

Sanitation

CAUSAL REVERIE'S AN EXCALIBER CULINARY SANITATION PROGRAM

Week 8

Cleaning and Sanitizing

Integrated Pest Control Plan

Introduction

- All of the work that is done on the premise to keep food safe can be undermined if the establishment is not kept clean **& Sanitary**
- Utensils, equipment, facility

Introduction

- Keeping the facility clean can help prevent the contamination of food
- Bacteria and viruses can spread quickly in a dirty environment ~ **Salmonella & Hepatitis A**
- Must be done carefully and correctly
- Cleaning chemicals are a potential hazard to guests and employees
 - only purchase chemicals approved for foodservice or restaurant use

Cleaning versus Sanitizing

- **Cleaning**: The process of removing food and other types of soil from a surface : **physical** :
- **Sanitizing**: The process of reducing the number or microorganisms on a surface to a safe level : **chemical & physical (temperature)** :
- A sequential process

Cleaning versus Sanitizing

- Must be a two-step process
 - Surfaces must be cleaned and rinsed first
 - Surfaces can only be sanitized after cleaning
 - w/ hot H₂O or chemical-sanitizing solution
- All surfaces that come in contact with food must be cleaned and sanitized

Cleaning versus Sanitizing

- All food contact surfaces must be cleaned and sanitized~**on a regular/routine basis:**

- After each use
- Anytime you begin working with another type of food
- Anytime you are interrupted and the tools or items may have been contaminated
- At four hour intervals with in constant use

Cleaning

- Factors that affect the cleaning process
 - Type of soil
 - Condition of the soil (dried/baked-on/fresh stain)
 - How easily it can be removed
 - Water hardness (Neg. effects detergents and causes “scale”)
 - Water temperature (hotter the better ~ + effects detergent)
 - Surface being cleaned (select correct product for surface)
 - Agitation or pressure (scouring/scrubbing helps penetration)
 - Length of treatment (longer exposure to agent = easier removal)

Cleaning Agents

- Chemical compound that remove “soils” :
 - Food
 - Rust
 - Stains
 - Minerals
 - Other deposits
- Must be stable, noncorrosive and safe for employees **to use**

Cleaning Agents

- Cleaning agents must be used as directed
- Can be ineffective and dangerous if misused
- Should never combine or make-up their own cleaning agents
- Only use cleaning agents for their intended use, **surface or material**
 - Do not substitute if do not know consequences

Detergents {cleaning agent class #1 }

- Contain surfactants that reduce surface tensions between soil and the surface
 - General purpose: Mildly alkaline
 - Removes fresh soil from floors, walls ,ceiling, prep surfaces, equipment and utensils
 - Heavy Duty: Highly alkaline
 - Removes wax, aged or dried soil, baked on grease
 - Dishwashing detergents

Solvent Cleaners {cleaning agent class #2}

- Also known as degreasers
 - Alkaline detergents containing a grease dissolving agent
 - Works on areas where grease is burned on
 - grill back splash / oven doors and deck / hoods / etc
 - Usually only effective at full strength

Acid Cleaners {cleaning agent class #3}

- Used on mineral deposits and other soils that alkaline cleaners cannot remove
 - Removes scales from dishwashing machines
 - Removes rust stains
 - Removes tarnish from copper and brass
- Instructions must be followed and acids used with caution

Abrasive Cleaners {cleaning agent class #4}

- ❑ Contain a scouring agent that helps remove hard-to-remove soil
- ❑ Used on floors and baked on food is pots and pans
- ❑ Can scratch surfaces

Sanitizing

- Two methods to sanitize
 - Heat sanitizing
 - Chemical sanitizing

Heat Sanitizing

- Tableware, utensil, or equipment is immersed in hot water
 - Minimum temperature: 171° F
 - Items must be immersed for 30 seconds
 - Temperature must be maintained
 - may require a heater (manual) and/or booster (machine)

Chemical Sanitizing

- Chemical sanitizers are regulated by the EPA
- Most common types
 - Chlorine
 - Iodine
 - Quaternary ammonium compounds (Quats)
- Item can be immersed in the solution
- Item can be rinsed, swabbed or sprayed with the solution **@ a specific concentration**

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Advantages and Disadvantages of Different Sanitizers

Advantages

Disadvantages

Chlorine

- Most commonly used sanitizer
- Kills a wide range of vegetative microorganisms
- Least expensive of the three
- Effective in hard water

- Inactivated by presence of soil
- Corrosive to some metals, such as stainless steel and aluminum, when used improperly
- Can be irritating to skin
- Does not remain active after it has dried

Iodine

- Remains active for a short period of time after it has dried
- Not as quickly inactivated by soil as chlorine
- Nonirritating to skin

- Less effective in reducing microorganisms than chlorine
- Somewhat corrosive to surfaces
- Most expensive of the three
- Slightly affected by the presence of soil

Quats

- Not as quickly inactivated by soil as chlorine
- Remains active for a short period of time after it has dried
- Noncorrosive to surfaces
- Nonirritating to skin

- Easily affected by presence of detergent residue
- Less effective against certain types of microorganisms
- Hard water reduces effectiveness

Chemical Sanitizing

- Factors that influence the effectiveness of chemical sanitizers
 - Contact Time
 - Temperature
 - **Concentration** (all mixed with H₂O)
 - too low = not effective
 - too high = \$ waste / leave taste and odor / damage metals
 - concentration is measured in **PPM** or parts per million

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- Use a test kit to measure the concentration of a sanitizing solution
- Manufacturer or supplier can provide
- are specific to “make and model”

Chemical Sanitizing

- Contact Time
 - Must make contact for a specific amount of time
 - Differs with the type of sanitizers
 - Follow directions or check with the supplier for times
- Temperature
 - Follow manufacturer's recommendations

Chemical Sanitizing

- Concentration
 - **To Repeat** ==> Must be mixed to the proper concentration
 - Too low: could fail to sanitize objects
 - Too high: can be unsafe, leave an odor or bad taste, can corrode metals
 - Expressed in PPM—parts per million

General Guidelines for Chemical Sanitizers

Chlorine				Iodine	Quats
Temperature					
120° F	100° F	75° F	55° F	75° F	75° F
Concentration					
25 ppm	50 ppm	50 ppm	100 ppm	12.5 – 25 ppm	As Recommended
pH					
< 8 – 10	< 10	< 8	< 8 – 10	≤ 5	As Recommended
Contact Time					
10 sec	7 sec	7 sec	10 sec	30 sec	30 sec

Dish Machines

- Can be used to clean, rinse and sanitize almost anything that will go through it
 - tableware
 - utensils
 - pots, pans, cutting boards
 - service trays, bus pans
 - hood filters, stationary equipment pieces

Dish Machines

- High-Temperature Machines
 - Rely upon hot water to clean and sanitize
 - Not hot enough—will not properly sanitize
 - Too Hot—may vaporize before items have been sanitized
 - Can also bake food onto the item
 - Final temperature must be at least 180° F
 - Stationary rack, final temperature must be at least 165° F

Dish Machines

- High-Temperature Machines
 - Must have a built in thermometer
 - Measures temperature at the manifold
 - May need to install a heating device or booster tank

Dish Machines

- Chemical-Sanitizing Machines
 - Temperature must not be lower than 120° F
 - Items may take longer to air dry
 - May need more room and/or tableware during peak hours
 - Must operate the machine according to manufacture's instructions
 - **All Items That Are Sanitized Must Be AIR DRIED**

Effective Dish Washing Program

- Effective layout in the dishroom
 - Scraping and soaking area
 - Adequate space for both soiled and clean items
- Sufficient hot water supply
- Separate area for cleaning pots and pans
- Device to measure water pressure and temperature
- Protected storage for clean items
- Trained employees

Dish Machine Operation

- ❑ Check for cleanliness at least once a day
- ❑ Scrape, rinse or soak items before washing
- ❑ Load machine correctly ~ **don't overload**
- ❑ Check temperatures and pressures
- ❑ Check for soiled items as they come out of the machine
- ❑ **Air-dry all items**
- ❑ Keep the machine in good repair

Manual Dish Washing

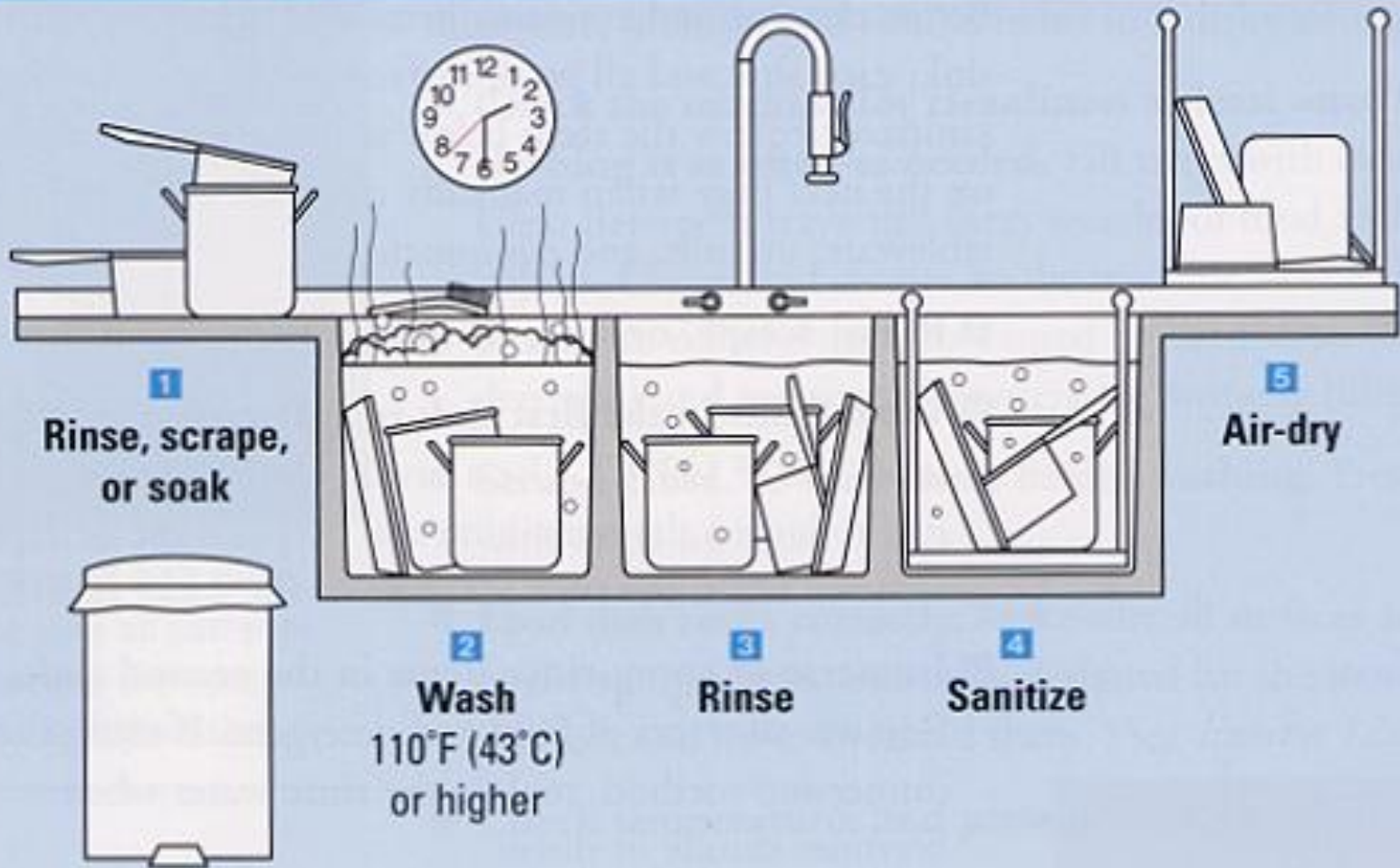
{for items too big for the dish washer}

- Must have a proper set-up
 - each sink & all work surface must be cleaned and sanitized before using
 - Three or four compartment **non-food prep** sink
 - Area for rinsing or scraping away food
 - Drain boards for both dirty and clean items
 - Thermometer to measure water temperature
 - Clock with a second hand

Manual Cleaning and Sanitizing

- ❑ Rinse, scrape or soak all items before washing
- ❑ Wash items in the first sink in detergent solution at least 110° F (**will be hot to feel**)
- ❑ Immerse or spray-rinse items in the second sink
- ❑ Immerse items in the third sink in either hot water (171° F) or chemical-sanitizer (**@ correct temperature and concentration**) for 30 seconds
- ❑ **Air dry all items**
- ❑ **refill any section that water has dirty water/solution**

Steps for Cleaning and Sanitizing Items in a Three-Compartment Sink



Clean-in Place Equipment *clean regularly*

- ❑ Turn off and unplug the equipment (eg; slicer)
- ❑ Remove food and soil from underneath and around the equipment
- ❑ Remove detachable parts and manually wash, rinse and sanitize
- ❑ Wash and rinse food contact surfaces, wipe or spray with a sanitizing solution
- ❑ **Air dry all parts and then reassemble**
- ❑ **Re-sanitize all food contact surface after re-assembly**

Refrigerated Units

- ❑ Clean prior to storing deliveries
- ❑ Move food to another unit before and during cleaning
- ❑ Clean shelves regularly.
- ❑ Thoroughly clean the walls, floor, door edges and gaskets

Kitchen Cleaning

- Clean all Nonfood-contact surfaces regularly and sanitize when appropriate
 - public restrooms > check hourly
 - floors, shelves, floor drains > daily
 - ceilings, walls & fixtures > perhaps weekly
 - docks, exterior garbage area & containers, parking area > perhaps weekly

Cleaning the Kitchen

- Floors, walls, food preparation and cooking areas should be cleaned at least once a day
 - Before or after a shift is preferable
 - Non-food contact surfaces may need to be cleaned less often

Cleaning the Kitchen

- Floors
 - Mark the area with signs or safety cones
 - Sweep the floor
 - Use a deck brush and full strength detergent on heavily soiled areas to remove grease and dirt
 - Mop or pressure spray the area
 - Work from the walls towards the drain
 - Remove excess water with a damp mop or squeegee
 - Rinse the floor with clean water using the same mopping procedure

Cleaning the Kitchen

- Walls and Shelves
 - Clean by spraying or sponging with a detergent solution
 - Use a nylon brush to remove dried on soil or grease
 - Rinse with clean water

Cleaning the Kitchen

- Ceilings and light fixtures
 - Check ceiling and light fixtures daily
 - Look for cobwebs, dust, dirt or condensation
 - Wipe or rinse as needed to remove soil

Cleaning the Premise

- All areas must be kept clean
 - Guest tables (use segregated dry and wet-sanitized cloths)
 - Serving Stations
 - Public Restrooms
 - Exterior premises (parking lot, trash holding area, etc)
- All spills should be cleaned up immediately
- Sinks, countertops, equipment should be cleaned daily or after each shift (bus pans, trays, etc)
- Trash should be removed daily

Storing Cleaning Tools, and Supplies

- ❑ Tools & Chemicals need to be placed in a storage area away from food and food prep areas
- ❑ Area should be well lighted
- ❑ Chemicals should be easy to identify
- ❑ Should be equipped with hooks to hang mops, brooms and other cleaning tools
- ❑ Should be equipped with a utility or slop sink
- ❑ floor drain is wash-up area

Tools for Cleaning

- Must have the right tools for cleaning
- Must be cleaned before they are stored
- May have to have different tools assigned for each task
 - Food surface and non-food surface
 - Bathroom tools a “**set apart**” to avoid **cross-contamination**
 - color coding is a good idea

Tools for Cleaning

- Brushes - *are many choices*
 - Used to apply pressure and loosen soil
 - Lacquered wood or plastic brushes with synthetic bristles are preferred
- Scouring Pads
 - Nylon scouring pads are preferred to steel wool
- Mops and Brooms

Storing Tableware and Utensils

- ❑ Must be stored at least 6 inches off/from the floor
- ❑ Keep them covered or protected from dirt and condensation
- ❑ Clean and sanitize drawers before storing clean items
- ❑ Clean and sanitize trays and carts used to carry clean tableware and utensils

Storing Tableware and Utensils

- ❑ Store glasses and cups upside down
- ❑ Store flatware with handles up
- ❑ Keep the food-contact surfaces of clean in place equipment covered until ready to use

Using Hazardous Material

Poses a physical or health hazard to humans

- OSHA requires that employers tell their employees about chemical hazards
- HCS = Hazard Communication Standard or HAZCOM ==> **“Right-to-Know”**
 - Must know what they might be exposed to
 - Must be trained to use the chemicals safely

The 5 Components

- | | |
|--------------------------|---------------------|
| • Inventory of Chemicals | • Employee Training |
| • Labeling Procedures | • Written Plan |
| • MSDS Sheets | |

Chemical Inventory

- ❑ Should have an inventory of **Hazardous** chemicals in the establishment
- ❑ List the name of the chemical and where it is stored
- ❑ Needs to be updated when chemicals are added or no longer used

Labeling Procedure

- Chemicals must be clearly labeled on the outside of the container
 - Chemical name
 - Manufacturer's name and address
 - Potential hazards of the chemical
 - If not labeled correctly do not accept delivery

MSDS Sheets

Material Safety Data Sheet

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- Must have MSDS sheets for all chemicals at the establishment
 - Information about safe use
 - Physical, health, fire and reactivity hazards
 - Precautions
 - Appropriate personal protective gear (**PPE**)
 - First-aid information
 - Manufacturer's name, address and phone number
 - Preparation date
 - Hazardous ingredients and identity information

MSDS Sheet

Sample Material Safety Data Sheet

Material Safety Data Sheet
CASIS 149 MULTI-QUAT SANITIZER

ECOLAB

Section 1. Chemical product and company identification

Trade name : CASIS 149 MULTI-QUAT SANITIZER
Product use : Sanitizer
Supplier : Ecolab Inc. Industrial Division
375 N. Waterloo Street
St. Paul, MN 55102
1-800-352-6326
Code : 870757
Date of issue : 30 March 2006
EPA Registration No. : 1677-196

EMERGENCY HEALTH INFORMATION: 1-800-323-6626
Outside United States and Canada CALL 1-451-222-5352

Section 2. Composition, Information on Ingredients

NAME	CAS number, by itself
quaternary ammonium compounds, di-c10-alkylmethyl, chlorides	68414-95-3 1-5
quaternary ammonium compounds, benzyl-d12-c16-alkylmethyl, chlorides	68424-95-1 1-5
1-Panor	64-17-5 1-5

Section 3. Hazards Identification

Physical state : Liquid (Liquid)
Emergency overview : DANGER

Essential acute health effects

- Eyes : Corrosive to eyes
- Skin : Corrosive to the skin
- Inhalation : Corrosive to the respiratory system
- Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

See toxicological information (section 11)

Section 4. First aid measures

Eye contact	In case of contact, immediately flush eyes with cool running water. Remove contact lenses and continue flushing with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately, if breathing is difficult, give oxygen. Get medical attention immediately.
Inhalation	Rinse mouth, then drink one to two large glasses of water. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Ingestion	

Training

- All employees who might be exposed to chemicals must be trained **on topics like**
 - Existence and requirements of the hazardous communication standard (HCS)
 - How the HCS is implemented in the workplace
 - Operations and process in which chemicals are used
 - Inventory of chemicals in the establishment

Training con't

- Location of MSDS sheets
- How to read a MSDS sheet
- Physical and health hazards of all chemicals used
- Specific procedures adopted to provide protection
- Use of PPE
- Safety and emergency procedures
- Information on the normal use of chemicals

Written Plan

How you plan to meet
the required HCS

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- ❑ List of hazardous chemicals stored on the premise
 - ❑ Purchasing specifications
 - ❑ Procedure for receiving and storing
 - ❑ Labeling requirements
 - ❑ Procedure for accessing MSDS
 - ❑ List of PPE
 - ❑ Employee training procedures
 - ❑ Reporting and record keeping procedures
 - ❑ How the employer will inform employees of the hazards of non-routine tasks

Disposal

Poses a hazard to people & the environment

-
- ❑ Must follow the manufacture's recommendations and instructions for disposal of all chemicals
 - ❑ Must follow any local regulations and rules that apply

Developing a cleaning program

- Identify the cleaning needs
 - how doing now & in the future
 - what resources will be needed
- Create a master cleaning schedule
 - of **what** and by **who** and **when**
- Choose the cleaning material
- Implement the cleaning plan
- Monitor the program

Sample Master Cleaning Schedule for a Food-Preparation Area

What should be cleaned?	Who should clean it?	When it should be cleaned?	How it should be cleaned?
Floors			
<ul style="list-style-type: none"> ■ Wipe up spills ■ Damp mop ■ Scrub ■ Strip, reseal 	<p>Bussers</p>	<ul style="list-style-type: none"> ■ Immediately ■ Once per shift, between rushes ■ Daily, at closing ■ Every six months 	<ul style="list-style-type: none"> ■ Check written procedure ■ Cloth mop and bucket, broom and dustpan ■ Mop, bucket, safety signs ■ Brushes, squeegee, bucket, detergent, safety signs
Walls and Ceilings			
<ul style="list-style-type: none"> ■ Wipe up splashes ■ Wash walls 	<p>Dishwashing staff</p>	<ul style="list-style-type: none"> ■ As soon as possible ■ Food-prep and cooking areas: daily ■ All other areas: first of month 	<ul style="list-style-type: none"> ■ Clean using cloths and detergent
Worktables			
<ul style="list-style-type: none"> ■ Clean and sanitize tops ■ Empty, clean, and sanitize drawers 	<p>Prep cooks</p>	<ul style="list-style-type: none"> ■ Between uses and at the end of day ■ Weekly 	<ul style="list-style-type: none"> ■ See cleaning procedure for each table ■ See cleaning procedure for table

The moral of this story

- All of the work that is done on the premise to keep food safe can be undermined if the establishment is not kept clean

Integrated Pest Management Program

- Pests can carry and spread a variety of diseases
- Once they are in your facility, they can be very hard to eliminate
- IPM **is key** can help prevent and eliminate pests
- An IPM uses
 - **preventative** measures to keep pests from entering
 - **control** measures to eliminate any that do

Integrated Pest Management Program

- Once pests enter an establishment, they can be hard to eliminate
 - **To repeat** ==> IPM uses both preventative measures and control measures
 - You must work closely with a licensed pest control operator (**PCO**)
 - Prevention is critical in pest control
 - If you wait until you see the pest, they may already be there in large numbers **which = an infestation**

IPM

- Three Basic Rules
 - Deny pests access to the establishment
 - Deny pests food, water, and <shelter> a hiding or nesting place
 - Work with a licensed PCO to eliminate pests that do enter

Deny Pest Access

Enter with deliveries
or building openings

- Deliveries
 - Use reputable vendors
 - Check all deliveries for evidence of infestation
- Doors, Windows, and Vents
 - Screen all windows and vents
 - Install self-closing devices and door sweeps
 - **Install air curtains**
 - creates barrier to pest around open doors
 - Keep exterior openings closed tightly

Deny Pest Access

□ Pipes

- Use concrete to close or sheet metal to cover openings around pipes
- Install screens over outside ventilation pipes and ducts
- Cover floor drains with hinged grates to keep rodents out

Deny Pest Access

□ Floors and Walls

- Seal all cracks in floors and walls
- Properly seal spaces or cracks where stationary equipment is fitted to the floor

Deny Food and Shelter

- Dispose of garbage quickly and correctly
- Store recyclables in clean, pest-proof containers
- Store all food and supplies properly and as quickly as possible
 - store food **min. 6 inches** off the ground on shelves
 - low temp (in refrigerators) and humidity helps
 - use FIFO
- Clean the establishment thoroughly

Deny Food and Shelter

- Grounds and outside dining areas
 - Cover all outdoor garbage containers
 - Remove dirty dishes quickly
 - **eliminate standing water**
 - Do not feed birds or wildlife
 - Locate insect eliminators away from food, customers, employees and serving areas
 - keep grass low
 - Call your PCO to remove hives and nests

Deny Food,
Shelter &
more by
Thoroughly
Cleaning



Cleaning eliminates pests' food supply, destroys insect eggs, and reduces the number of places pests

Identifying Pests

- Cockroaches (like dark, warm, moist places)
- Check for
 - Strong oily odor
 - Droppings that look like grains of black pepper
 - Capsule-shaped egg cases that are brown, dark red, or black
 - May appear leathery, smooth, or shiny

Identifying Pests

- Flies
 - Feed on garbage and animal waste
 - Transmit foodborne illnesses
 - Feces and vomitus can contaminate food
 - They prefer calm air and the edges of objects
 - Drawn to the odor of decay
 - Reproduce rapidly in warm weather
- Other flies: fruit flies, deer flies and horse flies can be a nuisance to outdoor diners

Identifying Pests

- Other insects
 - Beetles, weevils, and moths
 - Ants
 - Termites and carpenter ants
 - Spiders
 - Bees, wasps, hornets
 - Mosquitoes and gnats (malaria/yellow fever/typhoid)
 - Deer ticks (Lyme disease)

Identifying Pests

- Rodents
 - Serious health hazard
 - Eat and ruin food
 - Damage property
 - Can spread disease
 - They urinate and defecate as they move around a facility
 - Waste can fall into and contaminate food

Identifying Pests

- Signs of rodent infestation
 - Signs of gnawing
 - Droppings
 - Tracks
 - Nesting material
 - Holes

Identifying Pests

- Birds
 - Droppings carry fungi and bacteria
 - May also carry mites and microorganisms
 - Drawn to crumbs and food scraps
 - Post signs asking customers and employees not to feed the birds

Identifying Pests

□ Other animals

- Bats
- Raccoons
- Squirrels

Rabies & structure damage

Working with a PCO

- Choose your pest control operator with care
 - get references
 - make sure licensed and certified
 - proof of insurance
- Always require a written service contract

Inspection

- Thorough inspection is required
 - Specify exactly what treatment will be used for each area and the potential risks involved
 - Indicate dates and times of treatment
 - Provide steps that can be taken to control pests
 - Detail building defects
 - Determine follow-up times

You are an equal partner & your PCO's success is dependent on you.

Control Measures

- Repellents / liquid-powder-mists that repel but do not kill
- Sprays
 - Residual sprays / a film of insecticide that pest crawls over
 - Contact sprays / kills on contact~used on groups or nests
- Bait / a poison~ eaten by pest > die no spraying required
- Traps / light, chemical, electrical zappers
 - Glue boards / Lure using both light and chemical attractants / in outdoor dining areas, place as far away from guests as possible

Control Measures Trap Devices

Methods for Controlling Rodents



Rodent spring trap



Box trap



Glue board

Several devices can be used to control rodents.

Control Measures

Controlling birds

- ❑ Netting of fine wire mesh
- ❑ Wires with low electrical current
- ❑ Sound of birds in distress
- ❑ Mylar Balloons

Using and Storing Pesticides

can be dangerous to customers & employees

- ❑ Don't try to use pesticides yourself
- ❑ pests can develop pesticide resistance & immunity
- ❑ Keep pesticides in their original containers
- ❑ Store in locked cabinets away from food storage and preparation areas
- ❑ Store aerosols or pressurized cans in a cool place
- ❑ Check with local regulations for disposal directions

Using and Storing Pesticides

can be dangerous to customers & employees

- Rely on your PCO if pesticide use is indicated
- To minimize potential health hazard, use pesticides
 - when closed for business ~ employees not present
- If pesticides will be applied ~ Prepare the Area
 - remove food & moveable food contact surfaces
 - cover non-moveable equipment & food contact surfaces
 - wash, rinse & sanitize food contact surfaces and non-moveable equipment after area has been sprayed