

Cottage Food Operators

Food Preparation, Food Safety & Sanitation

"Partially funded by a California Department of Food and Agriculture Specialty Crop Block Grant",

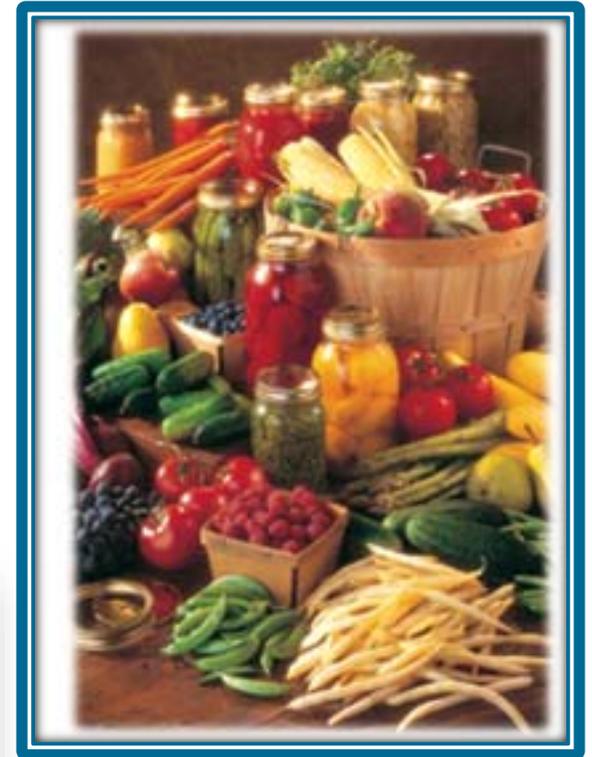


Photo: National Presto Industries

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Is Food Safety Important?

Safe food practices:

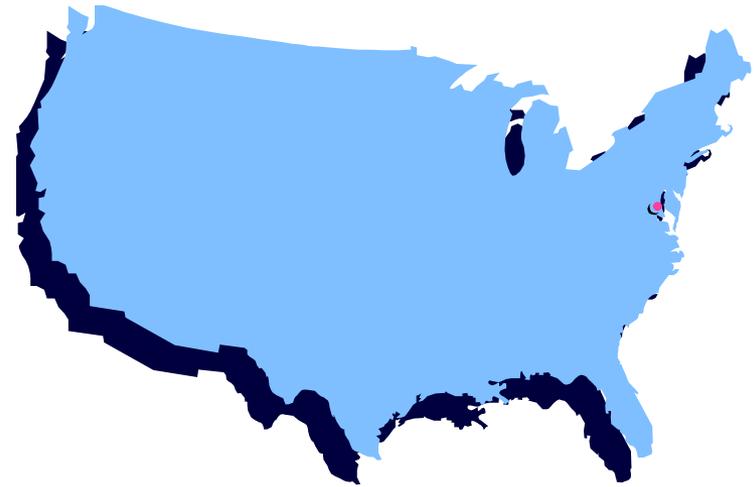
- Minimizes the risk of food borne illness
- Less risk for your business and
- Improved customer relations



Is Foodborne Illness Common?

In the United States, during 2011 it was estimated that...

- 48 million people were affected by foodborne illness.
- 128,000 people were hospitalized.
- 3,000 people died.



Source: Centers for Disease Control, 2011



Salmonella bacteria in catered pork linked to food poisonings

CHERYL LANGE JORDON
Staff Writer

Salmonella bacteria was found in a catered pork dinner served at a wedding reception in Schuyler, Neb., on May 21, health officials say. The caterer, JoAnne Young, is under investigation for the outbreak.

Salmonella bacteria was found in a catered pork dinner served at a wedding reception in Schuyler, Neb., on May 21, health officials say. The caterer, JoAnne Young, is under investigation for the outbreak.

Two and 1/2 hours earlier on May 14 and the weekend of May 20, Salmonella is a common cause of food-borne disease, State Epidemiologist Dr. Tom Salzwedel said.

Thirteen cases of illness have been reported and the number is expected to rise, Dr. Salzwedel said. A communication appeared to be sent at the catering operation, but not with the caterer, he said. The caterer is being investigated to help prevent future outbreaks.

Department of Environmental Health Director Scott Haines said problems arose because the caterer does not have the means to keep the proper temperature. The case was done about a year ago.

Some progress in state districts, but not water. Anyone who thinks they are not being followed by the health department, call the state or local health department. Problems associated with outdoor dining at high school graduation.

Two and 1/2 hours earlier on May 14, two high school graduation parties in Douglas County, Neb., were held. On May 21, a graduation party in Park on May 21 and a wedding reception in Schuyler on May 21.

People who got sick should contact their doctor about symptoms. People who ate pork should keep from passing on their illness. Health officials are working to identify other people who ate the pork.

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Salmonella outbreak suspected

Many become ill after attending parties served by same caterer.

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Caterers commonly unlicensed

Official says there aren't enough resources to enforce state's food codes.

Coliform detected in meat

Coliforms have been detected in meat.

Catered Pork Tied to Salmonella

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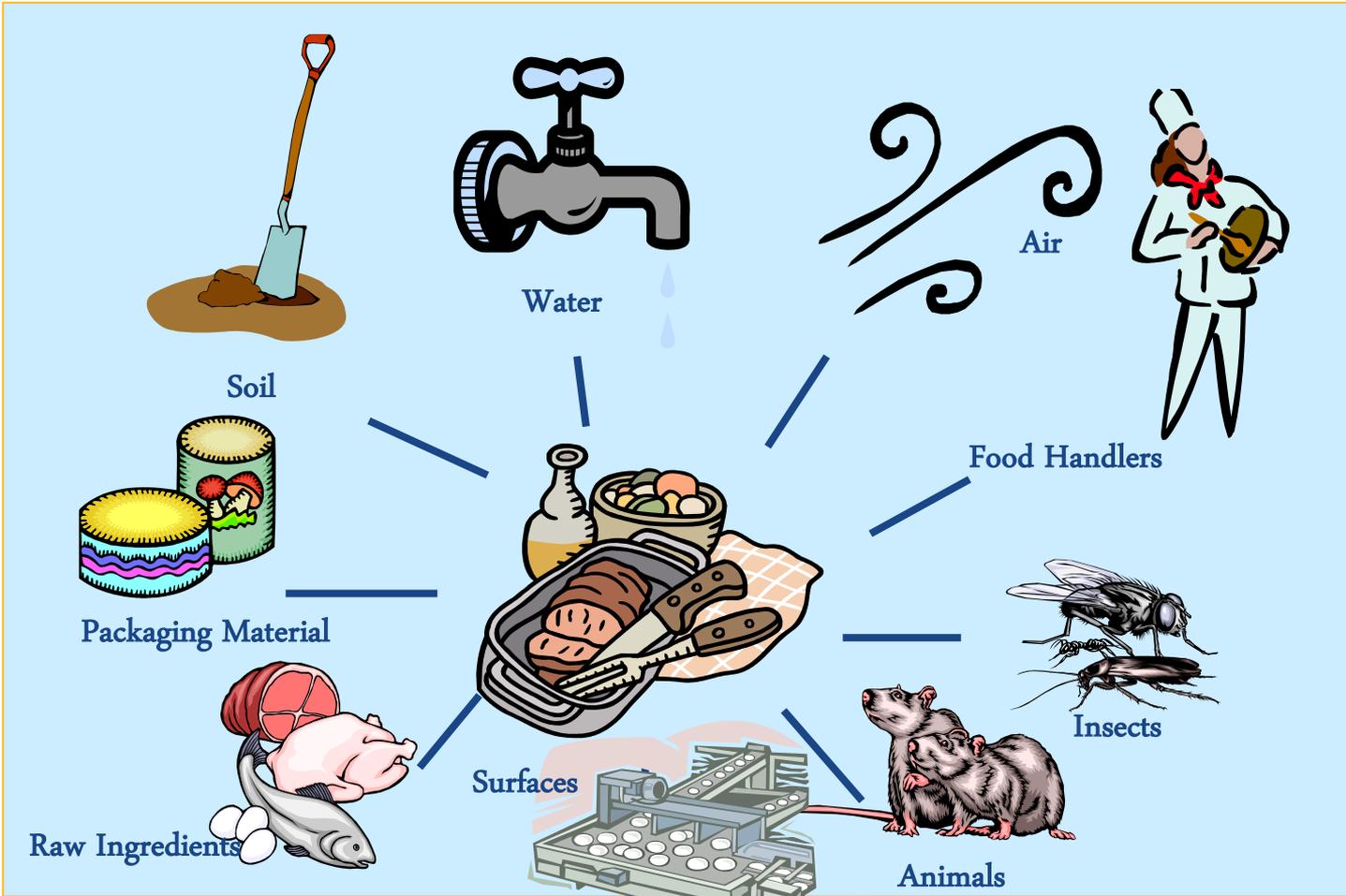
Shigella sickens Schuyler wedding guests

SCHUYLER (AP) — A bride and about 40 of her guests came down with a food-borne illness after attending a wedding reception in Schuyler.

can be passed to others through household or other personal contact. Health officials do not know yet which food or foods were infected.

Lancaster County. There was another last year in Douglas County. Fever, acute vomiting and diarrhea.

Sources of Microorganisms



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People at Higher Risk of Foodborne Illness:

- Infants
- Young children and older adults
- Pregnant women
- People with impaired immune systems
- People with some chronic diseases



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May Cause More Severe Conditions such as



Dehydration
(sometimes severe)



Meningitis



Paralysis

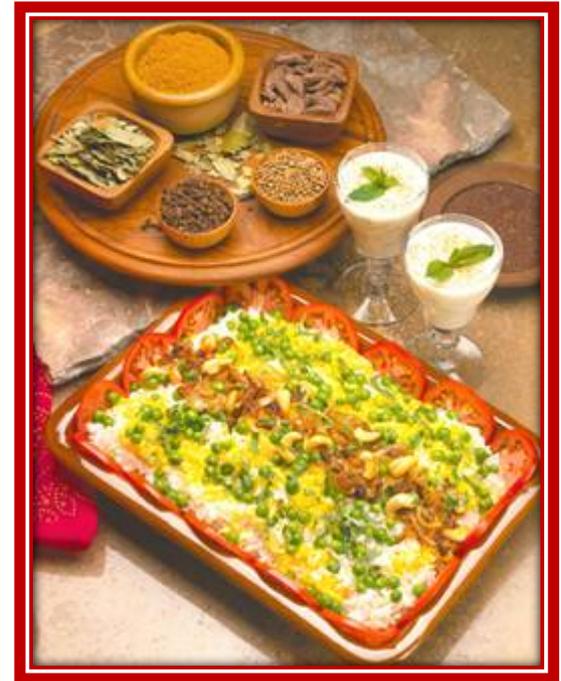
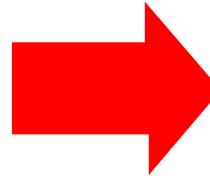


Foodborne Illness Symptoms?

- Upset stomach
- Diarrhea
- Fever
- Vomiting



Food Contamination from farm to the table



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Sources of Food Contamination



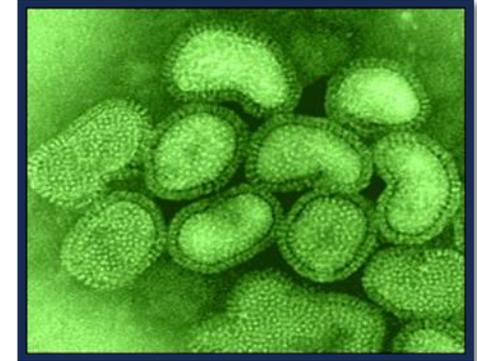
Physical:

- Toothpicks
- Metal shavings
- Glass fragments
- Bandages
- Hair



Chemical:

- Cleaning solutions
- Insecticides
- naturally occurring toxins



Biological:

- Bacteria,
- Viruses
- Parasites



Biological Contamination



Bacteria and Viruses



Parasites



Molds and Toxins



Allergens

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Foodborne Illness: Sources

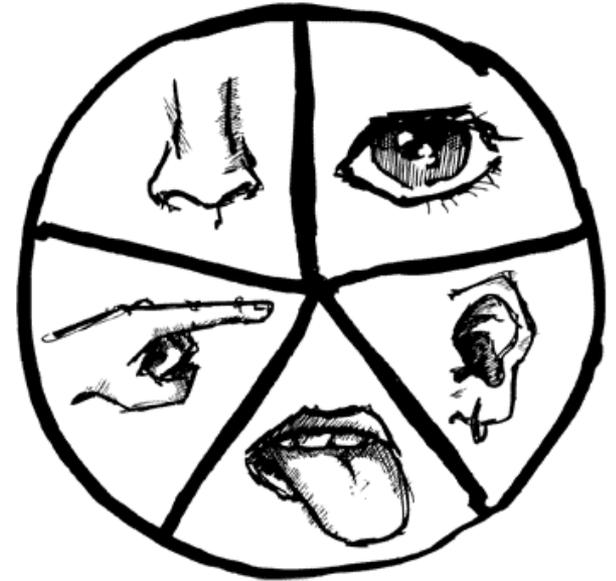
Pathogen	Sources
Norovirus	Produce, shellfish, ready-to-eat foods touched by infected food workers (salads, sandwiches, ice, cookies, fruit), or any other foods contaminated with vomit or feces from an infected person
Salmonella	Food: Contaminated eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables (alfalfa sprouts, melons), spices, and nuts. Animals and their environment: Particularly reptiles (snakes, turtles, lizards), amphibians (frogs), birds (baby chicks) and pet food and treats.
Clostridium Perfringens	Beef, poultry, gravy
Campylobacter	Raw and undercooked poultry, unpasteurized milk, contaminated water.
Staphylococcus	Foods that are made with hand contact and require no additional cooking, such as: Salads, such as ham, egg, tuna, chicken, potato, and macaroni; bakery products, such as cream-filled pastries, cream pies, and chocolate éclairs; and sandwiches. Other sources include milk and dairy products, as well as meat, poultry, eggs, and related products.



You can't rely on your sight, smell, or taste . . .

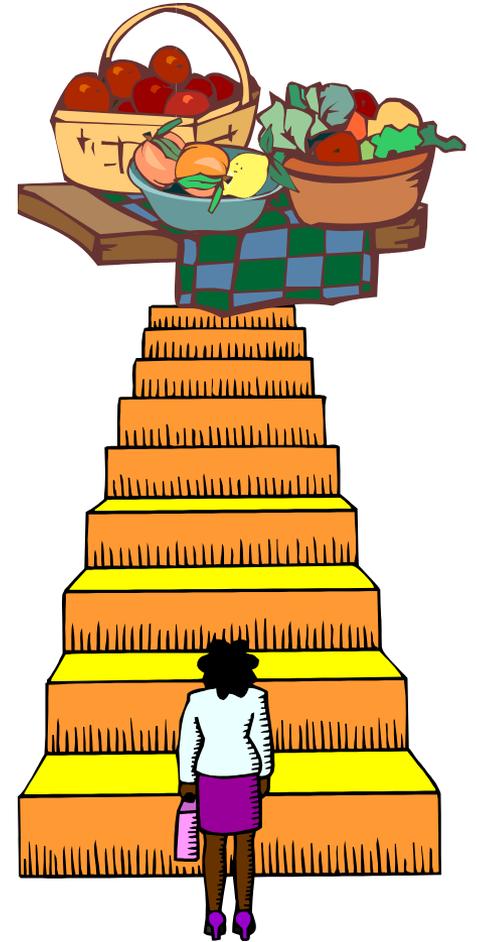
Even if tasting would tell...why risk getting sick?

- Even a tiny taste can make you sick
- As few as 10 bacteria can cause foodborne illness!



Four Steps to Prevent Foodborne Illness

*USDA Dietary Guidelines
give four steps to prevent
foodborne illness.*



First Step in Food Safety

CLEAN

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Personal hygiene is essential for food handlers

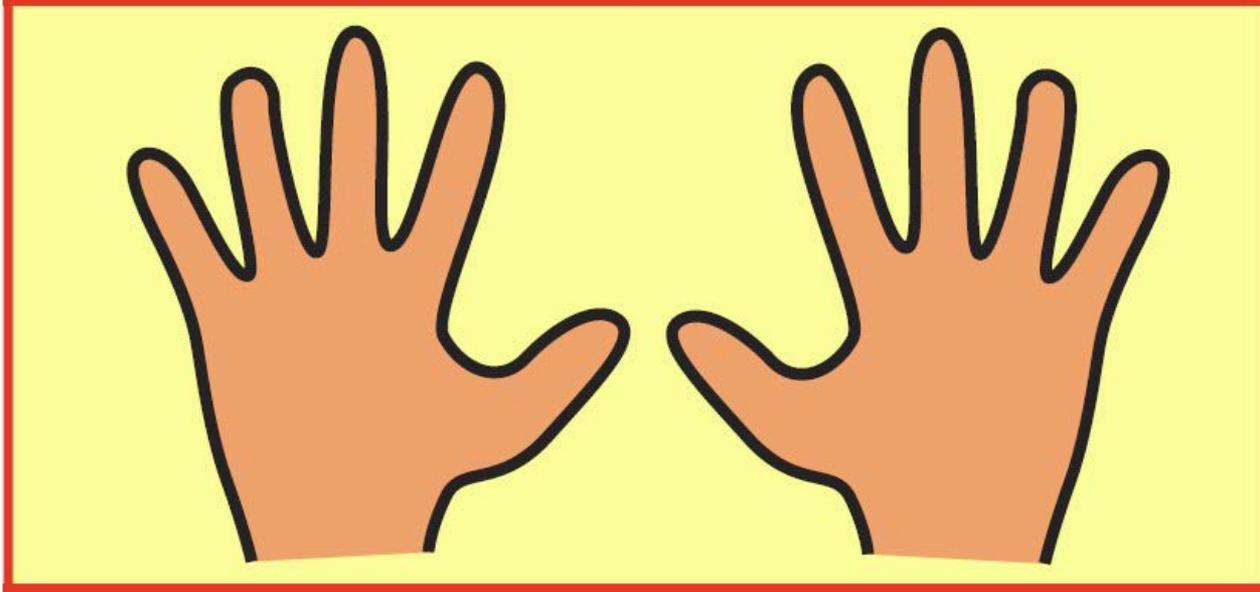
This includes:

- Wearing clean clothes.
- Tying hair back or wearing a hat or hair net.
- Not smoking or eating in food preparation and washing areas.
- Not wearing jewelry.
- Proper handwashing.



Wash Your hands!

The 10 Most Common Causes of Infection



Handwashing is the most effective way to stop the spread of illness

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Know how to wash hands:

- Wet hands with warm water
- Apply soap
- Rub hands for 20 seconds
- Rub between fingers, nails
- Rub forearms; then rinse
- Use single use towel to dry
- Turn off water with towel
- Discard towel



Do not prepare, cook or serve food if you have a:

- Cold
- Cough
- Sore throat
- Symptoms of intestinal illness
(vomiting, diarrhea, fever)



Clean and Disinfect Equipment & Surfaces

Cleaning

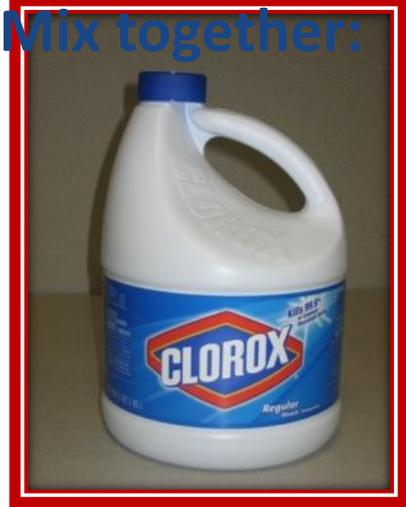
- Removes soil from the surfaces of equipment and utensils.

Disinfecting

- Reduces the number of disease-causing organisms on equipment and utensils.



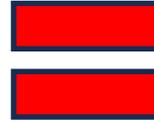
Recipe for Disinfecting Solution



1 Tablespoon
liquid of bleach

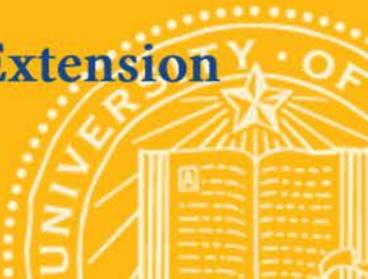


4 cups of water



Disinfecting
solution!

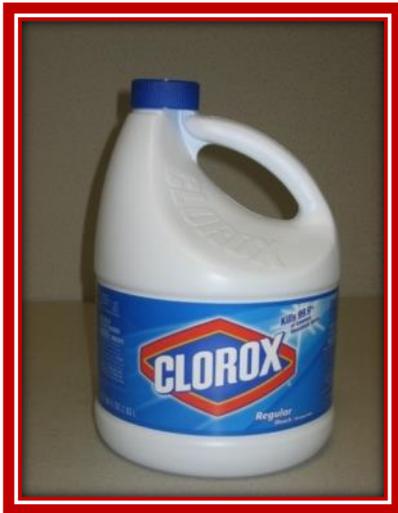
Make a new batch daily as it loses its disinfecting properties



Recipe for Sanitizing Solution

Make a new batch daily as it loses its sanitizing properties

Mix together:



1 Tablespoon
liquid of bleach

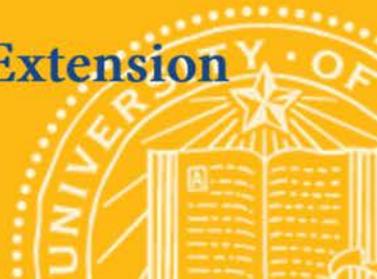


1 gallon water= 16 cups



Sanitizing
solution

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Clean Fruits & Vegetables

- Wash with cold, running water.
- If there is a firm surface, such as on apples or potatoes, the surface can be scrubbed with a **CLEAN** brush.
- Do **NOT** use soap or other cleaners.



Don't wash/rinse meat or poultry!

Bacteria in raw meat and poultry juices can be spread to other foods, utensils, and surfaces if it is washed or rinsed.





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Separate to Prevent Cross Contamination

Keep raw, cooked, and ready-to-eat foods separate when shopping, preparing or storing foods.

Separating foods **prevents the transfer of harmful substances** from one food to another.



Prevent Cross Contamination

Use separate cutting boards for:

- fresh produce
- raw meat
- poultry
- seafood
- Bread

Use clean knives:

- Designate a knife for meat and poultry and another one for vegetables and fruit.



Clean & Sanitize Utensils & Surfaces

- After working with raw foods.
- Before working with ready-to-eat foods.
- Use a clean dish towel.
- Wash dish towels on the hot cycle in washer.
- Wash plastic cutting boards in the dishwasher.



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Avoid Cross Contamination

- Keep raw foods separate from ready-to-eat and cooked foods.
- Store raw foods below ready-to-eat and cooked foods.



COOK

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Cook to a Safe Temperature

•Whole poultry	165° F
•Chicken breasts	165° F
•Egg dishes	160° F
•Ground beef	160° F
•Pork	145° F
•Fish	145° F
•Steaks/roasts	145° F



ALWAYS USE A FOOD THERMOMETER

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Factors Influencing Microorganism Growth



High moisture



Protein



Low-acid



Bacterial Foodborne Illness

4% Use of leftovers

7% Improper cleaning

7% Cross contamination

11% Contaminated raw food

12% Inadequate reheating

16% Improper hot storage

16% Inadequate cooking

20% Infected persons touching food

21% Time between preparing and serving

40% Improper cooling of foods

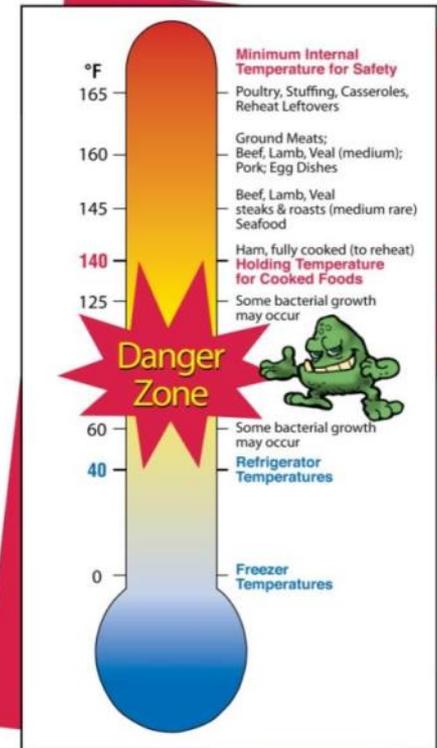
Total = more than 100% due to multiple causes in same case. CDC 1999



What is the “Danger Zone?”

The danger zone is the temperature range between **41°F -135°F**

- Bacteria multiply rapidly between these temperatures.
- Viruses do not grow, but they survive in food at these temperatures.
- Freezing food slows growth, but high temperatures kill bacteria and viruses.
- Cook foods to a safe temperature to kill bacteria and viruses.



Keep Foods out of the DANGER ZONE

- Hot foods should be cooled and reheated only one time.
- Cold foods should be kept on ice or in a cooler.
- Discard food that has been at room temperature of less than 90°F for over two hours.
- If the room temperature is 90°F or more, discard after one hour.



Bacteria Multiplication

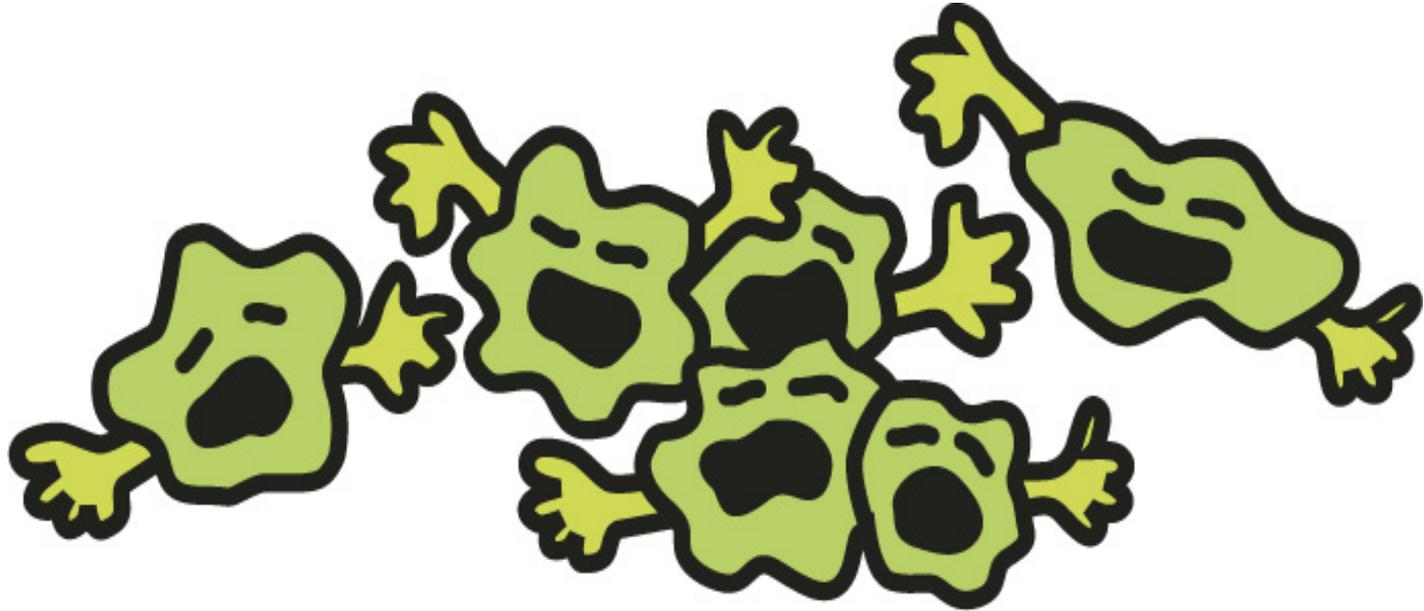
Bacteria numbers can double every 20 minutes!



**How many bacteria will result if
1 BACTERIUM is left at room
temperature for 7 hours?**



Answer: 2,097,152!



Refrigerate perishable foods quickly!

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Keep Cut Fruits and Veggies Out of the Danger Zone

Cut fruits and vegetables can grow bacteria



Do not leave out for more than 2 hours



Thaw Frozen Foods Safely

Follow the “Thaw Law!”

Thaw frozen foods in the refrigerator.



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Chill Hot Foods Quickly



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Refrigerate! Refrigerate! Refrigerate!

- Refrigerate foods within 2 hours.
- Over 90°F, refrigerate within 1 hour.
- Chill foods down quickly.
- Cool foods in shallow containers.
- Stir to speed up cooling.
- Ok to refrigerate foods while they're still warm.
- Do not overstuff your fridge.



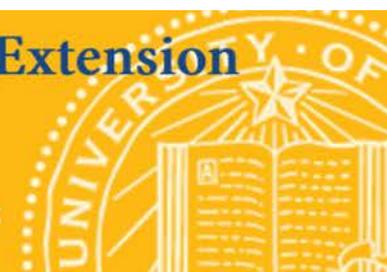
Refrigerator & Freezer Temperatures

- Set **refrigerator** at **40° F** or lower.
- Set **freezer** at **0° F** or lower.
- Use thermometers in refrigerators and freezers.
- Place thermometers in an easy to read location.
- Check temperatures weekly.



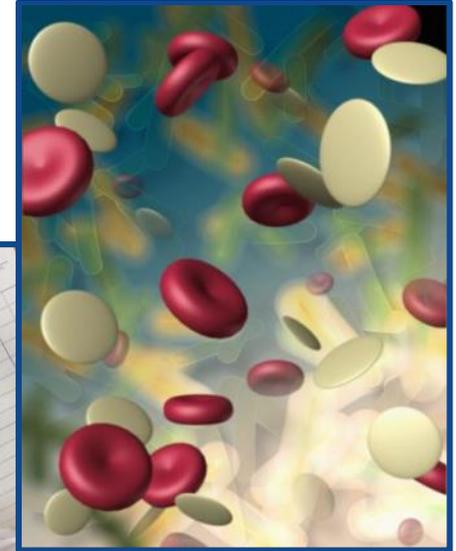
When Transporting Food, Remember to...

- Be sure food is tightly wrapped.
- Pre-portion and pre-package food in clean containers.
- Transport in clean vehicles.
- Do not transport pets or livestock with the food.



Food Handlers can Contaminate Food

- Many enteric organisms
- *Staphylococcus aureus*
- Viruses
 - Hepatitis A
 - Norwalk Virus



Cottage Food Kitchens

- When Cottage food preparation, packaging, or handling occurs in the home kitchen, no other household activities such as family meal preparation, kitchen cleaning, etc. can take place at the same time.
- No infants, small children or pets may be in the home kitchen during any part of cottage food preparation and packaging.



Cottage Food Kitchens

- A sink must be available for handwashing with soap, hot and cold water and clean towels (single use towels are most sanitary).
- Kitchen equipment used to prepare, package and handle cottage foods must be clean and maintained in a good state of repair.
- When ill, stop preparing and selling cottage food products.



Cleaning Guidelines -- Safe Food Handling

- Water used during the preparation of cottage food products must meet safety standards.
- If you have a private well or septic system, contact your Environmental Health agency .
- Surface sanitizing solution is 100 ppm chlorine; this is made using 1 tablespoon bleach per gallon of warm water. Or use $\frac{3}{4}$ teaspoon per 4 cups of warm water.



Cleaning Guidelines -- Safe Food Handling

- Wash, rinse and sanitize all food contact surfaces every four hours and before each use.
- Wash hands, nails, and arms frequently.
- Remove garbage regularly; wash hands afterwards.



Cottage Food Safety Points

- Keep all food and non-food surfaces clean.
- All food preparation and food and equipment storage areas must be insect and rodent free.
- Smoking is prohibited in the food preparation portion of the home.
- All ingredients must come from an approved source ---registered producer or food store or facility.



Storage Guidelines

- All equipment and utensils must be stored and used within the home.
- Keep all food ingredients separate from non-food (examples: pesticide and cleaning items).
- All food shall be protected from dirt, vermin, droplet contamination, overhead leakage, etc.
- All food must be stored at least 6 inches off the floor.



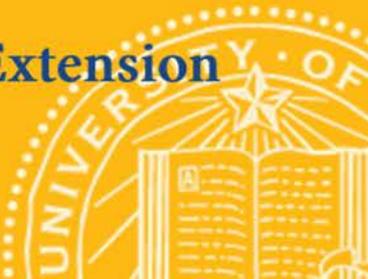
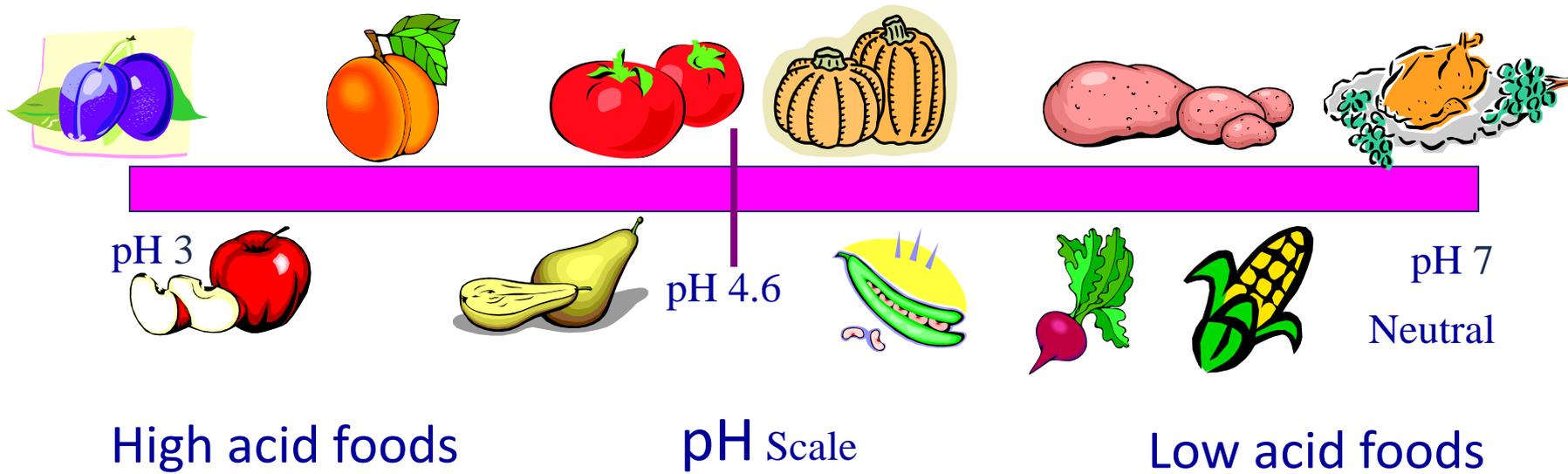
Preserved Cottage Foods

- Fruit Butter, Jam, Jelly, Fruit Preserves
- Dried Fruit and Vegetables
- Herb blends
- Vegetarian Dried Soup Mixes
- Granolas – Trail Mixes
- Vinegars -- Mustards

Why are These Allowable Cottage Foods?



pH Examples of Some Foods

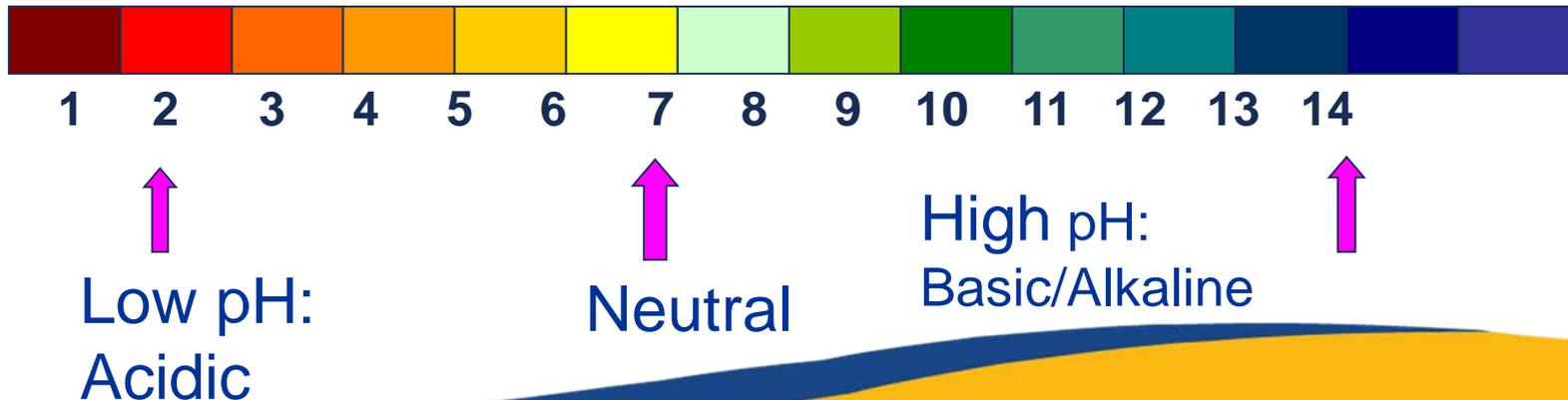


What is pH?

pH is a measure of acidity

$$\text{pH} = -\log (\text{H}^+ \text{ ions})$$

Scale ranges from 0 to 14



SPEED of Bacterial Growth is Influenced by:

- ✓ **Properties of the Food**

Nutrients **Moisture** **Acidity**

- ✓ **Properties of the Environment**

Temperature Relative Humidity **Air**



Growth Factors - Nutrition

- Foods we find nutritious
 - also good for microorganisms



Water Activity (a_w)

- Most foods greater than 0.95 allow microorganisms to grow
- *C. botulinum* prevented from growing

✓ a_w less than 0.93

- All pathogens inhibited

✓ a_w less than or equal to 0.85

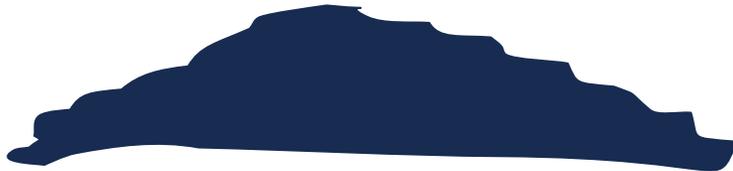


Salt and a_w



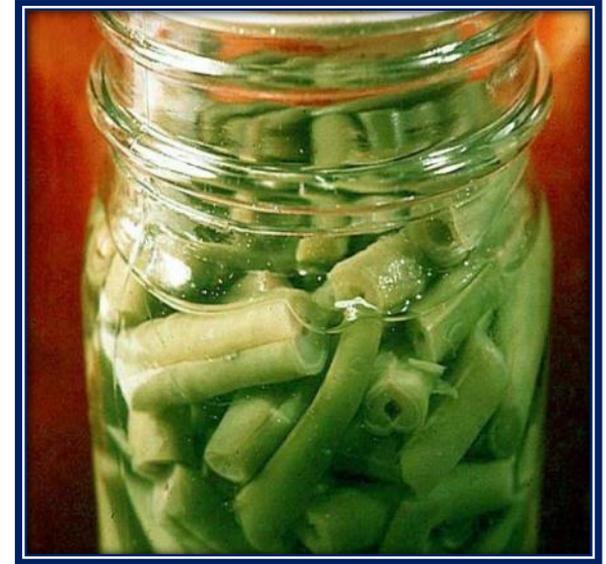
***C. botulinum* strains are prevented from growing at a salt concentration of 10%.**

10% salt is a water activity of about 0.93.



BOTULISM-Home Canned Food

- Low acid foods
 - Vegetables
 - Meat and fish
 - Mixtures with low acid food such as meat sauce
 - **NEVER** allowed as Cottage Foods
- For safety, preserve in Pressure Canner –not a boiling water canner **!!!**

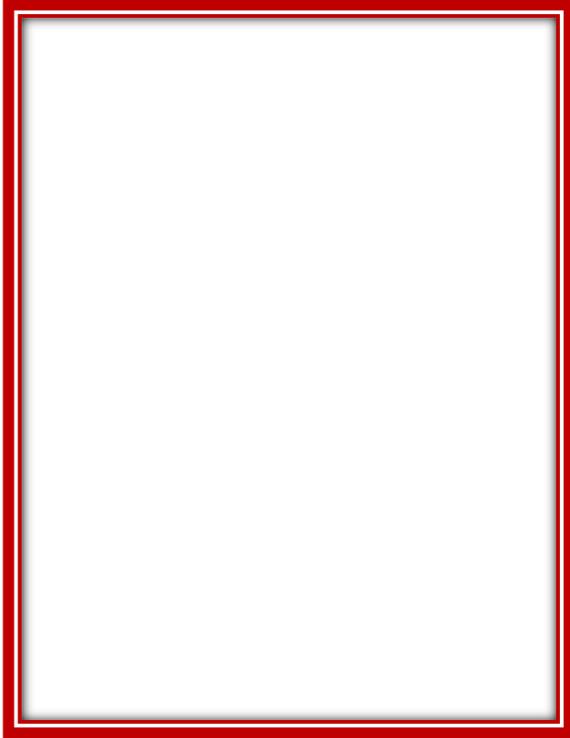


BOTULISM — Toxicity Causes

- Anaerobic conditions
- Water activity must be high
 - salt has inhibitory effect on growth due to water binding properties
- pH must be high (greater than 4.6 – equals a low acid food)
- Nitrite - NaNO_2 has inhibitory effect



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Acknowledgements

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Production:

Connie Schneider, Youth, Families and Communities Director
Susan Donohue, EFNEP Council Chair
Anna Martin, Advisor, UCCE San Joaquin
Dorothy Smith, Advisor, UCCE Amador/Calaveras/Tuolumne
Tammy McMurdo, Community Nutrition Education
Debbie Fetter, Student Assistant
Jane Chin Young, Advisor, UCCE Marin
Linda J. Harris, Food Science Specialist, University of CA, Davis
Christine Bruhn, Consumer Economics Specialist, University of CA, Davis

Original authors and 2014 adaptor: Diane Metz, Emeritus Advisor
UCCE Solano/Yolo Counties

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