FAIR FOOD SAFETY

FOOD SAFETY EDUCATION

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RECENT OUTBREAKS

Known Cases of Zoonotic Pathogen Outbreaks Associated with State and County Fairs, Petting Zoos, and Community Activities Involving Human-Animal Contact

2015 Outbreak of E. coli O157 cluster, Red River Valley Fair-North Dakota

In July 2015 the North Dakota Department of Health investigated an outbreak of E. coli O157 in persons who attended the Red River Valley Fair held in West Fargo, North Dakota. The fair was held from July 7 through July 12. Five cases were identified. One of the cases developed Hemolytic Uremic Syndrome. One hundred seventeen people completed the online survey. Sixty two (52%) reported diarrheal illness after attending the fair. Epidemiological analysis of survey data did not...

2015 E. coli O157 Outbreak at Milk Makers Fest, Washington

In April 2015 local and state public health officials investigated an outbreak of E. coli O157 that occurred among people who attended the Milk Makers Fest held at the Northwest Washington Fairground in Lynden, Washington. The event was held between April 21 and April 23. Illnesses occurred among attendees as well as persons who helped with the event. Secondary cases were reported. More than 1,000 primary school children from all school districts in Whatcom County attended the...

2014 Outbreak of Shiga Toxin E. coli (STEC) at State Fairgrounds, Oklahoma

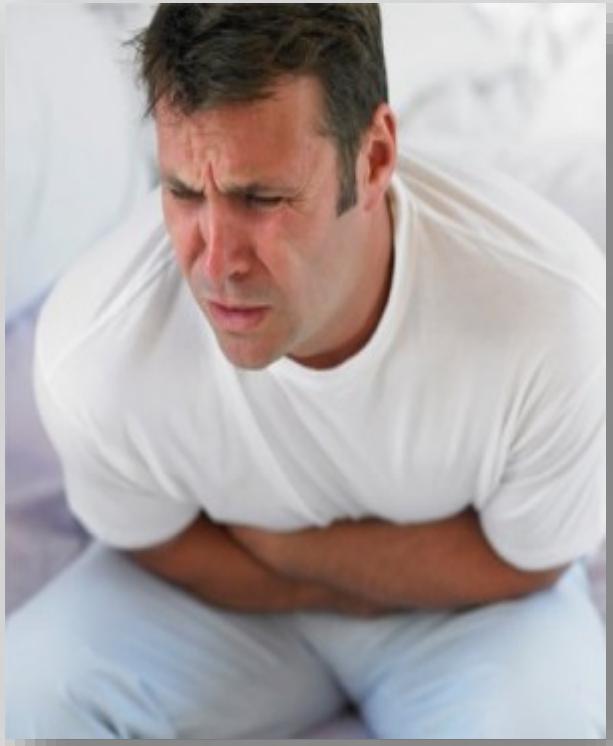
In April 2014 the Oklahoma State Department of Health investigated a spike of Shiga

THE STUDENT WILL BE ABLE TO…

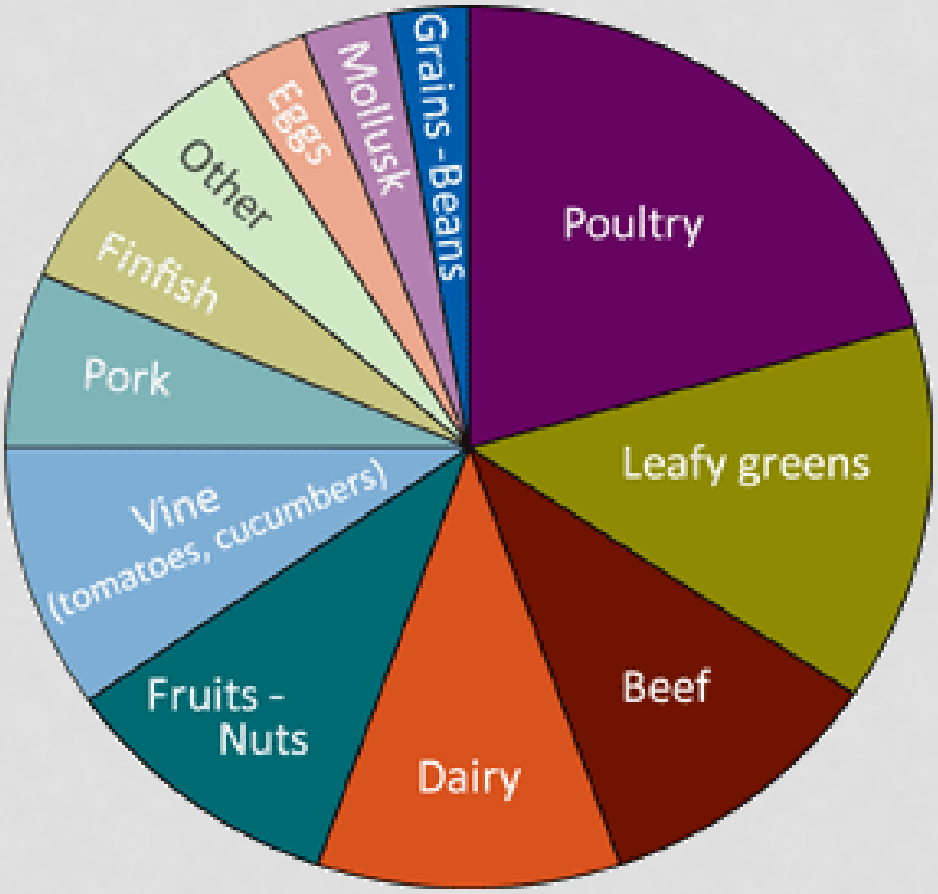
- List three foodborne illnesses.
- Recall three ways to prevent foodborne illness.
- Describe three items to look for when receiving a food product.
- Define a foodborne illness.
- Recognize the importance of the temperature danger zone.

LOOK AT THE NUMBERS

- Every year 48 million foodborne illnesses occur in the United States (1 in 6 people) (CDC)
- 3,000 deaths are associated with a foodborne illness
- 128,000 people are hospitalized annually due to foodborne illness.



CAUSES OF OUTBREAKS



Source: CDC

WHAT IS A FOODBORNE OUTBREAK

- When two or more people experience the same illness after eating the same food
- A foodborne illness is confirmed by a lab
- Through epidemiological investigation

WHAT CAUSES FOODBORNE ILLNESS

- **Biological hazards (bacteria,virus,parasite)**

- **Chemical hazards (cleaning agents)**

- **Physical hazards (bone, glass, metal)**

CAUSES OF FOODBORNE ILLNESS

- Poor personal hygiene

- Cross contamination
- Temperature abuse

SOURCES OF FOOD HAZARDS

- Food handler
  - Not washing hands
  - Ill and working with food

- Food contact surface
  - Cutting boards
  - Same knife

- Water
  - Contaminated

- Raw meat
  - Any uncooked meat

WHO IS AT MOST RISK OF DEVELOPING A FOODBORNE ILLNESS?

- Infants

- Elderly

- Pregnant women

- Sick people

COMMON SYMPTOMS OF A FOODBORNE ILLNESS

- Nausea
- Vomiting
- Diarrhea
- Fever
- Headache
- Weakness

VOLUNTEER HEALTH

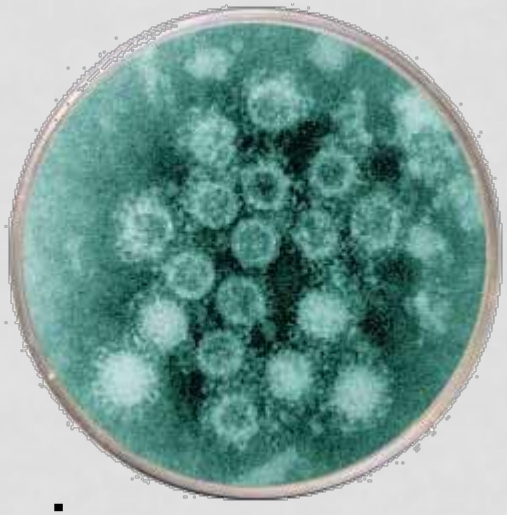
- Volunteers are **REQUIRED** to report to the person in charge if they have been diagnosed with an illness transmittable by food or if they have any symptoms such as
  - Diarrhea
  - Fever
  - Vomiting
  - Jaundice
  - Sore throat with a fever
  - Lesion containing pus

- The person-in-charge must restrict volunteers who report the above symptoms

MOST COMMON FOODBORNE DISEASE

- Hepatitis A
- Norovirus
- Shigella spp.
- Escherichia coli 0157:H7
- Salmonella
- Staphylococcus aureus

Hepatitis A



Type: Virus

Symptoms: Fever, nausea and abdominal pain

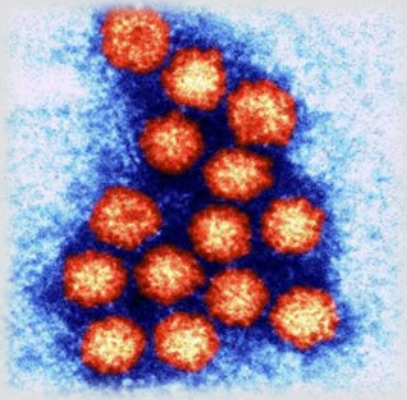
Incubation period: 15 - 50 days

Source: Foods that are prepared with human contact, uncooked seafood, oral fecal

Other information: 33% of U.S. population has been exposed to Hepatitis A

Most Common

Norovirus



Type: Virus

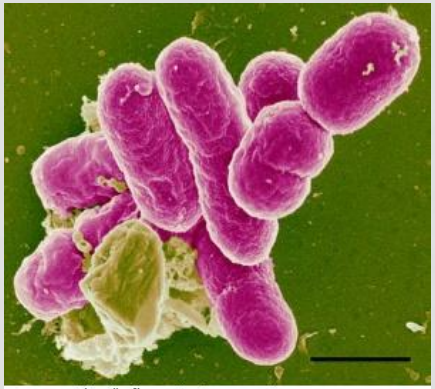
Symptoms: Nausea, vomiting, diarrhea, abdominal cramps, headache, fever

Incubation period: 1 to 2 days or 10 to 50 hours

Source: Everything!!!

Other information: 1/2 of all foodborne illness (24 hour flu)
23 million cases per year

Shigella spp.


Shigella flexnarii. © www.waterscan.co.yu

Type: Bacterial

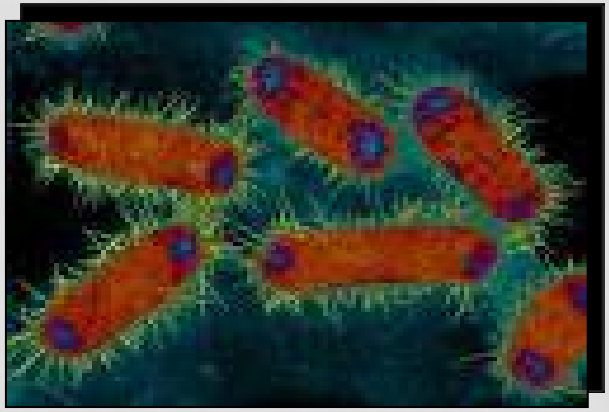
Symptoms: Diarrhea, fever, abdominal cramps, dehydration, blood in stool

Incubation period: 1- 7 Days

Source: Foods that are prepared with human hands, raw milk, poultry, ready to eat meats, tuna salad and oral fecal

Other information: 600,000 deaths per year worldwide

Escherichia coli 0157:H7



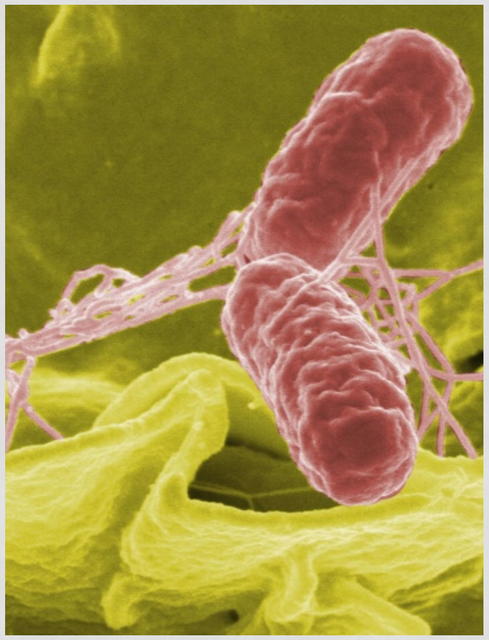
Type: Bacterial

Symptoms: Bloody diarrhea, fever, severe abdominal cramps, dehydration, kidney failure

Incubation period: 3 - 8 Days

Source: Foods that are prepared with human hands, raw and undercooked ground beef, apple cider/juice, raw milk

Salmonella spp. & Salmonella typhi



Type: Bacterial

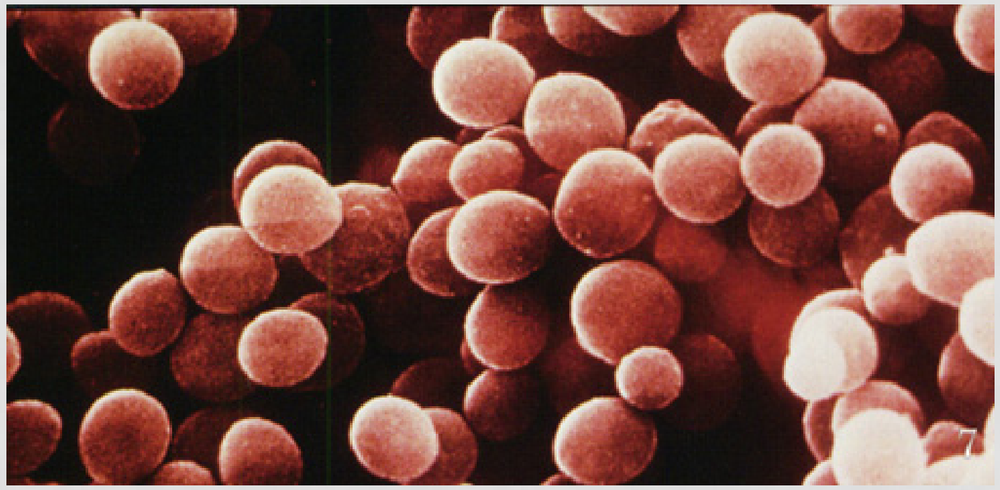
Symptoms: Nausea, fever, abdominal cramps, diarrhea

Incubation period: 6 to 48 hours

Source: Foods that are prepared with human hands, raw and undercooked poultry, eggs, dairy products, pastry creams, sliced melons and raw sprouts

Other information: 60 - 80% of cases occur sporadically

Staphylococcus aureus



Type: Bacterial

Symptoms: Nausea, Fever, Abdominal Cramps, Diarrhea

Incubation period: 1 to 7 hours or 4 -10 days

Source: Foods that are prepared with human hands

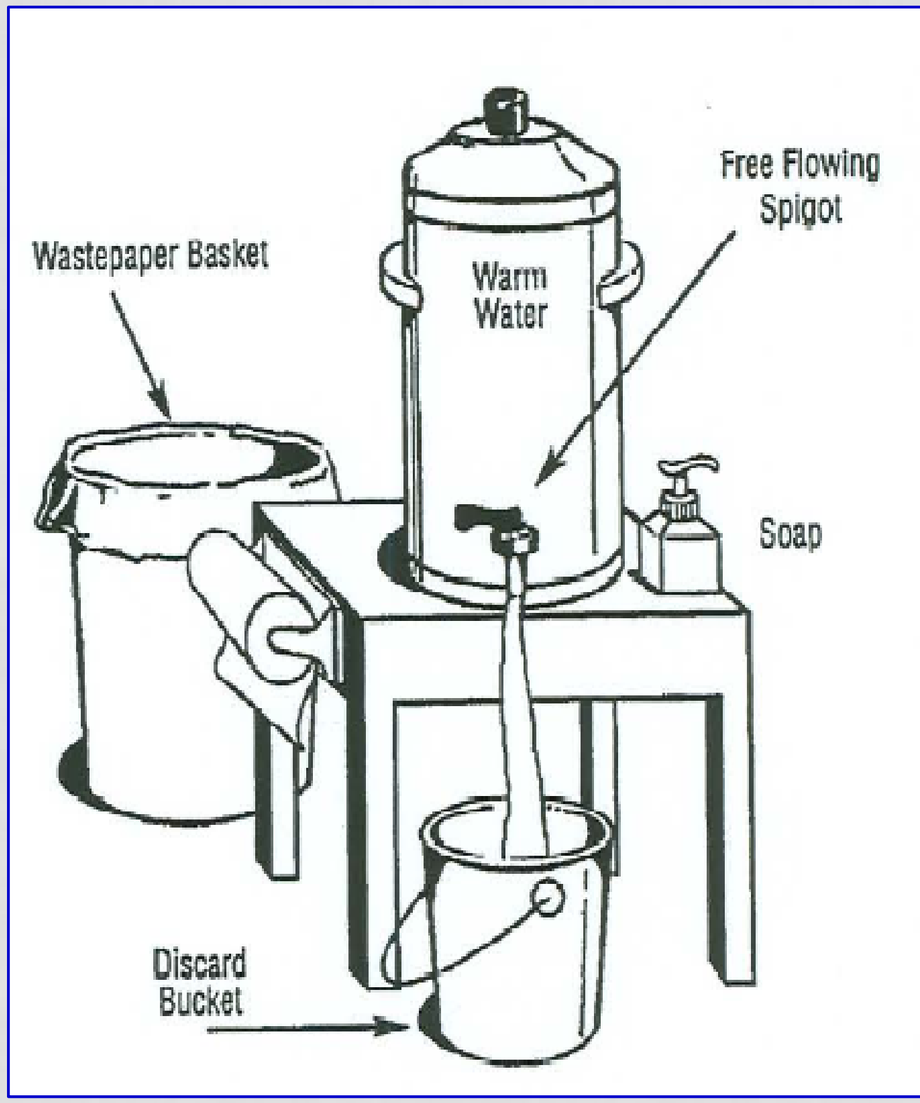
Other information: Everyone has staph

WATER SUPPLIES

- All water used for preparation, utensil cleaning, and hand washing shall be from a safe approved source

- An adequate supply of hot and cold water shall be available

- Water must be stored in a food grade container with a tight fitting cover.



WHEN TO WASH HANDS

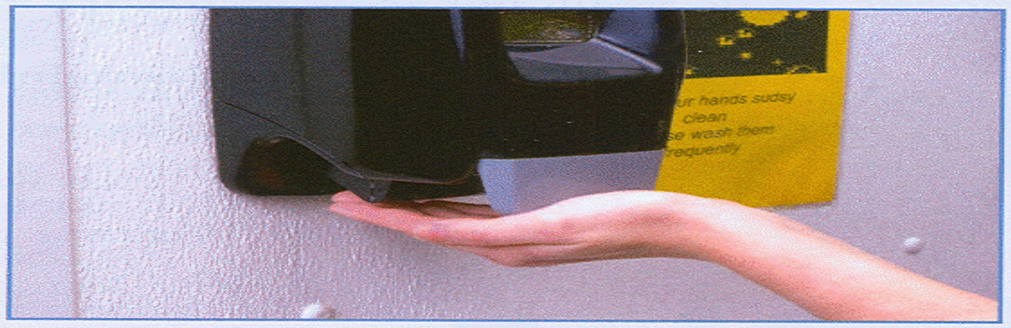
- Before handling food products
- Between each type of food product
- Before applying disposable gloves
- Between job tasks
- If a task is interrupted
- After using the toilet
- After handling trash
- After handling contaminated utensils
- After handling chemicals
- After coming in contact with customers

- After coming in contact with farm animals at the fair!

HANDWASHING

Proper Handwashing Procedure

1. Wet your hands with running water as hot as you can comfortably stand (at least 100°F/38°C).



2. Apply soap.

3. Vigorously scrub hands and arms for at least twenty seconds.

4. Clean under fingernails and between fingers.

5. Rinse thoroughly under running water.

6. Dry hands and arms with a single-use paper towel or warm-air hand dryer.

AVOID BARE HAND CONTACT WITH FOOD

- Handle ready to eat products (food that does not have to be cooked before eating) with
  - Utensils
  - Deli paper
  - Latex free gloves
- Clean hands are a must, even if you have gloves on
- Wash your hands before you put on a new pair of gloves

CUTS AND ABRASIONS

- Clean wounds
- Cover the wound with a clean dry bandage
- Wear a clean disposable glove
- Change gloves at appropriate hand washing intervals

NON-ACCEPTABLE PRACTICES

- Working when you are sick
- Poor personal hygiene
- False finger nails
- Nail polish
- Jewelry
- Uncovered wounds
- Eating and smoking around food

GOOD OR BAD HAND?

GOOD OR BAD HAND?

CLEANING AND SANITIZING

- When utensils are limited to:
  - Tongs
  - Spatulas
  - Cutting boards
- Three dishpans of adequate size may be used
- Wash in hot soapy water, rinse in clean water, immerse in warm approved sanitizer solution for 1 minute, and air dry
- Change all wash, rinse and sanitizer solution frequently

WIPING CLOTHS

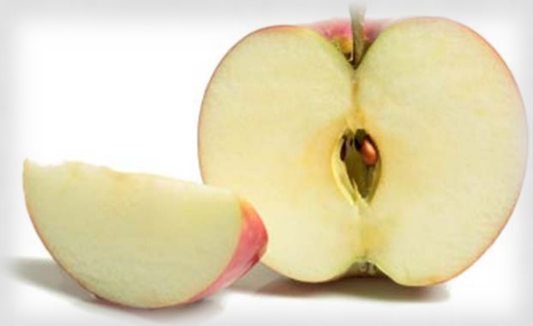
- Wet cloths used for wiping surface MUST be stored in a chemical sanitizing solution
  - Approx. ¾ teaspoon bleach to 1 gallon of warm water
- A spay bottle and disposable towel may also be uses for the purpose
  - Approx. 1/8 teaspoon of bleach to 2 cups of water
- Other approved sanitizers may be used following label directions
  - Chlorine Bleach 50-100 ppm
  - Quat Ammonia 200-400 ppm
  - Iodine 12.5-25 ppm

FOODS THAT ARE AT HIGH RISK

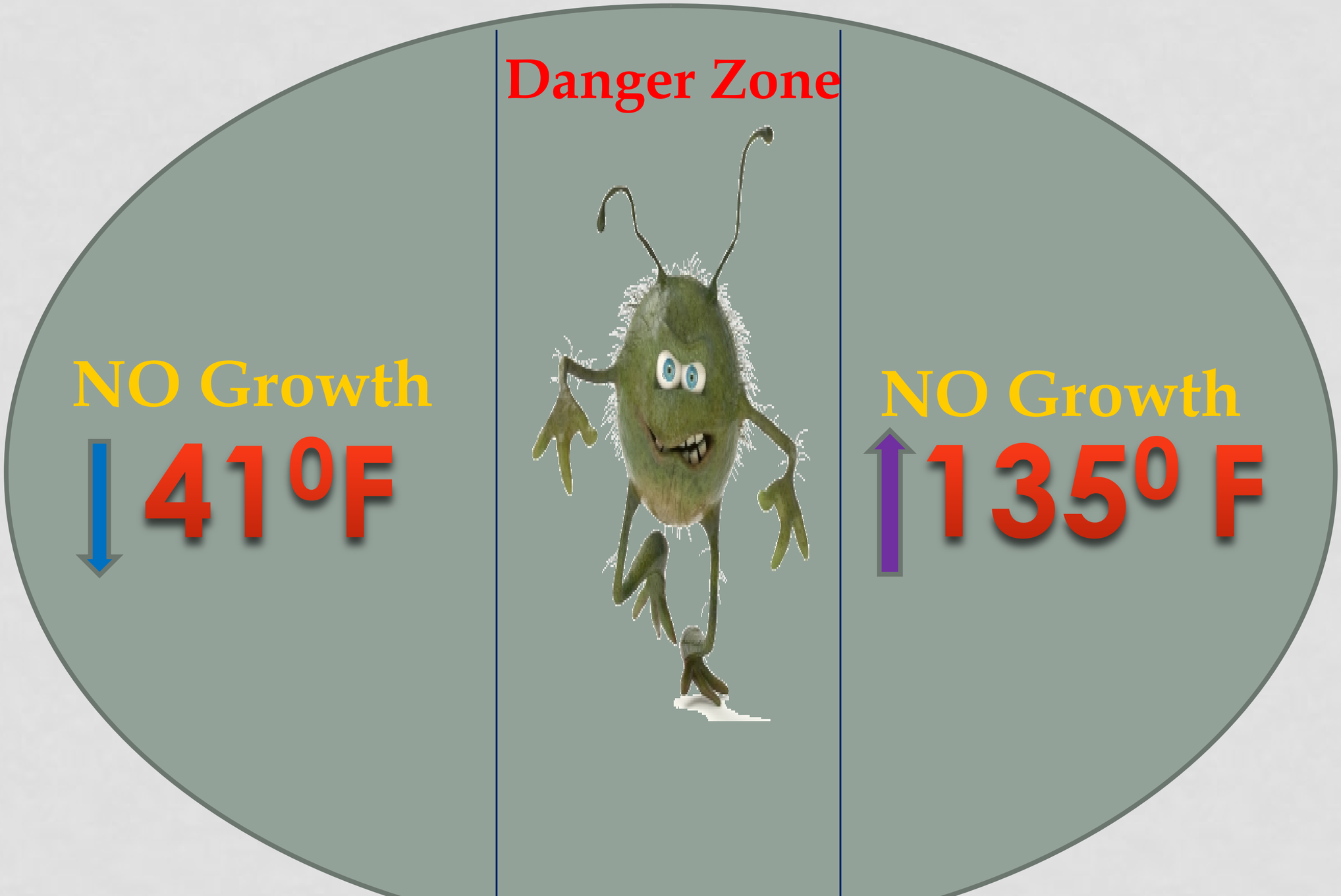
- High in protein
- Low in acid
- High in moisture

EXAMPLE OF FOOD AT HIGH RISK

- Meats
- Eggs
- Rice and pasta
- Sliced fruits and vegetables
- Beans
- Milk and dairy products



DANGER ZONE



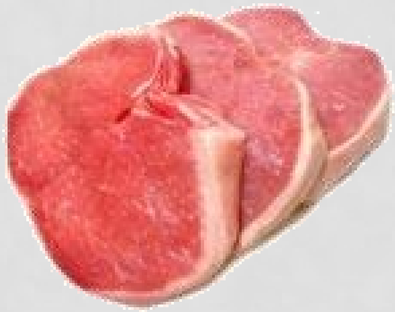
RECEIVING FOOD AND SUPPLIES

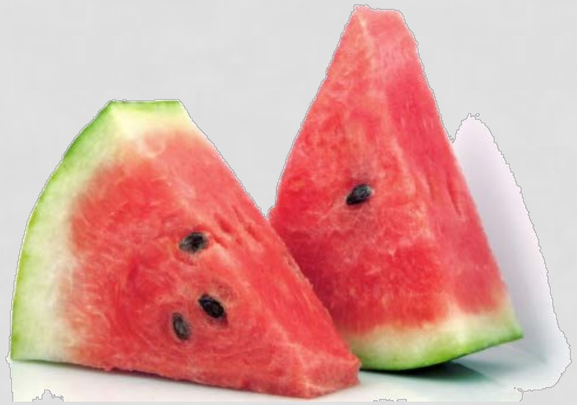
- Use a thermometer to check all temperatures of all refrigerated(41 F or less) and frozen foods (0 F)

- All packaging must be intact and in good condition.

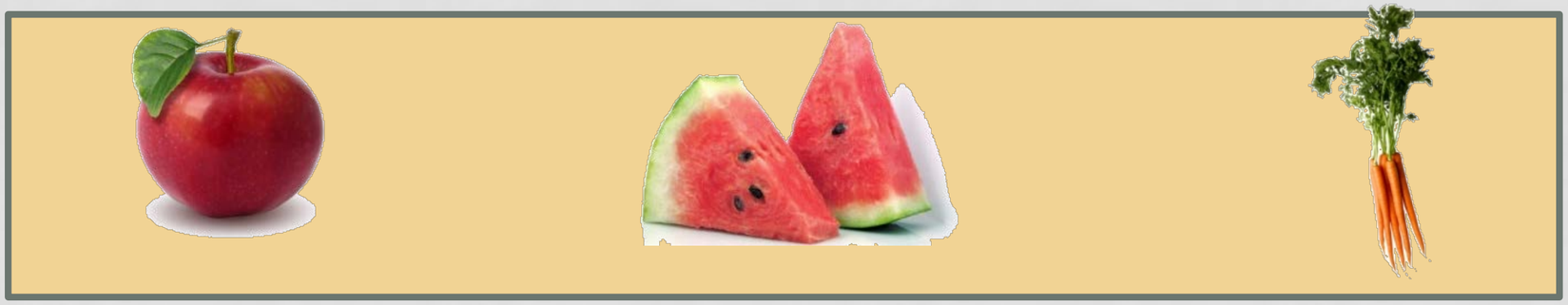
- Fresh fruits and vegetables with cosmetic blemishes that might not be acceptable to supermarket customers can be trimmed and used

WHERE DOES THIS FOOD GO?





ARE YOU RIGHT?



Ready To Eat and Pre-Cooked Foods

Ready To Eat and Pre-Cooked Foods

Raw Beef, Raw Fish, Raw Ground Beef and Raw Pork

Raw Poultry

PROPER STORAGE OF FOOD AND SUPPLIES

- Store food in clean, food grade containers
- Label and ***date*** food items
- Use oldest food items first (FIFO)
- Maintain proper food storage temperatures
- Keep six inches off ground
- Keep covered
- Protect against contamination

SINGLE-SERVICE UTENSILS

- All single-service cups or utensils should be stored in the original closed containers to protect them from dust, insects and other contaminations

- Eating utensils should be pre-wrapped or dispensed so only the handle are touched by the customers and workers

- Store cups and other single service items down and covered
- Keep six inches off the ground/floor

CONDIMENT DISPENSING

- Condiments must be served in individual packages or from approved easily cleanable, multi-service dispensers, unless dispenses by workers

- Examples are:
  - Sugar
  - Cream
  - Mustard
  - Ketchup

THERMOMETER ACCURACY

- All thermometers used to check food temperature must be calibrated regularly to ensure accuracy (32^0 F for ice or 212^0 F for boiling water)

- Only thermometers that are accurate and can be calibrated should be used

- Needs to be a probe type and have a minimum range of 0-220 F

HOW TO USE A THERMOMETER

- The sensing portion of the thermometer must be clean and sanitized
- The sensing portion of the thermometer must be positioned in the center of the food product
- Make certain that the thermometer temperature has stabilized before taking a reading

HOW TO USE A THERMOMETER

- Clean the probe of the thermometer with a single-service towel or alcohol swab or rinse in a sanitizing solution
- Sanitize by submerging in hot water >160^{0}F
- Clean and sanitize the probe when moving from raw to cooked or ready to eat foods
- Do not wipe probe on a soiled cloth or apron

THAWING

- **Under refrigeration below 41 F. *(every three pounds of product takes 24 hours to thaw)***
- **Under running water (below 70 F). Use food grade container, and water must continuously flow during process.**
- **In a microwave, must be cooked immediately**
- **As part of the cooking process**

COOKING TEMPERATURES

Product	Cooking Temps	Time
Poultry and Stuffed meats	165^0 F	15 Seconds
Ground meats and Pork	155^0 F	15 Seconds
Pork, Ham, Sausage and Bacon	155^0 F	15 Seconds
Raw shelled eggs	145^0 F	15 Seconds
Cooked Fruits and Vegetables	135^0 F	15 Seconds

All other potentially hazardous foods 165^0 F for 15 seconds

Source: Indiana Food Code

HOT AND COLD HOLDING

- **All hot foods must be held *above 135 F***
- **All cold foods must be held *below 41 F***
- **Check temperatures every two hours.**
- **Make corrective actions or dispose product.**

RAPID COOLING

- Cooked, potentially hazardous foods shall be cooled from 135^0 F to 70 ^{0}F within 2 hours and from 70^0 F to 41^0 F within an additional four hour

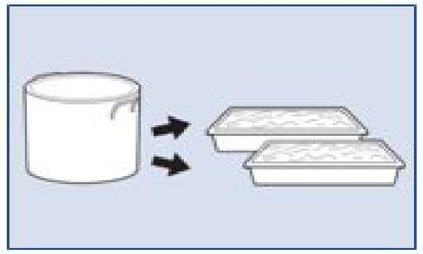
- Potentially hazardous foods shall be cooled within 4 hours to 41^0 F if prepared ingredients at room temperature (tuna salad)

RAPID COOLING METHODS

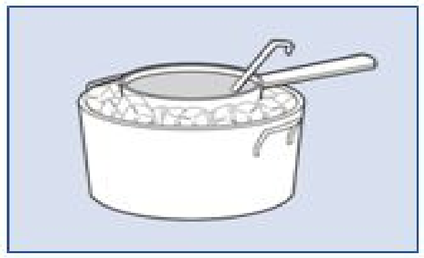
Methods for Cooling Food

Safe methods for cooling food include:

Reducing the quantity or size of the food

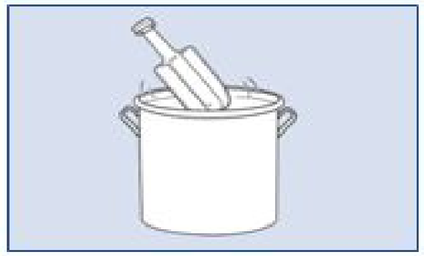


Using ice-water baths



Using a blast chiller

Stirring the food



REHEATING

- All potentially hazardous foods need to be reheated to 165^0 F
- Conventional stoves, ovens, steam tables and microwave ovens are approved for reheating
- Crockpots and steam tables are **NOT** approved for cooking or reheating

WASTE WATER

- Waste water **MUST** be disposed of in a approved municipal sewer or septic system

- Dumping wastewater onto the ground, into waterways or storm drains is **ILLEGAL**

WHAT'S WRONG WITH THIS?

- Pick Up
- Overfilled
- Pest Control
- Space Issues

Courtesy of Jason LeMasters

GARBAGE & REFUSE

- Garbage must be kept in insect and rodent-proof containers that do not leak and do not absorb liquids

- Garbage must be routinely removed from the immediate area

WHAT DID YOU LEARN?

SOURCE

- Center For Disease Control And Prevention
- Cornell Cooperative Extension
- Cornell University – “An Emergency Food Worker’s Guide To Food Safety”
- FDA
- Hamilton County Health Department – “Food Safety Manual”
- Indiana State Department Of Health - “Food Code”
- Los Angeles Regional Food Bank - “Food Service Training”
- Missouri Department of Health and Senior Service - “A Public Health Guide for Emergency Shelters in Missouri”