



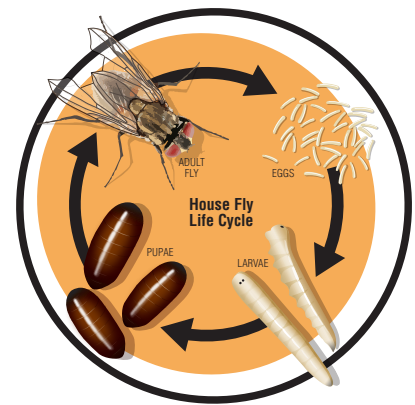
House Flies in Poultry Facilities Protocol


Importance of House Fly Control

- House flies are a nuisance and can vector several diseases to humans and poultry.
- House flies can negatively impact poultry production and efficiency.

Understanding House Fly Habits and Life Cycle

- Flies have four life stages: egg, larva, pupa, and adult.
- House fly life cycles are short, averaging less than 2 weeks in ideal conditions.
- Flies can have as many as 10-20 generations per year depending on regional temperatures.
- House fly breeding sources include decaying, moist organic matter. Any area where moist feed, litter, and manure can accumulate could become a breeding source for flies. Flies cannot develop in dry media.
- House flies normally stay within 2 miles of their point of origin but can travel as far as 20 miles to find a breeding source.



HOUSE FLY <i>Musca domestica</i>	IDENTIFICATION	IMMATURES	ADULTS
	1/8-1/4 inches Dull gray in color, with four black stripes on the thorax Sponging mouthparts	Egg hatch in 8-20 hours 3 instars over 3-7 days Pupal stage 4-6 days	~500 eggs in several batches over lifetime Live 15-25 days Egg to adult in 7-10 days

Inspection and Integrated Pest Management

- Locate all breeding sites and potential fly attractants, such as feed areas and manure accumulation.
- Look for fecal spotting that indicates frequent resting areas for adult flies.
- Installing fans in pits or anywhere manure is stored can help with drying organic material and preventing fly establishment.
- Mowing exterior grass and keeping the premise clear will reduce areas of fly harborage.

Common House Fly Resting and Breeding Sites

INDOORS

- Manure accumulation, such as pits and belts
- Walls, rafters and ceilings
- Feed and drinker lines
- Under slats
- In and under equipment
- Nest boxes
- Litter
- Spilled and/or accumulated feed

OUTDOORS

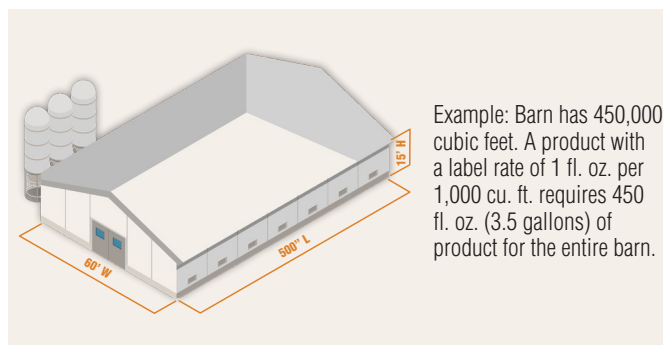
- Doors/windows
- Litter sheds
- Vegetation, fence lines and other structures near animals
- Organic refuse and litter, garbage areas
- Drainage areas and/or stagnant water
- Spilled and/or accumulated feed

Pre-Treatment

- Assess the current fly population with traps or other monitoring devices. Spot cards (Fig. 1) are a simple, cost-effective way to monitor fly activity. Corrective action should be taken prior to population explosions.
- Important Consideration Points:
 - Barnyards and other areas need to have proper drainage to reduce moisture. This includes filling in low spots and ensuring appropriate grading.
 - Sanitation is crucial. Ensure thorough cleaning of all problem areas to remove manure, feed and other organic materials from potential breeding sites. Pesticides alone will not be successful.
 - Maintain a good manure management system.
 - Keep exterior doors closed whenever they are not in use.

Interior Control Measures

- Prior to any spray treatments, follow all label directions, restrictions and PPE requirements.
- When applying insecticides with ULV equipment, calculate cubic feet to determine how much product is needed by multiplying length x width x height.



- Over-poultry Applications
 - Open nest boxes before application.
 - Ensure proper calibration of application equipment.
 - Fog a product approved for over-poultry applications, like NyGuard® IGR, into upper corners and ceiling, letting application drift onto poultry.

Exterior Control Measures

- Treat exterior with premise insecticides, paying attention to fly resting areas and entry points like doors and fans.
- Ground applications are important, especially in tall grass or areas with moisture issues.
- Treat interior and exterior surfaces of litter stacking sheds or manure pads with an adulticide and IGR. Applications should be made over litter and organic matter, as well as when the barn is cleaned out.

Post-Treatment

- Continue to monitor fly population numbers. Reapply when fly counts exceed your action threshold. Be sure to follow any reapplication intervals listed in product labels.
- During inspection, fly larvae and pupae may still be visible due to NyGuard IGR effects, but they will eventually die and not mature into the adult stage.

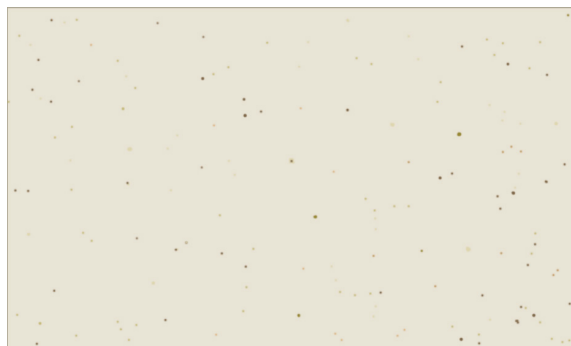


Fig. 1 (above) – When using spot cards, a common action threshold is ~150 specks on a 3x5" index card after a week. You may need to adjust this number to meet the needs of your facility.

Incorporating NyGuard® IGR

Adding an insect growth regulator (IGR) is highly recommended to help combat insecticide resistance.

IGRs provide a different mode of action and prevent fly larvae from developing into adult flies. NyGuard IGR effectively prevents adult fly emergence from breeding sites and reduces egg hatch from eggs laid by exposed adult flies.

- Can be used alone or tank mixed with an adulticide to achieve faster results.
- Apply as a general surface broadcast, ULV/fog, spot or crack and crevice application to interior and exterior resting and breeding areas.
- Initiate egg collection prior to NyGuard application. The egg collection equipment does not need to be active during application and eggs can be present at the time of application.
- Used as directed, NyGuard IGR will not harm beneficial insects such as predatory wasps.

APPLY WHEN POULTRY IS PRESENT

Recommended Spray Equipment

- Cold foggers (ULV) – Generate fog by a mechanical action that breaks down the liquid while combining it with a high volume of air at low pressure. Users can calibrate the unit to produce optimum sized drops for the situation or product being used.
- Backpack or hand sprayer – These are commonly used for spot, crack or crevice treatments around the premises. Users can opt for fan spray or pin stream. Do not apply insecticide to runoff.

Tips and Tricks from the MGK Technical Department

1. Using incinerators for dead poultry management instead of composting in litter barns will reduce the number of flies drawn to a litter storage barn.
2. Incorporate NyGuard IGR as a proactive approach. Begin applications early in the fly season to hinder reproduction of incoming adult flies and reduce the “bloom” of fly pressure.

Application Rates & Methods

PRODUCT	RATES	APPLICATION METHODS
Decimari® Fly Bait	6.3 oz. per 1,000 sq. ft. scattered or 1.6 oz. with 1-4 fl. oz. of water per 250 sq. ft. for paint-on or spray-on applications	Apply bait where house flies congregate. Select application type (scatter, bait station, paint-on, or spray-on) to ensure bait is inaccessible to animals.
EverGreen® Pro 60-6 Concentrate	2 fl. oz. per gallon of water per 1,000 cu. ft. of space	Apply as a fog or fine mist directing the nozzle for maximum coverage and above livestock and poultry toward the ceiling and upper corners of the area being treated. For best results, close doors and windows before spraying, and keep them closed for 10-15 minutes..
Flynexx® Granules	Dry scatter 1 lb per 200 sq. ft. or spray 1 lb per gallon of water per 200 sq. ft.	Treat fly breeding areas. Spray the entire manure area approximately 1 week after manure removal. Repeat treatment after each removal or when fly larvae are found.
NyGuard® IGR Concentrate	1 ml per 1,000 cu. ft. or dilute at the rate of 1ml of concentrate with 1 fl. oz. of water. When tank mixing, mix directly with fogging concentrate solution.	Direct application to areas where insects are known to rest or breed. After space spray, keep facility closed for 1 hour and thoroughly ventilate. Tank mix with an adulticide to achieve faster results.
Riptide® Misting Concentrate	0.25-1 fl. oz. undiluted or 1-2 fl. oz. diluted per 1,000 cu. ft. of room space for over- animal applications.	Direct space spray above animals with conventional ULV or fogger adjusted to deliver aerosol size droplets. This product can also be used in automatic misting systems.
Sector® Misting Concentrate	0.32-1.28 fl. oz. per gallon for on-animal applications.	Direct spray to adult fly resting areas such as poles and rafters, followed by spraying over poultry with a fine mist. This product can also be used in automatic misting systems.
Tobex® Multi MoA Insecticide	1-2 fl. oz. per gallon per 1,000 sq. ft.	Apply as a general surface or spot treatment when animals are not present.
Troika® Misting Concentrate	Undiluted at 0.20 fl. oz. or diluted with water at the rate of 1 part concentrate to 10 parts water and applied at the rate of 1-1.88 fl. oz. of diluted product per 1,000 cu. ft. of space above the animals.	Direct spray toward the upper portions of the enclosure, above the animals, filling the room with mist or fog. Animals may be present during application, but do not apply directly to poultry. This product can also be used in automatic misting systems.
ULD® BP-100 Contact Insecticide II	1 fl. oz. undiluted or 1-2 fl. oz. diluted per 1,000 cu. ft. of room space.	Select dilution and apply with ULV equipment over animals or through indoor misting systems.



MGK Products for Treating and Controlling House Flies in Poultry Facilities

FLY BAITS



Decimari® Fly Bait

- For use in and around poultry facilities
- Attracts male and female house flies
- Contains NyGuard IGR for dual modes of action
- Three convenient application methods: scatter, paint-on or bait station

INSECT GROWTH REGULATORS



NyGuard® IGR Concentrate

- For use on and over poultry and in poultry facilities
- Insect growth regulator that provides long-lasting residual activity and keeps insects in juvenile state
- Breaks life cycle of over 50 pests and is effective at low concentrations
- Can be tank mixed with other residual insecticides, adding another mode of action to improve performance



Flynexx® Granules

- For use in and around poultry facilities
- Controls house flies, lesser house flies, stable flies and soldier flies
- Insect growth regulator that disrupts the fly larvae molting process
- Water-soluble granule suitable for dry scattering or spraying in manure and other fly breeding sites
- Can be used simultaneously with adulticides as an important component of an integrated fly control program

PREMISE SPRAYS



Tobex® Multi MoA Insecticide

- Premise insecticide for use in and around poultry facilities
- Microencapsulated residual insecticide that contains a knockdown agent, synergist and NyGuard IGR for enhanced control
- Multiple modes of action eliminates the need to mix multiple products
- Kills house flies, darkling beetles, mosquitos and other listed pests

OVER-ANIMAL INSECTICIDES



ULD® BP-100 Contact Insecticide Formula II

- For use on and over poultry
- Kills house flies, stable flies and other listed pests
- Oil-based fogging concentrate
- Synergized formula containing pyrethrins, a botanical insecticide



Sector® Misting Concentrate

- Water-based formula for use on and over animals and in poultry facilities
- For use in automatic misting systems
- Synergized permethrin formulated for stable dilution with water
- Kills flies, mosquitoes, ticks and other listed pests



Riptide® Misting Concentrate

- Water-based formula for use on and over animals and in poultry facilities
- For use in automatic misting systems
- Formulated for fast knockdown
- Kills flies, mosquitoes, ticks and other listed pests



Troika® Misting Concentrate

- Water-based formula for use over animals and in poultry facilities
- For use in automatic misting systems
- Kills flies, mosquitoes, gnats and other listed pests
- Formulated for quick knockdown and kill



EverGreen® PRO 60-6 Concentrate

- For use on poultry and in their facilities
- Flushes pests out of hiding for a faster, more complete kill
- Synergized formula containing pyrethrins, a botanical insecticide
- Kills a broad spectrum of pests including flies, cockroaches and other listed pests
- May be used alone or tank mixed with other insecticides



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