




Keep Out Pesky Pests

by *Melissa Vaccaro, MS, CHO*

Pests in a foodservice operation can contaminate the facility, food contact surfaces, and even the food itself. They carry bacteria and diseases, which can be distributed through such things as fecal matter and saliva. Preventing the entry of pests into a facility is the main goal in pest control. Pests include insects and rodents, and any unwanted animals such as birds. Dogs and cats are classified as pests in food facilities.

In most cases, foodservice personnel are not the ones addressing pest elimination and control. It is often the build-

ing maintenance person who oversees this task. There must be good communication between the foodservice director and the maintenance staff. The role of the foodservice staff is to have sanitation practices in place to keep pests out, to monitor regularly for pests, and to document and report any pest activity to the designated personnel. The maintenance staff will eliminate entry areas and utilize monitoring tools and/or application of chemicals. In some cases, there is no maintenance staff and the foodservice personnel are responsible for all aspects of pest elimination and control.



LEAVE PESTS
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SOME DAILY PRACTICES TO PREVENT THE ENTRY OF PESTS

It's key to keep everything clean, dry, neat, and tight. Leave pests nowhere to hide, nothing to eat, and no way to get in.

- Keep doors and unscreened windows closed. Maintain screening on doors and windows.
- Maintain good housekeeping practices inside and outside the facility. Keep work and storage areas clean, sanitary, and dry. Remove cartons and boxes as soon as the supplies are unpacked. Make sure no harborage areas are created.

- Keep garbage receptacles clean, and remove garbage at regular intervals and when the receptacle is full. Garbage receptacles should contain a lid that is closed when not in use.
- Keep food, beverages, and other belongings in a locker or designated area.
- Inspect incoming materials—such as raw products, packaging and ingredients—for signs of pest infestation.
- Pay attention to damaged traps or missing bait stations and report any inconsistencies to the supervisor or pest control service.
- Personnel should inform the pest control service or supervisor if they see any evidence of infestation and if they see any dead rodents, insects or birds in the facility so they can be disposed of properly.

REVIEW OF COMMON PESTS

Different pests have different behaviors. By identifying the problematic species, pests can be eliminated more efficiently and with the least risk of harm to other organisms. Professional pest management always starts with the correct identification of the pest in question. Make sure your pest control provider undergoes rigorous training in pest identification and behavior.

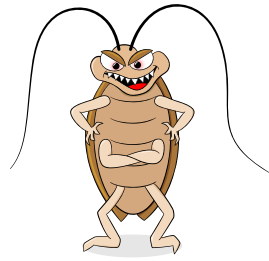
German Cockroach

This type of cockroach (*Blatella germanica*) is the most common one around the world. They are 1/2-5/8 inches long (13-20 mm) and pale brown with two dark-brown stripes behind the head. Their approximate lifespan is 9 months, and they produce about 140 young within this period. The egg cases are hidden in dark places with abundant food and water. They commonly infest restaurants, food processing rooms, as well as storage areas, offices, lockers, and restrooms.

American Cockroach

This species (*Periplaneta americana*) is the largest cockroach at approximately 2 inches long. The female hides her eggs as soon as they are produced. Females live up to 18 months and may produce 430 offspring. They are most frequently found in basements, storage rooms, garbage, and drainage areas.

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Oriental Cockroach

This insect (*Blatta orientali*) grows to approximately 1 inch long. It is shiny and dark brown to black in color. Females produce 80 young during their lifetime of 5-6 months. They prefer a habitat comparable to the American cockroach.

Flying Insects

Houseflies and fruit flies are the most common types of flying insects. Although they are seasonal, they may be prevalent year 'round in warm climates. Houseflies are common worldwide and can carry thousands of pathogenic bacteria that can cause human diseases. They are prevalent in warm locations protected from the wind, and more abundant in the late summer and fall. Flies are most active in temperatures between 53-95°F. A housefly lays approximately 120 eggs within a week of mating.

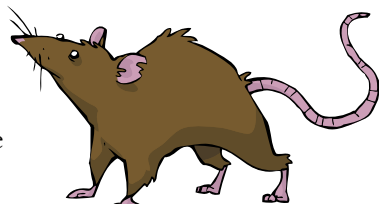
Fruit flies are attracted to fruits and rotten material and cannot always be completely eliminated. They are small oval flies approximately 1/8 of an inch in size. In addition to their fondness for fruit, they are often found in moist, decaying matter that has been stationary for several days.

Rats

An adult rat is about 9-11 inches long with a 7-9 inch tail. A female rat becomes fertile within 6-8 weeks after birth and is capable of one litter per month with 6-10 young each litter. Most rats live for about one year and consume approximately 45 pounds of food during their lifetime.

A rat can enter through openings as small as a quarter, climb vertical brick walls, and jump up to 3 feet vertically and 4 feet horizontally. They are strong swimmers and have the ability to swim through toilet bowl traps. Rats need very little free water per day to survive. The Norway rat or *Rattus norvegicus* is the abundant kind of rat in the United States. Rats that find enough food do not usually move more than 54 yards from their nest if mates are available.

One rat dropping can carry millions of harmful microorganisms. Dried droppings may be carried into food by air



movement. Fecal droppings are one of the most important indicators of rodent infestation. A rat dropping is approximately 3/4 inch long, rectangular, with blunt ends.

Rats and mice tend to be inactive during daylight hours. Noises, smudge marks, urine stains, and odor are also indicators of rat infestation.

Eliminating harborage areas and preventing entry are keys to control. If necessary, rodenticides may be applied by a certified pest control applicator.

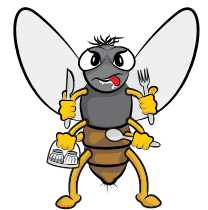
Mice

Mice are about 3-4 inches long with a 3-4 inch tail. They are able to enter a building through a hole as small as a nickel. Like rats, mice can swim through floor drains and toilet bowl traps. Mice are filthy and can spread various diseases. Mouse droppings will be a key indicator of their presence. A mouse dropping is approximately 1/4 inch in length with one or both ends pointed.

Mice can survive on water derived from food. They are easily carried into food premises in crates and cartons. Mice are easier to trap than rats. Metal and wood-base live traps are normally effective. If necessary, a rodenticide can be applied by a certified pest control applicator.

Pests Associated with Stored Food

These pests can include moths and beetles that feed on and contaminate stored grains. The Indianmeal Moth and the Merchant Grain Beetle are commonly known storage pests. The best control is prevention. Prevention measures include inspecting all incoming items for the presence of pests, throwing away and cleaning up all spilled or contaminated items promptly, and proper ground maintenance, which is important to reducing sources of pests. Stock rotation in accordance with first-in, first-out principles apply, as old stock is more likely to become infested. Adequate ventilation is necessary to reduce moisture levels. While prevention is the best control measure, existing infestations are best treated by a trained and knowledgeable pest management company.



CHEMICAL CONTROL OF PESTS

Ideally pest control should occur without the use of chemicals. Integrated Pest Management (IPM) stresses the use of non-chemical control methods—such as exclusion or trapping—before chemical use. However if non-chemical methods don't work, you may need to turn to chemical control methods. Chemical use should certainly not be a substitute for effective sanitation. It goes without saying that all chemicals should be used and

REFERENCES

Gould, W.A. 1994. Insects and insect control. In "CGMP's/Food Plant Sanitation," pp. 133. CTI Publications, Inc., Baltimore.

Marriott, N.G. 1991. Pest control. In "Principles of Food Sanitation," pp. 191-213. Chapman & Hall, New York.

stored according to approved EPA labeling. Many household chemicals are not approved for use in restaurants or food production areas. Read the labels carefully.

When dealing with pest infestations, treatment with chemical, physical or biological agents should be performed without posing a risk to the safety of the food. Pesticides should be applied after the shift, over the weekend, or when the food facility is closed, and should not be sprayed in food areas during working hours. It is imperative that food and food contact surfaces are protected at all times.

The 2013 FDA Model Food Code addresses the use of pesticides: "A Restricted Use Pesticide [40 CFR 152.175] shall be applied only by an applicator certified as defined" under Federal Acts or "a person under the direct supervision of a certified applicator." In some states, *anyone* applying a chemical pest control method must be a certified/licensed pest control operator. Always check with your regulatory agency before applying any chemical controls.

The FDA Food Code additionally allows for bait stations as long as the bait is contained in a covered, tamper-resistant station. Vapor pesticides and tracking powder pesticides may not be used in food facilities.

Don't let pests drive your customers away. Have a strong IPM program in place and keep those pesky pests out of your foodservice facility. **E**



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