Pest Control on the Fly

RON HARRISON, Ph.D., Entomologist & Director of Technical Services, Orkin LLC

Food Manufacturing, a *Chem.Info* sister publication, spoke with Ron Harrison of Orkin about the risks flies pose to food-processing facilities, and how they can be prevented and treated.

Q: Why are flies such a concern in food processing facilities?

A: Flies are among the filthiest of all pests, carrying billions of microorganisms on their bodies. They can be problematic in food-processing facilities because:

1. **Flies breed quickly.** The female housefly can produce up to 1,000 eggs in her lifetime. These larvae develop into adults in about seven to 10 days depending on temperature, and if the proper conditions exist, a population explosion can occur.
2. **They can contaminate food.** Certain fly species move from rotting, disease-laden garbage and fecal material to exposed food and surfaces.
3. **Flies spread disease.** Flies can transmit pathogenic microorganisms (internally or via the numerous hairs on their bodies) that cause E. coli, salmonella and shingles.
4. **They can undermine a business' image.** Unlike many other insects, flies have only two wings; therefore, they land frequently, providing them the opportunity to leave behind droppings, regurgitated food and potentially disease-causing pathogens.
5. **Flies cost money.** They can be responsible for product losses or regulatory

fines from government agencies.

Q: Which types of flies are most likely to impact a food plant?

A: The following:

1. **House flies** — in most areas of the country, the most commonly encountered fly is the house fly, which can be identified by four lengthwise stripes on the thorax. These pests can spread microorganisms, such as bacteria, fungi and viruses, to the surfaces on which they land. They can also regurgitate during the feeding process, which is one way that enables them to transmit disease organisms.
2. **Blow flies** — these flies can be called bottle flies due to their shiny, metallic-looking abdomen. They readily feed on just about anything that we call "filthy," including dead carcasses and animal waste, and they can detect a food source farther than a mile away.
3. **Vinegar or fruit flies** — averaging 1/8-inch long, these small flies prefer to lay their eggs near fruits and vegetables, in addition to other decaying organic material. Fruit flies abound near fermented materials found in trash cans and floor drains.
4. **Drain flies** — sometimes called moth flies because of their moth-like appearance, drain flies are covered with long hairs, and breed in and feed on decaying organic material.
5. **Phorid flies** — easily recognizable due to their humped backs, phorid flies breed in decaying organic matter. These 1/8- to 1/4-inch long flies thrive off the moisture found in the bottom of trash receptacles, under kitchen equipment, in drains that are backed up and contaminated with gook, in dirty mop heads, and in over-watered potted plants.

Q: How can food companies prevent fly infestations?

A: Food-processing facilities should follow a regimen that includes inspection, sanitation, exclusion and trapping as effective integrated pest management (IPM) practices to help protect their staff and their products.

Q: Once a facility is already infested with flies, what steps should the manufacturer take to solve the problem?

A: There are a couple of main mechanical control methods that facilities can try:

1. **Insect light traps (ILTs)** — flies are attracted to certain kinds of light, so wall-mounted ILTs can help control them. Once a fly enters the facility, the fly light should be the first light it sees. These lamps are most effective the first 30 days, so they should be changed monthly until a fly problem is under control. However, it's important to note that ILTs only monitor the efficacy of the overall fly control program. Alone, they are not a complete control option, but are invaluable as part of a comprehensive IPM program.

2. **Fly traps** — these traps can be used in cafeterias, shipping and receiving areas, refuse collection points, food storage areas or other areas where ILTs are not appropriate. Flies will enter the traps, but won't be able to escape. One important consideration for fly traps is determining the proper trap for the species of concern, as well as the appropriate placement.

Chemical treatments should only be considered as a last resort to non-chemical remediation efforts, such as sanitation and building maintenance. Manufacturers should consult a licensed, trained pest management professional to create a customized program for their situation.

For more information, please contact Dr. Harrison at rharriso@orkin.com [1] *or visit www.orkincommercial.com* [2]*. For more information on preventing fly infestations in facilities, read the new white paper, "Fly Control: Understanding the Threats to Your Business* [3]*," by Orkin pest experts Greg Baumann and Ron Harrison.*

***Interview by Lindsey Coblentz, Associate Editor,* Food Manufacturing**

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