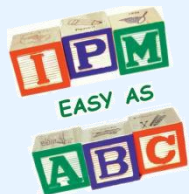




Fly Management

Sanitation and Preventing Entry
are Keys to Management

Nebraska Extension



Flies breed in moist organic matter usually laden with germs

- ❖ Many flies carry germs on their bodies that can cause human illnesses

- Diarrhea, typhoid, cholera, and other diseases

- ❖ Nuisance flies are distracting to people



Fly Life Cycle

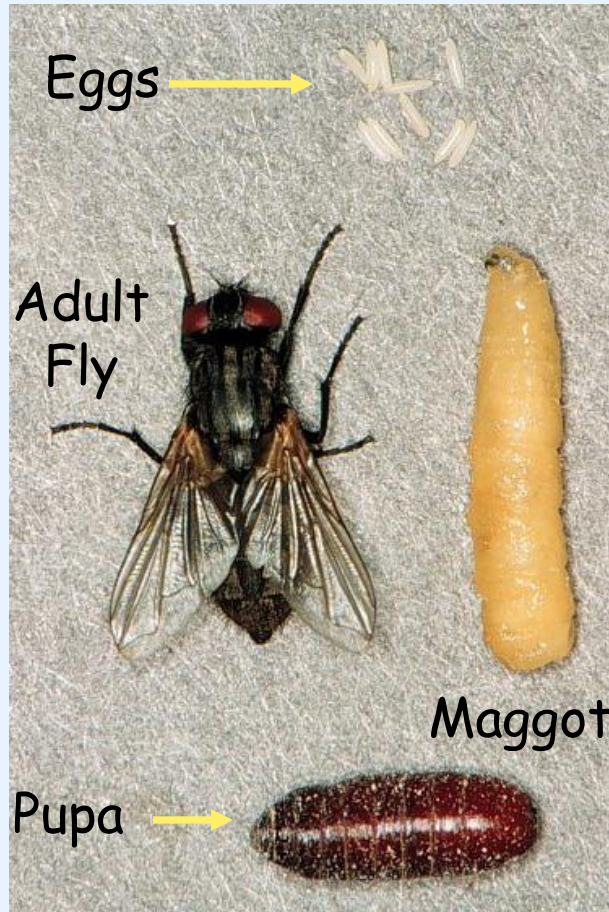


Photo: University of Nebraska–Lincoln
Department of Entomology

- ❖ Flies lay eggs in moist organic matter
- ❖ Eggs hatch into maggots
 - Maggots consume organic matter
 - Soft-bodied maggots need moisture to survive
- ❖ When mature, maggots pupate in the soil
 - Pupa looks like brown seed
- ❖ Adult fly emerges from pupa, ready to breed



Fly species often prefer specific types of organic matter

- ❖ Correct identification is key to help locate breeding site



Flies caught with a sticky trap can be readily identified by an expert



Flies inside facilities may be breeding outdoors or indoors

- ❖ Outdoor-breeding flies follow food odors through windows/doors
- ❖ Flies breed indoors in decaying organic matter
 - This is often a sanitation problem...

Be a fly detective: first, identify the type of fly, second, find its breeding source, and finally, eliminate further breeding to solve the problem



The garbage dumpster is a common breeding site

❖ Filth breeding flies



Photo: University of Nebraska—Lincoln



How do outdoor flies get inside?

- ❖ Flies follow odors into buildings
- ❖ Come in through open doors and windows



door

dumpster



Dumpsters should be located away from the building



- ❖ Sanitize dumpsters frequently to reduce breeding areas, especially in warm months





Photo: Iowa State University

- ❖ Keep dumpster lids closed to prevent infestations of flies and other pests
- ❖ Overflowing trash? Schedule more frequent pick-ups or increase recycling



Prevent Entry by Good Building Maintenance

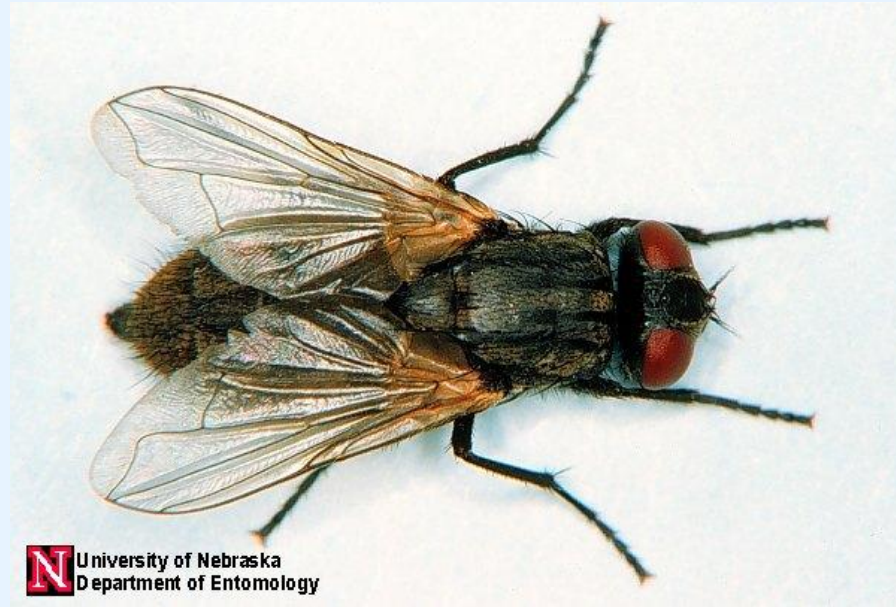
- ❖ Keep window screens in good condition
- ❖ Install automatic door closers
- ❖ Use air screens
 - A fan, located above doors, will make it harder for flies to come into a building



Photo: University of Nebraska–Lincoln



House Flies can develop from egg to adult in less than a week in the summer



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House flies and related flies that breed in animal waste and garbage are often called “filth flies”



Know Your Filth Flies...



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- ❖ Some filth fly species are attracted to a specific type of organic matter as a breeding site
- ❖ Most likely sources:
 - Animal Waste (feces)
 - Rotting vegetation
 - Garbage
 - Dead animal carcasses



Know Your Filth Flies...

❖ House Flies

- Sponging mouthparts contaminate food
- Breed in garbage and feces, usually outdoors
- Common structure-invading fly



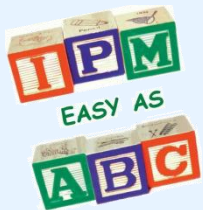
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Know Your Filth Flies...

❖ Stable Flies

- Piercing sucking (bloodsucking) mouthparts
- Bite ankles
- Breed in decaying plant material, fresh grass clippings, and feces
- Uncommon inside, but bite outdoors



Bottle Flies (Blow Flies) and Flesh Flies breed in dead animal carcasses

- ❖ Bottle Flies:
metallic green,
blue, bronze
- ❖ Flesh Flies:
gray bodies,
distinctive red
eyes



Blue Bottle Fly



Green Bottle Fly



Photo: UNL Extension in
Lancaster County

Bottle Flies and Flesh Flies often find fresh carrion within minutes

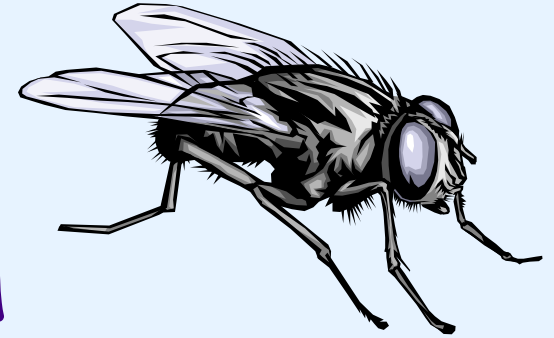
- ❖ Used by police in murder cases, where time/date of death is needed
- ❖ Have a “flush” of bottle flies or flesh flies inside?
 - Most common source is a dead mouse in a trap or inside a wall



Photo: University of Nebraska–Lincoln



In urban areas, dog feces are a primary breeding site for filth flies



- ❖ Stable flies
- ❖ Bottle flies
- ❖ House flies



-All these fly species breed in dog feces
-Cleaning up after pets will reduce flies 😊



Gnat is a word used to describe tiny to small flies

❖ Small flies breed in:

- Decaying fruits and vegetables
- Beverage liquid (soft drink recycling areas)
- Drains and garbage disposals
- Sewage water
- Soil of over-watered plants

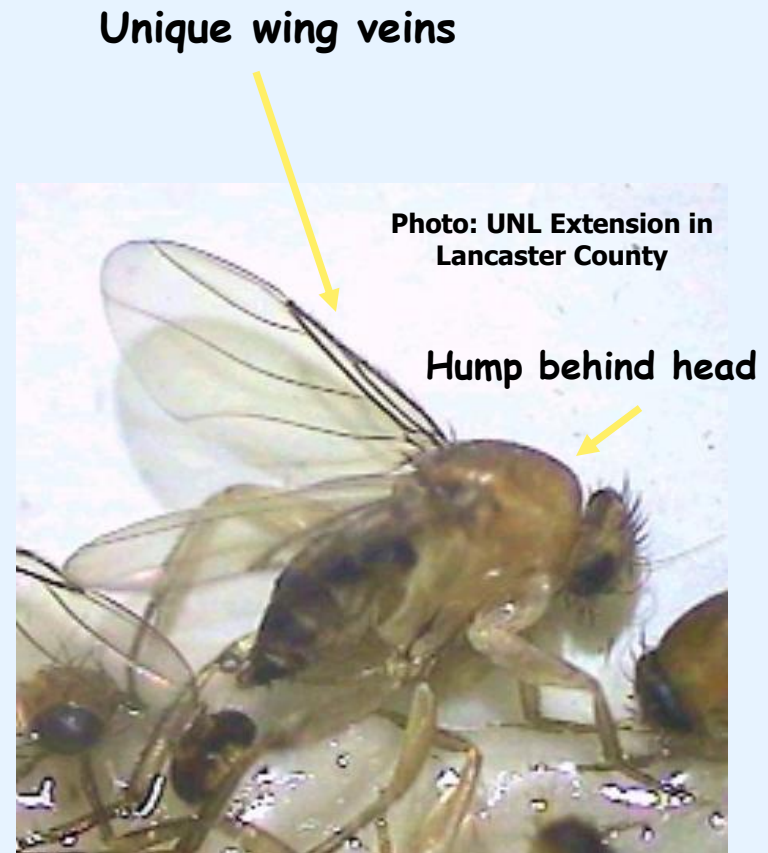


**Phorid Flies, also called
"humpback" flies**



Phorid Flies

- ❖ Small, 1/16-1/8 inch
- ❖ Similar to fruit fly, but do not have red eyes
- ❖ Run across surfaces before taking off to fly
- ❖ Decomposing vegetables, fruit, mop bucket
- ❖ Crack in drain pipe can produce huge infestations



Yellowish-brown body



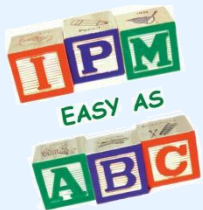
Fruit Flies

- ❖ Small, 1/8"
- ❖ Yellow-brown flies with red eyes
- ❖ Attracted to fermenting fruit and vegetables and yeasty smells



Fruit Flies also breed in trash containers not cleaned regularly

- ❖ Check bottom of trash containers
- ❖ Look under dumpsters/trash compactors
- ❖ Check out recycling areas, especially soda pop cans
- ❖ Don't forget:
 - Floor drains and garbage disposals



Moth Flies are also called Drain Flies

- ❖ Fly identity important for control
- ❖ Moth fly lays eggs on the gelatinous film inside a drain
- ❖ Larvae feed on the gunk that lines the drains; adults emerge from drain
- ❖ Inspect all drains



Photo: University of Nebraska–Lincoln
Department of Entomology



Moth Flies are also called Drain Flies

- ❖ Sump pump pits and sewers are also potential breeding sites
- ❖ Finding and eliminating the breeding site is the primary strategy for managing drain flies



Photo: University of Nebraska–Lincoln
Department of Entomology

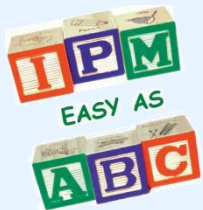


Fungus Gnats

- ❖ Small (1/8"), long legs and antennae, tiny head
- ❖ Larvae feed on fungus in soil
- ❖ Overwatered potted plants produce fungus gnats



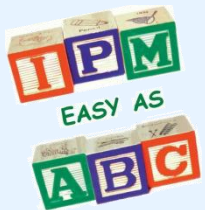
Photo: University of Nebraska—Lincoln
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Managing Fungus Gnats



- ❖ Reduce frequency of watering
- ❖ Let pots dry out in between waterings
- ❖ Repot plants, if necessary



Light Traps helpful for invading flies

- ❖ Good for kitchens and cafeterias
- ❖ Black or UV light
- ❖ Flies trapped on sticky paper
- ❖ Work 24/7, if left on

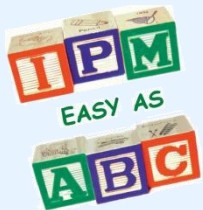
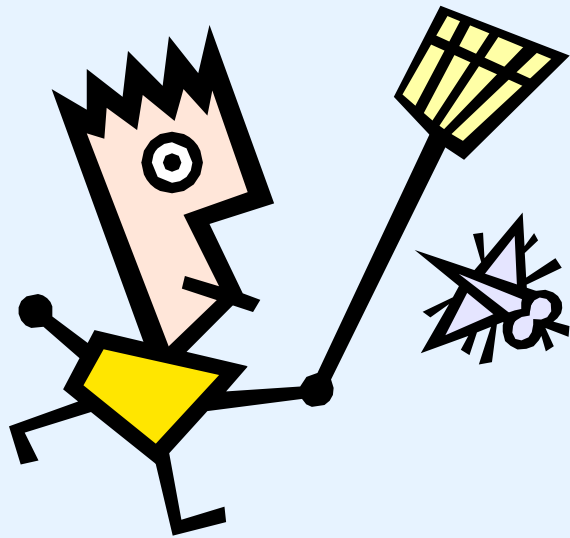


Photo: University of Nebraska–Lincoln



Mechanical Controls



- ❖ Fly swatters, fly paper, and sticky traps
 - Useful for monitoring and eliminating small number of flies
 - Will not eliminate breeding sites
 - Augment control efforts



Chemical Controls should not be routinely used

- ❖ Eliminating the source is long-term solution
- ❖ Chemicals are an unnecessary health risk and may not be effective when used alone



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