You are probably hoping the cold winter of 2013-14 will help limit some of the usual parasites and bugs this spring. One common pest that won’t be affected is the pesky house fly. It produces its own internal antifreeze that enables it to survive extremely cold weather. As the temperature increases, fly pupa or larvae that were dormant during the winter will start reproducing and developing quickly.

House flies in the dairy barn are particularly annoying. They carry many pathogenic organisms that can cause illness or disease in livestock. Dairy cows bothered by flies produce less milk.

Monitoring fly populations in the dairy barn

Pest control measures are one biosecurity aspect of the Canadian Quality Milk program producers must follow. A recent California study reviewed various tracking methods to assess fly populations on large dairies. House flies breed in animal manure, wet animal feed, and other decaying organic material.

An integrated pest management program requires that you keep adult house fly numbers below a defined threshold in a confined animal facility, where pathogen transmission to nearby humans and animals may occur.

Not properly monitoring flies can lead to several problems, including:

- increased nuisance complaints or disease transmission as a result of waiting too long to manage pests;
- widespread pesticide resistance if chemical applications are not done correctly;
- continuing to use ineffective measures that provided little or no benefit.

In the California study, researchers monitored fly population numbers four ways: spot cards, fly tapes, Alsynite sticky traps and bait traps. The cards, tapes and traps were replaced each week with new ones. With the spot cards, fly regurgitation and defecation were counted to show fly population concentration.

The study showed the spot cards provided a good way to monitor fly population compared with visual observations. The fly bait traps work well, but rapid resistance build-up requires a comprehensive management and evaluation program.

A practical implementation program for monitoring flies could work:

Use baited traps or spot cards. Baited traps are gallon plastic milk jugs in which four, two-inch holes have been cut in the upper part of the sides to allow flies attracted to bait, placed on the inside bottom of the jug, to enter. Suspend the traps from rafters or other building supports with 18- to 24-inch-long wires. Place spot cards, which are three-by-five-inch white file cards, on areas with large numbers of fly fecal and regurgitation spots.

The number of baited traps or spot cards required will vary according to barn size. However, you should place a minimum of five traps or cards at equal distance throughout each animal housing unit. Leave in place for seven days, after which you should count the number of flies collected in the traps or the number of fecal and vomit spots on the spot cards.

Baited traps that catch more than 250 flies per week or spot card counts of more than 100 spots per card per week are considered high levels of fly activity. House flies in Ontario are active from May through October. Fly numbers peak from mid-July through mid-September.

To monitor stable flies in your barn, count the number of flies you find on the legs of about 15 cows in your herd. An average of 10 flies per animal is considered a high level of fly activity.

Ruminations is prepared by Ontario Ministry of Agriculture, Food and Rural Affairs livestock technology specialists to provide information you can use on your farm.
How is an integrated pest management program implemented in a dairy barn?

Moist feed, wet bedding and organic matter mixed with manure are prime spots for female flies to lay their eggs. In just one day, the egg will hatch into a white maggot that feeds for four to six days before it changes into a brown cigar-shaped pupa. It then hatches into a fly. The total lifecycle of a fly is about 10 days to two weeks.

Female flies lay 150 to 200 eggs. A pound of manure can yield 1,500 maggots. Effective sanitation and manure management is important, as is using insecticides at the right time.

Make sure to keep feed rooms tidy and dry. Feed alleys should also be spotless and dry. Regularly clean manure in the barn. Calf areas are prime fly breeding locations. Clean out hutches and pens regularly, ideally twice a week, and keep dry. Using diatomaceous earth under bedding can also help. This will reduce larva populations. Mow your grass regularly to reduce fly breeding areas, and agitate manure to keep fly larva from developing.

Other tips include using a disinfectant and pressure-washing dirty areas. Move bale feeders in outside yards, and clean manure spreaders afterward. All these tasks help reduce the chance of flies laying their eggs.

Mesh screens also prevent flies from entering milk rooms and milking parlours. Keep doors closed as much as possible.

Control options:

- **Biological**: Some parasites are natural fly enemies, including wasps, beetles and certain pathogens. Using them judiciously could reduce fly populations.
- **Chemicals**: Several sprays and pesticides are good for fly control. Pyrethins and citric acid are naturally-derived from plants. Be careful when selecting pesticides because some will kill other insects, such as bees, while others may kill fly enemies and not necessarily the flies. Also, flies may develop a resistance to pesticides. Follow the label directions carefully.
- **Physical**: Tapes, traps and lights are good tools to use in a fly control program. Use these in areas where chemicals cannot be used.

Total approach

Integrated pest management involves a total approach to fly control. Set fly control thresholds, establish a monitoring program, and implement controls. Warm weather brings pesky flies. Following simple precautions can limit their unpleasant effects.

Barry Potter is an agriculture development advisor for the Ontario Ministry of Agriculture and Food and Ministry of Rural Affairs.

---

Look for the Blue Cow

The Blue Cow means 100% Canadian Milk.

Buying Canadian milk products means supporting our local economy and Canadian dairy farmers. Look for the Blue Cow and support economic growth.

Dairy Farmers of Ontario