

Food Safety Process

Unit IV: Produce Handling – Harvest and Post Harvest



Garden Harvest

The *Food Safety Administrator* must provide training and review to both *Garden Coordinator(s)* and Garden Participants on the following harvest related food safety risks:

1. Health and Hygiene
2. Tools and Equipment Maintenance Management
3. Proper Harvest Handling

The *Garden Coordinator(s)* should lead by example and make sure that participants are properly implementing food safety best practices. The *Garden Coordinator(s)* must make sure all record keeping forms relevant to the garden harvest are properly completed. Garden Participants can assist with inspection and record keeping as long as they are properly trained. It is best to assign participants to this duty so that it becomes a routine. Once forms are filled, The *Garden Coordinator(s)* needs to return all forms to the *Food Safety Administrator*.



Health and Hygiene Review

When it is time to harvest, it is important that all Garden Participants follow the good hygiene practices that were mentioned in the Health and Hygiene section. The Food Safety Administrator needs to make sure that all *Garden Coordinator(s)* and Garden Participants have been trained on good health and hygiene practices. Garden Coordinator(s) need to make sure that these practices are implemented whenever participants are helping in the garden, especially when harvesting fresh produce.



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Tools and Equipment Maintenance Management

When working with gardening tools and other harvesting equipment, the following must be implemented in your food safety plan and must be monitored by the *Garden Coordinator(s)* and Garden Participants:

1. Tools and equipment, such as harvesting containers, should be made of materials that can be easily cleaned and made of a non-porous material (e.g., metal, stainless steel, or plastic). Harvesting containers should be made of food grade materials that are designed to safely hold food. These are *not* food grade containers:
 - a. Garbage bags
 - b. Garbage cans
 - c. Containers that originally held chemical products

Tools and harvesting containers should be sanitized thoroughly using a food service approved sanitizer. One example is the non-toxic, biodegradable cleaner Simple Green. Tools and harvesting containers should then be rinsed with potable water.

1. The *Garden Coordinator(s)* needs to develop a schedule for cleaning and repairing tools to reduce the potential for contamination.
 - a. It is recommended that the tools be cleaned, repaired and/or inspected weekly. This activity should be recorded on the Appendix C - Harvest Activity Log.
 - b. If participants bring their own tools for use in the garden, these tools should also be cleaned weekly and before use in the garden.
2. Have a designated storage area for all tools when not in use. When Garden Participants take a break, use the restroom, or leave for the day, tools should be kept in a designated area as to minimize contamination.
3. If using vehicles, such as motorized carts or utility vehicles, to transport harvested produce, these vehicles should be inspected for leaks, necessary repairs, and a maintenance checklist kept on file.
4. There should be designated bins for compost and harvested produce. The bins should not be used interchangeably.
5. Harvesting bins should not be used for any other purpose other than carrying produce.



Resource:

- Appendix C– Harvest Activity Log



Proper Harvest Handling

When it comes time to harvesting your garden produce, the *Garden Coordinator(s)* needs to gather the following items:

- Sanitized harvest containers (e.g., food grade plastic baskets)
- Sanitized produce storage containers with labels
- Harvest Activity Log
- Scale (also properly sanitized)

A Harvest Activity Log can be found in the Appendix C. Use the Harvest Activity Log to record date of harvest; participants assisting with harvest, list of produce harvested weight of harvest, and recipient of harvest. All participants should be trained how to record harvest activities and proper harvesting procedures.

A note for *Garden Coordinator(s)*, when harvesting, these procedures should be followed:^{2,11}

As a reminder, all participants must wash their hands before and after harvesting.

1. If participants use gloves to harvest, they must be clean. However, the best practice is to use single-use disposable gloves when harvesting.
2. Harvest as early as you can in the morning.
3. Ideally, pick only dry fruits and vegetables.
4. Produce should not be eaten while harvesting.
5. Remove as much dirt and debris from the produce as possible in the garden site
6. *Dispose of any produce that has feces on it or is damaged/diseased.*
7. This produce should be transported to a remote cull pile to avoid attracting pests or creating a susceptible environment for both human and plant pathogens.
8. *Handle with care!* Handle the produce as little as possible making sure not to bruise or damage the produce. Punctured or bruised produce are more susceptible to harmful pathogens. Once inside, these microorganisms cannot be removed or killed by washing or sanitizing agents.
9. Produce must be kept in a shaded area of the garden and cooled immediately. This will reduce heat gain from the sun.
10. If there are multiple gardens in which produce is being harvested, the *Garden Coordinator(s)* needs to ensure produce from different gardens are not mixed together. Each garden produce delivery needs to be clearly labeled providing the name of the garden, date of harvest, produce name(s) and weight.



A Crop Profile of Common Garden Produce is included in the Resource section. It includes recommended harvesting methods.



Resource:

- Appendix C – Harvest Activity Log Crop Profiles of Common Garden Produce
- Removal of Damaged Produce or Plant from School Garden



Post Harvest Handling

Once produce is harvested, it is important that the *Garden Coordinator(s)* monitor the temperature of harvested produce. Produce should be promptly cleaned and cooled after harvesting. It includes recommended harvesting methods as well as storage and transporting information. Record time and produce temperature on Appendix C - Harvest Activity Log.



Resource:

- Appendix C – Harvest Activity Log



Steps to Remove Debris from Harvested Produce

The *Garden Coordinator(s)* needs to ensure these procedures are followed when removing debris from harvested produce:

1. Sanitize all processing areas (e.g., sorting area, food contact surfaces, and scales) and produce storage boxes (e.g., coolers, wax boxes, or storage bins) using a food service approved sanitizer and preferably one that is non-toxic and environmentally safe. Cleaning these areas and items should be done on a daily basis or as necessary and should only be sanitized in the school cafeteria, *not* in the garden.
2. Containers used for harvesting should be labeled “*UNWASHED PRODUCE*”. In addition, please include
 - a. Produce name
 - b. Harvest date
 - c. Row/bed or plot
4. This will help identify where the produce came from.
5. Do not use compost containers for storing produce, even temporarily.
6. Please note, at harvest and/or in the garden, produce must *not* be washed, hosed or sprayed. Produce washing should *only* take place in the school kitchen. The Food Service Staff will wash produce following the proper food service handling procedures.

7. If produce contains excessive dirt such as root vegetables or leafy greens shake off debris. Do not use wet rags or paper towels to wipe off produce.

Utilizing a ware washing sink for the purpose of rinsing vegetables is allowable only in existing schools which were approved by this department at the time of construction without a food preparation sink. All schools which have undergone remodel and all new construction must have a designated food preparation sink. For facilities utilizing a ware washing sink to rinse vegetables, the sink basin must be properly washed and sanitized before each use and tasks such as ware washing must occur separately from rinsing vegetables. Failure to properly wash and sanitize basin and failure to separate tasks may result in required installation of a food preparation sink to limit cross-contamination.

Steps to Cooling Produce¹¹

1. The produce should be refrigerated immediately and should be cooled to a temperature that is appropriate to the crop.
2. If it is not possible to move the harvested produce to a refrigerated area within one hour of harvest; instead, place the produce in coolers with ice. The ice should come from a potable water source.
3. All cooling equipment should be sanitized before storing produce. Records cleaning on Appendix B – Harvest Activity Log to document that these areas have been properly cleaned.
4. Upon delivery to a school, produce must be placed in refrigeration.
5. If produce is temporarily left in the cooler and placed in refrigerated storage, the ice needs to be removed from the cooler.
6. ALL produce should be stored in refrigerators and not left out overnight. Discard produce that has been left out.



Transporting Produce⁹

Most school gardens will only have enough garden produce to serve their own school. In this case, there is no need to consider transporting produce, and it is advised that school garden produce remain at that school. If transportation from a garden or farm site to another facility is required, contact the *Garden Coordinator(s)* for necessary cooling information.

