Public Buildings Service
National Capital Region

Pest Management Information Bulletin # 3

- FRUIT FLIES and FUNGUS GNATS -

Two kinds of small, annoying flies are common inhabitants in almost every type of building. Flitting around our faces, drifting in and out of our field of vision, the distraction they cause as intruders in our personal space is way out of proportion to their size. In the bad old days, the most common treatment for them came out of a nozzle. Nowadays, although they still provoke knee-jerk requests for "spraying" (or worse, "fogging") from building occupants, this type of insecticide application is no longer considered appropriate for most indoor pests. Not only is the spray an unacceptable form of air pollution that may be hazardous for some people, it only kills the few adult flies that are present during the treatment. The vast majority that are developing as eggs or larvae remain totally unaffected, and a few days later a brand new crop of flies is back in business. (For a more detailed explanation of why sprays and fogs have fallen out of favor in the modern workplace, see Pest Management Information Bulletin #1, Insecticides in Buildings.)

The ***only*** way to effectively control these nuisance pests in a safe, sustainable way is by getting to the source of where they're breeding. This is easier said than done, and is often frustrating for both occupants and pest control technician. Proper identification is essential, since the two types of flies originate in very different places and require different types of solutions. Therefore, if none are seen during an initial service call, it is standard procedure for the technician to first deploy a sticky trap or two to confirm exactly what the problem is.

One frequent concern of building occupants can be laid to rest right now: these bugs ***do not bite***. They couldn't if they wanted to. Furthermore, although they could potentially leave harmful bacteria behind when walking on food, they are not considered to be important disease vectors.

Fruit Flies

Fruit flies are stocky little creatures, often with bright red eyes, that most people recognize from summer days at fruit stands, supermarket produce sections, and their own kitchens. The flies are so common that it is impossible to prevent them from repeatedly hitchhiking into buildings on ripe bananas, melons, citrus, grapes, tomatoes, and practically any other fruit or vegetable. But if this was the extent of their biological needs, they wouldn't be such a big problem. After all, produce gets eaten and the remains are thrown out in the trash.

It doesn't end there because the tiny fruit fly larvae (maggots) eat *any* sort of moist, yeast-rich, fermenting material. And in a typical office building, pockets of this sort of nasty stuff occur in several predictable locations: crevices and drains in cafeteria kitchens, poorly cleaned mop closets or recycling containers, refrigerator drain pans, and even the residue that builds up in the bottom of custodial trash carts (which then often spread the infestation throughout the building). It doesn't take much of it to raise up a bunch of flies, and the reproductive potential of the adults is staggering. Each female can lay up to 500 eggs over a one-month lifespan, and each egg can hatch after a day or two. Then all it takes is about a week before the adult stage is reached.

The central role that yeast plays in the fruit fly life cycle is the key to how we achieve both temporary relief and a long-lasting cure. Since the flies aren't very bright, they are readily trapped in a wide variety of compact, inexpensive, commercially-available traps, all employing some type of fermenting liquid inside a container with a narrow, one-way entrance. For over a hundred years, the standard homemade equivalent has been a mason jar with cider, vinegar, or stale beer inside and a paper funnel tightly fitted into its mouth.

The downside to these devices in the workplace is that it is logistically and administratively difficult to run a sustainable trapping program – setting them out is easy, but keeping tabs on all of them and promptly replacing them or changing the bait when necessary does not fit into the operational realities of many contracted pest control programs. Traps may be practical as a limited, short-term fix, but the long-term, preventive approach is much more effective. The greatest value of an experienced service technician in this case is to identify the spots where the flies are breeding and make specific recommendations for a remedial cleanup.

Fungus Gnats

In contrast to fruit flies, fungus gnats are more mosquito-like in appearance, with a slender, delicate, and long-legged body. Their life history is completely different as well. Almost all fungus gnat problems in office buildings come from the larvae that are living in the moist soil of potted plants. Often already present when the plant is purchased, the tiny maggots feed on roots, fungi, and decaying organic material. They especially thrive when plants are overwatered, and may stunt their growth when prolonged infestation occurs. Of course, when the adult flies emerge, they can easily infest other plant containers in the vicinity if the soil is sufficiently damp.

This is a touchy situation, since office plants are typically the personal property of the occupants and thus out of the domain of the pest control contractor. In any case, pesticides labeled for fungus gnat larvae in soil are intended for either agricultural use (such as commercial greenhouses and nurseries) or interior plantscapes, and are not marketed for general structural situations. Therefore, the standard recommendation for the plant owners is to step away from the watering can, let the soil dry out to some degree, and maintain their enlightened behavior so that the change is permanent. This will kill many of the maggots and is actually healthier for most common types of indoor plants than the soggy conditions they often must endure. A supplemental tactic to provide immediate relief is for the pest control technician to deploy either sticky traps (yellow-colored ones specifically made to attract fungus gnats are available) or light traps in the affected area. In extreme cases where an office is heavily infested with gnats and the plant owners are incapable of moderating their urge to water, the only effective treatment may be for management to – at least temporarily – ban all vegetation that isn't plastic from the workplace.