

American Pest

Small Flies in Fermentation



white paper



by American Pest



Brewers, vintners and spirit distillers face unique challenges when it comes to controlling pests and ensuring an uncontaminated product, particularly when it comes to fruit flies. The very process of fermentation itself requires a large, open area that all but invites fruit flies to partake and breed. They're one of the common annoyances faced by this industry.



Keeping these unwanted guests away requires a strategic, integrated pest management approach that anticipates each pest's next move and incorporates precautionary steps to reduce and eventually eliminate their feeding and breeding options.



This white paper explores the most successful pest control strategies employed by this niche industry, as well as the everyday actions distillers, brewers and vintners can take to exclude vermin from their operations and ensure a pest-free operation.

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Understanding what Attracts Fruit Flies



Fruit flies are attracted to the fermentation process, particularly the CO₂ that's produced as a byproduct, and tend to breed in decaying fruits, vegetables and other organic matter that quickly accumulates in floor cracks and crevices. This often results in unintended fermentation and a tasty stew of "organic grime," says Dr. Kathy Heinsohn, Technical and Training Entomologist at American Pest.

"Just the odor of fermentation will attract them," she says.

"Pay special attention to cracks and crevices located near or under crush pads, distillation stills, and brewery tanks, where it's difficult to clean and seal up," says Corey Pilkenton, Associate Entomologist and District Manager at American Pest.

"There might be cracks and crevices that are difficult to get at and seal up," he says. "We also find them in areas of moisture, such as a forgotten area of the building where standing water is present."

To determine the extent of the infestation, take a closer look at the flies. "If they generally have red eyes (red-eyed fruit flies, *Drosophila melanogaster*), you've caught the problem early," Dr. Heinsohn says, "as these types of flies tend to arrive early."

But if most of the flies have dark eyes (dark-eyed fruit flies, *Drosophila repleta*), you have a significant sanitation issue that has been left unchecked or undiscovered for too long.

"At this point, you'll need to increase the frequency of your drain maintenance," she says. "Most companies perform a deep cleaning of their drains every four to six weeks, but that's not enough if you've got a small-fly issue."

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Dr. Kathy Heinsohn
Board Certified Entomologist



“All liquid drain cleaner in the world won't solve a drain fly problem.”

Problems that Invite Small Filth Fly Infestations

Phorid flies, also known as filth flies, are also commonly found breeding in drains that contain decaying organic matter, particularly near damaged sewer lines. You can be certain that you're dealing with phorid flies by taking note of their erratic, zig-zagging behavior when they run across surfaces.

Slower moving drain flies—also known as moth flies for their small, moth-like appearance—signal a clogged drain or sewer pipe, as they tend to feed on sewage and organic matter that collects in drains. “You simply have to find the drain and clean it out,” Pilkenton says.

But take note: “All the liquid drain cleaner in the world won't solve a drain fly problem. You've got to physically remove the material that's causing the clog,” he says. Regular application of an enzymatic cleaner would be the right choice, since they help break down organic matter.



Problems that Invite Large Fly Infestations

Larger flies can also be a problem. Houseflies (*Musca domestica*) tend to wander in from the outside, so their presence is a signal that your doors are left open for long periods, Pilkenton notes.

Bottle flies or blow flies (*Calliphora spp.*), which are characteristically metallic green or blue in appearance, can signal a sewage backup, a significant sanitation lapse or a rodent problem. They tend to breed in decomposing organic matter such as sewage, rotting food, animal carcasses (such as dead mice or rats) and improperly managed compost bins.

The misnomer ‘little house fly’ (*Fannia spp.*)—a species of fly that falls under large fly taxonomy—may also find their way into your operations. Adult flies are attracted to odors and their larvae will feed on all manner of decaying organic matter, including carrion from dead rodents.



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Preventing Fly Infestations

American Pest uses an integrated approach that focuses on eliminating food sources and breeding sites, as well as identifying and sealing pest entry points around a facility. To be effective, any pest management program must be consistent and continuous.

“You have to make their environment as inhospitable as possible,” Pilkenton says. “But there’s no ‘one and done.’ Debris can accumulate easily and quickly, so prevention has to become part of your normal routine.”

At the very least, he recommends that brewers, vintners and distillers take the following precautions on a regular basis:

Seal cracks and crevices: Easier said than done, of course, since they’re often so small and numerous. Pay special attention to any floor or wall cracks in areas where product is often spilled, or where fermentation products or ingredients are stored. Depending on the size of the opening, use a combination of materials such as silicone caulk, expanding foam, or copper wire mesh.

Install UV lights to monitor your fly problem: Flies, wasps, moths, mosquitoes and other insects are attracted to ultraviolet light, so using a UV light with an interior glue board (known as ILT’s or Insect Light Traps) will help you to identify the types of pest infestations you may have. Identification is the key to proper treatment and prevention strategies. ILTs are most effective where flying insects are funneled into narrow spaces. Consider installing ILT’s in fermentation rooms where the light will draw flies away from your processing equipment. Avoid placing them near windows or in areas where other types of light are present. And, be sure not to install near areas with strong air currents, as some species of flies are poor fliers.

Use enzymatic cleaning solutions: These non-toxic, environmentally safe solutions break down organic matter. Enzymatic drain cleaners contain bacteria cultures and concentrated enzymes that react with the organic residue that builds up in floor drains and sewer pipes. Use once per week to eliminate and reduce the reproductive cycle of flies that breed in organic residue.

Isolate damp rags and aprons: Place soggy rags and aprons left for laundry services in a bin with a tight-fitting lid, and keep it closed. Be sure your laundry service picks it up at least weekly.

Integrated Pest Management at Hellbender Brewing Company



“Our pest control company educates us about how to prevent problems from starting.”



Ben Evans



Hellbender Brewing Company is a Washington, D.C.-based eco-friendly company that incorporates sustainable business practices into every step of its brewing practices.

Housed in a 10,500 square-foot brick building constructed in the 1960's, Hellbender's dated building requires constant vigilance to exclude pests—from fruit flies and cockroaches to rodents and stored product pests, such as Indian meal moths.

When it comes to controlling these typical production pests, Hellbender CEO and Head Brewer Ben Evans recommends partnering with a pest management professional. “Our pest control company educates us about how to prevent problems from starting,” he says. “It's been very effective.”

Evans has learned how to shore up points of entry for mice and rats by installing door sweeps, using expanding foam in cracks and crevices and maintaining mechanical traps. Despite storing 10,000-25,000 lbs. of grain in his production facility, his preventative pest maintenance program keeps the property free from rodents and other product-damaging pests.

They also carefully inspect all food products that enter the facility and reject anything that shows signs of insects, flies or other pests.

“Every once in a while, you'll get a bag of grain that has grain beetles in it,” Evans says. “They can quickly take over your entire facility if you're not careful.”

Hellbender makes drains inhospitable to drain flies by cleaning trench drains with an enzymatic drain cleaner and foaming cleanser, and then running a long hose down to the end of the drains to flush hot water through them.

Evans' team also uses a heavily diluted bleach-and-water solution to regularly spray and wipe down areas where beer is served, produced or spilled.

Integrated Pest Management at Hellbender Brewing Company (Continued)



They prevent water from pooling and becoming stagnant—an attractant for cockroaches, rodents and flies—by removing pooled water with a squeegee and running floor fans to dry all surfaces. They also clean their floors weekly using a foam cleaner and a bleach and caustic solution.

“We’re extremely vigilant,” Evans says. “You have to be, because things can get a little chaotic, especially in our casing room where we serve beer. Things spill and even a tiny amount of residual beer under the taps will attract fruit flies.”

Digital pest control: A new way to eradicate pests

Small flies aren’t the only pest challenge facing brewers, distillers and vintners, of course. Rodents remain an ever-present, universal problem for most businesses.

American Pest are experts in the installation and monitoring of the Anticimex SMART digital pest control system, which uses advanced heat and motion sensors to detect vermin the very instant they breach a building, such as via sewer lines, cable runs, ceilings, voids, food and equipment stores and other areas that are only inspected infrequently or with difficulty.

Digital pest control is ideal for use in food and beverage processing, as it constantly monitors for rodents and instantly reacts, without the use of toxic baits, to prevent costly pest infestations in an environmentally-friendly way.

“We’ve embraced this environmentally-friendly technology as part of our commitment to providing safe, effective solutions for our customers,” says Miranda Sherman, Marketing Manager for American Pest, which is part of the Swedish-based Anticimex. “Although digital pest control is still a relatively ‘new’ concept in the U.S., it’s widely used throughout Europe, where rodenticide baits are prohibited.”

American Pest offers a quality service to protect your business, your patrons, and your investments. We constantly investigate new products and technologies in an effort to provide you with the best solutions for you and for the environment we share.

American Pest: Safe, Integrated Pest Management

American Pest provides customized Integrated Pest Management (IPM) solutions to meet each business's unique challenges. Our staff of entomologists and highly-trained technicians employ a holistic, integrated approach to pest management that focuses on evaluation, follow-up and documentation.

We rely on inspection and species identification, sanitation and exclusion, environment modification, targeted treatments (based on findings), and continuous monitoring to eradicate pests and keep them out.

We also offer customized green solutions for businesses seeking sustainable solutions. Our LEED pest control services address pest biology, building structure and sanitation deficiencies, cultural peculiarities and environmental factors to eliminate pests with little to no pesticide use. This green approach to pest control provides the least impact on the environment and non-target organisms.

Breweries, distillers and vintners should expect the following from a reputable pest management company:

- Routine inspections, consultation, evaluation of pest harborages and customized solutions
- Pest trending analysis, continuous monitoring, species identification
- Consultation on sanitation and environment modifications
- Assistance addressing attractants and entry points
- Safe, effective, targeted pest treatments by species
- Digital inspection reports, pest findings, threshold alerts, and area conditions
- Assistance with educational efforts

Minimizing lost revenue, protecting your image and providing you with an expert team of on-call pest control professionals are among the reasons our clients chose American Pest to protect their brands.



Call Us Today for a Free Inspection and Consultation.

(855) 212-3677

American Pest is a modern pest control company with a team of more than 160 pest prevention experts. We credit our longstanding tradition of excellence to our people, who provide quality pest control solutions to over 12,000 homes and businesses and millions of square feet of federal offices and institutions throughout Washington D.C., Maryland and Northern Virginia.



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