

BEST MANAGEMENT PRACTICES

Flies

Fly control in residential and commercial accounts must incorporate an Integrated Pest Management approach (IPM). Furthermore, residential issues are not always one-dimensional in nature. For example, mulch and grass clippings are not always the source of breeding populations in residential accounts. Many flies entering homes can originate from livestock sites, barns and pens that are not necessarily for agricultural purposes which contain bedding materials and manure. Restaurants can have source problems in dumpsters and other trash receptacles.

Overall, good sanitation is the basic step in all fly management. However, pest professionals also need to understand the desired environmental conditions, life cycle and nutrient preferences of the pest species in question. Knowledge of these biological aspects in conjunction with using an IPM approach, which includes insecticidal, biological, and augmentation and cultural practices, needs to be implemented to develop a protocol that yields the best possible results for a particular pest problem. Consideration of all of these components and their mutual relationships and influences will dictate the most efficacious methods for controlling pest fly populations.

Biological considerations: One must also understand the life cycle of flies. How long do adults last? How often are eggs laid? What is the development site of the larva for the species in question? For example, horse and deer fly larva prefer different conditions. The larvae of horseflies are found in somewhat drier substrates and have a wider distribution compared to deerflies, whose larvae are found in substrates with relatively high water content. House fly larva prefer a variety of organic materials such as manure, garbage, sewage, food wastes, lawn clippings, septic tanks and silage.

Environmental Considerations: Understanding environmental conditions for breeding in relation to controlling pest populations is the first priority, because individual fly species need *specific* environmental conditions for growth and development. Elimination of breeding areas is necessary for good management. Contrary to belief, flies do not choose breeding sites and nutrient sites randomly, but rather are drawn to specific breeding and resource sites. Each species requires specific environmental conditions. In fighting flies, food and materials on which the flies can lay their eggs must be removed, destroyed as a breeding medium or isolated from the egg-laying adult.

Augmentation: Using MicrobeMax™ Volumetric Drain foam and the Continuous Cleaning system to remove breeding and feeding substrates in drains will remove the breeding and feeding materials from these sources and help eliminate drain flies from potential areas. Fly lights such as the Exocutor® 40 or any other FMC fly lights placed along critical pathways in restaurants and storage areas will help attract the maximum amount of flies to traps. Sticky traps at fly entrance points help reduce the number of flies getting into buildings. Remember, air or water can be used for agitation and to make potential egg laying sites less palatable. Screening windows and doors helps prevent flies from intruding into households.

Insecticide Use: Insecticides are also part of an IPM program. The Pest Management Professional (PMP) should focus on direct applications of insecticides against the adults where they congregate, and a more selective approach against larva and eggs involving use of a variety of insecticides (i.e., pyrethroids, microbials, baits) and formulations (micro-caps, wettable powders, emulsifiable concentrates) in combination with cultural control tactics.



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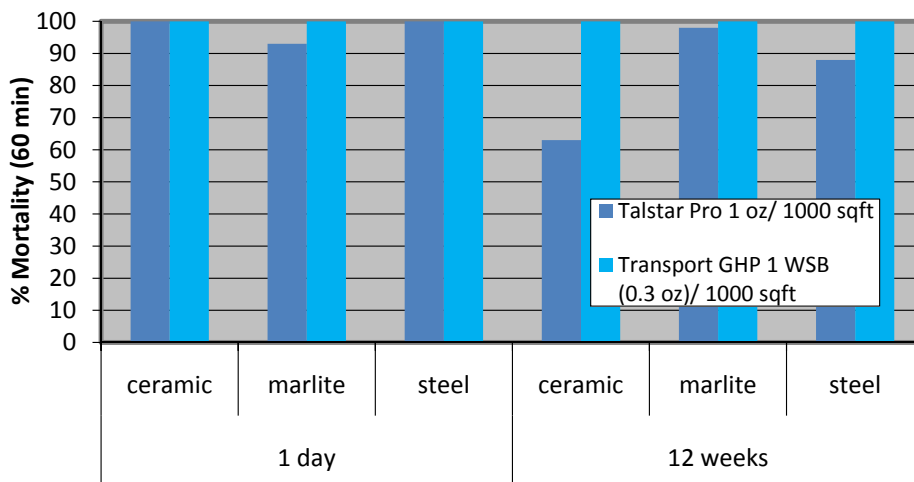
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Adult Flies: For control of adult flies a variety of formulations are available. For a more organic/green approach, use boric acid such as Borid^(R) powdered boric acid in the bottom of dumpsters, other trash receptacles, and around appliances. Borid powdered boric acid products and synthetic pyrethroids such as Talstar[®] Professional insecticide and Transport[®] GHP insecticide are both good for treatment of vertical walls and other breeding sites that are not in confined areas or segregated from structural households. Among liquid insecticides, microencapsulated and wettable powder formulations usually work best on rough surfaces exhibiting multiple cracks and crevices. Use fly baits near adult feeding sources. Purge[™] I and Purge III metered insecticide are excellent for targeting adults, whereby use patterns can range from restaurant/bar prep areas to outdoor patio areas. Metered devices should be turned on 2-3 hours before people are in the area and turned off 30 minutes before people arrive.

Larvae and Eggs: For larvae and eggs, use the methods listed previously in conjunction with a good sanitation practice. For example, many fly species breed in un-cleaned dumpsters and other receptacles, clogged drains, un-removed dead vegetation, and standing pools of water. The most practical and economical method for reducing these sources for potential pest fly populations is the elimination and/or management of such sources, regardless of the particular insecticide used. However, use of synthetic pyrethroids, such as Talstar Professional and Transport GHP as spot treatments where eggs reside and adult flies congregate after pupation such as on rafters and vertical walls will help reduce newly emerged adult flies.

Remember, IPM. Effective fly control cannot be achieved with insecticides alone. Proper animal waste and trash management and good feedlot sanitation must be included in an effective fly control program.

Residual Control of House Flies



Dilutions applied at equivalent of 1 gal/1000 sq ft, surfaces aged indoors exposed to ambient light, FMC Princeton Research Facility, 000HSF04PP1

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