

# Fighting Flies

Take control of fly infestation by managing for these two major pests.

by **Harold Newcomb**

When the trees begin to leaf out and we think about spring planting and summer hay season, we also need to start thinking about fly control. The biology and control of two major flying cattle pests are discussed below.

## Horn fly biology

Horn flies (*Haematobia irritans*) cost producers hundreds of millions of dollars per year. The biggest losses result from reduced feed efficiency, decreased weight gain (10 to 30 pounds per calf) and decreased milk production.

Horn flies feed nearly exclusively on the backs of cattle, although they often move to the belly when it is hot or raining. Horn flies have needle-like mouth parts that they insert into the animal and use to withdraw blood. Females take 20 to 40 blood meals per day, leaving the host just long enough to lay eggs. Eggs are laid in fresh manure pats, sometimes while the animal is still defecating.

The entire life cycle takes 14 to 21 days to complete, creating several generations over a single season. Generally, horn flies do not travel far from the host, but can fly several miles in search of a host.

## Control options

Fly control ear tags contain active ingredients from one of three classes: pyrethroids, organophosphates or macrocyclic lactones. Some tags



Face flies are observed around muzzles and eyes and can travel several miles. A pyrethroid-class chemical helps repel flies away from the face.

have a combination of these. Each chemical class controls horn flies differently, but resistance has been observed to all three. In general, it is recommended to use one tag type in all animals within a given season. Rotation to a different chemical class, either when one class shows decreased effectiveness or between seasons, can help to delay resistance to all three chemical classes. Maintaining records of the active ingredient, time of application and degree of control will help guide future tag choices.

Tags should be applied when horn fly numbers reach approximately 200 per cow. Both

cows and calves should be tagged. Follow tag label recommendations for applying one or two tags per animal. The entire herd should be treated with a pour-on insecticide to decrease the size of the existing horn fly population at the time of tag application using a different chemical class than that of the tag. Using oilers or dust bags that contain a different chemical class than the tags is also warranted to extend effective tag life. Fly tags should be removed in the fall to help reduce fly resistance to the chemical class in the fly tag.

In addition to interventions to control the population of adult horn flies, it is critically important to the success

of the overall control program to also prevent the development of horn fly eggs into new adults. This can be achieved by feeding an insect growth regulator (IGR). Typically, IGRs are fed via free choice minerals. The IGR is consumed in the mineral and passes through in the feces where it prevents development of fly larvae in the fecal pat.

Dung beetle activity in manure pats and parasitic wasps that lay their eggs in horn fly pupae may also aid in control. Walk-through fly traps have been employed with moderate success, but are only feasible if animals are in a situation

where they must pass through the structure every day.

### Face flies

Face flies (*Musca autumnalis*) are generally observed swarming around the muzzle and eyes of cattle. They have sharp microscopic teeth, which they use to irritate the eye tissue of the animal. This irritation causes tear secretions which the female face fly ingests to support egg production. This irritation also allows pinkeye-causing bacteria to attach to and colonize peri-ocular tissues.

Unlike horn flies that remain on an animal or others in the herd for life, female face flies can travel several miles. This complicates control measures if there are other cattle within the fly's flight range. Face fly control is further complicated by the fact that only a small fraction of the face fly population is on the animal at any one time.

An advantage of using a pyrethroid class chemical in face



During the transition from spring to summer, consult your veterinarian about the best control options to protect against horn and face flies.

fly control is that pyrethroids not only help to control fly populations but also repel face flies away from the face and eyes of the cattle.

Place oilers with face flips or dust bags where cattle must pass under them frequently such as around water troughs or mineral feeders. Combination insecticide ear tags (pyrethroid and organophosphate) are a good choice if both face fly and horn fly control is needed.

Appropriate chemical resistant gloves should be worn whenever

insecticide ear tags are handled. Consult your herd veterinarian on fly control and all other herd health matters. **HW**

**Editor's note:** Harold Newcomb, DVM, is a technical services veterinarian with Merck Animal Health.

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