

IPM for the Food Service Professional

By Bill Mashek

I have been associated with the food service industry for many years as a whitewater outfitter. On some rivers we are regulated under the same guidelines as restaurants. Subsequently, I have taken several courses in food service management. I find the area of pest management extremely important, but it was often left out of training procedures. Food service professionals rely primarily on the pest control industry to take care of their pest management problems. Unfortunately, many pest control operators (PCOs) are untrained in IPM. Perhaps some of the information in this brief article could be useful to food service professionals.

Food, harborage, and water are what pests need to survive. Integrated pest management (IPM) strives for built-in control of pests based on these three resources. Though IPM is a flexible method that can be adapted to nearly any situation, I believe that structural IPM is more about prevention than control. Preventive maintenance seeks to identify and eliminate potential pest access, shelter and nourishment.

Pests such as insects and rodents are a serious hazard to the food service industry. These pests can contaminate food supplies and damage facilities. More importantly, they also contribute to food-borne illness and disease. Pesticides are important in controlling these pests, but pesticides alone are not the answer. A food service IPM program is a system designed to prevent pests from infesting your restaurant or food establishment. You may not be able to eliminate the pest management professional altogether, but you can reduce the need for this service substantially.

Prevention

Food service workers should work with, not depend on, pest management professionals. That means food workers should share some of the burdens of pest prevention. The core of any IPM program is pest prevention. Deny food, water, and shelter by following good cleaning, food storing, organizing and sanitation practices. Good cleaning means food will be free of soil and debris; good sanitation means freedom from contamination. On a regular basis, thoroughly clean and sanitize restaurant equipment, floors, and all crack-and-crevice areas. [Cracks and crevices make good harborage areas for roaches].

Food should be stored above the ground in sealed pest-proof containers. Properly store food supplies on pallets above the ground and allow up to an 18-inch (46 cm)

air gap from walls. Keep pests out of the food service operation by pest proofing. Make sure that all vents are sealed. Drains should have screens to prevent roach intrusion. Holes where pipes go through walls should be caulked.

Part of exclusion is finding cooperative suppliers. Restaurant suppliers bring many pests such as the German roach, *Blattella germanica*, into a structure. Only reliable suppliers should be used.

To prevent mice, rely on their biology and behavior. Mice have poor vision and frequently use the same paths or runways. They usually stay near walls. Mice eat very little but will contaminate large amounts of stored food by nibbling into stored products, they also defecate where ever they travel and feed. To take advantage of this behavior, set traps near walls and where mice feces are seen.



Shown here are food particles and dead insects that have been mopped up. The cracks and crevices are also ideal roach harborage.

Photo courtesy of Bill Mashek

Update



Photo courtesy of Bill Mashek

Open dumpsters like these provide ample opportunities for rats.

Exclusion

Mice need only a crack or hole the size of a dime to enter a building, rats a quarter, and ants and roaches, can enter through water and electrical lines. Flies are attracted to food waste and will swarm near lights. Seal all pipes and electrical lines with wire mesh, steel wool, and/or caulking. Keep garbage in sealed plastic bags in covered containers. Windows and vents should be covered with at least 16-mesh wire. Repair cracks and gaps at all exterior doors and walls, and install air curtains or "fly fans" that blow a steady stream of air to the outside. Repair crack or damage to floors. Floors should be of a waterproof material such as tile. Install lighting away from exterior doors. Lights will attract all types of flying insects. Caulk and seal around light switches and vent hoods. Keep exteriors of building perimeter clean and free of excess storage and debris.

Control

The food service professional should have a basic understanding of the identification, behavior habits and biology of the target pests. This is the most important procedure in your control and elimination strategy. As previously mentioned, mice defecate where ever they travel, but mostly where they feed. Their territories rarely exceed a 20-foot (6.1 m) diame-

ter. Traps and bait stations must be placed in this area to be effective. The key to a rat control program is pest identification, sanitation, harbor-age elimination and rat-proofing the building. Rats will travel up to 150 ft (46 m) for food and water and usually use established runways. Placement of traps or baits should be in these runways. However, rats are often "bait shy" and more cautious than mice. Subsequently, trapping and baiting are often less effective than rat proofing.

Ants

Ants often nest in wall voids or moist situations involving water pipes and vegetation near food sources. Nest size for many pest ants will vary from several hundred to several thousand (see the Spring 1999 *Common Sense Pest Control Quarterly*). Control begins with finding nesting areas. Baiting and use of boric acid along trails to and from the nest is the most effective treatment. Caulking and sealing around pipes and electrical lines are also important control measures.

Cockroaches

Prevention is the best control for cockroaches. This includes food organization and storage, appropriate sanitation and frequent cleaning. Elimination includes caulking and sealing of possible harborage

areas along with frequent inspection and monitoring. Other control measures include the use of baiting and crack-and-crevice treatments.

Cockroaches can be prevented partly by controlling humidity, areas with 50% or less humidity will reduce the hatching of cockroach eggs. Compressor motors are prime harborage areas for roaches. These areas include but are not limited to refrigerators and freezers. They create the ideal temperatures for breeding. Keep these areas clean and free of debris. Do not store food products longer than their recommended time.

Stored Product Pests

These can include moths and beetles that feed on and contaminate stored grains. Again, the best control is prevention. These measures include inspecting all incoming items for infestation. Throw away and clean up all spilled or contaminated commodity. Proper ground maintenance is important to reduce sources of pest and attractiveness to pests. Stock rotation, first in, first out principles apply, as old stock is most likely to become infested. Adequate ventilation is important to reduce moisture levels.

If there is a major infestation, it may be necessary to hire a pest management professional. Integrated Pest Management is primarily low impact pest management with permanent or longterm reduction of the target pest population. IPM requires an integration of several approaches to managing pest problems. You may not be able to eliminate your pest management professional, however you as a food service professional will be in a more proactive role in your IPM program.

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