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Lack of Fly Control = Lack of Cow Productivity and Heifer Growth

Flies are not only pests, but they also decrease production efficiency. Flies cause livestock to expend extra energy fending them off instead of resting, feeding and milking. Stable flies alone can decrease milk production by 40 to 295 liters per cow per year depending on the number of flies and the length of fly breeding season. Other potential problems associated with flies include medication costs, veterinary costs and increased potential for disease spreading. Contagious mastitis, for example, can be spread by high fly population.

The best way to fight the problem is to use a three-phase approach: planning, implementation and evaluation as part of an integrated pest management program (IPM). Planning involves the monitoring of fly activity and development of the control strategy. After identifying the flies on your operation, you need to inspect the operation, find the areas with the heaviest fly populations and set a nuisance threshold that dictates action needs to be taken. Finally, tactics for control should be established.

The first step in proper fly control is identifying which type of fly is causing most of your problems. There are four species of fly most commonly found on a dairy operation:

1. House fly: While seemingly only a "nuisance" fly, this species is implicated in the transmission of 65 disease organisms. House flies have a non-metallic, dull grayish color, measure ~6-7 mm in length and four distinct stripes on their thorax.
2. Stable fly: This fly is close in size to the house fly with a distinct "checker-board" pattern on its abdomen. This fly has one of the most painful bites of any of the bloodsucking insects and feeds mainly on the legs and flanks of cattle.
3. Face fly: These flies can cause tissue damage with their rough spiny mouthparts. Because they are constantly feeding on fluid, these flies spread diseases of the eye. These are typically a problem to pastured cattle, as they seldom enter barns or shelters. Female face flies lay eggs only on fresh, undisturbed cattle manure.
4. Horn fly: One of the most economically damaging pests on an operation, this bloodsucking parasite takes up to 40 blood meals a day and is responsible for reduced weight gain, decreased feed efficiency and decreased milk yields. Horn flies are half the size of house and stable flies. They are usually found congregating on the backs of cattle and only leave eggs in freshly deposited manure.

There are several ways to monitor fly populations on farm: baited fly traps, spot cards and sticky ribbons are useful for this purpose.

- Baited jug traps – These can be made from 4 litre plastic jugs. Cut 5-7 cm (1-2") access holes around the upper part of the jug, attach a wire for hanging and add commercial fly bait (preferably methomyl) to the trap. Check these weekly May through September. Use

minimum 5 jugs per average size barn. At each check, count/estimate the number of house flies in each trap, remove the flies and old bait and add 30 grams of fresh bait.

- Spot cards – Place ten or more 3x5" white index cards per average size barn. Staple these flush against braces, ceiling beams, the ceiling or any location where flies like to rest. Cards should be dated and replaced every week. A record of the average number of spots on a weekly basis can be a useful indication of the need for control measures. Cards should be replaced in the same location at each renewal.
- Moving sticky ribbons – This method involves holding a one metre sticky tape in one hand at shoulder height and walking a measured distance in the barn, two consecutive times. Replace weekly. The result can be calculated and compared to the nuisance threshold.

A weekly count of 250 house flies per jug trap per week, 50 fly specks per spot card per week and 100 flies per 300 m total walking distance for two consecutive times indicates that fly populations have exceeded the nuisance threshold and control measures are required.

Once the first two steps are completed, it is time to incorporate the chemical phase. This involves the use of insecticidal baits, perimeter sprays and on-animal treatments for the knockdown control of adult flies. To prevent resistance, incorporate a balanced mix of fly-control modes of action and rotate active ingredients every year or every other year. The best time to apply insecticides for fly control of house and stable flies is during the hottest part of the day. At that time, the insects retreat to cooler areas such as vegetation around pens, under bunks or shaded areas. Knockdown sprays are most effective when the air temperature is between 65-90°F (18-32°C). Residual sprays should only be applied to shaded fly resting areas because ultraviolet light breaks them down when exposed to the sun. On-animal treatments should be repeated every two to three weeks during fly season (generally May through October, or earlier if there's an early spring).

Other Important Things to Consider:

- Cleaning areas – Areas to concentrate cleaning efforts in fly control management include: cattle pens, calf housing and loafing barns, drainage areas, manure storage areas, free-stalls, in and around feed mixing areas or any other place where there is decaying organic matter.
- Milking parlour – Proper ventilation will allow the milking area to dry between milkings and help minimize potential fly populations. It is important to read the label of any pesticide product before use to make sure it is labelled for use in the milking area.
- Fans – Installing fans to produce a downward and outward air flow can limit fly activity in barns.
- Grazing considerations – Fly control for cattle going to pasture can be achieved if the animals are forced to pass under low-hanging dust bags or oilers so their face and back get treated or with ear tags. Be sure to double check the labelled instructions for products used in dust bags or oilers. If using ear tags, apply the proper number of ear tags per size of animal.
- Calf Hutches – This area is often overlooked and may produce enough house and stable flies to be considered an economic problem. These flies act as vectors for agents for diarrhea between calves, not to mention the dangers of maggots during dehorning and around the umbilical cord. Weekly cleaning or moving of hutches to cleaner "sun-dried" areas during the summer months will help reduce the breeding ground for these flies. The best calf-hutch bedding material to reduce fly population growth is sawdust and wood-shavings.