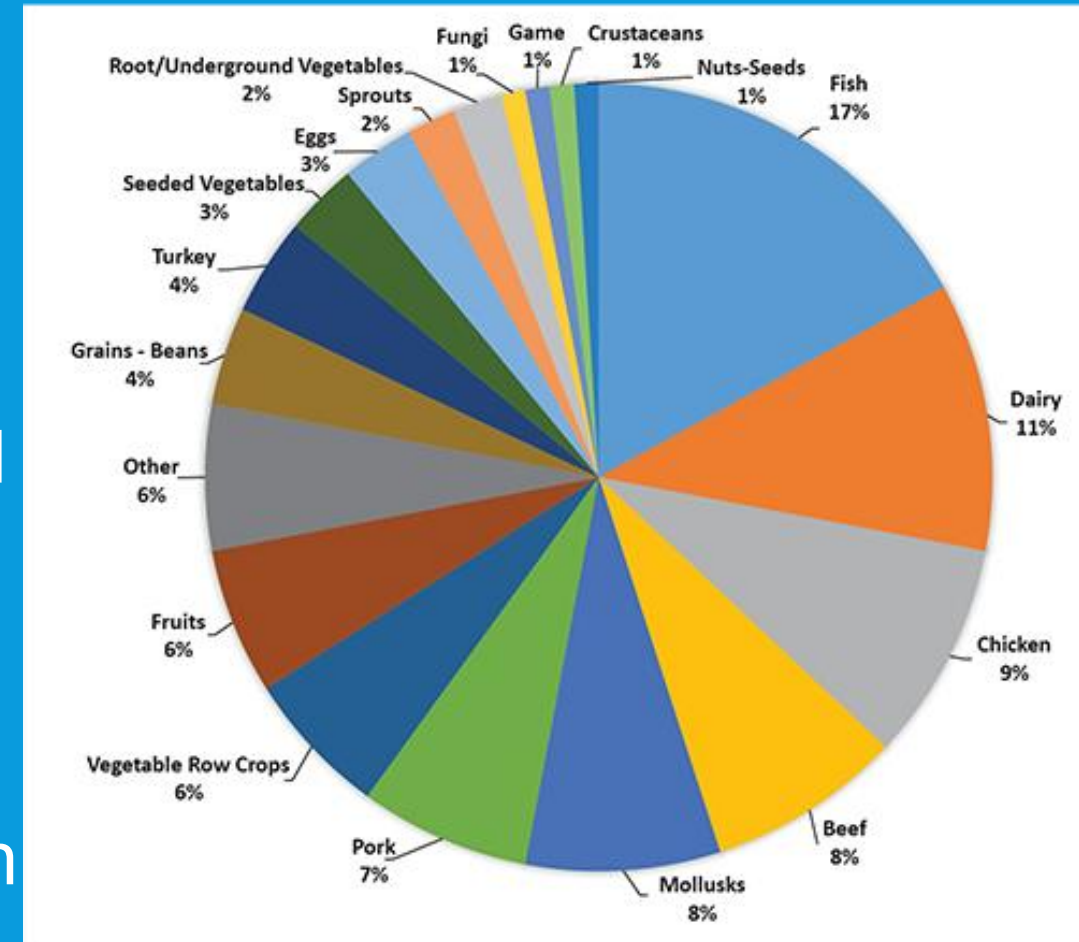




BASIC FOOD SAFETY

WHY IS FOOD SAFETY IMPORTANT?

- Foodborne illness is a common, costly, public health problem that can be preventable!
- According to the CDC:
 - 1 in 6 Americans get sick from contaminated food or beverages each year.
 - ~3,000 people die
- According to the USDA: Foodborne illnesses cost more than 15.6 billion each year.



Source: CDC National Outbreak Reporting System, 2009–2016

PAST OUTBREAKS



Mexican type restaurant (2015)

Confirmed E. Coli outbreak

55 people ill

Stocks fell over 20%



Large food producer (2006)

Salmonella

628 ill from 47 different states

9 Deaths

CEO sentenced to 28 years in prison

OBJECTIVES?

Provide resources and information aimed at preventing and reducing the threat of foodborne illnesses by focusing on 5 key risk factors!

What do you think the risk factors are that can affect food safety?



FOODBORNE ILLNESS RISK CONTROL FACTORS



- 1) Food Sources
- 2) Poor Personal Health Hygiene
- 3) Improper cooking temperatures
- 4) Improper hold temperatures
- 5) Contaminated equipment

FOOD SOURCES

- A licensed food facility shall only purchase food from licensed and approved food sources.
 - For example: Gordon food service, Sysco, Sam's club etc.
- Licensed food facilities must maintain invoices and receipts from food purchases.
- Home prepared food is not allowed to be served in a licensed facility.
- Can I buy food from a farmers market?

FOOD DELIVERY

What do we check on a food delivery?

- Cold foods at 41F or below
- Hot foods at 135F or above
- Expiration dates
- Pest activity
- Damaged packages
- Frozen foods frozen
- Significant frost build up on frozen foods

PERSONAL HEALTH AND HYGIENE

Proper work attire

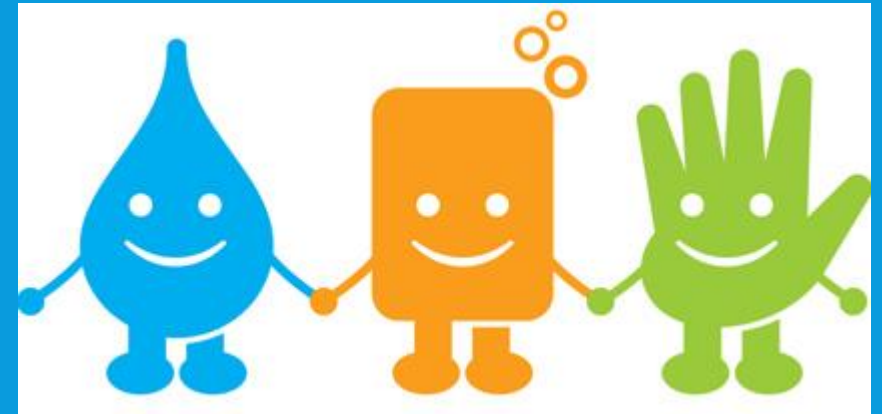
- Hair restraints: Hats, hairnet, or visor with hair net
- Clean uniform
- Limited jewelry
- Designated area for employees to eat and drink
- Drinks shall have a tight fitting lid and a straw
- Tobacco use permitted outside of the food facility where no food or beverages are served



PERSONAL HEALTH AND HYGIENE

Hand washing

- Use soap and warm running water
- Rub hands together for ~20 seconds
- Handwashing should cover:
 - Back of hands
 - Wrists
 - Between fingers
 - Under fingernails
- Rinse well under warm water
- Dry hands off with paper towel or dryer



PERSONAL HEALTH AND HYGIENE

When to wash hands:

- Before handling food or clean equipment
- After touching a potential contamination source:
 - Hair
 - Face
 - Skin
 - Soiled dishes
 - Money
 - Raw animal products (Seafood, red meat, chicken etc.)
 - Any unclean surface or utensils
 - Chemicals and cleaning supplies

PERSONAL HEALTH AND HYGIENE

Where to wash hands:

- Handwashing shall only occur in designated hand washing sinks
- Three compartment and prep sinks are not approved for hand washing



PERSONAL HEALTH AND HYGIENE

What can hand washing sinks be used for?

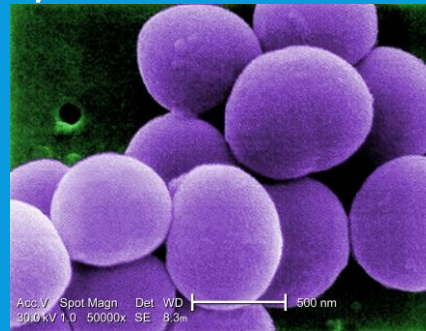
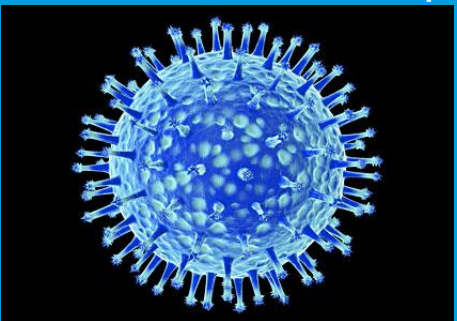
- Designated for hand washing only
- Do not pour food, ice, or waste water into hand sinks
- Food prep is not permitted in hand sinks
- Hand washing sinks shall always be accessible



PERSONAL HEALTH AND HYGIENE

Statistics

- A large percentage of foodborne disease outbreaks are spread by contaminated hands. Appropriate hand washing practices can reduce the risk of foodborne illness and other infections.
- It is estimated that washing hands with soap and water could reduce diarrheal disease-associated deaths by up to 50%.
- More than 50% of healthy persons have *Staphylococcus aureus* living in or on their nasal passages, throats, hair, or skin.



PERSONAL HEALTH AND HYGIENE

Proper Glove Use:

- Wash hands before putting on gloves
 - Why?
- Designed for single use
- Change gloves when torn or contaminated
 - What are sources of contamination?
- Gloves are not a replacement or substitute for hand washing
- Do not wash or reuse gloves



PERSONAL HEALTH AND HYGIENE

Employee Health

- Almost 70% of managers could remember a time they had worked when sick.
- One in 10 said they had nausea or symptoms of “stomach flu.” These are symptoms of foodborne illness.
- Some managers took steps while at work to keep others from getting sick.
 - Over half did not handle food.
 - 16% washed their hands more often than when they were not sick.
 - About one in 10 wore gloves or masks.

PERSONAL HEALTH AND HYGIENE

Employee Health

- You must report or inform your manager if you are experiencing one or more of the following symptoms:
 - Vomiting
 - Diarrhea
 - Jaundice (Yellowing of the skin and eyes)
 - Sore throat with a fever
 - Infected wound, cut or burn

PERSONAL HEALTH AND HYGIENE

Employee Health

- Big 5 Foodborne Illnesses!
 - Salmonella Typhi (Typhoid fever)
 - Shigella
 - Shiga toxin-producing Escherichia coli (E. coli)
 - Hepatitis A
 - Norovirus

It is a requirement to inform your manager and **do not** report to work if you have been diagnosed with any of the above illnesses!

PERSONAL HEALTH AND HYGIENE

Employee Health

Restriction vs Exclusion

- Restriction: You can work in the facility but in a limited capacity. You can not work with food, clean equipment, utensils, linens or single service articles
- Exclusion: You can not work in the food facility

PERSONAL HEALTH AND HYGIENE

Employee Health

Sore throat with fever

- Excluded from the facility
- Return to work
 - 24 hours symptom free or medical documentation that states the symptoms are noninfectious

PERSONAL HEALTH AND HYGIENE

Employee Health

- Diarrhea and vomiting
 - Exclude employee from the facility
 - Return to work
 - 24 hours symptom free or medical documentation that states the symptoms are noninfectious

PERSONAL HEALTH AND HYGIENE

Employee Health

- Jaundice (Yellowing of the skin or eyes)
 - Employee must be excluded from the facility and notify the health department
 - Returning to work
 - Medical documentation that the employee is free of hepatitis A or other fecal-oral transmitted infections

PERSONAL HEALTH AND HYGIENE

Employee Health

- Infected wound or boil
 - Restrict employees from food areas
 - Return to work: Once the wound or boil is properly covered with a tight fitting bandage that is impermeable
 - Use a bandage and glove if a cut is on the hands or wrist

PERSONAL HEALTH AND HYGIENE

Employee Health

- Diagnosed with or exposed to the BIG 5 illnesses
 - Exclude employee from the facility and notify your local health department
 - Return to work
 - Must have approval from the health department

PERSONAL HEALTH AND HYGIENE

Food Employee Foodborne Illness Guidelines

Illness Symptoms Action Guidance (Food Code Sections 2-201.12, and 2-201.13)

Symptoms	Action	Return to Work Criteria for Food Employees	Local Health Department Approval
Vomiting	Exclude from retail food establishment	Symptom free for at least 24 hours or provide medical documentation that states the symptom is from a noninfectious condition	No, if not diagnosed as one of the Big Five
Diarrhea	Exclude from retail food establishment	Symptom free for at least 24 hours or provide medical documentation that states the symptom is from a noninfectious condition	No, if not diagnosed as one of the Big Five
Jaundice	Exclude from retail food establishment; call manager; Notify Health Department	Medical documentation that food employee is free of hepatitis A virus or other fecal-orally transmitted infection	Yes
Sore Throat with Fever	Restrict from food area of retail food establishment	Medical documentation stating received antibiotic therapy for >24 hours; one negative throat culture; or is free from infection from <i>Streptococcus pyogenes</i>	No
*Infected Wound or Pustular Boil	Restrict from food area of retail food establishment	*After the skin, infected wound, cut, or pustule boil is properly covered	No

* Note: Associated hands and wrists must be free of cuts or sores that are red or oozing, unless an impermeable cover is used over the sore and a single-use glove is worn over the impermeable cover. Cuts or sores on exposed portions of the arms and other body parts must be covered with an impermeable cover or tight-fitting bandage.

The Big Five are: 1. *Salmonella typhi* 2. *Shigella* 3. Shiga toxin-producing *Escherichia coli* 4. *Hepatitis A* 5. *Norovirus*

If you have been diagnosed with, or exposed to these illnesses, they are so contagious that you must be excluded from work at a food establishment, and you cannot return to work at a food establishment until approval has been received from the Local Health Department.

Criteria for Exclusion from Work: Any food employee diagnosed with an illness due to the Big Five must report the diagnosis to the manager. The food employee must be excluded from working in the retail food establishment and the law requires the manager to notify the local health department immediately. Before a food employee is allowed to return to work, check with the local health department.

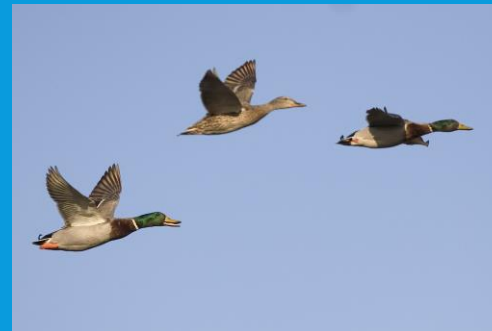
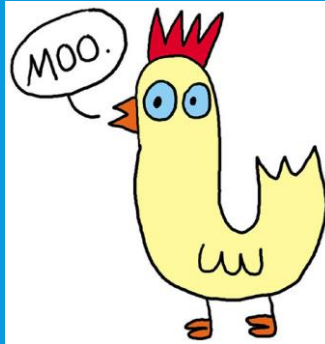
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Funded by Act No. 92, of P.A. 2000, Industry Food Safety Education Fund

INADEQUATE COOKING TEMPERATURES

Minimum internal cooking temperatures

- 165F
 - Poultry
 - Stuffed meats
 - Any meat cooked in the microwave
- If it flies, it goes to 165F



INADEQUATE COOKING TEMPERATURES

Minimum internal cooking temperatures

- 155°F
 - Ground meats
 - Minced fish
 - Mechanically tenderized and/or injected meats
 - Pooled shell eggs
 - Eggs for hot holding
 - Ratities



INADEQUATE COOKING TEMPERATURES

Minimum internal cooking temperature

- 145°F
 - Whole muscle meat
 - Fish/shellfish
 - Shelled eggs
 - Reptiles
 - Commercially raised game



INADEQUATE COOKING TEMPERATURES

Minimum internal cooking temperature

- 135F for hot holding
 - Cooked fruits
 - Cooked vegetables
 - Cooked beans or grains



INADEQUATE COOKING TEMPERATURES

Thermometers

- Use the appropriate size and scaled thermometer (Digital or dial)
- Take the temperature reading in the thickest portion of the meat or food product
- Wait for the temperature to become stable before reading
- Unit thermometers shall be placed in hot and cold holding equipment

INADEQUATE COOKING TEMPERATURES

Calibrating a thermometer

- Step 1: Fill a cup with ice and add enough water to cover the ice



INADEQUATE COOKING TEMPERATURES

Calibrating a thermometer

- Step 2: Make sure the sensing area is submerged in ice water. Wait until the indicator stops moving. The thermometer should read $32^{\circ}\text{F} \pm 2$ degrees.



INADEQUATE COOKING TEMPERATURES

Calibrating a thermometer

- Step 3: If the thermometer does not read 32F adjustment is required.
 - Use a wrench or pliers, turn calibration nut while keeping the probe in the glass of water
 - Turn the face of the thermometer until the pointer lines up with 32F
 - Digital thermometers: follow manufacture instructions

INADEQUATE COOKING TEMPERATURES



HOLDING TEMPERATURES

Time/Temperature control for safety foods (TCS)

- Food characteristics for bacterial and virus growth
 - Nutrients
 - PH (Acidity level)
 - A_w (Water activity)
 - Oxygen (Aerobic vs Anaerobic)
 - Time
 - Temperature

TIME/TEMPERATURE CONTROL FOOD EXAMPLES

- Cut leafy greens
- Cut tomatoes
- Cut melons
- Poultry
- Fish/shellfish
- Meat



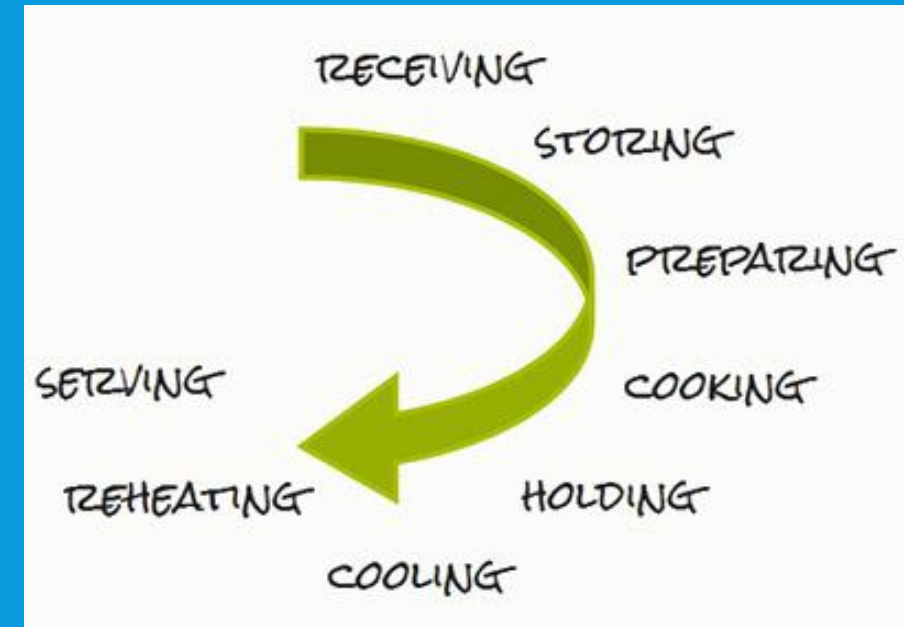
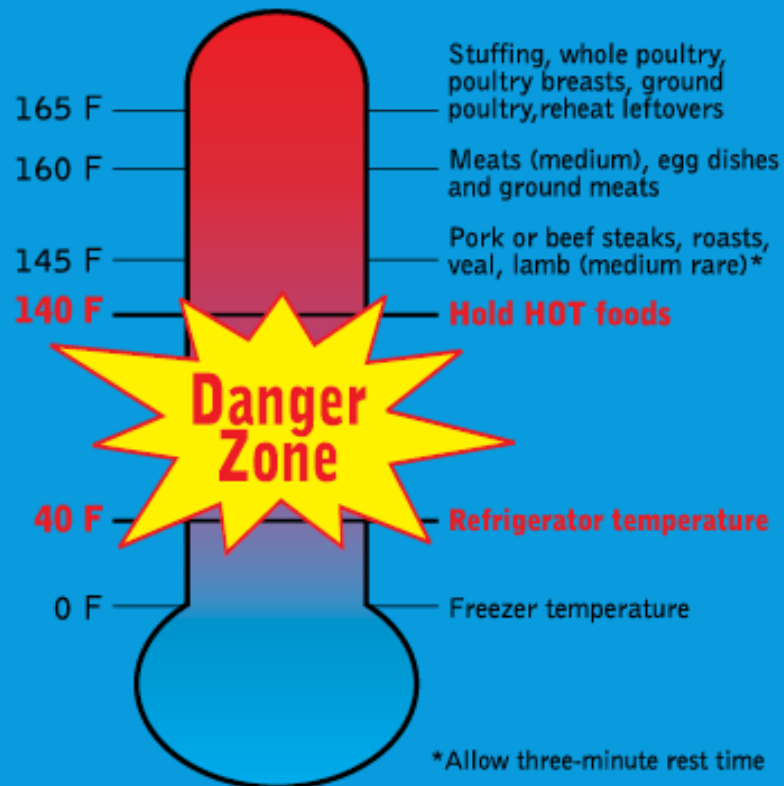
- Eggs
- Tofu
- Soy
- Heat treated, plant based food items
- Cooked vegetables
- Fresh Garlic and oil
- Seed Sprouts
- Dairy



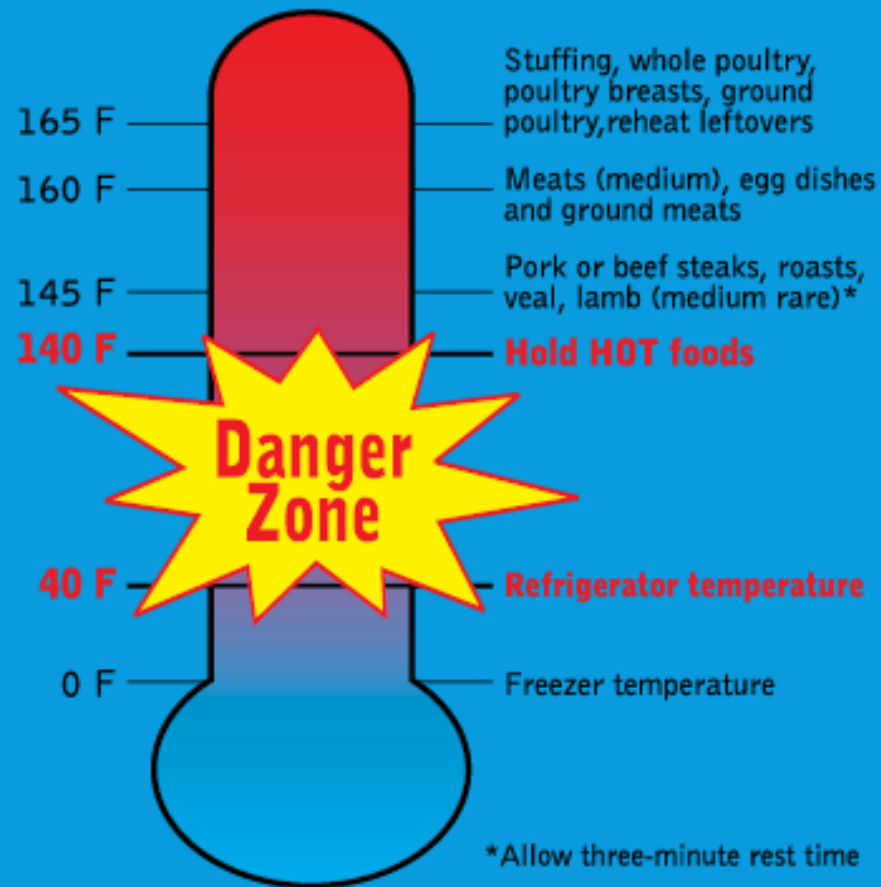
IMPROPER HOLDING TEMPERATURES

Temperature Danger Zone

- Keep time/temperature control for food out of the danger zone!



IMPROPER HOLDING TEMPERATURES



Temperature danger zone

- Cold food at 41F or below
- Hot food at 135F or above
- Rapid bacterial growth occurs between 70F and 125F

IMPROPER HOLDING TEMPERATURES

Approved thawing methods

- Under running water of 70F or less
- Slack thawing (Under refrigeration)
- Part of the cooking process
- Microwave if the food is going to be fully cooked immediately after

IMPROPER HOLDING TEMPERATURES

Cooling Process

- 135F to 70F in **2 hours** or less
- 70F to 41F in an additional **4 hours** or less
- Cooling must be completed in **6 hours** or less



IMPROPER HOLDING TEMPERATURES

Proper cooling methods

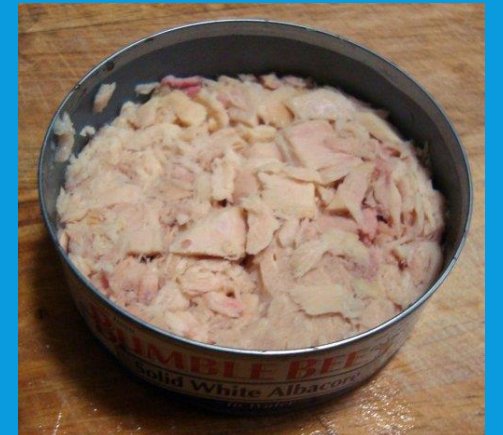
- Ice Wands/Ice bath
- Small portions (2 inches or less) with loose fitting lid
- Ice or cold water as an ingredient
- Walk in cooler or freezer
- Leave food uncovered



IMPROPER HOLDING TEMPERATURE

Cooling Room Temperature Food

- Ambient air temperature to 41°F within 4 hours or less
- Use rapid cooling methods
- Pre-chill ingredients in coolers when possible



IMPROPER HOLDING TEMPERATURES

Reheating Food

- Commercially prepared foods: Reheat to 135F or above in 2 hours or less
- Previously cooled foods: Reheat to 165F or above in 2 hours or less
- Important to use equipment designed for reheating

CONTAMINATED EQUIPMENT

Cross Contamination

- The transfer of bacteria or viruses from one food item or surface to another
 - Food to food
 - Equipment to food
 - Hands to food
 - Hands to equipment

CONTAMINATED EQUIPMENT

How to prevent cross contamination

- Storage
- Preparation timing and location
- Cleaning and sanitizing
- Proper hand washing
- Glove use

PROPER FOOD STORAGE

	Ready –to-Eat Fully Cooked Foods	_____
	Unwashed Produce	_____
	Raw Seafood/Fish Shell Eggs (cooked to order)	145° F
	Raw Whole Muscle Intact Beef	145° F
	Raw Whole Pork Raw Wild Game	145° F
	Raw Ground Meat or Fish Mechanically Tenderized Meat Pooled Eggs/Egg Batter	155° F
	Raw Whole/Ground Poultry	165° F

CLEANING EQUIPMENT

Wash, rinse, sanitize and air dry

- Food contact surfaces shall be cleaned a minimum of every 4 hours when in use or when contamination has occurred.
 - Utensils, cutting boards, tongs, etc.
- Clean in place equipment shall be washed, rinsed, sanitized and air dried every 4 hours or after use.
 - Large mixer, deli slicer etc.

CLEANING EQUIPMENT



PROPER USE OF THE THREE-COMPARTMENT SINK

- Step 1: Rinse, soak or scrap food and debris from food contact surface
- Step 2: Food contact equipment shall be washed in hot water and soap
- Step 3: Rinse food contact equipment in warm water in the rinse basin
- Step 4: Sanitize food contact equipment in the sanitizer. (Sanitizer concentration and water temperature shall be at manufacture requirements).
- Step 5: Food contact equipment shall be air dried. (Do not dry off)

CONTAMINATED EQUIPMENT

Test strips

- Used to ensure the sanitizer is at the proper concentration
- Common ranges
 - Chlorine: 50-100ppm
 - Quaternary ammonia (QUAT) 200-400ppm
 - Iodine 12.5-25 ML/g

CONTAMINATED EQUIPMENT

Wiping Cloths

- Wet cloths
 - Store in a sanitizer solution (Submerged)
- Buckets
 - Store them off the floor below and away from food and food contact surfaces

READY TO EAT FOOD

- **Food that is no longer going to be cooked, prepped, or washed**
 - Washed produce
 - Cheese
 - Deli meats
 - Bakery items
 - Raw sushi seafood (Parasite destruction)

READY TO EAT FOOD

Handling ready to eat foods

- Can not touch ready to eat food with bare hands
- Use approved methods when handling ready to eat food
 - Tongs, deli tissue paper, single service gloves, utensils

DATE MARKING

Foods shall be date marked for 7 days with day 1 being the first day the food was opened or prepped

- Fully cooked/ ready to eat food
- Time/temperature control food
- Prepped/opened and held for more than 24 hours
- Controlling for the growth of listeria monocytogenes:
Can continue to grow at 41F or below!

DATE MARKING

- Combining ingredients: you must use the earliest date of the food mixed in with the new food
- Dates can not go past the manufacture's expiration date/use by date
- Facilities must use a consistent date marking system
- Date marking shall not exceed 7 days

Open/Prep Date + 6 days = Discard date

DATE MARKING

Not all food require date marking

Exemptions:

- Hard and semi soft cheeses
 - Cheddar, swiss, parmesan, blue cheese, gorgonzola
- Cultured dairy products
 - Sour cream, yogurt, buttermilk
- Commercially prepared deli salads
 - Potato salad, pasta salad, macaroni salad

STORAGE OF FOOD AND EQUIPMENT

- Food and food contact items should be stored off the floor in a clean location
- Use the “First In, First out” method
- Bowls, dishes, and take out containers shall be inverted to avoid dust and debris

CHEMICAL AND TOXIC ITEMS

- Chemicals shall be stored below and away from food and food contact items
- Chemical (Working containers) shall be labeled with the common name of the liquid at all times
- Only use chemicals approved for use in a commercial kitchen

FRONT OF THE HOUSE STAFF

- Store personal items in approved areas
- Avoid touching food contact surfaces
- Don't use drinking glasses as ice scoops
- Be aware of menu items that may contain food allergens and undercooked ingredients

DISHWASHERS

- Check chemical levels and temperature gauges at the start of shift
- Use test kit to ensure the dish machine is sanitizing properly
- Wear proper hair restraints
- Wash hands after handling soiled dishes and clean dishes
- Allow items to air dry

PERSON IN CHARGE

- Must be present at all times of the operation
- Does not have to be the certified manager
- Must know basic food safety and be able to answer questions about the food facility



CERTIFIED FOOD SAFETY MANAGER

Food Establishments

- 1 full time employee shall have a valid certified food manager certificate
 - Certificate may be accredited by the American National Standards Institute (ANSI) certified



CERTIFIED FOOD MANAGER CLASSES

Benzie-Leelanau District Health Department: We offer 2 classes a year at each office. Classes occur in the spring and fall. See our website for more information or call our office at 231-256-0216.

Website: bldhd.org

Certified food manager classes can also be taken at the Grand Traverse Health Department, National Restaurant Association, etc.

FOOD ALLERGY CERTIFICATE

January 2017, Michigan food facilities must have:

- 1 certified manager who has completed the online approved allergy training course
- Post an approved allergy awareness poster

BIG 8 FOOD ALLERGIES



FOOD ALLERGIES

Symptoms of an allergic reaction:

- Shortness of breath
- Fainting
- Tingling / itching
- Hives
- Wheezing
- Swelling of the face, tongue, eyelids, hands or feet
- Difficulty swallowing
- Sudden onset of vomiting, cramps, Diarrhea

FOOD ALLERGIES

Food Allergy Awareness

The Eight Major Food Allergens

Milk
Eggs
Fish
Crustacean
Shellfish
Wheat
Soybeans
Peanuts
Tree nuts

Symptoms of an Allergic Reaction

- Loss of consciousness
- Shortness of breath
- Itching or tingling in or around the mouth, face, scalp, hands and feet
- Hives (welts)
- Wheezing or difficulty breathing
- Swelling of the face, eyelids, tongue, lips, hands or feet
- Tightening off the throat (difficulty swallowing)
- Sudden onset of vomiting, cramps or diarrhea

If a customer informs you of a food allergy:

- Refer the food allergy concern to the Person in Charge (PIC).
- Review the food allergy with the customer and check the ingredient labels.
- Respond to the guests request and inform them of your findings.
- Remember to check the food preparation procedures for **ANY** possible cross contamination, which could include frying the item in question in the same grease as an item that contains an allergen.
- If a food items is returned to the kitchen due to an allergen, **DO NOT** attempt to remove the allergen and send the food back. *Trace amounts of allergens can trigger an allergic reaction.*

**Notify the Person in Charge immediately
if a customer has an allergic reaction!**

www.michigan.gov/mda



OFF SITE FOOD OPERATIONS

- It is required to contact your local health department to determine if a temporary license is required.
- Contact Nick Dow at: (231)256-0216 or Ndow@bldhd.org

FACILITY REMODEL

- Plan review may be required if you are remodeling or building an addition
 - Adding equipment
 - Adding seats
 - Removing key equipment
 - Significantly changing the menu
- Contact Leelanau Building safety or Benzie Building safety and codes office to determine if additional food permits are required

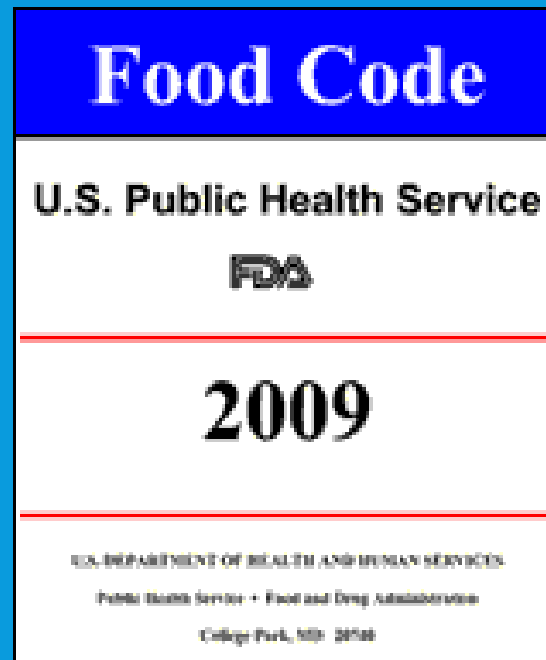
FOOD INSPECTION POLICY

Routine inspections occur every 6 months for year round facilities

- 1 Routine inspections is completed during the operational period of seasonal facilities
- Inspections can occur anytime the facility is in operation
- Follow up inspections may be required for uncorrected violations
- Risk control plans, office meetings, and license suspension can occur for continual non-compliance

FOOD REGULATIONS

- 2009 modified Michigan food code
- Michigan food law, Act 92 of 2000 as amended



QUESTIONS OR COMMENTS

- Contact information:
 - Nick Dow (Food sanitarian)
 - (231)256-0216
 - ndow@bldhd.org
 - Leelanau Environmental Health Office
 - (231)256-0201
 - Benzie Environmental Health Office
 - (231)882-2103
 - Eric Johnston (Environmental Health Director)
 - (231)882-2109
 - ejohnston@bldhd.org