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Face Fly Control Guide

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The face fly congregates about the eyes and nose of animals, causing annoyance and possible disease transmission. This NebGuide discusses face fly breeding and effective controls.

The face fly closely resembles the house fly except it is slightly larger and darker. Other differentiating characteristics include: 1) the abdomen of the male face fly is orange and the female has an orange stripe; the abdomen of the house fly is white or light grey and 2) the compound eyes of male face flies nearly touch but are separated in the house flies.

The persistence and habit of congregating about the eyes and nose of animals helps distinguish the face fly from the house fly in the field. House flies may congregate on the faces of cattle in confined feedlots or dairy pens. Face flies are pasture flies and are not found in feedlots.

Life History

Face flies deposit eggs in cattle manure. The eggs are equipped with a breathing stock, the end of which sticks above the manure surface until the eggs hatch. The larvae pass through three larval stages in the manure then disperse to the edge or out of the manure to pupate. Face fly larvae (maggots) are yellowish and the puparium is white. All other manure-inhabiting flies have white larvae and brown pupal cases. When the flies emerge, they mate and females seek a protein source necessary for egg maturation. Female face flies feed on various secretions from cattle or other animals; tears, saliva, nasal mucus, blood serum exuding from wounds, perspiration, and excrement adhering to the hair of animals. Male face flies generally feed only on pollen.

The life cycle of face flies from egg to adult takes about three weeks during summer months. In mid-September, face flies cease the reproductive cycle and seek overwintering sites. The overwintering sites include barns, houses and other buildings and probably sheltered areas outdoors as well. The flies have a tendency to overwinter in the same sites each year. Winter survival is very low if these sites are unheated. Face flies and two or three species of cluster flies are often found in large clusters in the same overwintering site.

Economic Importance

The major economic importance of face flies is their capability to transmit pinkeye and other eye diseases to cattle. The mouthparts of the fly have small stomatal teeth which are employed in a rasping manner when feeding. This feeding creates a wound in the eye tissue which attracts more flies and provides an avenue for disease entrance. The nematode eye worm, *Thelazia* sp. is transmitted to horses and cattle by the face fly. The economic importance of these nematodes seems minimal. Face flies may be capable of mechanically transmitting *Brucella abortus*, the causative agent of brucellosis and Bovine herpes virus-1, the causative agent of infectious bovine rhinotracheitis (IBR), because these disease agents remain viable in the insect for several hours. The fly also transmits *Parafilaria bovicola* in Europe but this disease has not been found in the U.S. to date.

In addition to the transmission of diseases, the persistent feeding of the flies causes annoyance and irritation to cattle, causing them to bunch and seek shade or water in which to stand in a futile effort to avoid the flies. This interferes with normal grazing patterns and probably reduces weaning and yearling rates of gain.

One other aspect of economic importance of the face fly is their nuisance value to homeowners when they overwinter in the home. The flies swarm around the house when they are going into hibernation and again when they are coming out of hibernation. On warm days during the winter, they move out of hibernation areas into the living quarters where they are a general nuisance.

For several consecutive years, face fly numbers in Nebraska have declined to a level where they haven't been economically important but increased in 1992 and 1993 when moisture levels were above normal. The face fly is generally a pest only in eastern Nebraska where precipitation is above 30 inches. Manure pats along waterways or shaded canyon floors where lush vegetation is present will support the face fly life cycle in central and western Nebraska. The three weeks required to complete the life cycle is long enough to dry manure before the larval stages have completed development in most of the open range areas of western Nebraska.

Control

Control of the face fly is difficult because it is generally on the face of the animal, an area difficult to treat, and because it spends little time on the animal. Treatment is generally achieved with self-treatment devices; dust bags, oilers and insecticide-impregnated ear tags.

Dust bags provide the best control if they are used in a forced treatment situation where the animal has to pass under them to obtain water, feed or mineral. If cattle have access to water from ponds or streams, it is difficult to devise a forced-use system. If dust bags are used free-choice, they should be placed in a location frequented by the cattle and in enough numbers to provide access by all the cattle. If only one or two are available, bulls and older cows tend to dominate their use. To prevent waste from the whipping action of wind, dust bags should be hung with the broad side facing east and west because prevailing winds are usually from the north or south. If the bags are not plastic covered, they should be checked after rains to assure that the dust hasn't caked, which prevents dust dispersal.

Unlike horn flies which are attracted mainly to adult animals, face flies are equally attracted to cattle or calves. This means that the calves should also be treated. If cattle aren't accustomed to using dust bags, they need to be hung high enough for the cow to see under them at the beginning of treatment. The bags can be gradually lowered to the point that calves are also treated by them after the cows freely pass under them. Check EC1550, *Nebraska Management Guide for Arthropod Pests of Livestock and Horses*, for specific insecticide recommendations.

Recommendations for the use of oilers are basically the same as for dust bags. Oilers can be made by wrapping burlap around chains, cables, or wires and suspending them between posts or they can be purchased. Commercial oilers may have a tank which dispenses the insecticide like a lantern wick. Some oilers have flaps which should be about 12-inches long that serve well to treat the face of animals.

Both oilers and dust bags should be checked periodically to assure that insecticide is being properly dispensed. Insecticides for use in oilers are usually diluted with No. 2 diesel fuel which extends the residual value of the insecticide and retards evaporation. There are some commercial mineral feeders which are provided with dust or insecticide oiler dispensers that seem to provide good control on cows but may not provide much control for calves.

Insecticide-impregnated ear tags provide fairly good face fly control but present a management problem for horn fly control. Generally, the treatment method used is expected to provide both horn fly and face fly control. The pyrethroid insecticide ear tags provide better face fly control than do those containing phosphate insecticides. However, most horn fly populations in Nebraska are resistant to pyrethroid insecticides. Therefore, little horn fly control will be provided by pyrethroid ear tags. One of the resistant management recommendations for horn flies is to rotate insecticide ear tags annually. Another problem with the use of ear tags for face fly control is that both the calves and cows should be treated which is expensive. Only the cows need to be treated for horn fly control.

Feed additive insecticides are incorporated in a mineral block or added to feed. The insecticide passes through the digestive tract of the animal and into the manure. Rabon, phenothiazine and methoprene (altosid) are three insecticides registered for this purpose, but altosid is not registered for face fly control. These products reduce the number of flies emerging from manure, but this degree of control may be offset by the immigration of flies into the herd from neighboring untreated herds.

If face fly populations are high, control may require more than one method of treatment. Dust bags or oilers used in combination with animal sprays have provided the best control. Both calves and cows have to be treated if control is to be achieved.

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