



Blow fly



Stable Fly



House Fly



FLIES

What Can I do

For more information or to report fly outbreaks,
please contact:

County of San Bernardino,

Department of Public Health

Division of Environmental Health Services

Mosquito & Vector Control

2355 East Fifth Street

San Bernardino, CA 92410

(909) 388-4600 or 1-800-442-2283

**County of San Bernardino,
Department of Public Health**

**Environmental Health Services,
Mosquito and Vector Control**

Managing Filth Flies

Sanitation: Trash should be kept in covered containers (sealed trash bags and/or cans with tight-fitting lids). Garbage cans and dumpsters should be kept as clean as possible and emptied weekly. Dispose of pet droppings and animal waste on a daily basis into covered containers or sealed trash bags. Remove or spread grass clippings to eliminate excessive moisture. Proper composting will also prevent fly breeding.

Inspection: Successful sanitation can only be accomplished by conducting a thorough inspection of the premises, and by knowing what to look for and where to look for it. It is important to identify which flies are involved, inspecting for material that attracts and breeds them, then eliminating the material.

Exclusion: Another important step in fly management is excluding them from living spaces. This can be done by keeping doors, windows and vents closed as much as is practical, and by using tight fitting screens over them. Automatic door closing devices can be used, and air curtains that create a column of air that flies won't pass through can be installed to prevent flies from entering.

Mechanical Control: In addition to fly swatting, mechanical fly control includes trapping. Sticky fly tapes and ultraviolet light traps can be used to supplement fly control in residential and commercial buildings. To be effective, light traps must be placed no more than 5 feet above the ground (where most flies fly), and away from competing light sources and food preparation areas. Other traps use nonpoisonous baits may be purchased at feed stores or garden supply retailers. Some of these traps attract flies with a strong, offensive odor, and should be placed at least 25 feet away

from living spaces and patios, and should not be used indoors. This will also help to draw the flies away from those places.

Chemical Control: Pesticides are not always a complete solution, but can be used to supplement the other fly control measures. Pesticide-laced fly strips can be placed in unoccupied areas, such as patios, garages, barns and sheds, to kill any flies that have gained entry. Contact (non-residual) pesticides labeled for indoor fly control can be applied as a space treatment ("fogged") to kill adult flies. These products typically come as a ready to use aerosol spray and may contain pyrethrins or a synthetic (pyrethroid). They may be used for outdoor treatment, too. This type of control provides only temporary relief, however, and cannot be relied upon to eliminate the problem. Read the label carefully to make sure the product you choose is safe for indoor use before doing so. Follow all precautions and use all personal safety equipment required on the label before applying any pesticide. Residual pesticides are longer lasting but tend to be more hazardous. They can be applied to outdoor surfaces where flies rest, such as the outside surfaces of barns, stables, restaurants, houses and vegetation to achieve more than a transient relief. Some of these products are ready to use sprays, and some are made to be mixed with water and sprayed from a garden pressure sprayer. Some labels may provide instructions to mix molasses or sugar to enhance the attractiveness of the pesticide to flies. Fly bait pesticides, usually a pellet or granule, are also available for use around dumpsters and trash bins.

Introduction

Flies are an unwelcome nuisance to homeowners. They enter our homes without permission, annoy us with their presence and disturb our peace with buzzing sounds. They stain our walls and belongings with their germ-laden excreta and dirty feet. They contaminate dinner tables, kitchens and other living areas with germs they collect during their unsavory travels. Flies often feed and lay eggs on garbage, livestock manure, pet droppings and other decaying organic matter before contaminating human food and kitchen surfaces. When feeding, most flies regurgitate their stomach contents onto food before ingesting it, in the process contaminating food and utensils by transferring bacteria as well as defecating on them.

Life of flies

Of the thousands known flies (Diptera- 2 winged insects), about half a dozen species are common in San Bernardino County. The most abundant flies and those causing most problems for homeowners are house flies (*Musca domestica*) and the lesser house fly (*Fannia canicularis*). House flies are most abundant during summer and early fall, and lesser house flies are most abundant during winter and spring. Fly control and prevention is only possible if fly habits are well understood. Because the lesser house fly rarely lands on food and utensils it is a nuisance, but is not likely to spread bacteria to humans. In contrast, house flies tend to land on surfaces and can contaminate our food.

Flies regurgitate saliva to liquefy food before swallowing it. They can deposit disease causing germs on uncovered food and cooking utensils, open wounds and drinking water with their sponging mouthparts, and hairy, dirty bodies.

The most commonly observed stage of a fly is the winged adult. The adult fly mates and lays eggs in a habitat that will provide sufficient food for its immature stage, a pale, legless larva. The breeding site is nearly always moist. When maggots are full grown, they stop feeding and wander from the breeding site in search of a dry place to pupate. After pupation, they emerge as an adult fly. In warm weather, flies complete their development (egg-larva-pupa-adult) in 7-14 days, leading to numerous generations in a year.

Flies thrive within decaying organic matter. To prevent and control flies requires homeowners and ranchers to manage garbage and animal waste. Sanitation management can prevent most fly outbreaks. Other fly control measures may not be effective as long as breeding places are available.

Fly prevention and control is both a personal and community responsibility. Large farming groups and vector control agencies work together to control fly breeding on dairies and poultry farms. Residents who live in rural or agricultural areas can expect higher concentrations of flies at times. However, homeowners can reduce the number of flies on their properties and take active measures to prevent flies from invading their living spaces. What role can homeowners play in preventing and controlling flies?

Type of Flies

House Fly:

The common house fly (*Musca domestica*) is dull gray, ¼-inch long with four dark stripes on the thorax. House flies typically lay eggs on animal feces and garbage. White maggots or larvae hatch from the eggs and grow to about ½ inch. When fully grown, maggots crawl away from their food source to pupate. They form a dark brown cocoon, known as a puparium, and later emerge as adult flies. Though adults typically stay within a block of their breeding source, they can fly one or two miles for suitable egg-laying sites.

Lesser House Fly:

The Lesser house fly (*Fannia canicularis*) is smaller than a house fly. The males habitually stay in flight during the day, hovering in entryways, rooms and shaded areas. The females often rest on vegetation or in shaded areas. Lesser house flies are not attracted to food; therefore, they are rarely a source of contamination. Larvae hatch from eggs laid in decaying vegetable matter or animal waste in about 24 days. Their larvae are much smaller than those of the house fly, reddish-brown, elliptical in shape, and have ridges with small hair-like projections. This fly is more prevalent in winter and spring, and tends to disperse farther than the house fly.

Stable Fly:

The stable fly (*Stomoxys calcitrans*) resembles the house fly but has piercing mouthparts for sucking blood instead of the typical sponging mouthpart. It is an outdoor fly, feeding on domesticated animals, but may occasionally enter houses. To control stable fly larvae, dispose weekly of stable manure, urine-soaked straw, moist, spilled feed and moist decaying vegetation, like lawn clippings.

Blow Flies:

Blow flies (belonging to the genus *Calliphora*, *Phormia*, and *Phaenicia*) are so-called because the larvae develop inside the bodies of dead animals, causing the carcass to have a bloated appearance. They also are attracted to garbage and dog droppings. Blow flies are about the size of house flies or slightly larger. They have been called "bottle flies" because their shiny blue and green color resembles colored glass bottles, though some species are shiny black or bronze. Large numbers of these flies indoors usually indicate the presence of a dead animal within the structure.

Flesh Flies:

Flesh flies (*Sarcophagidae* spp.) usually seek carrion or scraps of meat on which to lay their eggs. Like house flies, adult flesh flies are dark-colored (gray or black). Common species have three dark stripes on the thorax. They are slightly larger than house flies and have a checkerboard pattern on the abdomen.