

## Integrated Fly Control on Mink Ranches

With the increase in mink ranches and concentration of mink in certain areas, fly infestations are becoming more problematic. Nuisance complaints from neighboring property owners are serious problems to ranch sustainability. Mink ranches need to minimize fly populations, to limit public relation problems and maximize bio-security of ranches. The fact that many ranches are located in close proximity to each other reveals that fly control should be a community effort.

What is known about the species present, their lifecycles, preferred habitat and their potential hazards for Aleutian Disease Virus vectoring is disturbing as these seem to lend themselves well to mink ranch situations. For the coming season there are several things that can be done to help minimize potential fly outbreaks on your ranch.



*Blow Fly – one of the several species found on mink ranches*

**What is an integrated fly control program?** – Integrated fly control is a component of an overall pest management concept called Integrated Pest Management (IPM).

**What is Integrated Pest Management (IPM)?** – IPM is a an approach to pest management that uses all available methods of pest control in a way that minimizes economic, health and environmental risks while optimizing production and financial return.

**Flies Cannot be Eliminated** – Flies are a reality in concentrated livestock operations. As livestock numbers go up so do flies. The focus of any IPM plan is to keep flies at tolerable levels.

## **The key to an Integrated Pest Management program is prevention.**

To do this we must try and create an environment that is inhospitable or at least not preferred by many fly species. In general, flies like warm, high moisture environments that are high in organic material in order to reproduce. The waste collection areas located underneath mink barns are ideally suited for fly reproduction.

The emergence of adult flies is the symptom of a larger problem. Many people want to treat for the adult flies (ie. insecticide) but this does not manage the source of the fly problem, the ideal breeding conditions in the manure.

The main issues that impact fly development are:

- poor water drainage on the ranch
- poor air circulation between barns and in barns
- infrequent manure removal
- excess water leakage from drinkers
- excess wet food waste
- inadequate manure storage facilities

An effort should be made to adjust management techniques in and around the sheds to change the conditions in these areas. Flies do not like excessively dry or excessively wet conditions. The best and most sustainable approach would be to create an area with dry manure storage and well drained manure collection areas.

There are many things that can be done to change the conditions on a ranch to minimize fly infestations. The strategies listed below will help lower fly populations. No one method will eliminate fly populations.

### **Short term management changes:**

- ❖ Keep the drinker system well maintained (fix leaky fittings)
  - This prevents excess water from accumulating under the barns and in manure collection areas.
- ❖ Decrease the practice of flushing cups when wet kit feed is being used.
  - Keep the wetter kit feed contained in a feed plate to minimize spillage
- ❖ Create air-circulation in barns
  - Using fans etc. to dry out floors and cages.
- ❖ Keep areas between sheds mowed
  - This minimizes shelter areas for flies and allows for adequate air circulation.
- ❖ Closely monitor wet feed distribution (don't over feed)
  - This minimizes expenses and reduces breeding material for flies
- ❖ Remove manure frequently (2-3 week schedule)
- ❖ Sanitation
  - Make sure feed kitchens, sheds and surrounding grounds are kept clean
  - Feed spills should be cleaned up immediately
  - Spillage of manure during removal should be cleaned up immediately

- Mink mortality should be dealt with quickly by removing the carcasses from the bio-secure fenced ranch and disposing of them.
- ❖ Change the pH of the manure collection areas
  - Applying peat to these areas can lower the pH and adsorb moisture making it less hospitable for flies
- ❖ Set up fly control mechanisms in sheds and feed kitchens
  - Fly traps, bug zappers, sticky fly tape, etc
  - Insecticide bait traps

### **Long term management changes:**

- ❖ Develop adequate drainage around barns
  - Drainage tile systems that direct water to a waste water lagoons and wet land areas. This system would be set up to optimize microbial breakdown of the waste water.
  - Shed area should be graded to allow drainage away from shed



*Poor drainage around shed which creates ideal fly breeding area.*

- ❖ Develop an efficient manure removal mechanism (automation)
  - Done on a regular basis (2-3 week schedule)
  - Manure removed from bio-secure fenced ranch area.
- ❖ Develop an adequate manure storage and composting facility
  - Either on farm or as a community based facility
  - Proper site for storage is required to reduce possible environmental problems
  - Tarp manure piles to limit fly development in the pile
- ❖ Apply parasitic nematodes to manure piles on a 3-6 week schedule (*Steinernema feltia*)
  - These organisms infest and multiply inside fly larvae. This can greatly reduce emerging adults
- ❖ Move towards an enclosed ranch system
  - This allows for a controlled environment and increased bio-security
  - Cement floor for ease of cleanup and sanitation

### **Acute treatments:**

Environmental conditions and unforeseen circumstances can impact fly infestations beyond what preventative measures can control. In these cases it is important to follow some rough guidelines.

- ❖ Monitor manure piles regularly for maggots and signs of increasing fly populations
  - Weekly (flies can complete their lifecycle in 14 days)
- ❖ When maggots are noted apply spot control measures
  - Slake lime or agricultural lime (safer product) applied to the maggots directly
  - Diatomaceous earth
- ❖ **As a last resort**, there are knockdown pesticides that can lower populations in enclosed barns or applying them to the outside of buildings
  - This should only be used as a short term knockdown solution when adult fly populations spike.
  - Always follow the product label
  - Use these products very carefully around mink barns as these products can be very toxic to mink if applied improperly.

Listed below are examples of active ingredients that could be used to knockdown populations of adult flies. There may be several products available that have each of these active ingredients in them and not all of these products would be acceptable for use in farm yards and around livestock. **Therefore, it is critical to read and follow each pesticide product label carefully before applying any product.** Consult with your chemical supply dealer before purchasing any product.

*Note: these products do not control flies long term especially if manure and water is not managed properly on ranch.*

Methomyl, Dimethoate, Permethrin, Naled, Pyrethrin, Chlorpyrifos

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