



# Northwest Veterinary Associates, Inc.

Kent Henderson, DVM  
Stephen Wadsworth, DVM  
Peter Averill, DVM  
Allison Maslack, DVM  
Jennifer Hull, DVM  
Elizabeth Brock, DVM  
Tom Linden, DVM

## July 2017 Newsletter – Integrated Pest Management (IPM)

*Prepared by Dr. Tom Linden*

Been seeing a lot of flies lately? This may be a dumb question but in this challenging weather, I've noticed quite a bit and thought I'd use this newsletter to introduce the topic of integrated pest management. IPM is a management strategy incorporating a number of pest control methods that complement one another and work together. By using cultural control, biological control, chemical control and physical control as pieces of a complete plan, you can economically and effectively manage fly populations.

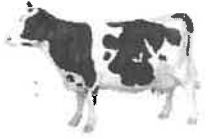
A large part of an IPM is the proper identification of pests, understanding their biology, and realizing their importance in the production process. Let's quickly review some common external pests associated with cattle:

House fly – These are non-biting insects that breed in manure, decaying silage, spilled feed, soiled bedding, and other decomposing organic matter. House flies may only cause minor direct annoyance to animals, **but their potential for transmitting disease (ex. *Salmonella*, *E. coli*, and *Staph. Aureus*) and parasites is considerable.** House flies in the Northeast are active May to October, with peak populations occurring from mid-July through mid-September.

Stable fly – Slightly smaller than a house fly, these insects have piercing mouthparts that cause extremely painful bites. Stable flies breed in wet straw, manure, spilled feeds, silage, grass clippings, poorly managed compost piles, damp round bales, and vegetation washed up on lake shores; in other words, in any damp, decaying organic matter. Animals will give an indication that stable flies are present by stomping their legs, since these flies normally attack the legs and bellies. **Annoyance from the blood feeding causes cows to bunch together in the pasture and in free stalls leading to heat stress and reduced feed intake causing potential economic losses.**

Horn fly – Half the size of a house fly or stable fly, both males and females have piercing mouthparts which they use to penetrate animal skin to obtain blood meals. The flies normally congregate on the shoulders, backs, and sides of the animals but move to the underside of the belly during very hot or rainy weather. **This serious pest of pastured cattle causes reduced milk production, poor weight gain, blood loss, animal annoyance and fatigue. The weight of calves plagued by horn flies is often reduced by 12 to 20 pounds over a summer. Pastured heifers can often develop blind quarters as a result of scab formation and eventual *Staph. aureus* infection.**

Face fly – This non-biting insect feeds on animal secretions, nectar, and dung liquids. These typically cluster around the eyes, mouth, and muzzle of dairy cattle, causing extreme annoyance. **As they move from the eyes of one animal to the next, they serve as vectors of pinkeye.** They also gather around wounds to feed on blood and other exudates. Face flies avoid shady areas.



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Lice – These relatively small and inconspicuous pests are divided into 2 categories (chewing vs. sucking). Lice are generally considered a problem in fall and winter months, but lice on calves can remain high during the year, peaking in June. Cows in stanchion barns are twice as likely to be infested as cows in free stalls since unrestrained animals can groom themselves. Lice cause extreme annoyance to host animals. **Milk production declines in heavily infested cattle, and their preoccupation with rubbing leads to hair loss, reduced feed conversion efficiency, and a general reduction in health.** Infested animals become irritable and difficult to work with, especially during milking, exposing people to greater risk of injury.

So, how to go about taking care of these pests? Like any plan, develop a strategy, implement the strategy, then monitor the strategy. The 4 strategies of an IPM include:

Cultural control – A huge theme you may have picked up on is flies like dirty environments. **The most practical and economical way to manage fly populations is to clean!** The most common fly breeding areas include calf hutches, silo leaks and spill areas, animal stalls and pens, feed and feed storage areas, calf/hospital/maternity areas, water tanks, feed troughs, and manure handling and storage areas.

Biological control – Parasitoids, also referred to as predators, parasites, and parasitic wasps, can be used as an effective tool to help manage fly populations. Allowing poultry to range in proximity to dairy barns can contribute to fly control. Birds, such as purple martins and swallows, feed indiscriminately on flies of all kinds. Encouraging these populations through providing nesting boxes will enhance fly management

Chemical control – Insecticidal control options for horn flies and face flies include whole-animal sprays/pour-on (Ultra Boss), premise sprays (Grenade-ER), self-applicating devices, feed-through insecticides and growth regulators, and controlled-release devices, such as ear tags and tapes. Read product labels carefully for target pest information and for precautions to avoid contaminating milk and meat; not all products are effective against face flies, and some products cannot be used on lactating dairy cattle.

Physical control – Sticky tapes, strings, and ribbons, especially the giant ones, are very effective for monitoring as well as managing small to moderate fly populations. Installing and maintaining tightly closed screen doors and windows to the milk room can greatly reduce fly numbers. Large fans move air throughout the facility drying out damp potential breeding areas and discouraging flies from resting. Providing shade to pastured animals helps deter face fly populations.

This newsletter was by no means comprehensive but hopefully it has you thinking about your farm's pest control. Great resources on IPM plans include your herd veterinarian, as well as online publications including the Penn State Pest Management Recommendations for Dairy Cattle, Cornell Cooperative Extension IPM Guide for Organic Dairies, and IPM for Fly Control in Maine Dairy Barns.