



Best Practices Guidebook FOOD HUB GROWER MANUAL

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Acknowledgments

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Developer:

Margurite Thiessen, Value Chain Specialist
Alberta Agriculture and Forestry

Educational Design:

Lois Hameister, Educational Design Consultant
Alberta Agriculture and Forestry

Cover Design:

Lee Harper, Graphic Designer
Alberta Agriculture and Forestry

Publication Layout/Design:

Information Management and Innovation
Alberta Agriculture and Forestry

Form Design and Development:

Forms and eBusiness Support
Service Alberta

Technical Advisors and Reviewers:

Danny Turner, Co-Founder
The Organic Box

Abbie Stein-MacLean, Production Manager
The Organic Box

Connie Kehler, Executive Director
Saskatchewan Herb and Spice Association

Karen Goad, Farm Direct Marketing Specialist
Alberta Agriculture and Forestry

Dustin Morton, Commercial Horticulture Specialist
Alberta Agriculture and Forestry

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INTRODUCTION

This *Best Practices Guidebook: Food Hub Grower Manual* helps growers meet pre- and post-harvest standards required by food hubs and grower co-operatives, local food service establishments and other direct market customers.

Establishing best practices enables the food hub and its growers to prepare for and pass internal audits.

What is a Food Hub?

A food hub is defined as a profitable and sustainable business model that actively manages the aggregation, logistical coordination and marketing of source-identified food products primarily from local producers to strengthen their ability to satisfy year round wholesale, retail and institutional market demand. A food hub serves as a coordinating intermediary between regional producers and suppliers and customers, including institutions, food service firms, retail outlets and end consumers.

For a food hub facility to pass third party audits, the food hub is required to demonstrate that all of the food hub's growers have passed an internal review or audit. The Food Safety Checklist for Produce Farms example is located in Appendix 5 at the end of this manual, just before the Resources section. There is also an internal audit diagram flow in the Appendix of the Best Practices Guidebook: Food Hub Vendor Manual.

There is a second manual in this series—Best Practices Guidebook: Food Hub Vendor Manual—designed to help vendors meet the standards required by food hubs and others.

Who Can Benefit from this Manual?

This manual is primarily for growers who want to meet the requirements of a food hub and better prepare for internal reviews or audits.

Food hub and other value chain business models can direct their growers (suppliers) to this manual to help them prepare for internal reviews or audits.

Objectives of the Manual

After you have completed this manual you, as a food grower, will be able to:

- Meet requirements of the food hub (buyer), specific to the crops you grow
- Align your practices with current food safety standards and programs
- Develop some of your own systems and standards
- Prepare for internal reviews or audits by third parties
- Prepare for a mock recall

On-Farm Food Safety (OFFS) Programs

On-Farm Food Safety (OFFS) Programs are Hazard Analysis and Critical Control Points (HACCP)-based food safety systems developed for various commodities to enhance food safety, maintain consumer confidence and facilitate market access. These programs comply with federal, provincial and territorial legislation and are delivered by a provincial delivery agent or by the national industry organization that owns the program. All have gone through a thorough Canadian Food Inspection Agency (CFIA)-led technical review process, as part of the Federal Food Safety Recognition Program.

Canada Good Agricultural Practices (GAP)

Canada GAP is one of the programs developed in Canada to promote good agricultural practices (GAPs) for fruit and vegetable suppliers (growers). This HACCP-based model is the tool used to assess potential hazards associated with the growing, handling, packing, repacking and storage of products and determining areas of higher risk. It is divided into two commodity specific programs:

- Fruits and vegetables
- Greenhouse product

Good Agriculture and Collection Practices

Good Agriculture and Collection Practices is another OFFS program developed for plants such as garlic, parsley and wild collected foods. It is a HACCP-based model used to address risk from the beginning of production to finished product around food safety, traceability and quality. It encompasses many crops and has a memorandum of understanding (MOU) with Canada Gap for crossover crops.

Good Manufacturing Practices (GMP)

Good manufacturing practices (GMP) are used for facilities involved in processing and wholesale distribution. GMPs involve general procedures to reduce food safety hazards.

For more information on food safety programs, go to CFIA website at www.inspections.gc.ca

For more information on Canada GAP, go to www.canadagap.ca

For links to the various programs, go to Resources section at the end of this manual.

For food safety information for processors, refer to Food Safety for Alberta at [http://agapps16.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/fs14712](http://agapps16.agric.gov.ab.ca/$Department/deptdocs.nsf/all/fs14712)

Refer to each program to locate organizations authorized to perform these audits.

Click on this link <https://cfr.forms.gov.ab.ca/form/piwd11290.pdf> to access a digital, fillable PDF form for this exercise – a blank form for this exercise also appears in Appendix 1 at the back of this manual.

Organic Certification

Organic certification, as set out in the Canadian Organic Standard, must apply to a CFIA Accredited Certification Body and be able to show complete traceability of products and be inspected by an independent third party.

Audits

Many institutional, food service and retail buyers will require arm's length auditable programs such as those provide by OFFS. Programs such as Canada GAP or GACPs, GMPs and/or organic certification are often required of both the growers and the food hub facilities.



Where Are You Now? Assess Your Current Practices

Before you get into the details on how to establish best practices in your grower operation, use the following checklist to assess your current practices in terms of ensuring that produce is safe for consumers.

C = completed P = partly NA = not applicable
to my operation

Best Practices Checklist for Growers

C P NA

- I document all processes required by the food hub.
- I ensure the correct standard operating procedures (SOPs) are available and followed for each step.
- I outline clear roles and responsibilities on keeping records for all personnel.
- I keep detailed records for irrigation schedules, harvesting times, water test results and processes for tracking the use of water in my crops.
- I am aware of the food hub recall policies and any specific customer requirements of the food hub and its vendors.

Best Practices Checklist for Growers (continued)C P NA

- I have outlined the process for recalls and plans for performing a timed mock recall each year. (See page 36 for basic information and links about mock recalls.)
- I have established the approved types of sanitizers for certain types of crops for the food hub.
- I have liability insurance. (Secure and maintain Commercial General Liability (CGL) insurance at all levels of the food value chain at a minimum level of \$5,000,000. Liability should be correctly subrogated amongst parties using additional insured certificates.)
- I have examined other insurance needs required by me, as a grower, and by buyers. I work with my insurance agent to determine what insurance is required and if existing insurance is sufficient.
- I have set a clear system for grading produce that corresponds to CFIA standards, which are federal but often implemented provincially by buyers. I have had a conversation with my buyers about what they require.
- I have a process for reviewing and updating any manuals, including the process for making and approving revisions, dates and signing authority.
- I have identified and documented the quality assurance manager for the food hub.

Once you have started to make changes to your operation, return to the checklist to ensure that you have all applicable processes in place.



The Organic Box

For training in Good Agricultural Practices (GACPs) contact hssa@sasktel.net and Canada GAP. For general inquiries, email info@canadagap.ca or call (613) 829-4711.

Food Hub Structure

Before you get into your role as a grower, you should understand the food hub structure and general expectations. Food hubs have organizational structures and facilities where they conduct the business of the food hub. Food hubs also have standard certifications and audits that are conducted on the facility.



The Organic Box Services

- Planning and ordering
- Receiving and quality control
- Storage
- Grading and packaging
- Distribution and fulfilment
- Invoicing, payment and claims

General Standards and Practices Required by Food Hubs

Food hubs generally have growers adhere to some general standards and practices, including the following.

- All produce is washed and sanitized, when appropriate, using approved sanitizers and standard operating procedures (SOPs) as outlined by Alberta Health Services (AHS) and CFIA.
- All produce is packaged in new food grade plastic bags and clean food grade boxes and kept at the appropriate temperature until delivery.
- Meat and poultry products are locally processed and inspected. They are stored and kept frozen until delivery. There is no intermingling of provincially and federally regulated products.
- Eggs are from CFIA-approved egg-grading facilities.
- In general, growers must follow the Good Agricultural Practices and have participated in food safety and post-harvest handling courses. The food hub determines the frequency of these courses and inspections.

Now that you have some understanding of on-farm food safety programs and the structure of a food hub, you are ready to move on to what is required by you pre- and post-harvest.



2 GROWER REQUIREMENTS AND PRACTICES

A food hub strives to provide the highest quality food to its customers, which means the top priority is handling product in the safest manner possible. This section of the manual sets forth the steps all growers must follow to ensure the food hub can meet its goal.

For purposes of compliance and uniformity, your food hub should communicate to you any changes to the requirements and policies either by email or by written notice. The food hub should also communicate any third party audit requirements that the food hub or its buyers require.



Third Party Requirements

Gordon Food Services (GFS) requires the Canada GAP Program

Objectives

This section of the manual will help you to:

- Meet the standards of the food hub for safe handling of all products pre- and post-harvest
- Train staff on cleaning and sanitizing of work areas
- Ensure safety of product during packaging and transport
- Meet specific food hub requirements for specific crops in terms of packaging, harvesting, grading, cooling and cleaning

Minimum Requirements for Growers

Some minimum requirements for growers include the following:

- A minimum of \$5,000,000 product liability insurance
- A copy of proof of potable water, obtained by water testing
- Completed and signed Food Safety Checklist for Produce Farms
- A copy of AHS Food Handling Certificates if appropriate
- A copy of proof of enrollment in programs such as OFFs or Organic Certification as required by the food hub



Do You Meet Minimum Requirements?

Think about what requirements you have already met. Check those off the previous list. Go to the section, Food Safety Checklist for Produce Farms, Appendix 5, and check off other requirements you have already met.

Each food hub has specific requirements and the programs (e.g. OFFs or Certified Organic) that are expected of growers. As a grower, you then apply the rules outlined within the specified requirements or programs.

As a basic, you need to implement an on-farm food safety program. This would include, but not be limited to, the general practices that follow in this section of the manual.

Harvest

Harvest requirements focus on washing and sanitizing harvest tools and proper hand washing by staff.

Harvest Tools

Take the following steps to ensure harvest tools meet requirements.

- Clean knives before sanitizing. Use hot water (45°C) and detergent to scrub clean and then rinse in clean running water.
- Mix sanitizers to the correct solution strength (100 ppm chlorine) to kill microbes without contaminating food with sanitizer.
- Test the sanitizer strength with test strips regularly to ensure sufficient concentration.
- Wash and sanitize harvest knives and other tools with the sanitizer. Soak for two minutes and air dry using a drying rack.
- Wash harvest tubs before harvest and sanitize once per day following the recommended sanitizing solution process.

For more information on sanitizers, see the section, Sanitizer Solutions, on page 15.

Visit AHS website for more on hand washing processes at <http://www.albertahealthservices.ca/assets/wf/eph/wf-eh-temporary-handwashing-stations.pdf>



Washing station

Before post-harvest handling, ensure staff:

- Rinse overshoes or change out of footwear
- Change out of clothes that are too soiled
- Wash hands
- Put on a clean apron

Restroom and Hand Washing Stations

Provide staff access to restrooms (within 400 metres) and hand-washing stations while harvesting. Hand-washing stations should have potable water in a container with a minimum capacity of five gallons or 20 litres. The water should be warm, between 30 - 45°C.

The acceptable method for washing hands is in the stream of running water for approximately 20 seconds and not in the water resting in the catch basin. The collection system to catch the wastewater from hand washing must be equal or greater to the capacity of the potable water container. You must provide single-use towels and liquid soap in suitable dispensers.



Meeting Requirements

Do you meet the above requirements for restroom and hand-washing stations?

- Yes
- No

If no, what do you need to change? _____

Post-Harvest Procedures for Staff

Post-harvest procedures focus on diligent hand washing and proper use of food handling gloves. At the end of this section are some additional procedures for staff.

Hand-Washing Policy

All staff must follow proper hand-washing practices and use only hand-washing stations designated for that purpose. Ensure that all staff adhere to the following procedures.

Post the following two sets of instructions prominently by wash stations:

Hand-Washing Steps

1. Wet your hands with warm running water.
2. Wash hands with liquid soap.
3. Wash palms, between the fingers and under nails, wrists, back of hands, thumbs and fingertips for at least 20 seconds.
4. Rinse hands with warm running water.
5. Dry hands with paper towel.
6. Turn off faucet using a paper towel and dispose of paper towel in lidded garbage can.

Hand-Washing Requirements

All staff must wash hands:

- Before beginning work upon entry of facility or kitchen
- Before touching food and/or equipment
- After touching dirty utensils or equipment
- When any contamination of hands occurs
- After toilet use before returning to work
- After touching face, nose or hair
- After sneezing or coughing
- After cleaning duties
- After smoking
- After touching garbage
- After eating



Hand washing required

Posters that you can place in the appropriate areas of your operation are available from Alberta Health Services (AHS) and online at <http://www.albertahealthservices.ca/assets/wf/eph/wf-eh-hand-washing-poster-with-running-water.pdf>



Best practice: wear gloves

Post these instructions for staff.

Food Handling Gloves

Food handling gloves can prevent contamination of food if used properly, particularly with ready-to-eat foods that do not require cooking. Ensure your staff adhere to the following requirements.

- Wash hands properly before putting on the gloves and every time you change the gloves.
- Change gloves between tasks.
- Throw disposable gloves away after each use.
- Wear gloves over bandages on hands.
- Whenever possible, use utensils such as spoons or tongs, instead of a gloved hand.
- Discard and replace contaminated gloves.

Hand Sanitizers

Your food handlers may be able to use hand sanitizers as long as they have access to a well-stocked hand sink. Train staff to use hand sanitizer on clean hands and follow these steps.

- Add the product to the palm of one hand, dip all of your fingertips into the sanitizer and rub your hands together to distribute the sanitizer.
- Rub your hands until they are dry.

Remember that hand sanitizer is not considered as effective as washing hands in warm water and soap. If you have soil on your hands, first wash with water and soap and then sanitize.

Other Staff Procedures

In addition to proper hand washing and proper use of food handling gloves, ensure staff follow these procedures:

- To prevent food-borne illness, practice good personal hygiene, store and handle food properly and clean and sanitize food contact surfaces.
- Do not handle food while experiencing flu-like symptoms (sore throat, fever, vomiting, diarrhea or jaundice) or a diagnosis of a food-borne illness (commonly called food poisoning).

- Wash hands thoroughly and frequently, whether or not gloves are worn.
- Keep fingernails clean and short. No artificial nails are allowed.
- Wear clean uniforms and aprons. Change as often as needed.
- Keep hair tied back or controlled by wearing a cap or hairnet.
- Keep jewelry at home. Do not wear jewelry while handling food.
- Drink liquids out of a closed container only.
- Do not eat in harvest/post-harvest areas. Eat only in designated places outside of food harvest and packing areas.
- Launder all soiled aprons/clothes after use.

Cleaning and Sanitizing of Work Areas

It is critical that you properly clean and sanitize work areas. The following outlines the requirements for each work area or component.

Specific Work Areas

All food contact surfaces: wash prior to washing produce. Tables, counters, sinks and equipment must be:

- Cleaned with soap and water (using scrub pads) or pressure-washed
- Wiped with a squeegee to remove excess water or allowed to air dry
- Sprayed with a surface sanitizer of 100 ppm bleach
- Left to air dry before use

Cloths and scrub pads: in between use, soak in bleach solution that is made fresh each day. The solution will lose potency with exposure to air and dirt. Replace squeegees when cracks become visible.

Floors: sweep at least once per day, when food is not out, and wash/sanitize as needed. Ensure the prepared food does not come in contact with the floor.

Equipment: scrub or pressure wash and clean before and after each harvest in such a manner that it does not contaminate the product. This may include wash tanks, sinks, brushes, brush washers, roller tracks and produce tubs.



Scrub hands thoroughly and often

Sealed surfaces are the standard; check them regularly to ensure they are still sealed.

Sanitizer Solutions

Chemical sanitation involves the use of an approved sanitizer at a specified concentration and contact time. Common sanitizers used in the food industry include chlorine solutions (bleach), hydrogen peroxide, iodine and quaternary ammonium compounds (quats). Be sure to check with the program you are following to confirm which sanitizers and cleaners are permitted.



Sanitizers for Organic Growers

Organic growers need to address clause 8.2 of the General Principles and management standards (CAN/CGSB 32.310) <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/programme-program/normes-standards/internet/bio-org/pgng-gpms-eng.html>

Handle sanitizers carefully and according to the manufacturer's instructions. While you can use vinegar to physically remove dirt and debris by scouring and wiping surfaces, it does not kill bacteria and viruses and is not an approved or effective sanitizer.

Factors impacting the effectiveness of a chemical sanitizer include:

- Concentration of the sanitizer
- Temperature of the sanitizing solution (all sanitizers work best at temperatures between 24 - 49°C)
- Cleanliness of the surface to be sanitized
- Age of the sanitizer. Because sanitizing solutions lose their effectiveness over time, as they are exposed to air and organic materials, make sanitizer solutions daily, check them with test strips and record the test strip results. For example, bleach has approximately 6 month's effectiveness. Label your bottle with the purchase date to keep track.

Note that water temperature above 50°C may release chlorine gas which is toxic. The potential for corrosion also goes up with increased temperatures.

See the section “Crop Specifics: Packaging, Harvesting and Grading, Cooling and Cleaning” for more information on how to prepare each specific crop for delivery.



Vegetable washing and equipment

General Post-Harvest Procedures for Crops

During the post-harvest process, cull all unsatisfactory crops. If you must wash the product, the water used for cleaning and rinsing product must be clean and potable.

All crops must be clean when they arrive at the food hub. This may require you to wash with chlorinated wash water or a hydrogen peroxide-based sanitizer, rinse and drain or simply brush or remove visible soil. The method depends on the product.

When brushing or wiping product, use tools designated for the product only. Do not use the same tools for cleaning the product and cleaning food contact surfaces, as this can lead to cross contamination. Clean brushes and towels between product types; change towels when soiled.

Packaging

As a grower, you must be able to provide your product in institutional case size lots and are expected to clean, sanitize and package the product in industry standard packaging. You are responsible for purchasing and providing any packaging (tomato boxes, box liners, clamshells, etc.). You can purchase from the food hub or source independently.

CFIA has commodity-specific packaging requirements. Check with your food hub or CFIA inspector for details.



Exercise: Packaging Requirements

In addition to the specific crop packaging instructions below, can you meet the following requirements? Check off those that you currently meet.

- Use food-grade packing materials
- Use clean packing materials (boxes can be re-used if new, clean liners are added)
- Keep packing containers clean during field packing
- Provide adequate drainage for all products, in order to prevent bacterial growth
- Keep raw food separate from produce (if packing meat, dairy and produce)
- Keep clean produce separate from soiled produce

Temperature Log

You are required to keep a daily temperature log for each refrigerator or freezer unit.

Labelling

Include the following information on your labels:

- Your farm name
- Reference/purchase order (PO) number
- Product identity and amount
- Date of packing
- Lot #



Clear packaging material

Contact The Organic Food Box if you need help finding sources of packaging.

Many templates for temperature logs are available in the Food Safety Guidebook at [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/fs14712](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/fs14712) and in the Marketing Food Safely Resource, a home study manual for farm direct marketers at [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/explore13314](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/explore13314)



The Organic Box label



Yellow bean labels

Your labelling must comply with CFIA regulations. For more information on labelling, check out the CFIA's Guide to Food Labelling and Advertising on the CFIA web site <http://www.inspection.gc.ca/english/fssa/labeti/guide/toce.shtml>

The Tracking Log form is Appendix 2 at the back of this document.

Make sure you have contact information for your food hub for after-hours questions and procedures.

Tracking System

As a grower, you are required to use a tracking system that allows both you and a third party to pinpoint the source of any product, using the information on the product label. Keep these records on hand for one year. Include the information found in the sample tracking log below.

Sample Tracking Log

Alberta Government Tracking Log

This is a template for a tracking log that can trace any product from its purchase order back to the field from which it was harvested.

TRACKING DETAILS			
PO/Ref #	Harvest Date (yyyy-mm-dd)	Pack Date (yyyy-mm-dd)	Quantity
Product Description			
Field/Lot #	Shipped To		
<input type="button" value="Add Tracking Entry"/>		<input type="button" value="Remove Tracking Entry"/>	

Food Hub Logistics

This next section covers the logistics of the food hub operation, from transportation and payment to supplies and delivery. These standards would not be required for your audit (as an individual grower) but are necessary for developing a successful food hub.

Transport to Food Hub or Distribution Center

Prior to, and during transport, keep all foods in temperature controlled storage to limit microbial growth and extend shelf life. Under Alberta legislation, all high risk foods must be stored at temperatures not more than 4°C and not less than 60°C.

The following table provides some guidelines for storage.

Guidelines for Storage of Products

Product	Storage Requirements
Fresh fruits and vegetables	Appropriate for the product, generally 0 - 22°C
Frozen products	Temperatures that do not permit thawing, -18°C
Whole eggs	Temperatures not exceeding 7°C and kept separate from other products
Shelf-stable, non-perishables, such as jams, jellies and pickles	Cool, dry, well ventilated areas Temperatures between 10 - 21°C for dry storage
Non-food items	Keep physically separated from food products

If food products can be stored at room temperature, they must be protected from direct sun, excessive heating or rapid temperature changes and moisture which could adversely affect the integrity of the products' containers or product safety. Dry goods generally have a low risk of bacterial growth but, like perishable products, they too have limited storage time.

Vehicles used for transporting product to the distribution facility should be clean and well maintained. You are responsible for keeping your delivery vehicle in good repair and in a clean condition. Keep the cargo area clean and protected from dust, dirt, water and pests during transport. Insulate the cargo area to preserve the quality of produce.

Incoming vehicles are inspected by the food hub receiver, and product may be rejected if it is not up to standards.

Delivery

Access to the distribution facility is controlled; it is locked when the receiver is not present. Deliveries to the facility must be made during food hub receiving hours.



The Organic Box Receiving Hours

Monday	9 – 5
Tuesday	7 – 7
Wednesday	7 – 7
Thursday	7 – 7
Friday	7 – 7

All products must be delivered in the quantities and packaging as detailed in the specific crop instructions starting on page 22.

Check regularly with your food hub to confirm receiving hours.

All visitors are required to sign in and out and show identification. Over time, you get to know the facility manager; if you are using a substitute driver to drop off product or pick up supplies, notify the manager in advance.

You need to keep a shipping record similar to the sample below.

Sample Shipping Record

The Shipping Record form is Appendix 3 at the back of this document.

Alberta Government		Shipping Record
This is a template for a shipping record that can be used to trace any product from its shipping date back to its purchase order.		
SHIPPING DETAILS		
Date (yyyy-mm-dd)	Batch, Lot or ID	Quantity Shipped
Product Description		
Shipped To		Shipped By
Date (yyyy-mm-dd)	Batch, Lot or ID	Quantity Shipped
Product Description		
Shipped To		Shipped By
Date (yyyy-mm-dd)	Batch, Lot or ID	Quantity Shipped
Product Description		
Shipped To		Shipped By
Date (yyyy-mm-dd)	Batch, Lot or ID	Quantity Shipped
Product Description		
Shipped To		Shipped By

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Availability

Generally, food hubs outline the process for growers to communicate availability. Some growers provide online inventory postings and purchase order management, while others will have direct contact with the food hub by telephone, hand filled inventory logs and times for notification to the food hub of volumes and types of products available in advance.

The food hub will communicate the final purchase orders to growers on an agreed-upon ordering cycle, depending on the product.

Payment

Generally, you are paid on net 30 term, and payments generally will be 21 - 28 days out from the purchase order receiving date. Always check with the food hub buyer to confirm the payment process.

Storage of Bins

As a grower, you may opt to transport products in re-usable bins, trays or other forms of sturdy transport. These accessories are your property but can remain at the food hub between deliveries. Label all bins with your farm name. It is your responsibility to maintain your own inventory and to ensure bins are sanitized before being used for the next delivery.

Crop Specifics: Packaging, Harvesting and Grading, Cooling and Cleaning

The following requirements for each crop are examples from The Organic Box. As a grower, you need to find out the requirements of the food hub with which you do business.

For more information on grading, go to CFIA at http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._285/page-10.html#h-27.

Asparagus	
Packaging	11# case or 11CT case
Harvesting & Grading	Stalks should have closed bracts and be 6 - 10" long. They should be fairly straight and fresh as well as free from decay and damage. There should be no broken tips, dirt, disease or insect damage. They should be free of excess woody fiber in the stems. Harvest with a field knife in the morning or when cool. Do not harvest when stem is thinner than a pencil. Bunch in 1 pound bunches, with a rubber band, and trim for uniform height. Asparagus should be packed upright. Do not let asparagus overheat.
Cooling	Hydro-cool or store at 0°C.
Cleaning	Wash, sanitize and rinse.

Bok Choy	
Packaging	Baby – 20# bulk case with bag liner. Mature–35# bulk case with bag liner
Harvesting & Grading	Cut roots off below crop. There should be no spotting, discoloration or wilting on stems. Damaged or yellow leaves should be removed. Cut open several heads to ensure there is no tip burn on internal leaves.
Cooling	Hydro-cool promptly; store at 0°C.
Cleaning	Wash with sanitizer in water tank, rinse and drain upside down.

Broccoli (Broccolini)	
Packaging	Bunched – 14# case
Harvesting & Grading	Harvest firm head with buds not open. Head should be 4 - 6" in diameter, with 6 - 8" of stem. For broccolini, stems should be 8" long and head should be small. There should be no discoloration of bud clusters and the head should be free from decay, dirt and insects. Bud clusters should be generally compact. Pack so that stem ends do not damage crowns.
Cooling	Hydro-cool promptly; store at 0°C. Can be stored on ice.
Cleaning	Sanitize with approved solution. Rinse thoroughly.

Brussels Sprouts

Packaging	Bulk – 10# or 20@ case with bag liner. Full stalks – 15#/5CT
Harvesting & Grading	When sprouts are 1 - 2" in diameter, harvest the entire stem with sprouts intact. The sprouts should be well colored, firm and free from soft decay. There should be no dirt, disease or insects.
Cooling	Store at 0°C. Can be stored on ice.
Cleaning	Washing is not recommended.

Cabbage

Packaging	45# case
Harvesting & Grading	Heads should be uniform in size in each case. Crisp, firm, compact heads should be easy to harvest and should not have loose leaves or be cracked open. At harvest, leave 1 to 2 wrapper leaves, which can have minimal insect damage. Do not ship cabbages that are full of worm excrement. Cut open some cabbages to check for internal problems. Stems should not be longer than ½". Cabbage stands up to heat, so harvest can be done at any time of day.
Cooling	Store at 0°C.
Cleaning	Washing is not recommended.

Cantaloupes and Honeydew Melons

Packaging	35# case with appropriate sizing (8/9/12/15CT)
Harvesting & Grading	Melons are harvested based on "slip," or the ease with which they can be detached from the vine. Harvest cantaloupe at half-slip, which means part of the stem will detach from the fruit but part remains. Honeydew melons do not slip and must be cut off. The blossom end must be firm. Handle melons with care and sample the melons for ripeness. Avoid high temperatures and sun when harvesting. Send fruit that is uniform in size.
Cooling	Cool to, and store at, 4 - 5°C, when harvested at half-slip. Cool to, and store at, 2°C when harvested at full slip.
Cleaning	Wipe off fruit in the field with a clean product towel; fruit can be water washed if necessary.



Field of brussels sprouts



Cabbage



Celery in the field

Cauliflower

Packaging	25# case, with bag liner, marked for size (9/12/16/20CT)
Harvesting & Grading	Cauliflower should be white to cream in color and firm and compact, unless otherwise specified. Handle with care as heads bruise easily. Cauliflower should be free of mechanical damage, decay, insects, browning or yellowing which is caused by sun exposure. Heads should be at least 4" in diameter and surrounded by a whorl of trimmed green leaves.
Cooling	Hydro-cool or store at 0°C.
Cleaning	Wash and sanitize with approved solution, and rinse thoroughly if necessary.

Celery

Packaging	45# case with bag liner, marked for size (24/30CT)
Harvesting & Grading	Cut roots off below the crop. There should be no spotting, discoloration or wilting on stems. Trim leaves and leave no more than 2". Any leaves remaining should not be yellow, wilted or decayed. Celery stems should not be less than 7" on average.
Cooling	Hydro-cool promptly; store at 0°C.
Cleaning	Trim before washing. Wash and rinse thoroughly to remove all of the dirt from inside of the crop.

Cucumbers (field)

Packaging	20/22# case, marked for size (36/42CT)
Harvesting & Grading	Harvest when dry, regardless of temperature. Fruit should be firm, glossy, crisp and free from injury from sunscald, scarring, mosaic and other diseases. Fruit is overripe when skin starts to yellow or seeds start to harden. Slicing cucumbers should be at least 6" long. Cucumbers within a case should be uniform in size.
Cooling	Store at 10 - 12 °C.
Cleaning	Can be brush washed; if washing, sanitize and rinse.

Eggplant

Packaging	24# case, marked for size (12/18/24/30CT)
Harvesting & Grading	Pick when dry; wear cotton gloves to wipe off field dirt. The flesh must be firm, the calyx must be a fresh green and the color must be bright. Harvest with clippers and keep the stem short. Be careful not to scratch the fruit.
Cooling	Rapid cooling to 10°C is necessary. Store at 10 - 12°C.
Cleaning	Wash only if necessary.

Garlic

Packaging	25# bag
Harvesting & Grading	Should be clean and consistent in color and size. Minimum diameter is 1½". Garlic is ready to dig when there are 3 - 5 dry leaves.
Cooling	Cooling is not necessary; long-term storage is at 0°C. To cure, bunch in 10 - 12 stems and hang, or lay on a screen, in a warm ventilated environment for 8 - 10 days.
Cleaning	After curing, remove outer 1 - 2 layers of skin; the stem end should be at least 1" and roots removed.

Green Beans (Yellow & Fillet)

Packaging	25#, with bag liner
Harvesting & Grading	Do not harvest when wet. Do not pick too young— pods should be well formed and straight. Bulging seeds and fibrous pods are too old and unacceptable. Beans should be free from soft rot and damage and not broken.
Cooling	Put directly into the cooler or hydro-cool. Store at 4 - 7°C.
Cleaning	Washing is not needed if beans are clean. If beans are hydro-cooled, they should be drained and as dry as possible.



Garlic



Yellow and green beans



Lettuce

Head Lettuce

Packaging	12/24 heads, with a bag liner
Harvesting & Grading	Lettuce should be fresh, green and not soft or split, with no leaf decay, spotting or discoloration. Harvest with a field knife and remove damaged or yellow leaves. Cut above ground and be sure to keep your knife clean. Cut open a couple of heads to ensure there is no tip burn on internal leaves.
Cooling	Hydro-cool and set heads upside down to drip dry or cool as soon as possible after harvest in a cooler at 0°C.
Cleaning	When necessary, wash in sanitized water and rinse in clean water.

Kale/Chard

Packaging	24CT case, with bag liner
Harvesting & Grading	A bunch is 6 - 8 stems, rubber banded, with the stems uniform and at least 4" long. Leaves should not be limp, discolored or browning. Do not pick too young or too old.
Cooling	Hydro-cool; store at 0°C.
Cleaning	Wash via hydro-cooling.

Kohlrabi

Packaging	30# case
Harvesting & Grading	Heads should be uniform in size in each case. Only young kohlrabi should be harvested. Succulent and tender leaf stems are a good indicator of youth. Remove leaves and root stem.
Cooling	Store at 0°C.
Cleaning	Wash if necessary; sanitize and rinse if washing.

Leeks

Packaging	20# case, with a bag liner
Harvesting & Grading	Pick leeks that are at least 1" thick, the larger the better. Use a fork to dig; do not pull. Cut the leaves in an inverted V with a scissors or a field knife. They should be firm and smooth and free of blemishes with characteristic white stems and dark green leaves.
Cooling	Store at 0°C.
Cleaning	Peel off the loose dirty skin and spray with hose to remove dirt. Sanitize and rinse.

Loose Greens (Including Baby Spinach)

Packaging	Produce bag closed loosely with a twist tie – 4/8/16 oz.
Harvesting & Grading	Pick small leaves, nothing over 3” long. Remove all damaged and imperfect leaves as well as foreign material, including insect damage, wilted or holey leaves, grasses and sticks. For all loose greens, it is best to harvest them in the morning when it is cool and the sugar content is highest. A field knife should be used to harvest to prevent crushing the stem.
Cooling	Greens should be cooled to 0°C as soon as possible after harvest.
Cleaning	Handle greens carefully. Do not run water directly on greens at high pressure as this will damage the leaves. Do not over-pack by smashing greens. Pack loosely in boxes and bags to prevent leaf breakage. Wash and rinse thoroughly. Sanitize with approved solution. Rinse thoroughly. Spin dry.

Onions

Packaging	3# bag (fresh onions); 25# bag (cured); 50# bag (cured)
Harvesting & Grading	Harvest mature bulbs with good firmness and compactness of fleshy scales. They should be free of mechanical damage, insect damage, decay and sunscald or sprouting. Onions should be generally uniform in size in each bag. Medium onions are 2 - 3¼” in diameter and large onions are 3¼” or greater. Onions for curing should not be picked before the tops begin to dry naturally.
Cooling	Long-term storage is at 0°C. Field cure onions for 3 - 5 days without rain; then put in a warm ventilated area at 20 - 30°C.
Cleaning	For fresh onions, wash, sanitize and rinse, and trim off the roots and stem. After curing, trim roots and stems, and brush off before or after storing.



Onions in bags

Peas	
Packaging	10#, with bag liner
Harvesting & Grading	Stems should be green and pods should be uniformly bright green and free from defects. There should not be any broken peas. Snow peas should be 2" or longer and flat. Snap peas should be 2½ - 3" long and well-formed but not bulging. Shell peas should be 2 ½ - 3" long, uniform and well-shaped with a fully developed pea. Do not let peas heat up when picking.
Cooling	Put directly into the cooler or hydro-cool; store at 0°C.
Cleaning	Washing is not needed if peas are clean. If peas are hydro-cooled, they should be drained and as dry as possible.

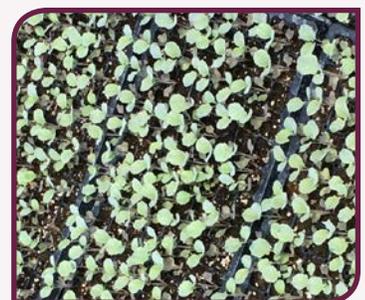
Peppers	
Packaging	25# case or 11# case
Harvesting & Grading	Peppers should be free from injury caused by sunscald, decay or insects; colored peppers should be at least 95% colored. They should be of similar size and variety when packed. Size A will be 2 - 3 peppers per pound and Size B will be 3 - 4 peppers per pound. Seconds are peppers that are somewhat misshapen and may have some scarring. Seconds will not have decay or injury from insects. Pick when dry.
Cooling	Hydro-cool, or cool immediately to no lower than 7°C, as they are subject to chilling injuries.
Cleaning	Spray wash, sanitize and rinse.

Potatoes	
Packaging	25# bags or 50# bags; 20# Case (4x5# bags), with bag liner (new potatoes and fingerlings)
Harvesting & Grading	<p>Potatoes should be fairly well shaped, free from damage, firm and fairly clean. Potatoes in a bag or case should be of similar characteristics and the size should be noted on the label. B size potatoes have a diameter of 1½ - 2¼", medium potatoes have a diameter of 2¼ - 3¼", and large potatoes have a diameter of 3 - 4¼". Some potatoes should be cut in half to ensure there are no internal defects; these sample potatoes should not be packed.</p> <p>New potatoes are considered to be new when the skins are not well formed and the potato is not mature; this is any time from blossom formation until the vines begin to die back naturally. Washing and packaging should be done with care to ensure there is no damage to the potato due to the fragile skins.</p>
Cooling	Potatoes that are to be kept in long-term storage should be cured for 1 to 2 weeks at 20°C. After curing, the temperature should be lowered gradually until reaching 7 - 10°C. By definition, new potatoes are not cured and should be stored immediately at 7 - 10°C.
Cleaning	Hand wash or brush wash if potato skins are tough enough.

Radishes (Including Daikon)	
Packaging	24 bunches, with bag liner; 1# bagged (Daikon)
Harvesting & Grading	Roots should be well formed, crisp and fresh. Roots should be free from defects and not split. Bunched radishes are 10 to a bunch and held together with a rubber band. Each bunch needs to be generally uniform in size. Fresh eating radishes should only be topped if required on the purchase order. Daikon radishes are always topped.
Cooling	Hydro-cool; store at 0°C.
Cleaning	Barrel wash or spray to clean, sanitize and rinse.



Washed potatoes



Radishes started in greenhouse



Field of carrots

Raspberries, Blackberries and Blueberries

Packaging	12 pints flat or 12 x 6oz flat
Harvesting & Grading	Berries should be free of injury from decay and sunscald. They should be uniform in color, firm and not mushy or broken. When picking, the berry must come free easily from the plant and yet be firm and not mushy. There should be no mold or bugs on the berries.
Cooling	Berries should be forced air cooled to 1°C as soon as possible after picking. They need to be stored at 0°C.
Cleaning	Raspberries should not be washed.

Rhubarb

Packaging	10# – bunched or loose
Harvesting & Grading	Pull or cut rhubarb stems at ground level. Trim leaves back to 3” or less from the stem. The stem should be at least 10” long.
Cooling	Hydro-cool or cool to 0°C.
Cleaning	Wash, sanitize and rinse.

Root Crops (Beets, Turnips, Carrots, Rutabagas, Parsnips)

Packaging	25# bulk case or 24CT bunched case
Harvesting & Grading	<p>Tops should be well trimmed; the long root should be trimmed to no shorter than ½”. Roots should be fairly smooth and free from defects. Each case should be generally uniform in size:</p> <p>Beets and turnips, not less than 2” in diameter (1 - 1½” for baby beets)</p> <p>Carrots should be ½ - ¾” at the shoulder and at least 5” long. Hairy carrots are bitter.</p> <p>For parsnips the minimum diameter is 1½”.</p> <p>Rutabagas should not be smaller than 3” in diameter.</p>
Cooling	Store at 0 - 2°C.
Cleaning	Barrel wash or spray to clean, sanitize and rinse. If they will be stored long term, parsnips and rutabagas should not be washed until after storage.

Scallions	
Packaging	24 bunches, with bag liner
Harvesting & Grading	Pick scallions before a bulb forms and the onion end is bigger than a pencil. They should be firm, smooth and free of blemishes. Trim roots and bunch with a rubber band. A bunch is 10 - 12 scallions. Cut tops so they are uniform and at least 6" long.
Cooling	Store at 0°C.
Cleaning	Peel off the loose dirty skin and spray with hose to remove dirt. Sanitize and rinse.

Shallots	
Packaging	25# bag
Harvesting & Grading	Shallots should be clean and consistent in color and size.
Cooling	Cooling is not necessary; long-term storage is at 0°C.
Cleaning	Wipe off shallots with a clean product towel to remove dirt.

Spinach (Full Size)	
Packaging	24CT Case (~18/20#)
Harvesting & Grading	Remove all damaged and imperfect leaves as well as foreign material. These include insect damage, wilted or holey leaves, grasses and sticks. Stems should be no longer than 1" and there should be no coarse stems. Field heat should be removed as quickly as possible.
Cooling	Hydro-cool
Cleaning	Wash and rinse thoroughly. Sanitize with approved solution. Rinse thoroughly. Spin dry. Pack loosely in boxes and bags to prevent leaf breakage. If bunching, bunch loosely with rubber band or twist tie.



Spinach



Strawberry plant

Strawberries

Packaging	8 x 1# case
Harvesting & Grading	Berries should be uniformly red in color, firm, flavorful and free of defects and disease. Harvest at fully ripe for best flavor. Leave cap attached. Do not use overripe or underdeveloped berries. They should be free from mold, decay, foreign matter and insects.
Cooling	Cooling should begin no later than an hour after picking; strawberries need to be stored at 0°C.
Cleaning	Strawberries should not be washed.

Summer Squash

Packaging	20/22# case
Harvesting & Grading	Zucchini, yellow straightneck squash, and crookneck squash should be 5 - 9" long and not overripe. Patty pan squash should be 3 - 5" in diameter. Baby squash are any summer squash that are 2 - 4" long. Cut the stems instead of breaking them off; wear clean cotton gloves and handle with care because of the delicate skins. The surface should be shiny, clean and free of physical injury. Be sure to avoid stem damage when packing boxes. Squash should be uniform in size within each case.
Cooling	Store at 4 - 10°C.
Cleaning	If necessary, wipe off squash with a clean product towel.

Sweet Corn

Packaging	48CT case
Harvesting & Grading	Harvest early in the day when it is cool. Sweet corn should be uniform in size and well developed, not overripe or underripe. Corn should be free from insect damage and decay.
Cooling	Put directly into the cooler or hydro-cool. It is extremely important to not let your corn heat up. The better the corn is cooled, the better it holds its sweetness.
Cleaning	Washing is not necessary.

Tomatoes	
Packaging	Field – 18# case. Vine – 11# case
Harvesting & Grading	<p>Ripeness required varies by buyer. Wholesalers generally want tomatoes that are less ripe. They should be picked when the pink on the blossom end is the size of a dime and shoulders are still pale or green; these will ripen in 3 days at room temperature. Retail customers will want the tomatoes that are ripe and fully red but still firm. Tomatoes should be picked without the stem, unless they are heirlooms, and put in boxes stem end down. Tomatoes should not have splits. Do not pick overripe cherry or grape tomatoes as they will split in shipping.</p> <p>Number 1 tomatoes will be of the same variety type, mature (not overripe or soft), clean, well developed, and fairly smooth and well formed. They should be free from decay, freezing injury, sunscald or damage from any other cause. Seconds, or Number 2s, are similar to Number 1s but may be misshapen or slightly damaged. They may be slightly damaged by sunscald but not seriously damaged by causes other than decay and freezing.</p>
Cooling	Store at 18 - 20°C.
Cleaning	If necessary, wipe off tomatoes with a clean product towel.

Watermelon	
Packaging	35/40# case (6 - 12CT)
Harvesting & Grading	Sample melons for ripeness. Handle melons with care.
Cooling	Cool to, and store at, 10 - 15°C.
Cleaning	Wipe off in field with a clean product towel; melons can be water washed if necessary.

Winter Squash

Packaging	35# case; crates may be used for bulk orders
Harvesting & Grading	Cut squash with pruners and leave a short stem. Flesh should be bright yellow or orange, with a fine moist texture. Package to ensure stems do not bruise other squash. Squash can be sold immediately without curing but should be cured for long storage.
Cooling	Cooling is not necessary. To cure, place in warm ventilated dry area, in temperatures from 29 - 35°C for 8 to 10 days. Store at 10 - 12°C.
Cleaning	Wash or wipe off with clean product towel, at time of shipment.

Eggs

Follow all provincial/federal licensing rules and regulations for eggs and meat. All eggs must be inspected at a CFIA-approved grading station.

Meat and Poultry

Meat and poultry must be processed at provincially or federally approved inspected facilities. Products must be stored and kept frozen at -18°C until delivery.



3

FOOD RECALL

The food hub and its growers need to be prepared for a recall situation. A mock recall is required every year by the food hub to test the plan it has in place. A mock recall is a simulated recall exercise with a time limit to complete the entire exercise (e.g. 2 hours).

Objectives

After you complete this section, you will be able to:

- Identify how a food recall will affect you
- Prepare for a recall
- Take part in a mock recall

If the food hub should choose not to conduct a recall, the Minister of Agriculture may order the food hub to conduct the recall under Section 19.

What is a food recall and how does it affect you?

Food hubs and growers use many controls to make sure that the products they produce are safe. Sometimes, for many different reasons, a product may be grown, packaged and sold in a manner which may make some people ill or injure them, or is in violation of the legislation.

When an unsafe food product has left the control of the manufacturer or packager or seller, it must be removed from the market. To do that, everyone in the value chain is involved. This process of removing the product is called a “recall”. If a company has purchased a product which is unsafe and/or you have sold the product to someone else, the company must recall the product. Part of the recall is to isolate the problem and to ensure the company can fix the problem and minimize it from happening again. To do this, traceability is vital.



Are You Ready for a Recall?

As a grower, try to answer the following questions to see how prepared you are for a recall.

- Where do you fit in a recall?
- What will be expected of you?
- If you needed to remove a product from the market right now, would you be able to do it?
- Would you be able to remove the product quickly?
- Would you be able to remove the entire product?

Use the CFIA guide to help you answer the questions, develop a recall plan and put the plan into action in the event of a recall. It will assist you in identifying unsafe products which you have received or sold.

A fillable form for the recall exercise can be found in Appendix 4.



Fenugreek Recall

Health Hazard Alert – Bunches of fresh fenugreek leaves may be contaminated with the toxic weed *Senecio vulgaris*.

Advisory details

Ottawa, February 11, 2012 - The Canadian Food Inspection Agency (CFIA) and Fruiticana Produce Inc. are warning the public not to consume certain bunches of Fenugreek leaves because they may be contaminated with a toxic weed *Senecio vulgaris*.

The bunches of Fenugreek leaves were sold exclusively through Fruiticana stores in British Columbia and Alberta from February 5, 2012 to February 11, 2012 inclusive. These bunches of Fenugreek leaves contain no lot codes or labels. If consumers have purchased these bunches of Fenugreek leaves at any Fruiticana location, and are unsure if they have the affected product, they should consult the place of purchase to verify if their product is affected by the recall.

There have been no reported illnesses associated with the consumption of this product. The toxic weed *Senecio vulgaris* can contain various chemicals known as pyrrolizidine alkaloids (PA) which are known to cause liver damage in humans if consumed in sufficient amounts.

For more information go to: <http://www.inspection.gc.ca/about-the-cfia/newsroom/food-recall-warnings/complete-listing/2012-02-11/eng/1357586660596/1357586660627>

To access the CFIA Guide, go to <http://www.inspection.gc.ca/food/safe-food-production-systems/food-recall-and-emergency-response/distributors-guide/eng/1376400892829/1376401519986>

Conclusion

You should now be able to meet the requirements of your food hub for the specific crops you grow and align your practices with current food safety standards and programs. You can also be better prepared for any internal audits or reviews or even a food recall.

This manual is one of two in a series. The other manual in the series – *Food Hub Vendor Manual* – is designed to help vendors meet buyer expectations surrounding such things as pricing, ordering, delivery, quality, sustainability and service.



4

APPENDIX

The forms appearing in the Appendix are available in digital, fillable, PDF format. These forms can be accessed directly by clicking on the links provided below:

Appendix 1: Best Practices Checklist for Growers

<https://cfr.forms.gov.ab.ca/form/piwd11290.pdf>

Appendix 2: Tracking Log

<https://cfr.forms.gov.ab.ca/form/piwd11294.pdf>

Appendix 3: Shipping Record

<https://cfr.forms.gov.ab.ca/form/piwd11295.pdf>

Appendix 4: Exercise on Recall

<https://cfr.forms.gov.ab.ca/form/piwd11291.pdf>

Appendix 5: Food Safety Checklist for Produce Farms

<https://cfr.forms.gov.ab.ca/form/piwd11293.pdf>

Exercise: Before you get into the details on how to establish best practices in your grower operation, use the following checklist to assess your current practices in terms of ensuring that produce is safe for consumers.

C = Completed, P = Partly, N/A = Not applicable to my operation

BEST PRACTICES CHECKLIST

- | C | P | N/A | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I document all processes required by the food hub. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I ensure the correct standard operating written procedures (SOP) are available and followed for each step. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I outline clear roles and responsibilities on keeping records for all personnel. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I keep detailed records for irrigation schedules, harvesting times, water test results and processes for tracking surrounding the use of water in my crops. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I am aware of the food hub recall policies and any specific customer requirements of the food hub and its vendors. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have outlined the process for recalls and plans for performing a timed mock recall each year. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have established the approved types of sanitizers for certain types of crops for the food hub. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have established equipment maintenance schedules and standards. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have liability insurance. (Secure and maintain Commercial General Liability (CGL) insurance at all levels of the food value chain at a minimum level of \$5M. Liability should be correctly subrogated amongst parties using additional insured certificates.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have examined what other insurance needs are required by me, as a grower, and by buyers. I work with my insurance agent to determine what insurance is required and if existing insurance is sufficient. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have set a clear system for grading produce that corresponds to CFIA standards , which are federal but often implemented provincially by buyers. I have had a conversation with my buyers about what they require. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have a process for reviewing and updating any manuals, including the process for making and approving revisions, dates and signing authority. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | I have identified and documented the quality assurance manager for the food hub. |

This is a template for a tracking log that can trace any product from its purchase order back to the field from which it was harvested.

TRACKING DETAILS			
PO/Ref #	Harvest Date (yyyy-mm-dd)	Pack Date (yyyy-mm-dd)	Quantity
Product Description			
Field/Lot #		Shipped To	

This is a template for a shipping record that can be used to trace any product from its shipping date back to its purchase order.

SHIPPING DETAILS		
Date (yyyy-mm-dd)	Batch, Lot or ID	Quantity Shipped
Product Description		
Shipped To	Shipped By	

Exercise: As a grower, try to answer the following questions to see how prepared you are for a recall.

RECALLS

Where do you fit in a recall?

What will be expected of you?

If you needed to remove a product from the market right now, would you be able to do it?

Would you be able to remove the product quickly?

Would you be able to remove the entire product?

Use the [CFIA guide](#) to help you answer the questions, develop a recall plan and put the plan into action in the event of a recall. It will assist you in identifying unsafe products which you have received or sold.

The following checklists are examples of components of an agreement between the food hub and a participating produce grower to verify that best practices are being used on-farm and en-route to the hub to eliminate risk of contamination and ensure food safety.

Example: Agreement between Food Hub and Grower

All produce growers selling to the hub are required to complete the checklist by _____ of each year and return to:
 Date (yyyy-mm-dd)

FOOD HUB DETAILS

Food Hub Name	Contact Name		
Address	City/Town	Province/Territory	Postal Code
		AB	

PRODUCE GROWER DETAILS

Farm/Vendor Name	Contact Name		
Address	City/Town	Province/Territory	Postal Code
		AB	

BEST PRACTICE CHECKLIST

Please fill in the checklists below using a checkmark or an x.

Y = Yes, N = No, N/A = Not applicable to my operation

Individual Health and Hygiene for the Farm Worker or Employee

- | | | | |
|--------------------------|--------------------------|--------------------------|--|
| Y | N | N/A | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Potable water is available to all staff. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Staff are trained on proper sanitation and hygiene practices. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Restrooms with hand washing stations are available for all staff. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Restrooms are maintained regularly. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Signs are posted to instruct staff to wash hands before beginning or returning to work. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Smoking and eating areas are away from where product is handled. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Product is not handled by anyone who shows signs of infectious disease (e.g. diarrhea, flu, etc.). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | First-aid supplies are available at all times. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Bandages and gloves are used to cover any open wounds. |

Water and Sewage

- | | | | |
|--------------------------|--------------------------|--------------------------|---|
| Y | N | N/A | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water used for cleaning and cooling produce (including ice) is tested quarterly for potential contaminants. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Drying times between irrigation and harvest of crops are maximized. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | When possible, drip irrigation is used to minimize contact with crops. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Farm sewage treatment/septic systems function properly with no evidence of leaking or runoff. |

Animals, Manure and Compost

- | Y | N | N/A | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Deterrents are used to keep animals away from crop fields and sources of water used for irrigation. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Manure and compost located near crops are maintained to prevent runoff from contaminating crops. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | If raw manure is applied to crop fields, it is incorporated at least 2 weeks prior to planting and a minimum of 120 days prior to harvest, if edible plant portions are in contact with the soil, and 90 days prior to harvest if edible plant portions do not touch the soil. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Documentation is available for composted manure applied to crop fields. If documentation does not exist, the compost is treated and applied as raw manure. |

Harvest and Packing Activities

- | Y | N | N/A | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All containers, equipment and supplies used to harvest and pack product are cleaned and sanitized prior to use, stored in a protected area and only used for product during the harvest season. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Packing areas/facilities are properly cleaned and maintained. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Excessive soil is removed from product and containers when harvesting. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Only approved food grade lubricants are used for packing equipment/machinery. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All chemicals approved for use are stored separately from the packing area. |

Storage and Transportation

- | Y | N | N/A | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The storage facility and transport vehicles are properly cleaned and maintained |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Proper storage temperatures are maintained during storage and transport of product |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Refrigeration system condensation does not come in contact with product. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Floors in storage areas are reasonably free of standing water and dirt. |

Verification

- | | | | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Organic Certification has been completed by |
|--------------------------|--------------------------|--------------------------|---|

Please sign and date below:

Date (yyyy-mm-dd)	Supplier Name and Title	Signature
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Checklist requirements have been adapted from *Practical Food Safety for Produce Farms, Guidelines for Organic Certification of Fruits & Vegetables* and the Good Agricultural Practices & Good Handling Practices Program.

5

RESOURCES



Resources

Commercial Vegetable Production Manual on the Prairies

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex15123](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex15123)

Public Health Act and Food Regulation

www.albertahealthservices.ca/8302.asp

On-Farm Food Safety Programs

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/fs14986](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/fs14986)

CANADA Gap Food Safety for Fresh Fruits and Vegetables

<http://www.canadagap.ca/article/2015/1/28/canadagap-food-safety-manuals-updated-for-2015/>

CFIA Grading Link

http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._285/page-10.html#h-27

Guide to Food Labelling and Advertising

http://www.alimentheque.com/divers/GuideFoodLabellingAdvertising_CFIA_dec2011.pdf

Irrigation Water Quality Safety For Fresh Field Grown Fruits and Vegetables

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/irr14171](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr14171)

Surface Water Quality Guidelines for use in Alberta

<http://aep.alberta.ca/water/education-guidelines/surface-water-quality-guidelines-and-objectives.aspx>

Accredited laboratories in Alberta that can test for fecal coliforms and E.coli visit

<http://www.agric.gov.ab.ca/app68/agriprocessors?cat1=Analytical+Laboratories>

Temporary Hand Washing Stations

<http://www.albertahealthservices.ca/assets/wf/eph/wf-ch-temporary-handwashing-stations.pdf>

Hand Washing

<http://www.albertahealthservices.ca/assets/wf/eph/wf-ch-hand-washing-poster-with-running-water.pdf>

For training videos on temperature monitoring, thermometer calibration and sanitation visit:

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/fs14712](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/fs14712)

Explore Local homepage

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/explore13596](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/explore13596)

Selling Local Food Directly to Foodservice and Hospitality

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex14381](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex14381)

Selling Local Food Directly to Institutions and Schools

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex14457](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex14457)

Resources (continued)

Food Safety Guidebook

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/afs12301](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/afs12301)

Chapter 10 Development of a Recall Plan

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/explore13314/\\$FILE/Chapter16.pdf](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/explore13314/$FILE/Chapter16.pdf)

Food Safety Information for Producers

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/fs14615](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/fs14615)

Food Safety Branch webpage

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/fs14746](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/fs14746)

“On-farm Food Safety: Cleaning and Sanitizing Guide,”

ISU Extension PM 1974C:

<https://store.extension.iastate.edu/Product/On-farm-Food-Safety-Cleaning-and-Sanitizing-Guide>

Temperature Conversion Table

<http://www.temperatureworld.com/ctable1.htm>

Recommended Storage Temperatures (from Small-scale post-harvest handling practices – A manual for horticultural crops)

[http://www.fao.org/wairdocs/x5403e/x5403e09.htm#recommended storage temperatures](http://www.fao.org/wairdocs/x5403e/x5403e09.htm#recommended%20storage%20temperatures)

Organic Alberta

<http://organicalberta.org/about-organics/organic-definitions>

