Best Practices for Handling Produce Safely in Schools

ANC 2011

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Number of Produce Outbreaks, 1973-1997

Produce Outbreaks by Item, 1998-2008

Source: FDA 2009
**Percent of Outbreaks Due to Fresh-Cut* - 1998-2008**

<table>
<thead>
<tr>
<th>Produce</th>
<th>Number of Outbreaks</th>
<th>Number of Outbreaks Due to Fresh-cut</th>
<th>Percent due to Fresh-cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leafy Greens</td>
<td>25</td>
<td>14</td>
<td>56.0</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>14</td>
<td>5</td>
<td>35.7</td>
</tr>
<tr>
<td>Melons</td>
<td>12</td>
<td>2</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>51</strong></td>
<td><strong>21</strong></td>
<td><strong>41.2</strong></td>
</tr>
</tbody>
</table>

* Fresh-cut produce is fresh produce that has been processed by peeling, slicing, chopping, shredding, coring, trimming, or mashing, with or without washing or other treatment, prior to being packaged for consumption. -FDA CFSAN
Cold Chain Management

• Receiving, storing, preparing, and serving

• Monitor and document

• TCS/PHF produce

• Leftovers

• Equipment
  ✓ Ice/ice packs
  ✓ Refrigeration
A Snapshot of the Produce Supply Chain
Good Agricultural Practices

Conditions on the farm are critical to produce safety.
Good Agricultural Practices: 8 Principles

1. Water Sources
2. Manure Use and Handling
3. Worker Health and Hygiene
4. Sanitary Facilities
5. Field Sanitation
6. Packing Facility Sanitation
7. Transportation
8. Traceability

Source: FDA
Conducting a Farm Visit

• School buyers should visit every supplier
• Focus on food safety
What Should School Foodservice Directors Require?
Traceability is Important
School Gardens
School Garden Safety Concerns

- Water sources
- Soil history
- Building Materials
  - Pressure-treated lumber
  - Railroad Ties
  - Tires
- Compost
- Animals
Receiving

- Refrigerated transportation
- Facility security
- Vendor sign in
- Inspect the delivery
- Train staff when to accept/reject produce
Storing

• Monitor refrigerated storage at least daily
  • Manual
  • Continuous system
• Prevent cross-contamination
  • Store produce above raw meats, poultry, and shell eggs
• Traceability
• First In; First Out- Must date product
Preparing

- Wash hands
- Wash produce
- Avoid cross contamination
- Clean and sanitize surfaces
Wash Your Hands

• When
  • Before starting work
  • After using the restroom
  • Before putting on or changing gloves
  • After handling chemicals
  • When changing tasks

• Handwashing benchmark found to be 11 times per hour for school foodservice

Why wash hands?

Microorganisms from hands washed for the recommended 20 seconds

Microorganisms from unwashed hands after using the restroom

Source: Iowa State University Extension Service
Hands can cause cross contamination

Source: Iowa State University Extension Service
Wash Produce

- Wash produce under **running** water
- Use vegetable brush
  - Melons, potatoes
- Identify designated produce sink
- Never use unapproved chemicals
Equipment

• Mechanical produce wash sinks with sanitizing chemicals
• Activated water sanitizing systems
• Ozonated water sanitizing systems
Equipment

• Cutting boards and knives
• Commercial salad spinners
  • Manual
  • Mechanical
Equipment

• Food processors (Manual)
  • Sectionizers, slicers
• Food processors (Mechanical)
  • Vegetable cutters
• Food processor
Prevent Cross Contamination

• Equipment, knives, cutting boards
• Storage containers
• Raw meat, poultry, and eggs
• Hands, gloves, aprons
Clean and Sanitize

- Manual
- Dishmachine
- Equipment, knives, cutting boards
- Storage containers
Results of Cleaning and Sanitizing

A clean and sanitized cutting board shows no sign of microorganisms

Source: Iowa State University Extension Service
Serving

• Monitor time and temperature during holding and serving
• Maintain cut melons, cut tomatoes, leafy greens at or below 41°F
Serving

- Serving Fresh Produce Handouts
  - Classrooms
  - Self-Service Bars
Serving Guidance for Foodservice

- Personal hygiene
- Provide single-serve cut produce
- Deliver food close to time of service
- Maintain cold chain
- Discard fresh-cut leftovers
- Wash leftover unpackaged produce if re-serving
- Train, train, train
Serving Guidance for Teachers and Aides

- Wash hands- Teachers and students
- Use hand sanitizers after handwashing- Optional
- Maintain cold chain
- Do not serve if held more than 2 hours in TDZ
- Discard fresh-cut leftovers
Salad Bar Set Up

• Sneeze guards/food shields
  ✓ Solid barrier at elementary level
• Pre-packaged or pre-portioned foods
• Cleaned and sanitized utensils
• Labeled containers
• Single use packaging
• Wrapped serving utensils
Salad Bar Temperature Control

• Cold chain management (41 F or below )
• Use ice properly
• Chill foods prior to serving
• Take and record temperatures
Salad Bar Best Practices* for Elementary Schools

• Prepare salad for customer
• Pass salad over food shield for service

*Based on NSF International/American National Standard Institute Standards.
Salad Bar Supervision

• Assist students as needed
• Monitor to ensure corrective actions are taken if students:
  – Touch food
  – Cough, spit, or sneeze on food
  – Use utensils in multiple containers
  – Place foreign objects in food
  – Drop food or utensils
  – Reuse plates/trays
Replenishing Salad Bars

• Avoid adding freshly prepared food on top of food being served
• Sanitize serving area during and between meal periods
• Store sanitizing solution away from salad bar
Salad Bar Cleanup

- Remove food immediately after service
- Cover, label and date, and store leftovers immediately
- Discard any contaminated food
- Use chemicals only after all food is removed
Produce Handling Best Practices

Fruits and vegetables are an important part of a healthy diet. Introducing children to them in schools will improve their present and future health. Fresh produce must be handled safely to reduce the risks of foodborne illness. There are a number of steps that foodservice employees can take to minimize the chances for fruits and vegetables they handle to become contaminated. Best practices for handling all types of produce are described in this fact sheet, along with practices specific to leafy greens, tomatoes, melons, and sprouts.

Contamination of produce with harmful microorganisms can occur at all stages of production, processing, transportation, storage, preparation, and service. To prevent foodborne illness, fresh produce needs to be handled with care at each step from farm to table.
Thank You!

Questions?
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