

Livestock Insect Series

Horse Flies and Deer Flies on Cattle

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More than 300 species of horse flies and deer flies (family *Tabanidae*) have been recorded in North America. More than 50 species of horse flies and deer flies have been identified in Arkansas. In some Arkansas localities, the horse fly season begins in early April and does not end until frost in the fall.

Horse flies and deer flies are robust, measuring in length from approximately 1/3 inch for the smaller species to 3/4 or 1 1/2 inches for the larger ones. They are various colors but are usually gray, splattered with brown or black. Both kinds are strong fliers. Only the females suck blood, and they are vicious biters. The males feed on nectar and are of no consequence as animal pests. These flies are the most annoying of livestock pests.

Female flies obtain blood meals from a wide variety of warm- and cold-blooded animals, particularly cattle, horses and deer. Although these flies often attack man and can inflict painful bites, humans are not their primary hosts. Deer flies more commonly attack man than do horse flies.



Black Horse Fly, *Tabanus* spp.



Deer Fly, *Chrysops* spp.

Life History

Eggs are deposited in masses of up to 1,000 on vegetation growing in or overhanging streams, ponds or swampy areas. Eggs usually hatch in about 4 to 7 days. Larvae quickly drop to the surface of the water or moist soil and quickly burrow into the mud, damp earth or decaying matter. They feed on organic matter

and other animal life. Larvae may take one to two years to develop. Mature larvae measure up to about 2 inches in some species, are tapered at both ends and have a fleshy ring on each body segment. After reaching maturity, the larvae pupate, and the adult emerges one to two weeks later.

Nature of Damage

Female horse flies and deer flies have broad, flat, blade-like mouthparts that cause a large, deep and painful wound. The painful bite and buzzing sound the flies make while flying around animals may cause them to stop grazing and cluster together for protection. This activity causes weight loss and reduced milk

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flow, and the clustered animals often injure each other by hooking or kicking while they are close together for protection. Weight loss estimates have been as high as 100 pounds per animal during the season, and estimates on reducing milk flow have been 20 to 30 percent.

Another important factor is the blood loss. In six hours, 20 to 30 flies can take almost a third of a pint of blood. Other estimates have been as high as a third of a quart where infestations were slightly higher. These estimates do not include the large drop of blood that is usually left at the side of each bite.

Their intermittent feeding makes them ideal for the mechanical transmission of disease-causing pathogens. A fly interrupted during its feeding may pass readily to another animal so that both sick and healthy animals may be fed on in succession by the same fly. Anaplasmosis, anthrax, tularemia and several other diseases are known to be spread by these vicious bloodsuckers.

Control

Control of horse flies and deer flies is very difficult. Insecticides are usually ineffective since the insects spend little time on the animals. Insecticide treatment of breeding areas is also impractical.

Several factors have been suggested to explain the difficulties of controlling horse flies in field situations where it is not feasible to handle the animals on a frequent schedule. Some of these factors are: (1) the relatively large size of the flies, which increases the dose of insecticide necessary to produce mortality, (2) the brief feeding period on the animal when it would be in contact with a treatment on the animal, (3) the continued emergence and host seeking of females of numerous species over a relatively long period, (4) the ability to fly from emergence sites that may be a considerable distance from the host to be protected and (5) the wide range of larval habitat which precludes, except in limited situations, larval control.

Some degree of repellency can be obtained for two or three days after applying a spray mixture of pyrethrins and piperonyl butoxide. Use of this mixture may benefit dairymen or small herd owners in areas of heavy local infestation.

Insecticides currently registered on cattle only afford moderate control of horse flies at best. Spray the entire body of the animal, paying particular attention to the areas most frequented by the horse flies. Frequent treatment may be necessary. Your county Extension agent has information concerning which insecticides to use.

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