

[illegible]

The header features three logos. On the left is the Feeding America logo, with the words "FEEDING" and "AMERICA" in orange and green, and a wheat stalk icon. In the center is the Food Bank Wichita Falls Area logo, which includes a stylized bowl with a star and the text "FOOD BANK WICHITA FALLS AREA". On the right is the Feeding Texas logo, with the words "FEEDING" and "TEXAS" in orange and green, and a wheat stalk icon.

# Introduction to Food Safety

- This session is a guide to provide you with information that can help you protect the safety of the food you handle.
- Even though you are non-profits you are part of the food service industry, and the safety you use with the food you distribute protects the clients you serve.
- Share food safety knowledge with your staff and volunteers.

# How Food Becomes Unsafe

Three types of hazards make food unsafe

1. Biological Hazards
2. Chemical Hazards
3. Physical Hazards

# Biological Hazards

- Biological Hazards are tiny forms of life that you can't see, smell or taste.
- *What are some examples of Biological Hazards?*

# Biological Hazards

- Biological hazards include:

1. Bacteria
2. Viruses
3. Parasites
4. Fungi

Some of these cause illness. They are called pathogens.

# Chemical Hazards

- Chemicals in your operation can contaminate food.
- *What are some examples of chemical hazards?*

# Chemical Hazards

- Chemical hazards include:
  1. Cleaners
  2. Sanitizers
  3. Polishes
  4. Machine lubricants

# Physical Hazards

- Objects can get into food, including naturally occurring ones like bones.
- *What are some examples of physical hazards?*



# Physical Hazards

- Physical hazards include:
  1. Glass
  2. Bones
  3. Fruit pits
  4. Metal shavings
  5. Staples
  6. Dirt
  7. Bandages
  8. Jewelry

# How People Make Food Unsafe

- Poor personal hygiene
- Cross-contamination
- Time-temperature abuse
- Poor cleaning and sanitizing

# Good Personal Hygiene

- Wash your hands after eating, drinking, smoking, touching your face, nose, ears, hair, handling waste, using restroom, coughing or sneezing, etc.
- Wash hands after handling raw foods such as uncooked meat, poultry, eggs, produce, etc. before handling cooked foods. Wash hands with hot water, liquid soap and paper towels.
- Wear gloves, aprons and hair restraints when required.

# Good Personal Hygiene

- Do not handle food if you are ill, or have uncovered wounds or cuts. Cuts and wounds on hands need to be covered with a bandage and glove before handling food.
- Take a bath daily!
- Wear clean work clothes.
- Remove jewelry before handling food.
- Never eat, drink or smoke around food.

# Temperature Control

- Check the temperature of your cold storage area with a verified thermometer.
- Store and transport all refrigerated foods at 41°F, or less.
- Store and transport frozen food at 0°F, or less
- Thaw frozen food at 41°F, and never at room temperature. Food may be thawed by using a microwave oven, or under running cold water.

# Produce Temperature Control

## Recommended storage temperatures (50° F or below):

Apples, 32-35	Cauliflower, 32-35	Lemons, 40-50	Pineapple, 40-50
Apricots, 32-35	Celery, 32-35	Lettuce, 32-35	Plums/Prunes, 32-35
Artichokes, 32-35	Cherries, 32-35	Mandarins, 45-48	Radishes, 32-35
Asparagus, 32-35	Coconuts, 32-35	Mushrooms, 32-35	Raspberries, 32-35
Avocados (ripe), 40-50	Corn, 32-35	Nectarines (ripe), 32-35	Rhubarb, 32-35
Beans (Lima,) 32-35	Cranberries, 40-50	Nuts, 32-40	Romaine, 32-35
Beans (Snap,) 32-35	Cucumbers, 40-50	Okra, 40-50	Rutabagas, 35-40
Beets, 32-35	Dates, 32-35	Onions (Green), 32-35	Spanish, 32-35
Blackberries, 32-35	Eggplant, 32-35	Oranges (FL), 32-34	Sprouts, 35-40
Blueberries, 33-35	Endive, 32-35	Oranges (CA), 40-44	Squash (Summer), 40-50
Broccoli, 32-35	Escarole, 32-35	Peaches (ripe), 32-35	Strawberries, 32
Brussels Sprouts, 32-35	Grapes, 32-35	Pears (ripe), 32-35	Turnips, 32-35
Cabbage, 32-35	Greens (Collard, Kale), 32-35	Pears (Green), 32-35	Watermelon, 32-35
Cantaloupe, 40-50	Kiwifruit (ripe), 32-35	Pears (Snow), 32-35	
Carrots, 32-35	Leeks, 32-35	Peppers, 40-50	

# Produce Temperature Control

## Recommended storage temperatures (50° F or above):

Avocados (un-ripened), 65-70

Bananas (to ripen), 65-70

Bananas (to store), 65-60

Garlic, 65-70

Grapefruit (AZ/CA), 58-60

Grapefruit (TX/FL), 50

Mangoes (to ripen), 70-75

Mangoes (un-ripened), 55

Melons (un-ripened), 60-65

Onions (bulb), 65-70

Papayas (ripe), 45-55

Peaches (un-ripened), 65-70

Pears (un-ripened), 60-70

Pineapple (un-ripened), 60-70

Potatoes, 65-75

Pumpkins, 55-60

Squash (Winter), 55-60

Sweet Potatoes, 55-60

Tomatoes (un-ripened), 60-70

# Temperature Control

How to calibrate a thermometer.

- Thermometers must be calibrated regularly to make sure the reading are correct.
  - Fill a large container with crushed ice. Add water until the container is full. Stir the mixture well.
  - Put the thermometer stem into the water.
    - Make sure the sensing area is under water.
    - Wait 30 seconds or until the indicator stops moving
    - Do not let the probe touch the container.



# Temperature Control

How to calibrate a thermometer continued.

- Adjust the thermometer so it reads 32°F.
  - Hold the calibration nut with a wrench or other tool.
  - Rotate the thermometer head until it reads 32°F

# Ethylene Gas

Ethylene gas may cause:

- Russet spotting of lettuce
- Bitter tasting carrots
- Yellowing of broccoli, cucumber, and spinach
- Decreased shelf life



# Ethylene Gas Producers

<b>Apple</b>	<b>Crenshaw Melon</b>	<b>Kiwi Fruit</b>	<b>Persian Melon</b>
<b>Apricot</b>	<b>Custard Apple</b>	<b>Mamey Sapote</b>	<b>Plum</b>
<b>Asian Pear</b>	<b>Durian</b>	<b>Mango</b>	<b>Prune</b>
<b>Atemoya</b>	<b>Feijoa</b>	<b>Mangosteen</b>	<b>Quince</b>
<b>Avocado</b>	<b>Fig</b>	<b>Nectarine</b>	<b>Papaya</b>
<b>Banana</b>	<b>Guava</b>	<b>Passion Fruit</b>	<b>Plantain</b>
<b>Cantaloupe</b>	<b>Honeydew Melon</b>	<b>Peach</b>	<b>Rambutan</b>
<b>Cherimoya</b>	<b>Jackfruit</b>	<b>Pear</b>	<b>Sapote</b>
			<b>Soursop</b>

# Ethylene Sensitive Produce

<b>Arugula</b>	<b>Celery</b>	<b>Green Tomato</b>	<b>Parsnips</b>
<b>Asparagus</b>	<b>Chard</b>	<b>Kailan</b>	<b>Potato</b>
<b>Beans</b>	<b>Chayote Squash</b>	<b>Kale</b>	<b>Snow Pea</b>
<b>Belgian Endive</b>	<b>Chicory</b>	<b>Kiwano</b>	<b>Southern Peas</b>
<b>Bok Choy</b>	<b>Chili Pepper</b>	<b>Leek</b>	<b>Spinach</b>
<b>Broccoli</b>	<b>Chinese Cabbage</b>	<b>Lettuce</b>	<b>Summer Squash</b>
<b>Broccoli</b>	<b>Collard Greens</b>	<b>Longbean</b>	<b>Sweet Pea</b>
<b>Brussels Sprouts</b>	<b>Cucumber</b>	<b>Mint</b>	<b>Turnip Greens</b>
<b>Cabbage</b>	<b>Eggplant</b>	<b>Mushrooms</b>	<b>Tomatillo</b>
<b>Cactus Leaves</b>	<b>Endive</b>	<b>Mustard Greens</b>	<b>Watercress</b>
<b>Carrot</b>	<b>Escarole</b>	<b>Okra</b>	<b>Watermelon</b>
<b>Cauliflower</b>	<b>Green Onion</b>		

# Receiving Food

- Checking food when you receive it will help to keep it safe. Follow the guidelines below for most food.
  - Temperature: Receive cold food at 41°F or lower. Frozen food should be received frozen (32°F or lower). Receive hot food at 135°F or higher.
  - Quality: Reject food if it has an abnormal color, smells wrong or unpleasant.

# Receiving Food

- Canned food must be labeled and not have: (see page 27)
  - Swollen ends (see page 28)
  - Leaks (see page 29)
  - Seal problems (see page 30)
  - Lids that are popped (see page 31)
  - Major dents (see page 32)
  - Rust (see page 33)

***When in doubt, throw it out!***





# Canned Food Examples









# **Nutrition Facts**

Serving Size 2 Tbsp  
Servings per Container 16

Amount Per Serving  
Calories  
Calories from Fat

Total Fat 8g  
Saturated Fat 1 1/2g  
Trans Fat 1 1/2g

Cholesterol 10mg  
Sodium 100mg  
Total Carbohydrate 20g

Dietary Fiber 1g  
Sugars 10g  
Protein 1g

Not a significant source of...  
Cholesterol, Sodium, Total Fat, and...  
Dietary Fiber, Total Carbohydrate, and...  
Percent Daily Values are based on a diet of other people's secrets.





Fríos de Maíz  
Dulce



PESO NETO  
10 OZ (432g)



No Artificial  
Flavors or Colors

serving  
suggestion

PER SERVING  
Total Calories  
Dietary Fiber  
Sugars  
Protein  
Vitamin A  
Calcium  
Iron



# Storing Food

- Store food and supplies properly:
  - Store at least 6 inches off floor.
  - Store at least 4 inches away from wall.
- Store food at proper temperature
  - Frozen food at 0°F or lower.
  - Refrigerated food between 41°F and 33°F.
- Store food away from sanitation, maintenance, and consumer chemicals.

# Storing Food

- Separate raw and uncooked foods.
- Rotate food to ensure that the food is used first in first out (FIFO).
- Keep track of the shelf life of food you store,
- Do not distribute baby food after it expires.

# Delivering Food

- Deliver food at proper temperature:
  - Hot food must be 135°F or higher when it reaches destination.
  - Frozen food must be 0°F or lower
  - Refrigerated food must be between 41°F and 33°F.
- Keep properly labeled if required.
- Keep covered



# Foodborne Illness

- The CDC estimates that roughly 1 in 6 Americans get sick, 128,000 are hospitalized and 3,000 die each year from foodborne diseases.
- Most of these cases are mild and cause symptoms for only a day or two.
- The most severe cases tend to occur in the very old, the very young, those who have an illness already that reduces their immune system function, and in healthy people exposed to a very high dose of an organism.

# Pest Control

## Deny pests entry to the facility:

- Seal doors, windows and vents.
- Seal pipe holes through walls.
- Seal cracks in floors and walls.
- Inspect all incoming materials.



# Pest Control

## **Deny pests food, water, and hiding and Nesting places:**

- Dispose of garbage quickly and correctly.
- Clean up food spills immediately.
- Eliminate standing water.
- Keep lockers and storage clean.
- Store mops and brooms properly and dump old mop water.
- Cover all garbage containers (inside and out).
- Store food and supplies properly:
  - Store at least 6 inches off floor.
  - Store at least 4 inches away from wall.

# Pest Control

**Spotting pests: Here are some signs that there are rodents in operation.**

- Gnaw marks
- Dirt Tracks along walls
- Droppings
- Nests (Rats and mice use soft materials, such as scraps of paper, cloth, hair, feathers, and grass to build their nests.

# Pest Control

**Spotting Pests: Here are some signs that there are cockroaches in the operation.**

- Capsule-shaped egg cases
- Strong oily odor
- Droppings that look like grains of black pepper

# Pest Control

- Work with a licensed Pest Control Operator (PCO) to eliminate pests that enter the facility.
  - Make sure your PCO is licensed, certified by your state, and insured.
  - Do not store pesticides at your facility.
  - Call in PCO when problems occur.

# Discussion

- How does food become unsafe?
- Who are “more at risk” to the effects of unsafe food?
- What is a foodborne illness or injury?
- Have you or a family member ever become the victim of a foodborne illness or injury?
- What can you do to protect the safety of the food you handle?