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PestWest **EDGE**ducational Brief

By Dr. Stuart Mitchell



“Fly-Bio”

As significant public health pests, House flies, *Musca domestica* (meaning “household fly”), Order *Diptera*, Family *Muscidae*, are urbanized, *synanthropic* (together with humans), and *multivoltine* (many generations or *turns* in a year).

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Females typically mate once (functional monogamy), ovipositing 100 to 150 eggs (700 to 900 per lifetime) within high quality organic matter (40 to 70% water). Eggs are about 1 mm, whitish, extended, with *eclosion* (emerging from the egg shell) occurring in 8 to 72 hours.

Feeding within warm moist organic substances, *Cyclorrhaphous* (circular seamed) larvae develop through three instars, reaching 10 to 12 mm in length. Within a remote *microxeriscape* (dry area), pupation requires 3 to 30 days.

Adults are 4 to 8 mm in length, a greyish body, and 4 longitudinal lines on the thorax. Males express two yellowish small areas at the base of the abdomen. Females release a sex *pheromone* (*muscalure*-mediator of intraspecies behavior) to attract males.

House flies are *diurnal* (activity during daylight) and somewhat less active in artificial light. With significant anatomy and physiology devoted to visual perception, 50% of a fly's *cephalon* (head) is anatomous with compound eyes and 70% of a fly's brain required for visual processing.

Adults take flight at 51°F to 89°F, become inactive below 44°F, and die at 32°F. With both power and steering thoracic muscles, a fly can see an approaching threat, estimate its position, and initiate a pattern to fly away with a wing beat of 220 times per second. With a very high angle, wings create a structure called a *leading edge vortex*. This vortex allows a fly to possess amazing aerodynamic capacity at a speed of only about 4.5 mph.

House flies cause significant stress and mechanically vector many pathogens (food-poisoning and diarrhea). Attracted to disease-containing materials, adult flies move pathogens to human food (a significant source of contamination).

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Filth Fly Control

First Edition

Edited By Dr. Stuart Mitchell

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