IANR NebGuide
University of Nebraska–Lincoln Extension, Institute of Agriculture and Natural Resources
University of Nebraska Lincoln

G1204

The Face Fly

David J. Boxler, Extension Educator – Livestock Entomology

Control and background of the face fly are discussed here.

The face fly, *Musca autumnalis* (De Geer), is a robust fly that closely resembles the house fly *(Figure 1)*. Face flies are pasture flies and are not found in feedlots, dry lots or horse stables. It is a non-biting fly that feeds on animal secretions, nectar and dung liquids. Adult female face flies typically cluster around the host animal's eyes, mouth and muzzle, causing extreme annoyance. The females are facultative feeders, gathering around wounds caused by mechanical damage or biting fly activity to feed on blood and other exudates that are frequently found on the head and face. Beef, dairy cattle and horses are the principal animals bothered by this fly. By contrast, the male flies feed only on nectar and dung and are most often seen resting on branches and fences, attempting to catch a female and mate.

Figure 1. Female face fly at rest.

Life History

Female face flies lay eggs only in newly deposited manure from cattle on rangeland or pasture. Face flies do not lay eggs in manure found near barns or stables, or in manure associated with feedlots and dairies since the manure from these locations are often urine-saturated, disturbed or compacted. Face fly larvae pass through three stages of development before pupating. Face fly larvae are yellow in color and the puparium is white. The complete egg to adult life cycle takes about three weeks. When flies emerge, they mate and the females seek a protein source that is necessary for egg development. Typically this protein source will be secretions from cattle and other animals. Both female and male face flies are strong flyers and can travel several miles to find a host and/or food source.

Face flies overwinter as an adult, hibernating in protected places such as attics of homes, barns and sheds. In late September, they seek places of shelter, often using the same sites each year. In late fall, it is not unusual to find flies swarming around structures near attic vents or roof soffits. The overwintering flies often become a serious domestic insect pest as they find their way into the living areas of homes during warm spells in the winter. They also become active just before leaving the hibernation site.

Economic Importance

Face flies are economically important to livestock producers since they can transmit several eye diseases and parasites to cattle. This occurs because of the structure of the fly's mouth which has small stomatal teeth which are used in a rasping manner when feeding. The rasping action scratches the eye or other tissues and creates sites for disease and parasite entry and development *(Figure 2)*. Female face flies can be contaminated with and transmit infectious bovine keratoconjuntivitis (pinkeye) and bovine rhinotracheitis (IBR)

Figure 2. Female face flies feeding on eye of a cow.

to their hosts. They are also the source of nematode eye worm, *Thelasia* sp., infections in horses and cattle.

The female face fly's persistent feeding habits produces significant annoyance and irritation. Livestock will react to fly feeding by bunching, seeking the shade of trees or in some cases standing in water in an effort to avoid the flies. The cattle's defensive behavior can affect grazing patterns. Estimates are that $150 million per year is lost to pink-eye treatments, reduced weight gains and reduced milk production from face fly feeding and irritation.

Control

Providing adequate face fly control can be difficult due to where the female fly feeds on the animal and since the fly is not on the animal most of the time. However, effective control can be achieved with forced treatment methods such as dust bags, oilers and insecticide-impregnated ear tags. Whole-animal sprays will provide temporary relief, but need to be re-applied on a regular basis, typically every 10-14 days. Certain feed additives containing insecticides incorporated in a mineral block or added to feed can reduce populations. Feed-through products reduce fly larval development in the manure, but have no direct effect on adult face flies and immigration of flies from neighboring herds can overwhelm control efforts.

If face fly populations are high, control may require more than one method of treatment. The treatment of both calves and cows is necessary if effective control is to be achieved.

Pink-eye vaccines are commercially available, and livestock producers are encouraged to contact their veterinarian regarding their efficacy and their use. Recommendations regarding the vaccination of a herd should be provided by the attending veterinarian.

For insecticide control recommendations please consult Extension Circular EC1550, Nebraska Management Guide for Insect Pests of Livestock and Horses.

This publication has been peer reviewed.

UNL Extension publications are available online at *http://extension.unl.edu/publications*.

Index: Insects and Pests
Livestock
Issued February 2015