

# Community **IPM**

## Sanitize to Manage those Blow Flies

Blow flies are a type of “filth fly” recognized by the metallic blue, green, or bronze color of their body. One group of blow flies, the blue bottle flies, are sometimes found inside buildings in the Northeast, appearing suddenly in groups of a few, to dozens at a time. Female blow flies are experts at finding food and will lay eggs on decaying organic material such as dead animals, garbage and feces. Indoors, adult flies are attracted to light and will congregate at bright windows or light fixtures. Because of their feeding behaviors, these flies can carry and transmit pathogens, making them an important public health pest.

### Did You Know ... ?

- **Criminal Witnesses:** Blow flies breed in dead bodies, and are used as forensic evidence in criminal cases to estimate the time and place of death.
- **Name Origins:** The name blow fly is derived from an old English term for meat that had eggs laid on it, which was said to be fly-blown.
- **Ephemeral Specialists:** Blow flies feed on food items that are ephemeral, or available for a short amount of time. To exploit these food items, adults can detect and fly to recently dead items over long distances.

### Identification

Blow flies can be recognized by their distinctive, bright metallic bodies. The body and legs are often covered by black, bristle-like hairs. Blow flies have red eyes and two clear wings. These flies are slightly larger than common house flies, which are dull gray in color with four stripes down the back. Blow flies are often found in groups when they emerge from a single food source.

### Biology

Adult female blow flies lay eggs in decaying organic material such as animal carcasses, garbage, rotting plant material and feces. During her lifetime, a female can lay approximately 2,000 eggs that are distributed in clumps on or near a food source. Cream-colored larvae or maggots hatch from the eggs and immediately begin feeding with mouth hooks, which are used to tear into food items such as meat. When fully developed, larvae crawl away from the food source to a dry, protected site and pupate in a tough, brown cocoon made from



Blue Bottle Fly: *Calliphora vicina*. Photo: Gary Alpert.



A green bottle fly feeds on a mouse carcass. Photo: J. Gangloff-Kaufmann.



Drink syrups in bottles and cans for recycling can serve as a breeding site for flies. Photo: J. Lampman.

the last larval skin. The adults emerge, mate and begin the cycle again, which can take two to four weeks to complete. Adult flies typically live for two weeks, but may survive up to several months if they survive the winter.

Adult flies do not have chewing mouthparts, and feed by liquefying their food with digestive enzymes. To do this, flies regurgitate saliva on their food, and sponge the liquefied contents back up. When flies feed on garbage and make their way into a home or restaurant, they carry bacteria on their feet or in their saliva, which can then be transferred to food, plates and food preparation surfaces. The potential for spreading diseases makes blow flies and other filth flies important public health pests.

## Management

Sanitation is pest control for flies. Use the following steps to prevent and manage flies:

1. Obtain accurate identification of the fly species. This will give you important information about the fly's biology, including its preferred food source.
2. Identify breeding or larval development sites. Indoors, look for decaying food items at the bottom of a garbage receptacle, in bottles and cans for recycling or near the sink. If larvae or pupal cases are found in areas outside the kitchen, consider whether an animal has died in the walls. Outdoors, look for animal carcasses or pet feces near the home.
3. Clean and eliminate decaying organic material. This will remove developing larvae and breeding habitats that are attractive to adult flies.

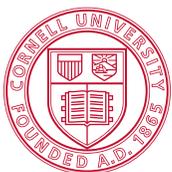
4. Use light traps, sticky ribbons, a vacuum, or a fly swatter to reduce indoor fly populations. Light traps are most effective when not competing with bright sunlight and are positioned three to five feet off the floor. Never use electrocutor traps indoors, as these can disperse insect parts and gut contents.
5. Choose garbage receptacles with tight-fitting lids. Receptacles should be cleaned regularly to remove residue, especially those that are difficult to seal completely (i.e. dumpsters).
6. Make sure that screens and seals around windows and doors are sufficient to exclude pests. In commercial settings, air curtains or plastic-strip doors should be installed and properly maintained to prevent fly access around doors.

Note: if you are unable to locate the breeding source of flies, there may be a carcass in the wall, attic, or basement. While a carcass will eventually dry up and no longer support flies, other pest species including beetles may then colonize the remains. For this reason, consider using trap devices (live, snap, glue) instead of toxic rodent baits in pest management programs. Traps allow the homeowner or pest manager to remove carcasses when pests are captured.

## Summary

Filth flies such as the blow flies represent a human health risk when they carry pathogens from garbage to food areas. Flies breed in decaying organic material, and fly problems can be solved by sanitizing or cleaning these areas. Keep flies and other pests out with properly installed, tight-fitting screens on windows and doors.

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