

Oregon Department of Education

School Garden Food Safety Training & Documentation Manual

~Companion Guide~



In Oregon, many people are resistant to serve food in their cafeterias that have been obtained from school gardens. Sometimes there are misconceptions that serving this food might not be allowed, or that serving the food from the gardens is unsafe. This is not the case, as long as some simple food handling procedures are followed.

There are many guides and lists that deal with food safety in the school garden, but the difference between those resources and this manual is that this manual enables the school to **document and have a written record** of all training and procedures, thereby showing that the operator has taken the necessary steps to ensure they're doing everything possible to grow and serve food safely to schoolchildren.

Fresh produce served in schools from school gardens in Oregon requires no formal food safety inspection for unprocessed fruits and vegetables. Fruits or vegetables may be considered "unprocessed" if their food handling and preservation techniques have not changed the inherent character of the item. Examples of minimally processed food include cutting, drying, chopping and freezing. Other foods in a school garden setting served from sources such as raising chicken eggs, or processing beef or poultry at the school would require a lengthy inspection and certification process, and could not legally be served in schools without this inspection and certification.

All food served to the public or in school cafeterias from the school garden must be handled following the same food handling procedures that are required by the local County Health Department in Oregon. Other than local health regulations, there are no requirements or regulations for school gardens. However, it is important to know that EVERYONE associated with a school garden is responsible for the safety of the students and staff that work in the garden or consume the food, and in fact can be liable for food safety related issues. For this reason, the Oregon Department of Education has developed this garden safety program as a way to potentially minimize risks associated with serving food from school gardens.

This manual is written with Oregon laws in mind. In other states, there are differing laws and rules concerning the subjects discussed here. This manual is meant to be used as a tool to help minimize risks associated with school gardens, and is not intended to be the "final word" on all aspects of safe school gardening.

Note that these recommendations refer to food safety practices for both harvesting from the school garden for consumption by others (in the garden or the cafeteria) and harvesting directly for personal consumption. Safe food handling is always important, but is most critical when

handling food consumed by others that is typically eaten raw (without a cooking step to kill pathogens).

The following is an overview of what's in the manual. Refer to the other sections to see detailed steps and explanations of the material

Keep in mind the following:

- Documentation is a standard practice in the restaurant and cafeteria worlds. There's a saying that goes: "If it's not documented, IT DIDN'T HAPPEN!" In other words, you have to prove it happened by documenting it.
- If there's ever an issue with a foodborne illness outbreak in your area, the school garden could be at risk if there isn't proper documentation available. If there are good records, it will help tremendously by showing that your garden is doing everything possible to minimize risks and ensure the safety of your garden.
- This system will only work if you actually DO what is documented.

CONTENTS of the School Garden Food Safety Training & Documentation Manual: (all items can be found in the GARDEN SAFETY section of the ODE Farm to School/School Garden website)

<https://goo.gl/FG5Hmq>-Click on "School Gardens" box

- Companion Guide (this document)
- School Garden Startup Checklist (complete each Fall and Spring)
- School Garden WEEKLY CHECKLIST
- USDA "Best Practices – Handling Fresh Produce in Schools"
- School Garden Staff Training & Log
- School Garden Student Training & Log
- Composting logs

STARTUP CHECKLIST (Tab 1):

1. This checklist is to be completed twice per year. It's recommended that the list be completed once in the Fall (by September 30), and in the Spring (by April 30). Complete a separate checklist each time. Enter the date in the appropriate space.
2. Enter the name of the designated adult that is in charge of the garden.
3. Enter at least one designated adult with current food handler certification that will be in charge of handling the produce from the garden. This is usually the Kitchen Manager or Cook, although it technically could be the same person. Oregon Food Handler permits can be obtained online at www.orfoodhandlers.com and are inexpensive. In a foodservice environment all food handlers need to obtain a food handler permit. It's conceded that it's impractical to have every student to have a food handler permit, but at the least the leader or leaders of the garden who are in charge of harvesting food should get one.
4. Identify soil history of the garden site. This will help determine areas of the garden that aren't suitable for growing food or may need special amendments.

5. Soil should be tested for lead, arsenic and other major metals and contaminants. If you are using the existing soil (rather than bringing in new soil), a one-time test should be sufficient. Test new soil as it is added to the garden. It's recommended to contact your local OSU county extension office for referral to people who test soil. You can find your local extension office/agent here: <http://extension.oregonstate.edu/find-us>. Test for lead and other contaminants that are identified through soil review. The extension office should be able to assist you in determining what concerns there may be with your soil. Soil with content greater than or equal to 400 mg of lead per kg is considered potentially hazardous. Here are some other tips:
 - Sample depth should be 4 to 6 inches, retrieve soil from several areas in your garden.
 - Contact the local utility companies (or call 811 – the national “call before you dig” number) a few days before digging to ensure that you avoid gas or electric lines.

6. **WATERING/IRRIGATION:** it's recommended that only potable water should be used in watering or irrigating a school garden. If municipal, potable (safe for drinking) water used for irrigation (watering), then the water is being monitored by the municipality and should be adequate for irrigation. NOTE: In a school district setting, the facilities department will no doubt do an assessment of the garden's source (building) plumbing system to determine if the water supply is safe for the building, including any spigots that are dedicated to irrigating the school garden. If not (if you are using well water, water collection systems, etc.), test the water at least once a year. Water should be tested for microorganisms, including E. Coli. This is not an expensive process. It is recommended that you contact your local OSU county extension office for referral to people who test water. Remember, water collection systems/containers should be cleaned and sanitized regularly.

Lately, there has been a lot reported on building water supplies used for irrigation that are not potable. For example, some schools have found elevated levels of lead in their plumbing system that deems the water unsafe to drink. The Oregon Health Authority has released a statement saying that “watering a school or community garden with lead-containing water is OK, but test the soil for lead.” It's recommended that if a non-potable system is used as described above, the hose/spigot should be labeled so no one drinks from that source. When it comes to evaluation of water sources, check with your local health dept. for testing guidance, or with the Oregon Health Authority.

7. Garden watering system should be connected to a backflow preventer; this is inexpensive and can be found at any hardware/home improvement store. Here's a link to one: http://www.lowes.com/pd_306401-74985-67750_0?productId=3426508&Ntt=backflow+preventer&pl=1¤tURL=%3FNtt%3Dbackflow%2Bpreventer&facetInfo=

8. The school garden plot should be positioned so that it is not in the path of runoff from agricultural areas (such as livestock or dairy farms, etc.), parking lots, roads, or other sources of potential contamination.

9. ODE recommends that raised beds, containers, stakes or trellises are made of non-toxic/non-leaching/non-pressure-treated materials. *Corrective action:* replace materials in question, or at least use the areas near those materials for non-food only, such as flowers. Have at least a 1-foot barrier from potential contaminants between the items and areas where food items are grown. The Garden should not be placed next to a building or any surface that has lead-based paint that could potentially flake off and contaminate the garden.
10. Chemicals, including fertilizers, paints, lubricants, cleaning supplies etc. are not stored in close proximity to the garden or to the harvested food. It's best to keep these items in their own specific secured area, such as a locked shed.
11. Staff Training: See "School Garden Staff Training & Log"
12. Student Training: See "School Garden Student Training & Log"
13. Seeds, plants and starts are obtained from reputable sources that are licensed to sell them. Do not accept seeds, plants or food from household sources.
14. Consult with the necessary school and district staff. This includes the school principal and the district Integrated Pest Management (IPM) Coordinator (often a facilities manager), and any other staff you are advised to consult with before beginning.
15. Pesticides and insecticides are not to be used on school gardens.
 - a. Other than insecticidal soap, any pesticide products (including over-the-counter baits for ants, rodents, etc.) used on school campuses must be applied by a licensed pesticide applicator and each application must be accompanied by the proper posting and notification as per Oregon's school integrated pest management law (ORS 634.700-634.750). For more information about school IPM, see the Oregon State University School IPM Program page: http://www.ipmnet.org/tim/IPM_in_Schools/IPM_in_Schools-Main_Page.html

ODE recommends keeping this completed checklist on hand for the current plus three following years.

WEEKLY CHECKLIST (Tab 2):

1. Composting: ODE recommends that you do not use cafeteria scraps for composting, UNLESS the garden personnel and monitors are trained in compost management and have a solid system in place that minimizes risks. Raw plant material tends to be very safe, however if the school garden considers bringing in food scraps for the cafeteria the compost will potentially be much more likely to attract pests and are more likely to support the growth of harmful pathogens. A proper composting system includes:
 - a. Training staff and students in proper composting techniques
 - b. Documents time and temperatures required to destroy pathogens associated with composting
 - c. Monitoring of composting stations (see below). Follow the criteria in the "Staff Training" section (Tab 4) for procedures for composting.

2. Collecting cafeteria scraps: ensure that the station is monitored (not just left alone in the cafeteria) by an adult, or a trained, responsible student who can identify what should and shouldn't be composted. Typically interest can wane and compost stations can be left unattended. Proper monitoring is crucial to ensure that correct items are composted so that harmful pathogen growth is not supported. Best practices include:
 - a. Have a poster with pictures of items that are acceptable and unacceptable on it.
 - b. During an assembly, have a segment on composting. Students get behind the process and are excited once they know the "whys" and what is going on. Outside compost piles attract pests! Best practices for these systems include the closed-system compost piles that have a lid to reduce pest activity. Buckets that collect and deliver the compost to the pile should be washed/rinsed/sanitized.
3. Fertilizers and any soil or amendments treated with chemicals: follow instructions. Only to be applied by adults.
4. Is there any evidence of "abuse" from animals? Including sightings of cats using the beds as a litter box, rodent activity, deer activity, etc.
 - a. Corrective action: If there is evidence of animal abuse (feces or urine) in the garden, food in that area should NOT be harvested for human consumption.
 - b. Remove and discard part of plant/soil that is affected by contamination.
 - c. Try to keep animals out by erecting fencing, or traps, etc. There have been success stories with solar-powered electric fencing perimeters to control persistent problems; however you would have to consider that small children are also near these systems, you would need to consider ensuring that precautions were in place to protect the children, like a "caution tape" barrier between kids and the fencing.
 - d. To discourage abuse such as vandalism, consider surveillance cameras and signs showing the garden is monitored. At the minimum, the garden should be monitored regularly by staff or volunteers.
5. All students/staff have access to restrooms (*with potable hot running water/soap/disposable towels*).
6. Everyone must properly wash their hands with soap and warm water before **harvesting food to be served to the public**. Best practices include having the class line up at the restroom just as they would before lunch service. *NOTE* This process is for HARVESTING food for the cafeteria or public consumption. Also, students should wash their hands with soap and warm water after having their hands in contact with the soil.
7. Any students or staff who exhibit symptoms of serious illness (vomiting, fever, or diarrhea) should be prevented from handling produce in the garden so they won't spread harmful bacteria and germs. Typically these individuals shouldn't be at school, but have non-food contact activities for these students and staff in case.
8. For safety and sanitation, it is recommended that all students and staff wear close-toed shoes. Flip-flops and bare feet pose physical safety and sanitation issues.
9. If manure is used, use only commercially prepared manure on the school garden. This substantially decreases the risk in introducing harmful bacteria to the food.

10. Irrigation (for watering) for the school garden should be from a municipal source. If any other source of water is used, including well water or a rain collection system it should be tested (see startup checklist) twice a year. Water collecting containers should be cleaned and sanitized on a regular basis.
11. Insecticides/pesticides should not be used in a school garden. The application of these anywhere on school campuses is regulated by state law. A district's IPM Coordinator must be contacted for pest issues, and situations requiring the use of pesticide products on school grounds.
12. Harvesting, storing and serving: Containers used to harvest/transport food should be non-porous, food grade, and easy to sanitize. Do not use: burlap bags; single-use grocery bags; wicker baskets. For assistance with specific examples of items that are safe to use, contact your local food service/cafeteria.
13. USDA "Best Practices for Handling Fresh Produce in Schools" (**Tab 3**) should be followed for harvesting/cleaning the produce (attached in this guide). It is very common for the garden staff to harvest the food and deliver it to the cafeteria staff. The cafeteria staff in Oregon is trained in handling the produce correctly (if they are a part of the National School Lunch Program). If they are not available for a harvest, the garden coordinator needs to follow the procedures contained in the handout.
 - a. A note about MUSHROOMS: If mushrooms are grown in a school garden, the mushroom starts or spores (most common grown are oyster mushrooms) must be sourced from reputable sources. Under no circumstances should anyone harvest wild mushrooms for any reason.
14. If the produce will be harvested to be consumed at a later time, the harvested items are to be properly labeled and refrigerated or appropriately stored following the principles in the attachment listed in #13.
15. Recommended procedure for harvesting should be to remove soil by using a dedicated place, such as washing station outside, possibly near the garden first before delivering the produce to the kitchen-as a first step to prevent cross-contamination.
16. All tools and utensils need to be properly cleaned and free of dirt at the end of the day. Any tools/utensils that come into contact with food need to be properly cleaned and sanitized:
 - a. Scrape any soil/debris off tool
 - b. wash with warm soapy water
 - c. rinse
 - d. Sanitize using proper sanitizer, using iodine, quaternary or chlorine bleach
 - e. Use corresponding test strip to ensure proper strength of sanitizer. Contact your cafeteria to find out how to purchase test strips and sanitizer, as every cafeteria utilizes them.

Keep these completed weekly logs for the current plus three years.

STAFF TRAINING & LOG (Tab 4):

- It is recommended that at least one person (typically the School Garden Coordinator) attend a school garden certification course. These courses take place in the summer typically, and are usually four or five days in length. They

provide overall garden management training and have a garden food safety component.

- All staff members should be trained using the **staff training and log** before working in the garden. Have the staff sign the training log and keep for one year.
- Complete yearly, retain for current plus three years.

STUDENT TRAINING & LOG:

- All students should be trained using the **student training and log** before working in the garden. Have the students sign the training record-or, have the teacher indicate the classroom that was trained, and keep for one year.
- Retain for current plus three years.

COMPOSTING LOG(S):

- Depending on whether you utilize hot or cold composting (or both), it is crucial that you document the proper procedure and process you follow by utilizing these logs.
- Retain for current plus three years

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