Analysis of Food Safety Risks in the School Garden

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Objectives

- Identify food safety concerns related to produce production and handling
- Define Good Agricultural Practices (GAPs)
- Describe examples of School Garden applications of GAPs
- List resources that can be used to implement food safety and GAPs in School Gardens
What’s the big deal?

- *Eschericia coli* – spinach and sprouts
- *Salmonella* – cucumbers, mangoes, cut melon
- *Listeria* – apples, whole and cut melons
- *Cyclospora* – salad mix and cilantro
- Hepatitis A – *pomegranate* seeds
What’s the big deal?

Nicole Addi

Ana Leigh

http://www.stopfoodborneillness.org/

MINNESOTA DEPARTMENT OF AGRICULTURE
Food Safety Hazards - Produce

- Biological Hazards:
  - Pathogenic Bacteria, Parasites, Viruses

- Chemical Hazards:
  - Residues from soil, fertilizer, applications

- Physical Hazards:
  - Soil, Harvesting Tools, Storage Containers
Good Agricultural Practices

- Environmental and operational principles that apply to on-farm production and post-harvest handling for **proactive, preventive control** to reduce the opportunity for microbiological, chemical, and physical hazards that affect the safety of fresh fruits and vegetables.
Good Agricultural Practices

- Worker Health and Hygiene
- Site Selection & Materials
- Water Sources
- Chemicals & Fertilizers
- Compost & Manure
- Harvest
- Storage & Transport
Site Selection & Materials

- Soil History
- Location
- Exclusion of Animals
- Materials for Beds

http://blogs.sundaymercury.net/weirdscience/soil_xsec.jpg
Water Sources

- Municipal Sources
- Cisterns/Collected Water Uses
- Transport Systems and Containers
Chemicals & Fertilizers

- Herbicides & Pesticides
- Controlled Access
- Working Containers
Compost & Manure

- Complex Process – Use Experts
- No Animal Wastes
- Locate to Prevent Contamination
Worker Health & Hygiene

- Free from Illness
- Restrooms Available
- Hand Washing Stations
- Oversight
Harvest

- Containers and Tools
- Cleaning Produce
- Protection
Storage & Transport

- Temperature Controls
- Cross Contamination
- Tracking Records
Discussion

- Identify what your garden has/does in the identified areas
- Discuss the potential hazards specific to your garden
- Discuss intervention options for the identified hazards
Food Safety

School Produce Safety Fact Sheets and Videos — National Food Service Management Institute

- Food Safety Tips for School Gardens Fact Sheet
- Handling Fresh Produce in Classrooms Fact Sheet

Applying Good Agricultural Practices (GAPs) to Farm-to-School and School Gardens — School Nutrition Association — (recorded webinar)

Food Safety in School Gardens — United States Department of Agriculture

Serving School Garden Grown Produce in the Cafeteria — Healthy School Environment

Fresh, Healthy and Safe Food: Best Practices for Using Produce from School Gardens

MN School Garden & Farm to Cafeteria Safety — Statewide Health Improvement Program — Guide developed in 2013 as a resource for garden planning, harvest safety, and food safety in the cafeteria.
Farm and Garden Produce Safety

**Produce Safety Resources**
National Food Service Management Institute.

A series of resources on produce safety that describe best practices for receiving, storing, handling, and purchasing fresh and fresh-cut produce through videos, fact sheets, and PowerPoint presentations.

**Best Practices for Handling Fresh Produce in Schools**
National Food Service Management Institute.

**Fruits & Vegetables Galore: Helping Kids Eat More**
USDA. FNS. Team Nutrition.

Tips for planning, purchasing, preparing, presenting and promoting safe fruits and vegetables.

**Fight Bac! Like a ProducePro**
Partnership for Food Safety Education.

Includes brochures, handouts, presentations, and downloadable graphics.

**Food Safety from Farm and Garden to Preschool: Online Training**
The University of Massachusetts Department of Nutrition; University of New Hampshire Cooperative Extension Food Safety Program.
About Us

Good Agriculture Practices (GAPs) and On-Farm Food Safety for Produce Growers in Minnesota

The on-farm GAPs food safety team at the University of Minnesota works with Minnesota’s produce farmers to help them develop and implement on-farm food safety plans and prepare for GAPs audits. We provide:

- **Education**, outreach and technical support to fruit and vegetable growers through GAP workshops and mock audits
- **Research** relating to GAPs, especially as they impact small growers and immigrant and minority growers
- **Communication** and collaboration with many agricultural partner organizations and government entities to help promote information-sharing regarding GAPs and farm safety

The goals of our programs are to help growers:

- Understand how GAPs (Good Agricultural Practices) impact produce safety
- Determine whether their farm needs to have a GAP audit
- Write a farm food safety plan that provides a Standard Operating Procedure regarding minimizing microbial contamination on their farm
- If needed, prepare for and pass a GAP audit
Summary

• GAPs = preventive actions used during growing, harvesting and handling
• Hazards are based on specifics
• Food safety interventions are variable
• Many resources are available
References

- Food Safety Tips for School Gardens - USDA.gov
- On-farm GAPs Education Program – U of MN
- Farm to School - U of MN Extension
Questions?