CATTLE FEVER TICKS

WHAT ARE CATTLE FEVER TICKS?

Cattle fever ticks, scientifically known as *Rhipicephalus (R.) annulatus and R. microplus*, are dangerous cattle ectoparasites that can serve as vectors of serious disease. Cattle fever ticks are capable of carrying and spreading the protozoa, or microscopic parasites, *Babesia bovis* and *B. bigemina*, causing bovine babesiosis, commonly known as cattle fever. *Babesia bovis* attacks and destroys red blood cells, potentially resulting in death for susceptible species.

Cattle fever caused enormous economic losses to the U.S. cattle industry in the late 1800s and early 1900s. Due to a substantial cattle fever tick outbreak in 1893, the Texas Legislature created the Livestock Sanitary Commission, now known as the Texas Animal Health Commission (TAHC). Now, fever tick infestations primarily occur along the Texas-Mexico border, with occasional outbreaks outside the Permanent Quarantine Zone.

CLINICAL SIGNS

Clinical signs of cattle fever may include:

- Acute anemia
- High fever
- Enlarged spleen and liver
- Visible ticks
- Sudden death

TRANSMISSION

Cattle fever ticks become infected with *babesia* when they consume blood from infected animals. When the tick reproduces, babesia organisms will pass on to the tick larvae. The fever tick larvae will then pass babesia to the animals on which they attach and feed. These infested animals then serve as vectors in the potential spread of cattle fever ticks to other animals and premises.

Cattle fever ticks are known to attach to a variety of species such as cattle, horses, white-tailed deer, Texas dall sheep, and exotic hoofstock, such as nilgai antelope and red deer.

Cattle fever ticks are single host ticks which pass through three life stages while on one animal; larva, nymph, and adult. Female fever ticks will stay on one animal for the duration of their life. After female fever ticks are fully engorged they will drop off of the animal and lay up to 4,000 eggs on the ground. The eggs will hatch into larvae which attach to animals that walk by, ultimately continuing the life cycle.

DIAGNOSIS

In the Permanent Quarantine Zone, or buffer zone, fever ticks are quickly detected and eliminated. The USDA leads this tick eradication effort with prescribed treatment, inspections of U.S. cattle within the zone, and tracking down stray livestock that may have crossed the Rio Grande River. When cattle fever ticks are discovered outside the buffer zone, the TAHC leads eradication efforts with quarantines, movement restrictions, inspections, and prescribed treatments.

REPORTING DISEASE

The Texas Animal Health Commission (TAHC) must be notified within 24 hours of all suspected and confirmed cases of cattle fever. Reports can be made to any TAHC region office. Susceptible animals may be inspected, free of charge, by contacting a TAHC or USDA representative.

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PREVENTION

When new animals are brought on a premises, do not commingle them with the existing herd until they are confirmed to be free of disease and pests. Early reporting of unusual or suspicious pest infestations prevents fever ticks from establishing a large population on the property.

TREATMENT

If cattle fever ticks are found on an animal on a premises, TAHC representatives will create a plan to best eliminate cattle fever ticks from the premises. All treatment methods require 100 percent treatment for a six to nine month quarantine, depending on the time of the year. Once an infested herd has made it through the six to nine month quarantine treatment period, the herd must undergo a six month check quarantine with no treatment to ensure the herd stays free of cattle fever ticks prior to being released from quarantine.The options include, but are not limited to:

Injectable Doramectin

Doramectin, administered through a convenient injectable, follows a 25 to 28-day schedule for an effective six to nine month quarantine period. This method alleviates the need for dipping and the relocation of cattle, minimizing stress and reducing the frequency of gathering during the quarantine phase. It is important to note that Doramectin products have a pre-slaughter withdrawal period.

Scheduled Dipping

Every 7 to 14 days throughout a six to nine month period, cattle on the premises undergo scheduled dipping. This strategic dipping schedule is designed in alignment with the life cycle of fever ticks. Cattle from a quarantined premises are subjected to treatment either through a spray-dip machine on-site or by being transported to an approved dipping vat. They are treated under the supervision of a TAHC or USDA inspector who must certify that 100 percent of the herd was treated. The animals are returned to their premises where more ticks will attach to the animal before the next scheduled dipping. This procedure is repeated again and again to “clean” the pasture of ticks during the quarantine period.

Vacating Premises

The principal of “starving out” the tick by removing the hosts is known as “vacating” the premises. This begins with dipping cattle on a 7 to 14 day schedule. The cattle must have two consecutive tick-free inspections and dippings before the herd can be moved to a new, tick-free premises. The tick-infested premises is then left empty, or vacated, for nine months. White-tailed deer, nilgai, and other wildlife that can carry the fever tick must be treated by approved methods during the period in which the premises is left vacant, to reduce the perpetuation of the tick. Starving out the ticks can be challenging due to wildlife hosts cycling ticks. One of the most challenging wildlife hosts is Nilgai.

Wildlife Treatment

Treating free range wildlife or exotic animal hosts, especially Nilgai antelope, for fever ticks poses a significant challenge in South Texas. These animals cannot be gathered like livestock in order to be treated with a TAHC approved acaricide. Treatment is currently limited to feeding Ivermectin treated corn. Ivermectin treated corn has been approved to feed to white-tailed deer by the Food and Drug Administration and can only be done legally by USDA and TAHC personnel. All Ivermectin treated corn must be withdrawn no later than 60 days before the start of hunting season. White-tailed deer or exotics maintained in pens can be treated as cattle would be or by approved wildlife treatment options. Currently, there is no effective treatment for cattle fever ticks on nilgai antelope.

The USDA and TAHC are continually working with government and industry partners to develop new and improved treatment modalities for both livestock and wildlife.

TESTING REQUIREMENTS

For testing requirements, please visit the TAHC website, https://www.tahc.texas.gov/animal_health/feverticks-pests/.