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flies

**BASF Pest Control Solutions**  
*The Evolution of Better Pest Control*

 **BASF**

The Chemical Company

# The Problem with Flies

Flies in and around commercial food establishments annoy customers, prompt the assumption of unsanitary conditions, and can serve as vectors for Salmonella, E-coli, Cryptosporidium, Listeria, and more.

The common misconception that fly control can be accomplished as easily as installing an Insect Light Trap (ILT) has created a tendency to overlook the importance of a comprehensive fly control program. Effective long-term fly control requires an integrated approach that includes identifying threats, locating breeding sites and access points, and employing the right environmental, procedural, mechanical, and chemical tactics.

# The SmartSolution for Flies

The SmartSolution for Flies from BASF Pest Control Solutions was designed to help you create a comprehensive, on-going fly control program that addresses flies at their source, and provides immediate relief from adult flies. The remedial actions and preventative components of this two-pronged fly management program help your customers better understand and appreciate the value of the service you are providing.








# Identify the Flies Threatening the Facility

There are many species of flies that can become a problem in commercial food establishments. The five listed below are among the most common. Being familiar with the unique behavior and the breeding sites of these flies helps guide inspections, detection, treatment, and prevention.

Therefore, the first step in any fly management program is to identify the flies infesting or threatening the facility. Flies found in and around food-processing facilities are often specific to the type of food processed. For example, in a meat packing plant, flesh flies and bottle flies would be expected. In vegetable or fruit canning facilities, small fruit flies would be more common.

## Fly Species and Common Breeding Media

 <b>Small Fruit Fly</b> <i>Drosophila spp.</i>	Ripening fruit, fermenting material, animal waste, garbage, unrinsed recyclables, drains and mops, other decaying organic matter
 <b>Phorid Fly</b> Phoridae	Moist decaying organic matter, drains, sewer breaks, trash, decayed food under kitchen equipment or in cracks, dung, fungi, decaying plant materials
 <b>Bottle Fly</b> Calliphoridae	Meat, dead rodents, birds or other animal carcasses, garbage, animal manure, decaying vegetables, decaying grass clippings and leaves
 <b>House Fly</b> <i>Musca domestica</i>	Animal waste, garbage, other decaying matter
 <b>Flesh Fly</b> Sarcophagidae	Decaying meat, dead rodents, birds or other animal carcasses, garbage, animal manure





## Stop Flies at the Source to Prevent Egg Laying and Larval Development

### Block all avenues of entry into the facility for outdoor flies

Flies that are present outdoors may become a problem indoors without the appropriate steps to limit access. Physical exclusion of flies as a control technique is often practiced by screening doors and windows, installing door sweeps, air-doors or curtains, and sealing cracks and crevices in exterior building surfaces. Keeping flies out helps eliminate adult flies from gaining access and breeding inside.

Some fly species are commonly delivered into a facility on ripe produce and other food products. Implementing an inspection procedure to guard against the introduction of small fruit flies, for example, can be very effective.

### Find and address all breeding media

The life cycle of flies includes egg, larva, pupa, and adult stages. The easiest way to break the reproductive cycle is to eliminate the sites where eggs are laid and larvae develop, or at the very least, limit flies' access to these areas. This requires careful inspection and knowledge of the preferred media for egg laying (indicated in chart on previous page). Once these potential breeding sites have been identified, the next step is to take appropriate action to address these conditions.

### Provide important facility cleaning guidance

As a rule for general fly management, sanitation is achieved through rigorous cleaning of the facility, including the exterior perimeter:

- Floors and walls should be cleansed to remove all organic matter.
- Floor drains should be cleaned and drainage systems need periodic inspection and cleaning of built up organic matter.
- All garbage receptacles should be cleaned, fitted with tight-fitting lids and emptied daily.
- Recycling bins should be cleaned and emptied at least twice a week.
- All equipment should be thoroughly cleansed, including cracks, crevices, and behind service panels.
- Dumpsters should be located as far from entry doors as possible. During warm weather when fly breeding increases, dumpsters may need cleaning more often or to be changed out with clean dumpsters.

### Remove or treat breeding media

In theory, treatment of breeding places with insecticides would appear to be the logical method for controlling fly populations. But in practice, there are several drawbacks. Most important among these is that the breeding medium is accumulating and changing continuously and, therefore, will require frequent treatments.



Further, penetration and distribution of the insecticide in the medium is often a problem. **Phantom**<sup>®</sup> termiticide-insecticide is one product that holds up well under

highly organic conditions and is labeled for many common sites where flies may be breeding, including floor drains. Nevertheless, chemical treatments should always be viewed as secondary to the physical removal of the breeding media in commercial environments.

## Provide Fast Relief from Adult Flies

### Contact insecticides

Contact insecticides are commonly used to quickly knock-down adult fly populations, indoors and outdoors. This is a very useful strategy to control the visible symptoms of an infestation and to quickly reduce the number of egg-laying adults within the facility.

For this technique to be most effective, it must be integrated with other techniques that aim at reducing the invasion or reproduction of flies in and around the facility. Prescription Treatment<sup>®</sup> brand **P.I.**<sup>®</sup> Contact Insecticide Formula 1 and Prescription Treatment<sup>®</sup> brand **ULD**<sup>®</sup> **BP-100** Contact Insecticide Formula 1 are two excellent choices for this type of application. Both contain fast-acting pyrethrins, a botanical pesticide, capable of knocking down adult flies both indoors and outdoors.

### Residual insecticides

Residual insecticides are often used to control adult flies on resting sites and other surfaces frequented by flies. This type of treatment is most commonly used around dumpsters, loading dock areas, and around windows and doorways.

Prescription Treatment<sup>®</sup> brand **Cy-Kick**<sup>®</sup> **CS** Controlled Release Cyfluthrin is ideal for both indoor and outdoor applications. The purpose of this type of treatment is to kill as many flies as possible either before they enter the structure or before they have an opportunity to lay eggs inside.



## Trapping and monitoring

Insect light traps (ILTs) can be useful for both capturing and monitoring flies. **Vector**® brand Insect Light Traps quickly capture flies with glueboards, which preserve the intact flies for easy analysis. Identification is quick and catch counts allow for trend analysis and accurate recordkeeping. When positioned properly, they can serve as excellent lines of defense against flies coming in from outside.

Whether a breeding source exists indoors or outdoors, ILTs can be positioned to capture flies before they enter sensitive areas or even capture them once they've entered a sensitive area. There are three **Vector** ILTs available to assist in controlling adult flies: **Vector**® Classic®, **Vector Plasma**®, and **Vector Plasma One**®. In addition, the Prescription Treatment® brand **960 Vector**® Fruit Fly Trap is specifically designed to monitor small fruit flies.

## Putting it All Together in a Program

These basic components of fly management should be combined in a custom-tailored program, assembled to meet the specific needs of each commercial account.

The assembly of such a program should include the following steps:

- Step 1** Identify the species of flies infesting/threatening the facility.
- Step 2** Locate all likely breeding sites indoors and outdoors, as well as likely access points.
- Step 3** Determine the distribution of the flies within the facility.
- Step 4** List all environmental, procedural, and mechanical improvements needed to reduce or eliminate the susceptibility of the building to fly infestation.
- Step 5** Select the chemical (contact and residual insecticides) and non-chemical (insect light traps, exclusion materials) best suited for the particular facility.
- Step 6** Explain the appropriate control strategies to the customer and identify customer responsibilities, such as clean-up methods, operational practices, and repair.
- Step 7** Attempt to simultaneously deploy all control tactics, including:
  - Install insect light traps
  - Knock down adult flies with contact insecticide
  - Apply residual insecticides to outdoor fly resting sites
  - Clean indoor and outdoor sanitation deficiencies
  - Clean floor and sink drains
  - Perform necessary building maintenance



**Vector Plasma One**  
Great trap for bar areas or small rooms

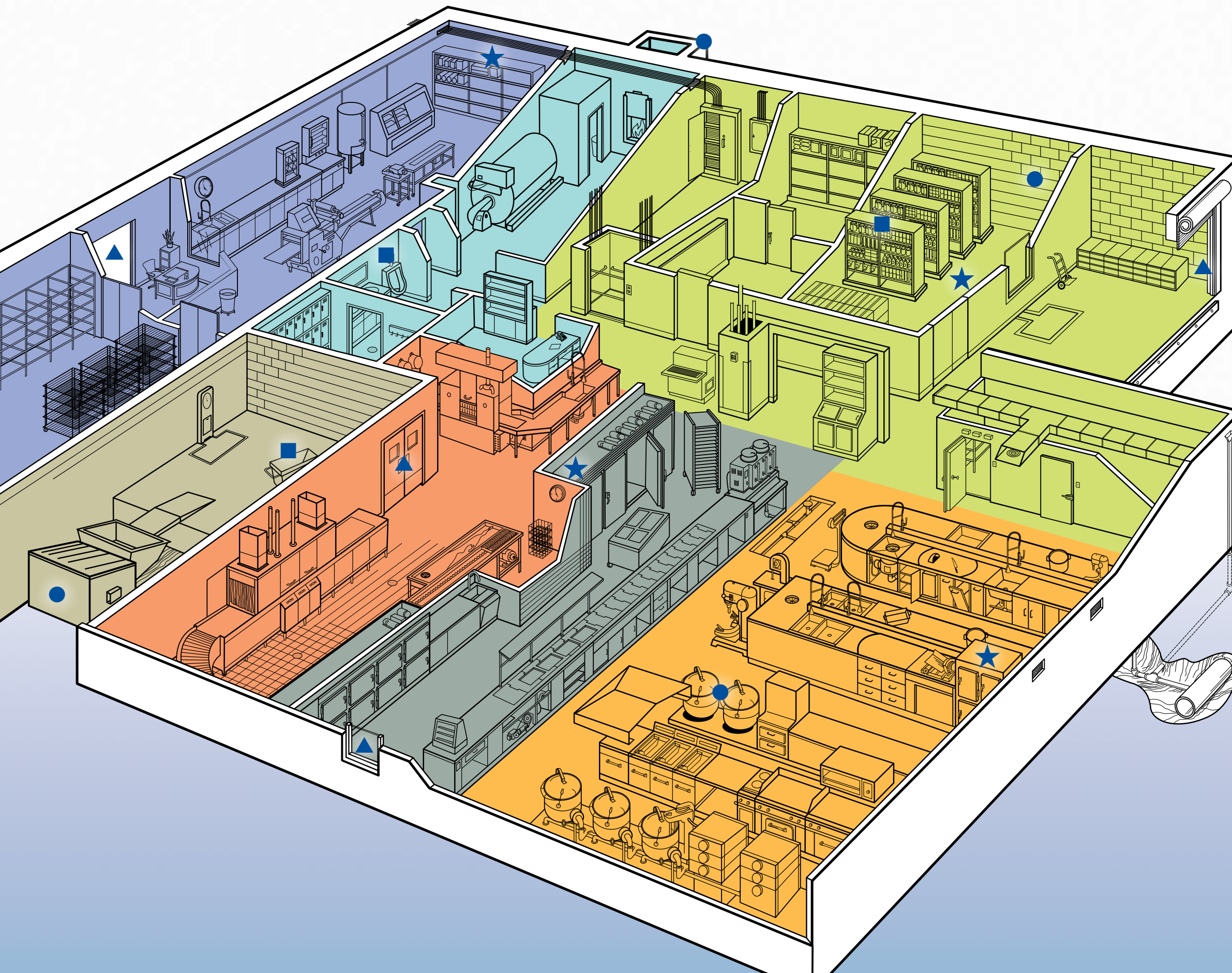


**Vector Classic**  
Great for public areas where hidden catch is necessary



**Vector Plasma**  
Great for larger rooms or where high volume of flies exists





### Areas of Focus

- ▲ Entry/access such as doors, windows, vents, and areas where flies may enter should be inspected, repaired, and maintained. Keep doors and windows closed and/or screened.
- Use contact insecticides in areas where populations of flies have built up to the point where immediate kill of all adult flies is necessary.
- Use residual insecticides to control adult flies where they may be resting or sitting. Controlling adult flies using this strategy will help reduce fly populations.
- ★ Install ILTs to help control and monitor adult flies. ILTs should be installed no higher than 5 feet to 10 feet above food processing equipment and surfaces. Place where other light sources will not compete with the ILT bulb.

- food packaging zone
- utility zone
- disposal zone
- dishwashing zone
- food receiving and storage zone
- food assembly zone
- food preparation zone

## Help Your Customer Help You

Before beginning any fly control program, it should be put in writing exactly what the program will entail, what flies will be targeted, and what is expected of the customer. Additionally, if certain services are to be sold separately, such as drain cleaning, this should be clearly communicated in the agreement.

If equipment such as insect light traps are to be installed, it should be clear to the customer whether they are for sale, rent, or lease.

It should be clearly stated in the agreement that the customer must comply with the sanitation and building maintenance recommendations made as part of the program for the facility. If these are not carried out, the program will be far less effective and may not work at all.

## smart science + smart support = smartsolutions

As always, BASF Pest Control Solutions is committed to giving you everything you need to tackle your toughest pest control challenges—not just in terms of products, but in terms of expertise and support as well.

You can always find helpful information, training, homeowner marketing support, and more at **PestControl.basf.us**.

This **SmartSolution for Flies** is just one of many BASF SmartSolutions that addresses the pest control challenges and issues that have the greatest impact on our industry and the success of your business. To learn about additional SmartSolutions for termites, ants, bed bugs, rodents, occasional invaders, or German cockroaches, visit **PestControl.basf.us** or contact your BASF Pest Control Solutions sales specialist.



## The Prescription Treatment® Approach

*BASF Pest Control Solutions believes a sound Integrated Pest Management strategy is the cornerstone of successful pest control and good stewardship. Our five-step Prescription Treatment® approach includes the core IPM practices you should always employ in conjunction with any BASF SmartSolution.*

- 1 Inspect** to gather the information that leads to good decisions.
- 2 Prescribe** a treatment strategy to achieve specific goals in the account.
- 3 Communicate** with the client to promote cooperation, establish expectations, and convey value.
- 4 Treat** using effective techniques and materials that support the strategy.
- 5 Follow up** to assess results.

Always read and follow label directions.

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