> • Refuses, returns or disposes of compost/compost tea and reorders new compost/compost tea • Producer again asks for letter of assurance and does not spread the compost/compost tea until the letter is received • Continues/restarts composting process for compost/compost tea made on site and does not spread compost/compost tea until the proper process has been completed • Waits 120 days before harvesting potatoes if compost/compost tea was spread without knowing if it was properly composted
	Producer spreads manure when the interval between application and harvest is less than 120 days		<p>Producer:</p> <ul style="list-style-type: none"> • Identifies which fields and crops are affected and does not harvest the potatoes until the 120 days has elapsed [refer to Form (H2) Agronomic Inputs (Other)]
Section 6: Agricultural Chemicals	Producer/packer receives the incorrect agricultural chemical from supplier	<ul style="list-style-type: none"> • Agricultural chemical is not registered for the applicable potatoes • Containers are damaged and/or labels are illegible 	<p>Producer/packer:</p> <ul style="list-style-type: none"> • Returns or refuses and reorders agricultural chemicals • Identifies whether field/potatoes have been sprayed with wrong agricultural chemicals • Disposes of incorrect chemical • Re-trains employees or takes refresher training on agricultural chemical application
	Producer/packer uses a storage location for agricultural chemicals that is not designated only for that purpose and/or is not covered, clean, dry and controlled access	<ul style="list-style-type: none"> • Leaks or spills from agricultural chemicals because they are not properly stored 	<p>Producer/packer:</p> <ul style="list-style-type: none"> • Moves chemicals to a proper storage facility/location or conducts maintenance on agricultural chemical storage • Cleans any spills or leaks resulting from improper storage • Identifies whether potatoes/packaging materials have been contaminated and disposes of any affected potatoes • Re-trains employees on storage location

Section	Major Deviations	Specific Examples	Corrective Action(s)
	Producer/packer applies the incorrect agricultural chemical	<ul style="list-style-type: none"> Agricultural chemical used is not registered for the applicable potatoes 	Producer/packer: <ul style="list-style-type: none"> Identifies whether field/planting/potatoes have been sprayed with wrong agricultural chemicals Identifies whether potatoes have been contaminated and if disposal of affected potatoes is required Obtains expert advice as required and, if necessary, disposes of potatoes Re-trains employees on chemical application
	Producer/packer fails to follow the label recommendations and directions when applying agricultural chemicals	<ul style="list-style-type: none"> Too much or too little agricultural chemical is applied Agricultural chemical is mixed incorrectly 	Producer/packer: <ul style="list-style-type: none"> Stops spraying Identifies which fields/plantings/potatoes are affected Obtains expert advice on the risk of contamination and, if necessary, disposes of potatoes Retrains employees or takes refresher training on applying agricultural chemicals Identifies whether potatoes have been contaminated and disposes of affected potatoes
Section 8: Equipment	Packer does not clean or maintain packinghouse equipment regularly (e.g., daily, weekly) or properly (e.g., pressure washer, sanitizer)	<ul style="list-style-type: none"> Visible debris or contamination is observed on equipment Equipment breaks down causing chemical or physical contamination` Lubricants, oils and fuels leak on to food contact surfaces 	Packer: <ul style="list-style-type: none"> Stops activities (sorting, grading, packing) Isolates any potatoes in contact with contaminated equipment Cleans and maintains affected packinghouse equipment Makes necessary changes to cleaning procedure or schedule Re-trains employees to adhere to daily/weekly cleaning and maintenance schedule Disposes of potatoes if they have come into direct contact with contamination
	Producer/packer applies inaccurate rates of agricultural chemicals because he/she did not calibrate the spray equipment properly or at all	<ul style="list-style-type: none"> Sprayer runs out of chemical too early Sprayer has too much chemical left over after spraying 	Producer/packer: <ul style="list-style-type: none"> Identifies and isolates affected potatoes Obtains expert advice on the risk of contamination and, if necessary, does not harvest the potatoes Re-calibrates equipment Re-trains employees on calibration schedule and procedures
	Producer/packer applies inaccurate rates of water treatment aids because he/she did not calibrate water treatment equipment properly or at all (i.e., chlorinators and ORP/ pH meters)	<ul style="list-style-type: none"> Unusually high or lack of chemical (chlorine) odours Change in rate that treatment aids are used Discolouration of potatoes 	Producer/packer: <ul style="list-style-type: none"> Stops washing/fluming activities Calibrates equipment Re-checks ORP/chlorine levels/pH Treats the water and re-tests to check potability OR disposes of the water Rinses or disposes of any potatoes that have come into direct contact with the contaminated water Re-trains employees on calibration schedule and procedures

Section	Major Deviations	Specific Examples	Corrective Action(s)
Section 9: Cleaning and Maintenance Materials	Producer/packer did not follow instructions for use, or used the wrong product for water treatment	<ul style="list-style-type: none"> Using high concentrations Using wrong product 	Producer/packer: <ul style="list-style-type: none"> Stops washing/fluming activities Rinses or disposes of any potatoes that have come into direct contact with the contaminated water Retrains employees on treatment methods
	Producer/packer notices equipment (e.g., gear boxes, hydraulic lines) leaking onto the sorting/grading equipment (cups, belts, tables)	<ul style="list-style-type: none"> Oils and/or lubricants leak onto the cups, belts, tables, etc. 	Producer/packer: <ul style="list-style-type: none"> Stops activities (sorting, grading, packing) Isolates any potatoes in contact with contaminated equipment Cleans and maintains affected packinghouse equipment Makes necessary changes to maintenance procedure or schedule Re-trains employees to adhere to weekly maintenance schedule Disposes of potatoes if they have come into direct contact with contamination
Section 11: Personal Hygiene Facilities	Personal hygiene facilities are not maintained and cleaned weekly (while in use) and daily (during peak season)	<ul style="list-style-type: none"> Washrooms are not properly stocked (paper towels, soap, sanitizer) Visible debris or contamination in facilities 	Producer/packer: <ul style="list-style-type: none"> Ensures and confirms that hygiene facilities are cleaned and stocked Instructs employees to re-wash hands Re-trains employees on weekly/daily cleaning and maintenance schedule Re-evaluates maintenance schedule Determines whether any equipment or potatoes have been contaminated Washes equipment as necessary Disposes of potatoes if they have come into direct contact with contamination
Section 14: Pest Program for Buildings	Producer/packer does not have an effective pest control program	Evidence of pest infestation is noticed such as: <ul style="list-style-type: none"> presence of rodents, animals or feces chewed boxes, walls or packaging materials nests or nesting materials 	Producer/packer: <ul style="list-style-type: none"> Removes all feces, nesting materials, rodents or animals Washes equipment and building areas as necessary Disposes of any potatoes or packaging materials that may be contaminated Develops and implements a pest control program, hires a third party pest control company or seeks expert advice on improving the current pest control program Re-trains employees on use of chemicals Re-evaluates and revises pest control program where necessary
	Producer/packer does not follow the pest control program properly	<ul style="list-style-type: none"> Bait inside buildings is not secured in a trap Pest control products are used improperly and/or not registered for use in Canada 	Producer/packer: <ul style="list-style-type: none"> Removes all bait that is not secured in a trap Disposes of any potatoes that have come into contact with bait or other pest control products Washes any equipment that has come into contact with pest control products or pests Re-trains employees on use of pest control products

Section	Major Deviations	Specific Examples	Corrective Action(s)
Section 15: Water (for Fluming and Cleaning)	Producer/packer purchases/selects a water source that is not potable	<ul style="list-style-type: none"> Water test results show contamination Notification from municipality Adverse event causing contamination of source 	Producer/packer: <ul style="list-style-type: none"> Stops using water source Treats the water and re-tests to check potability before using water Rinses (with potable water) or disposes of any potatoes that have come into contact with contaminated water
	Producer/packer receives water from a source that is not potable	<ul style="list-style-type: none"> Water test results show contamination Notification from municipality Adverse event causing contamination of source 	Producer/packer: <ul style="list-style-type: none"> Stops using water Treats the water and re-tests to check potability before using water Rinses (with potable water) or disposes of any potatoes that have come into contact with contaminated water
	Producer/packer stores water in an unclean cistern, tank or container or which a damaged lid/no lid	<ul style="list-style-type: none"> Water test results show contamination from cistern Adverse event causing contamination of cistern 	Producer/packer: <ul style="list-style-type: none"> Stops using water Empties and cleans cistern or treats water then cleans cistern when tank is empty Re-tests to check potability before using water Repairs or replaces lid Rinses (with potable water) or disposes of any potatoes that have come into contact with contaminated water Retrains employees on water treatment procedures
	Packer does not treat water properly (i.e., for potability)	<ul style="list-style-type: none"> Free chlorine test strips show that free chlorine in wash or flume water is below 2 ppm Water tests results show contamination ORP reading is below 650 mV 	Packer <ul style="list-style-type: none"> Stops using water Treats the water and re-checks chlorination levels OR re-tests to check potability before using water Rinses (with potable water) or disposes of any potatoes that have come into contact with contaminated water
	Packer does not use potable water to fill or replenish flumes/washers	<ul style="list-style-type: none"> Water tests indicate water is contaminated 	Packer: <ul style="list-style-type: none"> Stops using water Empties the flumes/washer, cleans and refills them with potable water OR treats the water for potability Rinses (with potable water) or disposes of potatoes in direct contact with the contaminated water
	Producer/packer does not use a final potable water rinse on potatoes	<ul style="list-style-type: none"> No final potable water rinse is used on potatoes 	Producer/packer: <ul style="list-style-type: none"> Stops fluming/washing and packing and identifies potatoes that have come into contact with contaminated water Implements a final potable water rinse Rinses (with potable water) or disposes of any potatoes in contact with contaminated water

Section	Major Deviations	Specific Examples	Corrective Action(s)
	Packer flumes or washes potatoes, has no treatment to keep water potable and does not have a final potable water rinse	<ul style="list-style-type: none"> There is no final rinse after fluming or washing (when flume/ wash water is not kept potable) 	Packer: <ul style="list-style-type: none"> Stops washing and identifies potatoes that have come into contact with contaminated water Empties the flumes/washer and cleans them Implements a final potable water rinse if possible or implements a water treatment system for flume/wash water Rinses (with potable water) or disposes of any potatoes in contact with contaminated water Re-trains employees on water treatment procedures
Section 17: Packaging Materials	Packer fails to clean reusable (non-porous) packaging materials properly before use	<ul style="list-style-type: none"> Reusable packaging materials have dirt or debris 	Packer: <ul style="list-style-type: none"> Stops packing Cleans reusable packaging materials according to SSOP Disposes of or rewashes any potatoes in contact with contaminated packaging Retrains employees on cleaning procedures for reusable packaging
	Packer fails to check market ready packaging materials before use	<ul style="list-style-type: none"> Packaging materials are damaged or dirty The wrong packaging materials are reused e.g. Porous packaging materials are reused without a new liner; packaging materials marked as not for reuse are used 	Packer: <ul style="list-style-type: none"> Stops packing Checks packed potatoes for dirty or damaged packaging Disposes or rewashes any potatoes in contact with contaminated packaging Disposes of any damaged and unusable packaging Washes any reusable packaging Re-trains employees on procedures for inspecting and using market ready packaging
Section 18: Growing and Harvesting	Producer harvests potatoes without allowing the proper interval (of more than 120 days) to elapse between the application of manure and harvest		Producer: <ul style="list-style-type: none"> Identifies which fields/plantings/potatoes are affected Disposes of potatoes
	Producer harvests potatoes without allowing the pre-harvest interval to elapse for the application of agricultural chemicals		Producer: <ul style="list-style-type: none"> Identifies which fields/plantings/potatoes are affected Disposes of potatoes
Section 19: Sorting, Grading and Packing	Packer receives harvested potatoes from a producer not following a food safety program or without a letter of assurance		Packer: <ul style="list-style-type: none"> Refuses the potatoes and reorders the potatoes; or asks for letter of assurance and does not pack or sell the potatoes until it is received

Section	Major Deviations	Specific Examples	Corrective Action(s)
Section 20: Storage of Potatoes	Producer/packer selects a storage area that could contaminate potatoes or packaging materials	<ul style="list-style-type: none"> • Garbage, spills or other contaminants in the storage • Lighting not protected or shatterproof • Broken glass or lights in the storage • Lights left on 	Producer/packer: <ul style="list-style-type: none"> • Isolates any contaminated potatoes or packaging • Cleans and maintains the storage area (i.e., storage for potatoes and market ready packaging materials) • Replaces broken lights with shatterproof or covered lighting • Selects another storage area if storage area cannot be cleaned (i.e., is not usable) • Disposes of potatoes and market ready packaging materials that have come into direct contact with contamination • If potatoes are exposed to light for extended periods of time they must be (re)sorted to remove any green potatoes.

23.3 Crisis Management

REQUIREMENT	<i>A crisis management plan must be established in the event that potatoes need to be recalled.</i>
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PROCEDURES:

Note: Recall procedures and forms are included in Appendix S -- Recall Program.

- Annually – Producer/Packer reviews Appendix S -- Recall Program OR _____ and updates recall team names and contact information if necessary
- The producer/packer keeps up-to-date contact information for all suppliers and customers
- Annually – Producer/storage intermediary/packer conducts a mock recall to test the effectiveness of the traceability system by completing the forms in Appendix S: Recall Program OR _____ (File completed forms under Tab: Recall Program)

Note: Refer to Appendix R: How to Conduct A Mock Recall – An Example

- If an abnormal event occurs that causes contamination of potatoes, producer/packer follows the following basic steps to manage the risk of contamination of potatoes:
 - Stops current activity (if applicable) (e.g. shuts down packing line) to prevent further contamination
 - Identifies and, if possible, isolates the potatoes and equipment affected
 - Notifies authorities/person responsible
 - Determines and conducts appropriate course of action (e.g. disposes of the potatoes, cleans equipment)
 - Approves the release of unaffected product
 - Identify cause of problem and undertakes preventive measures (e.g. preventive maintenance, training of employees)
 - Records this information on Form (R) Deviations and Corrective Actions OR _____

Note: This basic procedure can be used in the case of most adverse events such as blood on potatoes, flooding event, portable toilet spilling into the field, hydraulic line breaks and fluid leaks on to potatoes.

Example 1: Employee cuts hand during packing and potatoes are contaminated with blood.

Packer or employee:

- Stops packing line
- Hold potatoes on the line
- Sends injured employee for immediate medical attention
- Disposes of potatoes in the vicinity
- Notifies packer or other person responsible
- Identifies which potatoes and equipment are contaminated and isolates contaminated potatoes to prevent further contamination
- Disposes of all contaminated potatoes and cleans and disinfects all affected equipment
- Approves the release of unaffected product
- Re-trains all employees on workplace safety practices and policies
- Performs required maintenance of equipment if faulty equipment caused injury
- Records information on Form (R) Deviations and Corrective Actions

Example 2: A hydraulic line breaks during mechanical harvest and fluid leaks into the field.

Producer or employee:

- Stops harvester
- Prevents further leaking of fluid into production site if possible
- Identifies which potatoes (fields, rows) and equipment is contaminated
- Notifies producer
- Disposes of all contaminated potatoes
- Approves the release of unaffected product
- Repairs and cleans harvester and reviews and updates preventive maintenance schedule
- Records information on Form (R) Deviations and Corrective Actions

- In the event that the potatoes have left the premises, food safety has been compromised and the public is at risk, the producer/packer initiates the Recall process

23.4 Complaint Handling

REQUIREMENT	<i>A complaint handling system must be established to manage complaint data and control and correct shortcomings in food safety.</i>
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PROCEDURES:

- Producer/packer has a system in place to receive, document and take action in response to complaints (e.g. from customers, consumers etc.)
- Producer/packer records complaints received on Form (R) Deviations and Corrective Actions OR _____
- Producer/packer includes review of complaints during the annual review of the OFFS Program (See Section 24: On-Farm Food Safety Manual Review)

Confirmation/Update Log:

Date						
Initials						

24. On-Farm Food Safety Manual Review

Forms Required N/A	Producer Yes
	Packer Yes

RATIONALE:

An annual review allows the producer/packer and senior management of the company to ensure that the On-Farm Food Safety Manual is being followed effectively. A review determines if any problems were encountered during the growing/storing/packing season. The result of a review is a more effective and efficient On-Farm Food Safety program.

24.1 Protocols

REQUIREMENT	<i>A protocol must be in place to review the On-Farm Food Safety Manual annually to ensure complete and effective implementation. Senior management must demonstrate its commitment to the continuing suitability, adequacy and effectiveness of the company's food safety system, including related policies and procedures.</i>
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PROCEDURES:

- Producer/packer ensures that the most current updated pages issued by the CHC are used when reviewing the Producer and Packer On-Farm Food Safety Manual

Note: *The list of updated pages will be available on the CHC web site (www.canadagap.ca).*

- Producer/packer annually reviews the Producer and Packer On-Farm Food Safety Manual by completing and updating the applicable sections and forms of the Manual
- Producer/packer annually reviews the major deviations and complaints and makes any necessary changes to food safety policies and procedures
- Producer/storage intermediary/packer prepares for an audit by completing the CHC OFFS Self-Assessment Checklist or Audit Checklist (File under Tab: _____), or by using an outside party to perform a pre-audit (Download checklists at www.canadagap.ca)
- Producer/packer records that the OFFS Manual has been annually reviewed by initialling the Confirmation/Update Log at the end of each section and below

Confirmation/Update Log:

Date						
Initials						

COMPENDIUM OF FOOD SAFETY FORMS

INDEX

Form	Title	CHC Issue Date and Version Number	Form Location*
ANNUAL FORMS			
A.	Buildings Sketch (Interior Floor Plan)	2011 Version 5.4	OFFS BINDER (Tab: FORMS)
B.	Storage Assessment	2011 Version 5.4	OFFS BINDER (Tab: FORMS)
C.	Employee Personal Hygiene and Food Handling Practices Policy – Production Site	2011 Version 5.4	OFFS BINDER (Tab: FORMS)
D.	Employee Personal Hygiene and Food Handling Practices Policy – Packinghouse/Product Storage	2011 Version 5.4	OFFS BINDER (Tab: FORMS)
E.	Pest Control for Buildings	2011 Version 5.4	OFFS BINDER (Tab: FORMS)
F.	Water (for Fluming and Cleaning) Assessment	2011 Version 5.4	OFFS BINDER (Tab: FORMS)
ONGOING FORMS			
G.	Cleaning, Maintenance and Repair of Buildings	2011 Version 5.4	
H1.	Agronomic Inputs (Agricultural Chemicals)	2011 Version 5.4	
H2.	Agronomic Inputs (Other)	2011 Version 5.4	
H3.	Agricultural Chemical Application (During Packing)	2011 Version 5.4	
I.	Equipment Cleaning, Maintenance and Calibration	2011 Version 5.4	
J.	Cleaning and Maintenance – Personal Hygiene Facilities	2011 Version 5.4	
K.	Training Session	2011 Version 5.4	
L.	Visitor Sign-In Log	2011 Version 5.4	
M.	Pest Monitoring for Buildings	2011 Version 5.4	
N1.	Water Treatment Control and Monitoring	2011 Version 5.4	
O.	Transporting Potatoes	2011 Version 5.4	
P.	Harvesting and Storing Potatoes	2011 Version 5.4	
Q.	Packing Market Potatoes	2011 Version 5.4	
R.	Deviations and Corrective Actions	2011 Version 5.4	

* Refers to where you place/keep/store your Forms (e.g., office, washroom door, entrance to packinghouse)

B. Storage Assessment

Instructions: This Form must be completed prior to using storages for the first time in a season (use one Form per storage for harvested and market potatoes). If an item is not applicable, indicate N/A. Make additional copies as necessary and complete as Page ___ of ___ to indicate more than one page if required.

Completed by: _____ **Date:** _____ **Page** _____ **of** _____

Storage ID # /Name: _____

Requirement	Yes (✓)	No (✓)	Action Taken if Answered "No"
Storage is secured (e.g., with a lock) when unsupervised?			
Lights in the storage facility are shatterproof or covered?			
Potatoes in storage are kept in the dark?			
Potatoes are free from direct contact with pressure treated wood?			
Potatoes are stored away from leaky areas (e.g., from roofs, pipes, condensation)?			
When the storage is in use, production site equipment, agricultural chemicals and fertilizers are stored and repaired elsewhere?			
When the storage is in use, oil/fuel storage tanks are stored elsewhere or contained to prevent contamination of the potatoes?			
Oil/gas furnace is exhausting outside the storage?			
Oil/gas furnace is contained to prevent contamination of the potatoes?			
Floor of the storage is clean and free from contaminants (e.g., oil, wood, plastic, glass, metal, garbage, chemicals)?			
Walls/ceilings of storage are clean and in good condition (e.g., free from contamination from oil, wood, plastic, glass, metal, garbage, chemicals)?			
The storage is a no-smoking zone?			
Storage is free from animals (wild or domestic) or evidence of animals (droppings) and other pests (birds, insects, rodents)?			
Other (specify):			
How and when was the storage cleaned? (describe): _____			

Confirmation/Update Log:

Date						
Initials						

C. Employee Personal Hygiene and Food Handling Practices Policy – Production Site

ANNUAL

Instructions: This Form is intended to assist you in setting your policy, to itemize the policy components and to be used as a training tool and possible handout to employees. All items need to be addressed during the training session for employees **coming into direct contact with potatoes/packaging materials/food contact surfaces**. Write N/A beside those not applicable to your operation.

Completed By: _____

Date: _____

<p style="text-align: center;">Employee Illness, Disease and Injury</p> <ul style="list-style-type: none"> <input type="checkbox"/> Persons able to transmit or suffering from a contagious disease and/or illness transferable to food (e.g., Hepatitis A, Salmonella, <i>E. coli</i> O157:H7), and those with a temporary illness (e.g., bad cold, diarrhea and vomiting), are advised to see a doctor <input type="checkbox"/> Employees are trained on the role and responsibility they play in preventing the contamination of potatoes <input type="checkbox"/> Open wounds are treated and covered with a waterproof covering (e.g., rubber gloves) 	<p style="text-align: center;">Employee Hand Washing</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hands are washed and dried: <ul style="list-style-type: none"> • Before beginning work each day • Before entering the production site • Before putting on gloves (if used) • After every visit to the washroom • After a break or meal • After smoking • After hand-to-face contact (e.g., coughing, sneezing, blowing nose) • After applying sunscreen and insect repellent • After handling any materials other than the potatoes (e.g., fuelling equipment, spraying) <input type="checkbox"/> Hands and reusable gloves (except for cloth) are washed using proper hand washing techniques: <ul style="list-style-type: none"> • Wet hands, lather soap for approximately 20 seconds • Scrub well (especially fingernails and knuckles) Use fingernail brushes if needed/required • Rinse • Dry hands and wrists with paper towel <input type="checkbox"/> If no water is available, hand wipes and hand sanitizer are used <input type="checkbox"/> Hand wipe and hand sanitizer use: <ul style="list-style-type: none"> • Use hand wipes (or water) to facilitate soil removal (if hands are dirty) AND • Use one squirt of waterless, antibacterial, alcohol-based product <input type="checkbox"/> Gloves are not worn as a substitute for hand washing
<p style="text-align: center;">Employee Biosecurity</p> <ul style="list-style-type: none"> <input type="checkbox"/> Employees are aware of their surroundings and the people they come into contact with, in and around the production site <input type="checkbox"/> Employees inform person responsible (name of person responsible: _____) of unknown visitors <input type="checkbox"/> Employees are trained in precautions they need to take when moving between production areas (e.g., from livestock areas/field to storage/packinghouse) 	
<p style="text-align: center;">Production Practices</p> <ul style="list-style-type: none"> <input type="checkbox"/> Employees are trained to harvest into clean containers 	
<p style="text-align: center;">Employee Glove and Apron Use</p> <ul style="list-style-type: none"> <input type="radio"/> Gloves are used <input type="radio"/> Aprons are used <p><i>If gloves and aprons are not used, proceed to the next sub-section</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Gloves are made of rubber, nitrile, polyethylene, polyvinyl chloride, polyurethane or cloth <input type="checkbox"/> Hands are washed and dried, before gloves are put on and after they are removed <input type="checkbox"/> Gloves and aprons are replaced when ripped or worn out <input type="checkbox"/> Reusable aprons are washed daily <input type="checkbox"/> Gloves are removed when leaving the work area and replaced upon return. If reusable, gloves are washed (using proper hand washing technique) after being put back on or laundered daily (for cloth) 	
<p style="text-align: center;">Other</p> <ul style="list-style-type: none"> <input type="checkbox"/> Employees know the difference between and how to handle major and minor food safety deviations <input type="checkbox"/> Employees adhere to the following: <ul style="list-style-type: none"> • Always use toilet facilities • Never spit • Eat food, drinks, gum, candy or use tobacco products (including chewing tobacco and snuff) only in areas designated for this purpose (e.g., outside, in lunchroom) • Put personal effects in designated areas (e.g., lunches, clothing, shoes, smoking materials) • Dispose of waste in designated containers 	

Confirmation/Update Log:

Date						
Initials						

D. Employee Personal Hygiene and Food Handling Practices Policy – Packinghouse/Product Storage

ANNUAL

Instructions: This Form is intended to assist you in setting out your policy, to itemize the policy components and to be used as a training tool and possible handout to employees. All items need to be addressed during the training session for employees **coming into direct contact with potatoes/packaging materials/food contact surfaces**. Write N/A beside those not applicable to your operation.

Completed By: _____

Date: _____

<p style="text-align: center;">Employee Illness, Disease and Injury</p> <p><input type="checkbox"/> Persons able to transmit or suffering from a contagious disease and/or illness transferable to food (e.g., Hepatitis A, Salmonella, <i>E. coli</i> O157:H7) and those with a temporary illness (e.g., bad cold, diarrhea and vomiting) are advised to see a doctor</p> <p><input type="checkbox"/> Employees are trained on the role and responsibility they play in preventing the contamination of potatoes</p> <p><input type="checkbox"/> Open wounds are treated and covered with a waterproof covering (e.g., rubber gloves)</p>	<p style="text-align: center;">Employee Hand Washing</p> <p><input type="checkbox"/> Hands are washed and dried:</p> <ul style="list-style-type: none"> • Before beginning work each day • Before putting on gloves (if used) • After every visit to the washroom • After a break or meal • After smoking • After hand-to-face contact (e.g., coughing, sneezing, blowing nose) • After applying insect repellent • After handling any materials other than the potatoes (e.g., garbage, cleaning and maintenance materials) <p><input type="checkbox"/> Hands and reusable gloves (except for cloth) are washed using proper hand washing techniques:</p> <ul style="list-style-type: none"> • Wet hands, lather soap for approximately 20 seconds • Scrub well (especially fingernails and knuckles) Use fingernail brushes if needed/required • Rinse • Dry hands and wrists with paper towel <p><input type="checkbox"/> If no water is available, hand wipes and hand sanitizer are used</p> <p><input type="checkbox"/> Hand wipe and hand sanitizer use:</p> <ul style="list-style-type: none"> • Use hand wipes (or water) to facilitate soil removal (if hands are dirty) AND • Use one squirt of waterless, antibacterial, alcohol-based product <p><input type="checkbox"/> Gloves are not worn as a substitute for hand washing</p>
<p style="text-align: center;">Employee Biosecurity</p> <p><input type="checkbox"/> Employees are aware of their surroundings and the people they come in contact with, in and around the packinghouse/product storage</p> <p><input type="checkbox"/> Employees inform person responsible (name of person responsible: _____) of unknown visitors</p> <p><input type="checkbox"/> Employees are trained in precautions they need to take when moving between production areas (e.g., from livestock areas/field to storage/packinghouse)</p>	<p style="text-align: center;">Employee Cleanliness, Footwear and Hair</p> <p><input type="checkbox"/> A degree of personal cleanliness is maintained which includes starting each day wearing clean clothing and (<i>specify other</i>): _____</p> <p><input type="checkbox"/> Clean footwear is always worn (no dirt or other foreign matter)</p> <p><input type="checkbox"/> Long hair touching the shoulders is restrained (e.g., hat, hairnet, tied)</p>
<p style="text-align: center;">Production Practices</p> <p><input type="checkbox"/> Employees adhere to the following:</p> <ul style="list-style-type: none"> • Only authorized employees handle market potatoes • Only authorized employees may enter controlled-access areas 	<p style="text-align: center;">Other</p> <p><input type="checkbox"/> Employees know the difference between and how to handle major and minor food safety deviations</p> <p><input type="checkbox"/> Employees adhere to the following:</p> <ul style="list-style-type: none"> • Always use toilet facilities • Never spit • Eat food, drinks, gum, candy or use tobacco products (including chewing tobacco and snuff) only in areas designated for this purpose (e.g., outside, in lunchroom) • Put personal effects in designated areas (e.g., lunches, clothing, shoes, smoking materials) • Dispose of waste in designated containers
<p style="text-align: center;">Employee Jewellery and Other Personal Effects</p> <p><input type="checkbox"/> Bracelets, necklaces and other jewellery (except for rings) are not worn</p> <p><input type="checkbox"/> Rings are covered with gloves</p> <p><input type="checkbox"/> False fingernails, false eyelashes or other such effects are not worn</p> <p><input type="checkbox"/> Items are removed from shirt pockets (e.g., pens, etc.)</p> <p><input type="checkbox"/> Loose buttons on shirts/jackets are fixed</p>	
<p style="text-align: center;">Employee Glove and Apron Use</p> <p><input type="radio"/> Gloves are used <input type="radio"/> Aprons are used</p> <p><i>If gloves and aprons are not used, proceed to the next sub-section.</i></p> <p><input type="checkbox"/> Gloves are made of rubber, nitrile, polyethylene, polyvinyl chloride or polyurethane</p> <p><input type="checkbox"/> Hands are washed and dried, before gloves are put on and after they are removed</p> <p><input type="checkbox"/> Gloves and aprons are replaced when ripped or worn out</p> <p><input type="checkbox"/> Reusable aprons are washed daily</p> <p><input type="checkbox"/> Gloves are removed when leaving the work area and replaced upon return. If reusable, gloves are washed (using proper hand washing technique) after being put back on</p>	

Confirmation/Update Log:

Date						
Initials						



E. Pest Control for Buildings

Instructions: For each type of pest being controlled, specify the pest control method used. This Form is to be completed annually. Make additional copies as necessary and complete as Page _ of _ to indicate more than one page if required.

Completed by: _____ Date: _____ Page _____ of _____

Building ID#/Name: _____

Pest	Control Method and Description	Person Responsible									
Birds	Around building exterior <input type="checkbox"/> Deterrent or other devices (specify) _____										
	Inside building <input type="checkbox"/> Deterrent or other devices (specify) _____										
Rodents	Around building exterior (perimeter) <input type="checkbox"/> Bait (specify type) _____ <input type="checkbox"/> Traps (specify type) _____ <input type="checkbox"/> Chemicals (specify below) <table border="1" data-bbox="448 806 1295 907"> <thead> <tr> <th>Name of chemical</th> <th>PCP #</th> <th>Concentration</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <input type="checkbox"/> Other (specify) _____	Name of chemical	PCP #	Concentration							
	Name of chemical	PCP #	Concentration								
Inside building <input type="checkbox"/> Traps (specify type) _____ <input type="checkbox"/> Other (specify) _____											
Insects	Around building exterior <input type="checkbox"/> Bait (specify type) _____ <input type="checkbox"/> Traps (e.g., glue boards, sticky traps) _____ <input type="checkbox"/> Chemicals (specify below) <table border="1" data-bbox="448 1197 1295 1297"> <thead> <tr> <th>Name of chemical</th> <th>PCP #</th> <th>Concentration</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <input type="checkbox"/> Other (specify) _____	Name of chemical	PCP #	Concentration							
	Name of chemical	PCP #	Concentration								
Inside building <input type="checkbox"/> Traps (e.g., glue boards, sticky traps) _____ <input type="checkbox"/> Chemicals (specify below) <table border="1" data-bbox="448 1449 1295 1549"> <thead> <tr> <th>Name of chemical</th> <th>PCP #</th> <th>Concentration</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <input type="checkbox"/> Other (specify) _____	Name of chemical	PCP #	Concentration								
Name of chemical	PCP #	Concentration									
Other (specify)	_____ _____ _____										

Confirmation/Update Log:

Date						
Initials						

F. Water (for Fluming and Cleaning) Assessment

ANNUAL

Instructions: Complete and/or update annually for all water sources. Check off (✓) those items that apply. Make additional copies as necessary and complete Page ___ of ___ to indicate more than one page if required.

Completed by: _____ Date: _____ Page ___ of ___

Water source (e.g., municipal, well, surface)	Re- cycled (✓)?	Stored (✓)?	Use	Method	Items to Assess (check each item)	Date of water tests	Corrective Actions (*see examples below)	Cleaning and Treatment**
			<input type="checkbox"/> Fluming <input type="checkbox"/> Washing <input type="checkbox"/> Final rinse <input type="checkbox"/> Chemical application (during packing) <input type="checkbox"/> Hand washing <input type="checkbox"/> Cleaning equipment/ containers/building	<input type="checkbox"/> Pit <input type="checkbox"/> Spray <input type="checkbox"/> Hose <input type="checkbox"/> Tap <input type="checkbox"/> Dump tank <input type="checkbox"/> Pressure wash <input type="checkbox"/> Other:	<input type="checkbox"/> Animal access <input type="checkbox"/> Runoff <input type="checkbox"/> Working condition of well/pipes <input type="checkbox"/> Other possible hazards assessed (describe):			<input type="checkbox"/> Cleaned <input type="checkbox"/> Treated <input type="checkbox"/> Cistern <input type="checkbox"/> Well <input type="checkbox"/> Other: Using Appendix: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> H <input type="checkbox"/> OR:
			<input type="checkbox"/> Fluming <input type="checkbox"/> Washing <input type="checkbox"/> Final rinse <input type="checkbox"/> Chemical application (during packing) <input type="checkbox"/> Hand washing <input type="checkbox"/> Cleaning equipment/ containers/building	<input type="checkbox"/> Pit <input type="checkbox"/> Spray <input type="checkbox"/> Hose <input type="checkbox"/> Tap <input type="checkbox"/> Dump tank <input type="checkbox"/> Pressure wash <input type="checkbox"/> Other	<input type="checkbox"/> Animal access <input type="checkbox"/> Runoff <input type="checkbox"/> Working condition of well/pipes <input type="checkbox"/> Other possible hazards assessed (describe):			<input type="checkbox"/> Cleaned <input type="checkbox"/> Treated <input type="checkbox"/> Cistern <input type="checkbox"/> Well <input type="checkbox"/> Other: Using Appendix: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> H <input type="checkbox"/> OR:
			<input type="checkbox"/> Fluming <input type="checkbox"/> Washing <input type="checkbox"/> Final rinse <input type="checkbox"/> Chemical application (during packing) <input type="checkbox"/> Hand washing <input type="checkbox"/> Cleaning equipment/ containers/building	<input type="checkbox"/> Pit <input type="checkbox"/> Spray <input type="checkbox"/> Hose <input type="checkbox"/> Tap <input type="checkbox"/> Dump tank <input type="checkbox"/> Pressure wash <input type="checkbox"/> Other:	<input type="checkbox"/> Animal access <input type="checkbox"/> Runoff <input type="checkbox"/> Working condition of well/pipes <input type="checkbox"/> Other possible hazards assessed (describe):			<input type="checkbox"/> Cleaned <input type="checkbox"/> Treated <input type="checkbox"/> Cistern <input type="checkbox"/> Well <input type="checkbox"/> Other: Using Appendix: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> H <input type="checkbox"/> OR:

Assessment Guide: Assessment should include runoff from agricultural chemicals, fuels or manure; contamination in pipes, cleanliness of cistern etc.

- *Corrective Actions:**
- Install devices to prevent backflow
 - Consult with experts
 - Install filtration
 - Use alternate source
 - Construct barriers (e.g., fences, ditches)
 - Maintenance of well or cistern
 - Level ground to prevent runoff
 - Test water for Total Coliforms and *E. coli* using an accredited lab conforming to ISO 17025 or equivalent
 - Appendix A: Shock Chlorination of Well Water – An Example*
 - Appendix B: Chlorination of Water for Fluming and Cleaning Fresh Fruits and Vegetables and Cleaning Equipment – An Example*
 - Appendix H: Cleaning and Treating Cisterns – An Example*

****Cleaning & Treatment:** ✓ to indicate cleaning &/or treatment, what was cleaned/treated, which instructions were followed or what treatment method used (e.g., UV)

Confirmation/Update Log:

Date						
Initials						

G. Cleaning, Maintenance and Repair of Buildings

Instructions: An inspection of both the interior and exterior of your buildings (e.g., packinghouse and storages) (except agricultural chemical storage buildings) must be conducted monthly [when in use and where possible (e.g., not a sealed storage)] and the following checklist completed. Place N/A if certain structures are not applicable to your operation.

Completed by: _____ **Date:** _____

Building ID #/Name: _____

Interior of Building	Exterior of Building
<ul style="list-style-type: none"> <input type="checkbox"/> No holes/crevices/leaks in the building (e.g., walls, windows, screens) <input type="checkbox"/> Lights are shatterproof and adequate (i.e., packinghouse is bright while potato storages are dark) <input type="checkbox"/> No pipes or condensation leaking <input type="checkbox"/> Floor drainage is good (floor sloped, drain covers clear) <input type="checkbox"/> Floors, walls and ceilings are clean and free from garbage, spills, rodent droppings, etc. <input type="checkbox"/> Floor is free of crevices that could harbour pests or debris <input type="checkbox"/> Fans are dust-free and clean <input type="checkbox"/> Animals (wild or domestic), pests (insects, rodents, etc.) and bird nests are not present <input type="checkbox"/> All materials are in designated areas (e.g., packaging materials and potatoes) 	<ul style="list-style-type: none"> <input type="checkbox"/> No holes/crevices/leaks in the building (e.g., walls, windows, screens) <input type="checkbox"/> All windows can be closed OR have close-fitting screens that are in good condition <input type="checkbox"/> ½ meter wide perimeter strip of stone or crushed gravel OR short grass around building <input type="checkbox"/> No junk piled within 3 m of building (e.g., old or unused machinery, garbage) <input type="checkbox"/> Weeds are controlled <input type="checkbox"/> Land drainage around building is good <input type="checkbox"/> Dumpsters are emptied as needed to prevent pest infestation and surroundings are free of debris <input type="checkbox"/> All doors are close-fitting <input type="checkbox"/> Doors that can be secured (i.e., to lock storages when unsupervised)
<p style="text-align: center;">Maintenance required</p> <p>If any of the above have NOT been checked off (✓), please describe the maintenance required:</p> <hr/> <p>(Use the reverse of this Form if more space is needed)</p> <p>Date and Name of Person work was completed by:</p> <hr/> <p>Date and Signature of Person overseeing the work:</p> <hr/>	<p style="text-align: center;">Maintenance required</p> <p>If any of the above have NOT been checked off (✓), please describe the maintenance required:</p> <hr/> <p>(Use the reverse of this Form if more space is needed)</p> <p>Date and Name of Person work was completed by:</p> <hr/> <p>Date and Signature of Person overseeing the work:</p> <hr/>

Confirmation Signature: _____ **Date:** _____

H1. Agronomic Inputs (Agricultural Chemicals)

Instructions: Includes all applications from pre-planting through to, and including, harvest. One Form must be completed for EACH PRODUCTION SITE.

Producer Name:	Previous Year Crop(s):	Seed Certification #:	
Production Site Information (e.g., Field # or Name/ID #/Legal Description):	Production Site Area (e.g., # of acres/hectares):	Date Planted:	Variety:

Application Date	Product/Trade Name and PCP # and Lot #	Actual Quantity Used (e.g., 22.28 kg)	Rate Applied Per Unit (e.g., hectare, acre, cwt, tonne)	Label Instructions Followed (✓)	Area Treated	Method of Application (air, ground, furrow, seed, foliar)	Earliest Allowable Harvest Date and PHI	Weather Conditions	Signature of Applicator or if Custom Application Invoice is Attached

Confirmation Signature: _____ **Date:** _____

H2. Agronomic Inputs (Other)

ONGOING

Instructions: Includes all applications from pre-planting through to, and including, harvest. One Form must be completed for EACH PRODUCTION SITE.

Producer Name:	Previous Year Crop(s):	Seed Certification #:	
Production Site Information (e.g., Field # or Name/ID #/Legal Description):	Production Site Area (e.g., # of acres/hectares):	Date Planted:	Variety:

COMMERCIAL FERTILIZER APPLICATION

Date	Blend	Rate	Fertilizer Lot # (if applicable)	Applicator's Name

MANURE*/COMPOST/COMPOST TEA/OTHER BY-PRODUCTS†/PULP SLUDGE/SOIL AMENDMENT/MULCH AND ROW COVER APPLICATIONS

Date	What is Applied	Type*†	Supplier's Name	Rate	Earliest Allowable Harvest Date* (according to appropriate time delay)	Applicator's Name

* Manure (cattle, hog, poultry, horse, etc.)

† Other by-product (seafood waste, vegetable culls, etc.)

Confirmation Signature: _____ **Date:** _____

P. Harvesting and Storing Potatoes

ONGOING

*Instructions: Complete for harvested potatoes packed into **harvested potato packaging materials** or in bulk and transported to a packer or to market or put into storage.*

Completed by: _____ **Date:** _____

Storage Name/Area/ID/#: _____

Agricultural Chemical Application – if being applied

Product and Variety	* PHI/EAHD met (Forms H1 and H2 verified) (✓) and initial	Product Trade Name	Quantity Treated	Application Rate	Method of Application (Spray, Ventilation)	Signature of Applicator
Variety						
Harvest Date(s):						
Bin Fill Date:						
Field # or Name/ID #/Legal Description (Same as Forms H1 and H2):						
1.						
2.		Cross section of the bin:				
3.						
4.						
5.						
6.						

Agricultural Chemical Application – if being applied

Product and Variety	* PHI/EAHD met (Forms H1 and H2 verified) (✓) and initial	Product Trade Name	Quantity Treated	Application Rate	Method of Application (Spray, Ventilation)	Signature of Applicator
Variety						
Harvest Date(s):						
Bin Fill Date:						
Field # or Name/ID #/Legal Description (Same as Forms H1 and H2):						
1.						
2.		Cross section of the bin:				
3.						
4.						
5.						
6.						

** Forms H1 and H2 have been verified to ensure that harvested potatoes meet the required pre-harvest interval PHI/EAHD for agricultural chemical application and the spreading of manure.*

Confirmation Signature: _____ **Date:** _____

Q. Packing Market Potatoes

*Instructions: Complete for all harvested potatoes being packed into **market ready packaging materials** (both in the production site and packinghouse, and includes your own and other producers' potatoes).*

Date Harvested Potatoes Received/ Put into Storage	Name of Producer	Potato Variety	*PHI/EAH D met (Forms H1 and H2 verified) (✓)	Storage Name/Area/ID/ # or Field # (Same as on Forms H1, and H2 or P)	Pack ID	Packing Date	Quantity	Lot ID	Primary Packaging Material Used	Secondary Packaging Material Used	Packaging checked for cleanliness (✓ if OK)	Date Packed Potatoes Put into Storage

** Forms H1 and H2 have been verified to ensure that harvested potatoes meet the required pre-harvest interval PHI/EAH D for agricultural chemical application and the spreading of manure.*

Confirmation Signature: _____ **Date:** _____

