

Outline of Main Changes to CanadaGAP Manual for 2023 (Version 10.0)

Greenhouse Product (GH)

This document contains the “main” changes that have been made to the **Greenhouse Product** (GH) CanadaGAP manual for 2023 (Version 10.0). It is recommended that this be used as a quick reference and that the manual be reviewed fully.

Acronyms

SFCR - Safe Food for Canadians Regulations

GFSI – Global Food Safety Initiative

CFIA – Canadian Food Inspection Agency

FV – CanadaGAP Fruit and Vegetable Manual

* *User requests – Requests for change that came from program participants, Certification Bodies/auditors, buyers or other stakeholders.*

Section	Sub-section	Change	Reason for change	Details
Scope		Addition	User request - scope expansion	<p>Scope expansion - many additional scopes have been added to the GH manual. For production, packing, and storage, the commodities that are now included within the scope are (red text shows new commodities):</p> <p>Leafy Vegetable and Cruciferae (except for microgreens): <i>Leafy – Lettuce, Spinach, Edible Flowers, Mixed Greens, Baby Leafy Greens, Asian Greens, Arugula, Green Onions, Leeks, Swiss Chard and Kale</i> <i>Head – Broccoli, Cauliflower, Cabbage, Brussels Sprouts, Radicchio, Kohlrabi and Lettuce (Iceberg, Romaine, etc.)</i> <i>Leaf of Root Crops - Belgian Endive, Dandelion Greens, Beet Greens, Turnip Greens and Corn Salad</i> <i>Fresh Leafy Herbs - Parsley, Cilantro, Fresh Dill, etc.</i> <i>Petioles - Celery, Fennel, Rhubarb</i></p> <p>Small Fruit: <i>Strawberries, Raspberries, Blackberries, Blueberries (High Bush, Wild), Saskatoon Berries, Currants (Red, Black) and Other (Gooseberries, Elderberries, etc.)</i></p> <p>Combined Vegetables: <i>Legumes (Beans and Peas)</i> <i>Bulb and Root Vegetables: Garlic, Beets, Carrots, Onions, Radish, Parsnips, Turnips, Shallots, Other (Horseradish, Sweet Potatoes, Ginger, etc.)</i> <i>Fruiting Vegetables: Peppers, Eggplant, Melons, Pumpkin, Squash, Cucumbers, Tomatoes and Okra</i></p> <p>In addition, the scope now includes all commodities sent for further processing.</p>
Glossary		New/revise definitions	GFSI, CFIA and user requests	<p>New definition for <i>baby leafy greens, legumes, mulch materials, row covers, seedlings, smooth-skinned melons</i>. Definitions were also revised for clarity, to account for changes in the manual/additions to the scope and/or for consistency between the GH and FV manual. Revised definitions include <i>agricultural chemicals, building, building equipment, cleaning materials, controlled-access areas, greenhouse, harvesting, microgreens, plants with novel traits, production site equipment, start date, waste, agricultural water</i>.</p>

Section	Sub-section	Change	Reason for change	Details
1. Commodity Starter Products	1.1	New section	Scope expansion	The section for commodity starter products was added since it now applies to the GH manual. The requirements align with those in the FV manual.
2. Premises		Re-organization	Scope expansion	The sub-sections were reorganized to align with the FV manual. Sections 2.1 and 2.2 were amalgamated and the section is now ' production site and surroundings assessment, cleaning, maintenance, repair and inspection '. Requirements remain the same, they have just been reorganized.
2. Premises	2.1	New requirement	Scope expansion	New requirements were added regarding growing medium . Operations using a growing medium (e.g., rockwool, sawdust, vermiculite, soil, peat, etc.) and not growing directly in the ground need to receive a letter of assurance from suppliers of this growing medium.
5. Mulch and Row Cover Materials		New section	Scope expansion	The section for mulch and row cover materials was added to the GH Manual since it now applies to the greenhouse crops grown directly in the ground. The requirements align with the ones in the FV manual.
8. Equipment	8.2	New commodity-specific requirements	Scope expansion	Bulb and root vegetables were added to the scope of the GH manual; therefore, these operations now have commodity-specific requirements for production site equipment. These requirements align with those in the FV Manual.
8. Equipment	8.2	New requirement	Scope expansion	New requirements were added to account for new types of equipment being used in a greenhouse: <ul style="list-style-type: none"> • <i>Items used for supporting product (e.g., elastics/netting/clips) are:</i> <ul style="list-style-type: none"> <input type="checkbox"/> <i>cleaned prior to each use</i> <input type="checkbox"/> <i>dedicated only for supporting product</i>
8. Equipment	8.2	Clarification	User request	Clarification for production site and building equipment added to outline what is required of hoses when they are flushed out (see red text below): <ul style="list-style-type: none"> • <i>Hoses for potable water uses are/have:</i> <ul style="list-style-type: none"> <input type="checkbox"/> <i>flushed out with potable water before EACH use</i>
8. Equipment	8.2	Change	Scope expansion	Operations must now do a general inspection of building equipment before each use, rather than before initial use.
9. Cleaning and Maintenance Materials	9.1 9.3	Additions	User request	A few changes were made because there are a variety of materials that need to be considered as ' cleaning and maintenance materials ', and the wording needs to include all relevant materials. The intent of the requirements remains the same.
9. Cleaning and Maintenance Materials	9.2	New requirement	User request	An additional bullet was added to ensure no cross-contamination hazards were introduced by cleaning and maintenance materials : <ul style="list-style-type: none"> • <i>When using cleaning and maintenance materials, the person responsible:</i> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Avoids cross contamination from cleaning and maintenance materials (e.g., if a broom was used to sweep water into a drain, this broom cannot then be used to sweep a food contact surface, etc.).</i>

Section	Sub-section	Change	Reason for change	Details
12. Employee Training	12.1	New bullet	User request	New example of job-related training was added: <ul style="list-style-type: none"> • <i>The person responsible provides job-related training to employees performing tasks that could lead to biological, chemical or physical contamination of product:</i> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Handling of job-related electronic devices</i>
13. Visitor Policy	13.1	Addition	GFSI	Storage locations for ‘cleaning and maintenance materials’ were added to the list of controlled access areas within buildings: <ul style="list-style-type: none"> <input type="checkbox"/> <i>The person responsible determines controlled-access areas within the building(s) including areas where harvested and market product and market ready packaging materials are handled or stored, and where cleaning and maintenance materials are stored, and controls access to those designated areas (e.g., puts up signs, walls).</i>
15. Water (for Fluming and Cleaning)	15.1	Additions	Scope expansion	Some requirements for water for fluming and cleaning have been added for Leafy Vegetables and Cruciferae (EXCEPT FOR Broccoli, Cauliflower, Cabbage and Brussels sprouts) : <ul style="list-style-type: none"> <input type="checkbox"/> <i>Water is kept potable at all times</i> <input type="checkbox"/> <i>Water is changed daily (at a minimum) or more frequently to reduce the load of organic matter, and only potable water is used to fill or replenish flumes, dump tanks, drums or pits</i>
15. Water (for Fluming and Cleaning)	15.1	New commodity-specific requirements	Scope expansion	Melons were added to the scope of the GH manual; therefore, operations now have commodity-specific requirements for water used for melons . These requirements align with those in the FV Manual.
15. Water (for Fluming and Cleaning)	15.1	Addition	Scope expansion	The requirement for Leafy Vegetables and Cruciferae (EXCEPT FOR Broccoli, Cauliflower, Cabbage and Brussels sprouts) now states: <ul style="list-style-type: none"> <input type="checkbox"/> <i>If water has been used to flume, or wash product (even though it was kept potable), the person responsible provides a final potable water rinse</i>
15. Water (for Fluming and Cleaning)	15.1	Addition	User request	In order to ensure temperature is being monitored accurately, additional wording was added to ensure the type of thermometer is appropriate for its intended use: <ul style="list-style-type: none"> <input type="checkbox"/> <i>Thermometers are the appropriate type for their intended use and checked for accuracy and calibrated or replaced when necessary.</i> Information was also included in Form N2 to reflect this addition.
15. Water (for Fluming and Cleaning)	15.1	Clarification	User request	An additional example was added to the ‘water for cleaning’ title, to ensure it was clear that this section also applies to water storages. <p><i>Water for Cleaning (equipment, buildings, containers, water storages, etc. and hand washing in personal hygiene facilities)</i></p>

Section	Sub-section	Change	Reason for change	Details
15. Water (for Fluming and Cleaning)	15.2	New note	User request	A new note was added to outline that in cases where water is being treated after storage , then water storage requirements do not apply. <i>Note: If stored water is being treated according to the procedures outlined in 15.3 Treatment, then the requirements under 15.2 Storage are not applicable (e.g., cleaning and filling procedures are no longer necessary as proper water treatment occurs AFTER these activities have been completed, which mitigates any risks they may have posed).</i>
17. Packaging Materials	17.2	Change in requirement	User request	Requirements for the liners used in reusable market ready primary packaging materials have changed: <input type="checkbox"/> <i>Reusable containers made of porous materials (e.g., wood, wicker, cardboard) with a new impermeable liner integrity-maintaining liner (e.g., liner creates a barrier that has no holes, rips, breaks or faults, liner remains intact if wet, liner is not a source of contamination, etc.) [for all commodities except for smooth-skinned melons, winter squash and pumpkins]</i> <input type="checkbox"/> <i>Reusable containers made of non-porous materials (e.g., plastic, stainless steel) with a new impermeable liner integrity-maintaining liner (e.g., liner creates a barrier that has no holes, rips, breaks or faults, liner remains intact if wet, liner is not a source of contamination, etc.) [for all commodities except for smooth-skinned melons, winter squash and pumpkins]</i>
17. Packaging Materials	17.2	New requirement	User request	Requirement for packaging materials for mushrooms for repacking only has been added. This requirement comes directly from the FV manual and reflects the most up to date Health Canada guidelines.
18. Growing and Harvesting	18.2	New requirements	Scope expansion	New requirements added (see below) to account for the additional commodities covered under the scope of the GH manual. <input type="checkbox"/> <i>When harvesting, the person responsible ensures that packaging materials are not a source of contamination (e.g., does not stack muddy containers on top of each other, etc.)</i> <input type="checkbox"/> <i>The person responsible visually inspects product before and during harvest to look for evidence of unusual animal or bird activity (i.e., excrement) and other possible contaminants (e.g., biological controls, etc.). Product (if it has been contaminated) and contaminants are discarded</i> <input type="checkbox"/> <i>The person responsible does not harvest product that has fallen on the ground</i>
19. Sorting, Grading, Packing, Repacking, Storing and Brokerage		New note	User request	A new note was added to the beginning of this section to ensure all operations are evaluating if this section applies to them or not: NOTE: Section 19 applies to MOST CanadaGAP operations, regardless of activities/scope of certification. Please read the circle bullets below carefully to determine if any apply to your operation. Additionally, the circle bullets at the beginning were reordered to put the ones that may apply to the greatest number of operations first.

Section	Sub-section	Change	Reason for change	Details
19. Sorting, Grading, Packing, Repacking, Storing and Brokerage		Re-organization	Scope expansion	Numbering of Section 19 was modified to align with the FV Manual. Section 19.4 <i>Application of Wax</i> , was added, but does not apply to GH operations at this time. The numbering of Section 19.5 <i>Other Materials</i> , 19.6 <i>Environmental Monitoring Program</i> , and 19.7 <i>Supplier Approval</i> is now consistent within both manuals.
19. Sorting, Grading, Packing, Repacking, Storing and Brokerage	19.1	Clarification	User request	One of the examples of an outside service provider was amended for clarity. <input type="checkbox"/> <i>If services are selected/purchased from an outside service provider to perform activities on behalf of the person responsible (e.g., harvesting, packing, icing, washing of product, storing in a standalone storage operation)...</i>
19. Sorting, Grading, Packing, Repacking, Storing and Brokerage	19.2	New requirement	Scope expansion	To align with the FV manual, a new requirement was added to ensure that for small fruit operations, product should be discarded if it becomes contaminated.
21. Transportation	21.2	Deletion	User request	A requirement that was a duplication of another was removed: <ul style="list-style-type: none"> • <i>During transportation, the person responsible ensures that: ...</i> <ul style="list-style-type: none"> <input type="checkbox"/> <i>If the product is transported to someone else's premises, this information is recorded on Form (O) Transporting Product OR</i>
23. Deviations and Crisis Management	23.2	Additions	User request/ scope expansion	Major deviations chart was updated to reflect changes throughout the manual.
23. Deviations and Crisis Management	23.3	Additions	CFIA	Some additions were made in terms of what is being recorded for the recall team . Each team member's roles and responsibilities need to be outlined, and alternate names recorded in case of sickness, absence, etc.

Section	Change	Reason for change	Details
Forms			
Form B	Addition	Scope expansion	Additional requirements added as part of the storage assessment to reflect the new commodities covered under the scope of the GH manual.
Form C	Addition	Scope expansion	To align with the FV manual, a new requirement was added to ensure that for small fruit operations, employees are trained not to harvest product that has fallen on the ground.
Form C	Revision	Scope expansion	Canvas/leather gloves may now be used in for bulb and root vegetables, pumpkins and squash and do not require daily laundering

Form C, D	Revision	User request	Additional text was added to ensure it is clear that the working effects and cloth gloves must be laundered by the operation .
Form D	Revision	Scope expansion	Canvas/leather gloves may now be used in for harvested bulb and root vegetables, pumpkins and squash and do not require daily laundering
Form H2	Addition	Scope expansion	This form now applies to mulch and row cover applications (except for plastic).
Form I	Addition	User request	The instructions were changed so that it is clear that not only hand-held cutting and trimming tools in direct contact with product, but also the tool's case/sheath/cover , should be considered as part of this form.
Form V	Additions	User request	New potential hazards were added to the production site assessment that relate more to GH operations.

Section	Change	Reason for change	Details
<i>Appendices</i>			
R. How to Conduct a Mock Recall	Revisions	User request, CFIA	This appendix was amended to make it clear what the true focus of a mock recall should be. Some new information was added, some existing information was moved to a more logical location, and some examples were removed.
X. Environmental Monitoring Program (EMP) - Resources	Additions	User request	Additional information was added regarding areas to consider during the risk assessment stage of setting up an environmental monitoring program.
<i>HACCP Models</i>			
<ul style="list-style-type: none"> • Changes to requirements in the CanadaGAP Manuals reflect corresponding changes in the HACCP models. • HACCP models are available from CanadaGAP on request. 			