



Pest e-alerts



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Horse Flies and Deer Flies (Tabanids) on Cattle

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There are many species of horse and deer flies in Oklahoma (Fig 1). Seven or eight species can be considered significant pests depending on the location. Horse flies vary in size from ½ inch to 1.5 inches or longer. Female horse flies are vicious biters, and peak populations of one species or another occur from June through September. Male horse flies do not bite. Horse and deer flies have complete metamorphosis, but generally only complete one generation per year. Many horse flies lay their eggs around the edges of ponds and

their larvae develop in the moist mud along the perimeter of the pond, making control in the larval stage impossible. Some of the most important species in Oklahoma lay their eggs in the soil under thick layers of leaves in the heavily timbered areas of the state. Larvae develop in the soil. Adult horse and deer flies prefer feeding on the legs and backs of animals. Heavy populations of adult horse flies can cause economic losses, but generally controlling them in a cost effective manner is not possible. Because the female horse fly is only on the animal for a few minutes while taking a bloodmeal, it is difficult to get enough pesticide on the animal to deter the fly from feeding. The flies may receive enough pesticide to kill them after they leave the animal, but this is difficult to determine. Because horse flies are continually emerging throughout the summer and many species have an extensive flight range there will be flies on cattle regardless of whether or not a pesticide treatment has eliminated some of the population. Horse flies are repelled by some pesticides just after spraying the animal, but this is not a practical method of protection. Recently traps have been promoted to trap out populations of horse flies, but these traps are expensive and numerous traps are required in order to reduce horse flies in a relatively small area.

Common Oklahoma Horse Flies

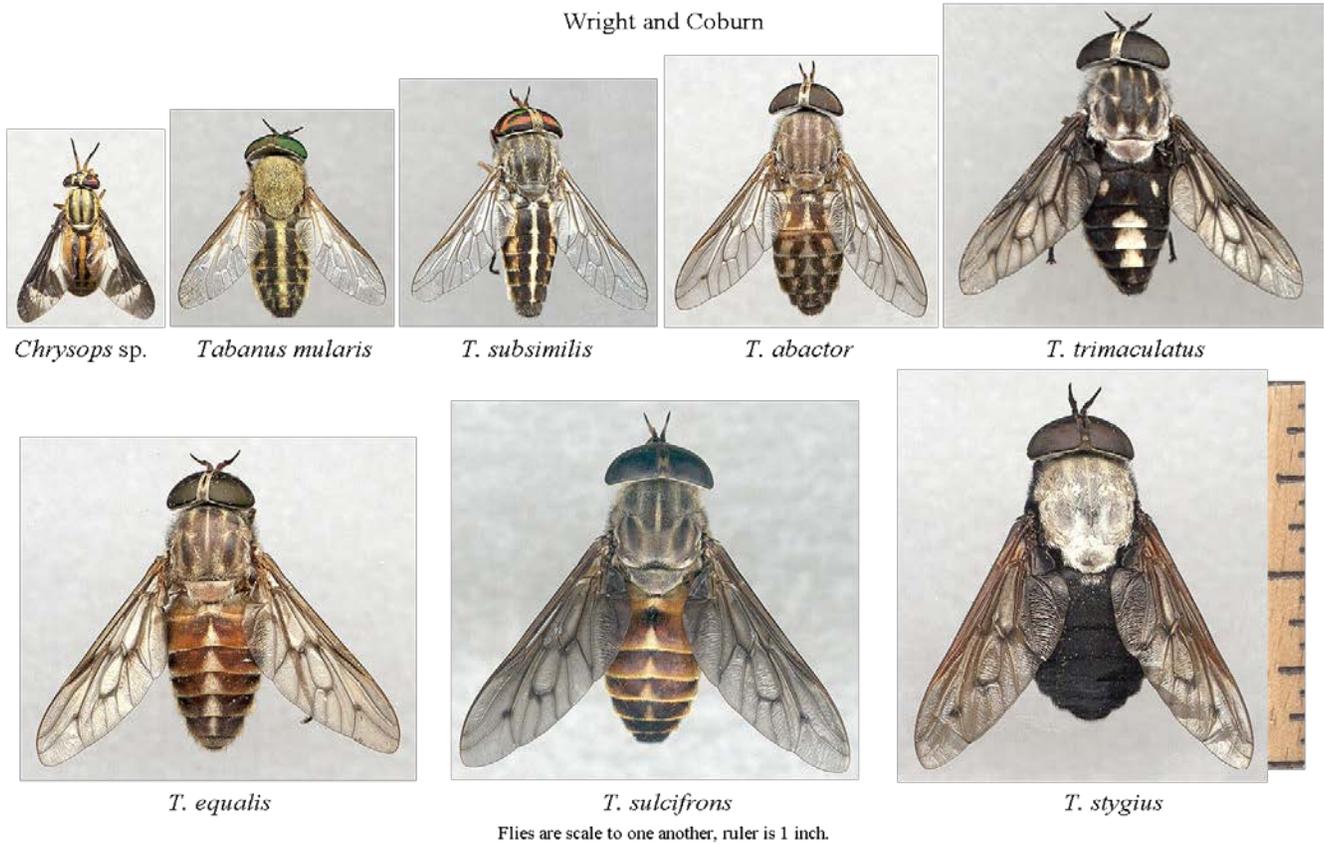


Fig 1. Common horse flies of Oklahoma

Disease

Tabanids are commonly associated with mechanical transmission of several different pathogens that cause disease in cattle. They have several characteristics that make them efficient at mechanically transmitting pathogens: they are highly mobile, have frequent interrupted feedings, and have large easily contaminated mouthparts for transfer of infectious material. Tabanids inflict a painful bite, resulting in many interrupted feedings because of host defensive behaviors such as skin twitching or head tossing. When blood feeding is interrupted, horse flies may immediately contact another nearby animal because cattle that are under fly feeding pressure tend to cluster closely together. This pattern of frequent interrupted feedings and subsequent rapid movement between hosts provides an ideal opportunity for mechanical transmission of *Anaplasma marginale* from infected to uninfected hosts. *A. marginale* causes anaplasmosis in cattle or more commonly known as "anaplaz." Anaplasmosis is an infectious disease in cattle that causes destruction of red blood cells. Nine different species of Tabanids have been shown to mechanically transmit *A. marginale*.

Management

For livestock, pyrethroid pour-ons function as limited repellents. Self-application methods are not effective for horse flies. Ear tags impregnated with insecticides have had success in control but usually are more effective earlier in the season not when the fly tag has been in the animal for more than 2 months. For removal trapping, recent research has shown that blue cylinders (inverted cups, for example) coated with sticky material (Fig 2) and attached to slow moving (<7 mph) objects (e.g., the front of a truck or ATV) are effective at reducing the abundance of these flies.



Fig 2. A blue cylinder covered with sticky material makes an effective removal trap for horse flies when attached to a slow moving object (< 7 mph). Credit - University of Florida.

Dr. Richard Grantham - Director, Plant Disease and Insect Diagnostic Laboratory

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