Food Safety and School Gardens

Introduction
“Grow it, know it, try it … love it!” a phrase coined by the National Gardening Association describes the national effort to get children interested in gardening and excited about consuming fruits and vegetables. School gardens provide a wonderful opportunity for a magnitude of learning experiences. Teachers are incorporating interdisciplinary gardening lessons for subjects such as science, math, social studies, and English. One important subject that cannot be overlooked is food safety during planting, harvesting, and preparation of the foods that are consumed.

Here Are the Facts
Foodborne illness outbreaks related to the consumption of fresh produce have gained national media attention. This publicity may generate some food safety concerns from school officials. School nutrition professionals can provide valuable information on ways to prevent foodborne illness and should lend their expertise during interdisciplinary lessons in the classroom.

Application
Here are some food safety reminders to consider during planting and harvesting:
- Discuss your intent with the local health department. The health department can evaluate the safety of the water supply and the possibility of run-off contamination from the adjacent land.

Application, continued

• Create a garden to keep animals out by concealing the area with a fence.
• Consider planting seeds in containers and keeping the containers in the classroom during the growing period.
• Avoid cross-contamination. Be aware of the possibility of transferring dirt from garden gloves and shoes to another area.
• Wash hands after manipulating the soil or planting seeds. Pay close attention to the dirt under fingernails and wash hands to remove all visible debris.
• Wash hands after handling turtles, toads, and any other of nature’s creatures.
• Wash hands after using chemicals.
• Transport foods from the garden to the classroom in clean, sanitized containers.

Here are some classroom food safety tips for preparing garden-fresh foods:
• Wash hands before cutting, preparing, or eating fruits or vegetables.
• Use clean, sanitized, and dry cutting boards and utensils.
• Wash produce under running water.
• Do not allow sick children to prepare foods for other children.

Remember, follow state or local health department requirements.

References

This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture, Food and Nutrition Service through a grant agreement with The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The University of Mississippi is an EEO/AA/Title VI/Title IX/Section 504/ADA/DEA Employer.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
Placing and Harvesting Food Safety Tips

Consider these food safety reminders during planting and harvesting:

• Contact your local health department for guidelines before planting a school garden.
• Enclose the garden to keep animals out.
• Consider planting seeds in containers in the classroom.
• Avoid transferring dirt from garden gloves and shoes to another area.
• Wash hands
  ▪ after manipulating the soil or planting seeds. Remove all visible dirt and debris under fingernails.
  ▪ after handling turtles, toads, and any other of nature’s creatures.
  ▪ after using chemicals.
• Transport foods from the garden to the classroom in clean, sanitized containers.
Preparing Garden-Fresh Foods in the Classroom

Here are some classroom food safety tips for preparing garden-fresh foods:

• Wash hands before cutting, preparing, or eating fruits or vegetables.
• Use clean, sanitized, and dry cutting boards and utensils.
• Wash produce under running water.
• Do not allow sick children to prepare foods for other children.
Preventing Contamination When Using Cutting Boards

Introduction
Cutting boards are used in virtually all commercial foodservice operations. Properly cleaning and sanitizing cutting boards can significantly reduce the risk of cross-contamination and foodborne illness.

Here Are the Facts
Without appropriate cleaning, cutting boards can lead to cross-contamination. Fortunately, this type of cross-contamination usually can be avoided with the implementation of a few simple procedures. First, allocate one cutting board for produce; one for raw meat, poultry, and seafood; and another for slicing bread. Using multi-color cutting boards can help prevent cross contamination. Be sure to follow the procedure for washing the cutting board after preparing each food item.

Plastic cutting boards tend to be less porous than wood or some other materials; however, they will wear out over time, so be sure to replace them whenever necessary. A cutting board is worn out if it has grooves or large scratches from previous usage. Grooves can be hard to clean and often harbor harmful bacteria.
Application

How to Clean Cutting Boards
• Scrape all food and other debris into a trash can before washing.
• If not being washed in a mechanical dishwasher, cutting boards must be sanitized in a 3-compartment sink.
  ‣ In the first sink, immerse the cutting board in soap and hot water and allow it to soak. Remove remaining particles with a brush or cloth.
  ‣ In the second sink, rinse the cutting board using clean water.
  ‣ In the third sink, immerse the cutting board in a sanitizing solution. Follow the state public health department’s regulations for mixing sanitizing solutions and for soaking time and temperature.
  ‣ Remove the cutting board from the sanitizing solution and allow it to air dry.
  ‣ Store cutting boards in a dry area.

Tips for Keeping Cutting Boards Safe
• Replace all worn cutting boards.
• Wash, rinse, and sanitize cutting boards after each use.
• For additional questions and information on proper cutting board use, call the Meat and Poultry Hotline at 1-888-MPHotline (1-888-674-6854).

References

This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture, Food and Nutrition Service through a grant agreement with The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The University of Mississippi is an EEO/AA/Title VI/Title IX/Section 504/ADA/DEA Employer.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
How to clean cutting boards

• Wash, rinse, and sanitize after each use.

• Scrape off all food and other debris before washing.

• Wash in a mechanical dishwasher whenever possible. If a dishwasher is unavailable, clean and sanitize in a three-compartment sink:
  ▪ In the first sink, wash with hot soapy water.
  ▪ In the second sink, rinse using clean water.
  ▪ In the third sink, immerse in a chemical sanitizing solution and use the required contact time for sanitizing.

• Allow cutting boards to air dry.

• Follow state or local health department regulations.
Washing Fruits and Vegetables

Introduction

Fresh fruits and vegetables can be contaminated either when they are purchased or if they are handled incorrectly. Thorough washing of fruits and vegetables will minimize the risk of serving a contaminated product to customers.

Here Are the Facts

Fresh fruits and vegetables can be exposed to harmful bacteria because of growing conditions and handling by humans. Some fruits such as cantaloupes have a very rough rind that can trap dirt and bacteria. Because these products are not cooked, they can cause foodborne illness if not handled properly.

Application

Follow safe practices when handling fresh fruits and vegetables.

- Wash hands using the proper procedure before handling fresh fruits and vegetables.
- Wash, rinse, sanitize, and air dry all food contact surfaces, equipment, and utensils that will be in contact with fresh produce. This includes cutting boards, knives, and sinks. Always use sinks designated for food preparation.
- Follow manufacturer’s instructions for proper use of chemicals. For example, using sanitizers at too high a concentration may cause contamination of the produce.
- Wash all raw fruits and vegetables thoroughly before combining with other ingredients, including the following:
  - Unpeeled fresh fruit and vegetables that are served whole or cut into pieces
  - Fruits and vegetables that are peeled and cut to use in cooking or served ready-to-eat
Follow safe practices when handling fresh fruits and vegetables, continued

- Wash fresh produce vigorously under cold running water or by using chemicals that comply with the FDA Food Code or your state or local health department. It is not recommended to rewash packaged fruits and vegetables labeled as being previously washed and ready-to-eat.
- Remove any damaged or bruised areas of the fruits and vegetables.
- Label, date, and refrigerate fresh-cut items.
- Serve cut melons within 7 days if held at 41 °F or below.
- Do NOT serve raw seed sprouts to highly susceptible populations such as preschool-age children.

Monitor handling procedures for fresh fruits and vegetables.

- Check fruits and vegetables visually to make sure they are properly washed, labeled, and dated.
- Check daily the quality of fruits and vegetables in cold storage.
- Check labels and use-by dates.

Take corrective action if fresh fruits and vegetables are not handled properly.

- Remove unwashed fruits and vegetables and wash them before they are served.
- Label and date fresh cut fruits and vegetables.
- Discard cut melons after 7 days.

Remember, follow state or local health department requirements.

References


Washing Fruits and Vegetables

- Wash hands before handling fresh fruits and vegetables.
- Wash, rinse, sanitize, and air dry all food contact surfaces, equipment, and utensils that will be in contact with fresh fruit.
- Remove any damaged or bruised areas of the fruits and vegetables.
- Serve cut melons within 7 days if held at 41 °F or below.
- Label, date, and refrigerate fresh-cut items.
Avoid Cross Contamination

Use clean and sanitized utensils for each different task.

Use separate cutting boards for raw meats and vegetables.

Clean and sanitize slicers, choppers, and other equipment before and after each use.

Clean and sanitize work surfaces before and after each use.
Receiving Deliveries

Introduction

It is important to make sure all food that is received into the foodservice operation is fresh and safe. Accepting sub-standard products can contribute to a potential foodborne illness.

Here Are the Facts

Temperature of foods delivered to a foodservice operation is important for quality and safety. Refrigerated foods should be 41°F or below and frozen foods should show no sign of thawing and refreezing.

Application

Employees who receive food play an important role by following good receiving practices. It is critical that the product received is the product ordered and that it is in good wholesome condition.

Good Receiving Practices

- Inspect then accept or reject deliveries only during operational hours.
- Post the delivery schedule—names of vendors, days and times of deliveries, names of drivers.
- Keep receiving area clean and well lighted.
- Date product when delivered.
  - Compare invoice with products delivered.
  - Move foods to storage quickly, beginning with refrigerated foods, then frozen foods, then foods for dry storage.
Receiving Deliveries, continued

Monitoring Practices

• Inspect delivery trucks for cleanliness and organization to minimize cross-contamination.
• Check temperatures of refrigerated trucks or trucks delivering refrigerated products.
• Check frozen foods to make sure that they are frozen solid and show no signs of thawing and refreezing. Large ice crystals or liquid on the bottom of the carton are signs of thawing.
• Check temperatures of refrigerated foods.
  ‣ Fresh meat and poultry should be 41 °F or below.
  ‣ Packaged products should be 41 °F or below.
  ‣ Milk and eggs should be 45 °F or below.
• Check dates of milk, eggs, and other perishable products.
• Check packaging to make sure that it is sealed properly and that cans are free from dents, bulges, or other signs of deterioration.
• Check cleanliness of shipping containers.

Corrective Actions

When there are deviations from the standards listed, corrective actions are required. Examples of corrective actions include:

• Reject the following products:
  ‣ Frozen foods that show signs of thawing.
  ‣ Cans that have signs of deterioration such as dents, rust, flawed seals or seams, and swollen sides or ends.
  ‣ Packages that have been punctured or torn.
  ‣ Products that have out-dated expiration dates.
  ‣ Refrigerated foods that are above appropriate temperatures.
• Report problems with delivery days, times, or changes in delivery personnel to vendor.

Remember, follow state or local health department requirements.

References


This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture, Food and Nutrition Service through a grant agreement with The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The University of Mississippi is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA Employer.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
Good Receiving Practices

- Inspect then accept or reject deliveries only during operational hours.
- Post the delivery schedule with names, days, and time.
- Keep receiving area clean and well lighted.
- Date product when delivered.
- Compare invoice with products delivered.
- Move foods to storage quickly for
  - refrigerated foods
  - frozen foods
  - foods for dry storage.
Visually inspect all items and look for signs of container damage.

Check and record temperatures of frozen and refrigerated items.

Reject unacceptable goods and note on invoice.

Store frozen and refrigerated items immediately.
Storing Foods

Introduction

Proper storing of food will help maintain food quality and safety. Employees who store food play an important role in a foodservice operation by following proper storing practices.

Here Are the Facts

Food is a perishable product so it is important to store it at the appropriate temperature for an appropriate time. Dry storage areas should be maintained at 50–70 °F, refrigerated storage areas should be maintained at 41 °F or below, and frozen storage areas should be maintained at 0 °F – -10 °F.

Application

Follow good storage practices.

• Keep storage areas clean.
• Store all food and supplies at least 6 inches off the floor.
• Keep food in original containers or labeled containers approved for food storage.
• Label all food with the name and delivery date.
• Use the First In, First Out (FIFO) method of inventory rotation. Dating products and storing new products behind old products will make FIFO easier.
• Store chemicals in a separate area from foods, preferably in a locked room or cabinet.
• Check products for damage or spoilage, and discard products that show signs of damage or spoilage.
Follow good storage practices, continued

- Avoid cross contamination.
- Store ready-to-eat foods in the refrigerator separately from raw foods. If multiple products are stored in one refrigerator, place them in the following order:
  
  **Highest shelf**
  Cooked and ready-to-eat foods
  Whole meat
  Ground meat

  **Lowest shelf**
  Poultry

Monitor storage practices.

- Check storage areas for cleanliness.
- Check product expiration dates.
- Check temperatures of all storage areas a minimum of once a day.
- Record the temperatures and the time temperatures are taken for all storage areas.

Take corrective action if appropriate storage practices are not followed.

- Clean storage areas.
- Discard foods that are past the expiration date.
- Report to the supervisor if storage areas are not at the appropriate temperature.

Remember, follow state or local health department requirements.

References


This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture, Food and Nutrition Service through a grant agreement with The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The University of Mississippi is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA Employer.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
Maintain temperature between 50°F and 70°F.

Use FIFO Storage—First In, First Out.

Store items at least six inches above floor surface.

Store chemical items separately from food.

Keep floors clean.

Keep area free from clutter.
Serving Safe Foods

Introduction

School nutrition professionals take pride in serving healthy foods to their customers. Many schools participate in the HealthierUS School Challenge which includes a commitment of serving a variety of fresh fruits, vegetables, and whole-grain products. In addition to serving healthy foods, it is important to make sure all food served is safe to eat.

Here Are the Facts

We eat with our five senses, sight, smell, taste, touch, and sound. Serving food at the proper temperature not only enhances the quality of the product but can also reduce the possibility of a foodborne illness. A single case of foodborne illness can cost a food establishment their reputation, loss of revenue due to liability, time lost from work, and hungry children without a well-balanced meal.

Application

It is important to visually observe the serving line to ensure that the quality, safety, and appearance of the food has not been compromised during service.
Good Serving Practices

- Avoid touching ready-to-eat foods with bare hands.
- Use clean and sanitized utensils.
- Hold
  ‣ plates by the edge or bottom,
  ‣ cups by the handle or bottom, and
  ‣ utensils by the handles.
- Keep food at the proper temperature.
- Keep the serving line clean and attractive during serving time.
- Practice good personal hygiene.
- Use disposable gloves appropriately.

Remember, follow state or local health department requirements.

References


This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture, Food and Nutrition Service through a grant agreement with The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The University of Mississippi is an EEO/AA/Title VI/Title IX/Section 504/ADA/DEA Employer.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
Good Serving Practices

- Avoid touching ready-to-eat foods.
- Use clean and sanitized utensils.
- Use disposable gloves appropriately.
- Hold
  - plates by the edge or bottom,
  - cups by the handle or bottom, and
  - utensils by the handles.
- Keep food at the proper temperature.
- Keep the serving line clean and attractive.
- Practice good personal hygiene.
Handwashing

Introduction

Handwashing is the single most important practice in any foodservice operation. Child nutrition employees can improve the safety of the food they serve by washing their hands frequently, correctly, and at the appropriate times.

Here Are the Facts

Foodborne illnesses are transmitted by food handlers that contaminate food and food contact surfaces. Individuals who handle food when they have a foodborne illness, gastrointestinal illness, infected lesion, or are around someone who is ill can pass along those illnesses. Individuals can simply touch a surface that is contaminated with a bacteria or virus and pass that along to others. Handwashing minimizes the risk of passing along bacteria or viruses that can cause foodborne illnesses. Follow state or local health department requirements.

Application

It is important to know how and when to wash hands and exposed areas of the arms.

How?

• Wet hands and forearms with running water at least 100 °F and apply soap.
• Scrub lathered hands and forearms, under fingernails, and between fingers for at least 10–15 seconds. Rinse thoroughly under warm running water for 5–10 seconds.
• Dry hands and forearms thoroughly with single-use paper towels.
  • Dry hands for at least 30 seconds if using a warm air hand dryer.
  • Turn off water using paper towels.
  • Use paper towel to open door when exiting the restroom.
When?
- Beginning to work, either at the beginning of shift or after breaks

Before
- When moving from one food preparation area to another
- Putting on or changing gloves

After
- Using the toilet
- Sneezing, coughing, or using a handkerchief or tissue
- Touching hair, face, or body
- Handling raw meats, poultry, or fish
- Smoking, eating, drinking, or chewing gum or tobacco
- Clean up activity such as sweeping, mopping, or wiping counters
- Touching dirty dishes, equipment, or utensils
- Handling trash
- Handling money
- Any time the hands may become contaminated

Remember, follow state or local health department requirements.

References


This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture, Food and Nutrition Service through a grant agreement with The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The University of Mississippi is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA Employer.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
Hand Washing
#1 Defense Against Foodborne Illness!
ALWAYS
wash hands
with soap and
warm running
water before
returning
to work.
Drown a Germ...Wash Your Hands!

- Use soap and warm running water.
- Lather hands with soap up to the elbows; rub hands together for 20 seconds.
- Wash backs of hands, wrists, between fingers, and under fingernails.
- Use fingernail brush as specified by local health regulation.
- Rinse hands under warm running water.
- Turn off running water with a paper towel, not bare hands.
- Dry hands with paper towel or air dryer.
Personal Hygiene

Introduction

Good personal hygiene is a basic requirement for implementing a food safety program. All foodservice employees must follow the standard operating procedures for personal hygiene that are written for their foodservice operation.

Here Are the Facts

Research conducted by the U.S. Food and Drug Administration shows that poor personal hygiene practices often are followed in retail foodservice establishments, which includes elementary schools, hospitals, nursing homes, and restaurants. Poor personal hygiene is a risk factor that must be controlled in all types of foodservice operations.

Application

• Report to work in good health, clean, and dressed in clean attire.
• Change apron when it becomes soiled.
• Wash hands properly, frequently, and at the appropriate times.
• Keep fingernails trimmed, filed, and maintained.
• Avoid wearing artificial fingernails or fingernail polish.
• Wear single-use gloves if artificial fingernails or fingernail polish are worn.
• Do not wear any jewelry except for a plain ring no stones such as a wedding ring.
• Treat and bandage wounds and sores immediately. When hands are bandaged, wear single-use gloves to cover bandage.
Application (continued)

- Cover any lesion containing pus with a bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot or stall and a single-use glove.
- Eat, drink, use tobacco, or chew gum only in designated break areas where food or food contact surfaces may not become contaminated.
- Wear suitable and effective hair restraints while in the kitchen.
- Taste food the following correct way:
  - Place a small amount of food into a separate container.
  - Step away from exposed food and food contact surfaces.
  - Use a teaspoon to taste the food. Remove the used teaspoon and container to the dishroom. Never reuse a spoon that has already been used for tasting.
  - Wash hands immediately.

Remember, follow state or local health department requirements.

References


For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
YOU are the most important part of food preparation.

• Take a bath or shower daily.

• Keep hair clean.

• Use deodorant/antiperspirant.

• Have clean, washed hands and fingernails.

• Wear a clean uniform.
Personal Appearance

Wear hairnet, hat, cap, or other hair covering approved for your operation.

Remove jewelry before reporting to work.

Wear a clean uniform that is free from stains and wrinkles.

Keep fingernails short and without artificial nails or nail polish.