



Texas Cattle Fever Tick

What is the Cattle Fever Tick?

Cattle Fever ticks, known scientifically as *Rhipicephalus* (formerly *Boophilus*) *annulatus* and *R. microplus*, are a significant threat to the United States cattle industry. These ticks are capable of carrying the protozoa, or microscopic parasites, *Babesia bovis* or *B. bigemina*, commonly known as cattle fever or babesiosis.

Babesia attacks and destroys the animals' red blood cells, causing acute anemia, high fever, and enlargement of the spleen and liver, ultimately resulting in death for up to 90 percent of susceptible naive (no exposure to *Babesia*) cattle.

Potential hosts of cattle fever ticks include, but are not limited to: cattle, horses, white-tailed deer, and exotic hoofstock, such as nilgai antelope and red deer.

Fever Tick Lifecycle

Cattle fever ticks go through three life stages while on an animal host: Larva, nymph, and adult. Female fever ticks will stay on one animal for the duration of her life. After female fever ticks are fully engorged she will drop off of the animal and lay up to 4,000 eggs on the ground. The eggs will hatch into larvae, which will attach to animals that walk by, and the life cycle continues.

Cattle fever ticks become infected with babesia when they consume blood from an infected animal. When the tick reproduces, babesia will pass on to its larvae. The fever tick larvae will then pass babesia to cattle on which they attach.

When Fever Ticks are Found on an Animal

When ticks are found on livestock or wildlife on a premises, it is designated as an "infested premises." The infested premises is placed under quarantine and subject to movement restrictions, inspections, and treatment as prescribed by fever tick regulations. Other premises in the proximate area are designated as "adjacent, exposed, or check premises" and they are also subject to various movement restrictions, inspections and treatments. Along with the permanently established tick eradication quarantine area, running along the Texas-Mexico border, the TAHC is authorized to establish "temporary preventative quarantine areas", or "control purpose quarantine areas" to control and prevent the spread of fever ticks in other areas of the state.

Cattle Fever Tick Treatment Options

The statutory authority for this program is found in Chapter 167 of the Texas Agriculture Code. The regulations are found in Title 4, Part 2 of the Texas Administrative Code, and located in Chapter 41. They can be found at <http://www.tahc.texas.gov/regs/code.html>.

Option 1: Injectable Doramectin

The first option for treatment is a ready-to-use injectable. Doramectin is given on a 25 to 28 day schedule for the 6 to 9 month quarantine period. This treatment option has been proven to be effective against the fever tick. It also relieves the stress of dipping and/or moving cattle from the premises, reduces the number of times that cattle must be gathered during the quarantine period by about one-half, resulting in substantial cost savings for the rancher when compared to a dipping schedule. It is important to note that Doramectin products have a pre-slaughter withdrawal period.

Option 2: Scheduled Dipping

The second option is a prescribed schedule of dipping the cattle on the premises every 7 to 14 days for 6 to 9 months. The dipping schedule is based on the fever tick's life cycle. The cattle from a quarantined pasture are sprayed on the ranch or trucked to an authorized dipping vat, where 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 pasture, 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 minimum 6 to 9 month quarantine period.

Option 3: Vacating Premises

The third option for eliminating the fever tick operates on the principal of "starving out" the tick, by removing the hosts. This approach, known as "vacating" the pasture, can be a more economical option for some ranchers as it cuts the costs of repeatedly rounding up, transporting and dipping cattle. This option begins with dipping the 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 pasture. The tick-infested pasture is then left empty, or vacated, for nine months. Although vacating the premises of all livestock is often less expensive for the

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landowner, it is much less effective in eradicating fever ticks due to free-ranging deer and exotics. The white-tailed deer, nilgai, and other wildlife that can carry the fever tick must be treated by approved methods during the period the pasture is left vacant in order to reduce the perpetuation of the tick.

Wildlife Treatment Methods

Treating free-ranging wildlife or exotic animal hosts for fever ticks poses a particular challenge. 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 or the use of four-poster feeders with permethrin infused rubbing posts, depending on the time of year. 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 systematically (ie. as cattle would) or treated as wildlife (ie. as a wild deer would be).

Report Suspected Cattle Fever Ticks

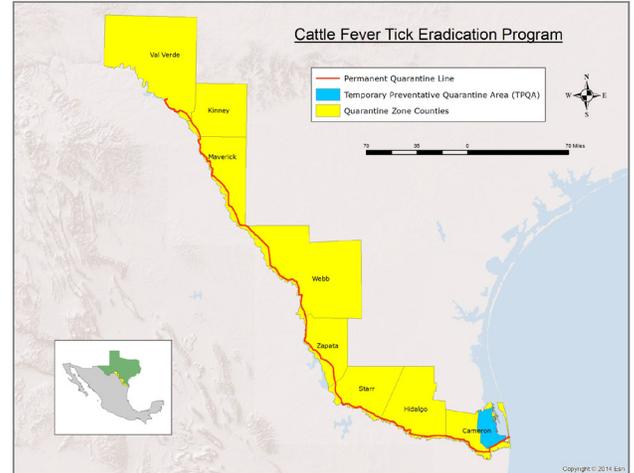
When producers observe ticks in their herd they should contact their private veterinarian or local TAHC region office. The ticks should be collected off of the animal(s) and submitted to the TAHC State-Federal Laboratory in Austin, TX, to ensure the parasites are not cattle fever ticks. For more information about tick submissions call the laboratory at (512) 832-6580.

Permanent Fever Tick Quarantine Zone

The Permanent Quarantine “Buffer” Zone, also known as the Systematic Area, serves as the buffer between Texas and Mexico. It is a narrow zone from 200 yards to 10 miles wide along the Rio Grande River. This strip of land is approximately 500 miles long, runs through eight South Texas counties, alongside the Rio Grande River to the Gulf of Mexico. The buffer zone allows tick incursions from Mexico, where ticks are endemic, to be detected and eliminated quickly, in an effort to limit the spread of fever ticks into the free area of the state. Personnel from the USDA-APHIS-VS, inspect U.S. cattle in or near the permanent quarantine zone and ride on horseback, looking for stray livestock and wildlife crossing the Rio Grande River from Mexico that may potentially be infested with fever ticks.

Advances in Fever Tick Prevention

The USDA-Animal and Plant Health Inspection Service-Veterinary Services (APHIS-VS) and Texas Animal Health Commission (TAHC) are working together to find new, effective and cost-efficient ways to better eradicate ticks. This includes feeding ivermectin-treated molasses and implementing the use of a tick vaccine for cattle. It also includes additional treatment methods of fever ticks on wildlife hosts.



Fever Tick History

The fever tick has been a threat to American agriculture for generations because they spread cattle fever. The disease caused enormous economic losses to the U.S. cattle industry in the late 1800s and early 1900s.

In 1893, due to the fever tick outbreaks the Texas Legislature created the Livestock Sanitary Commission, the original name of the TAHC. The agency’s primary mission was to eradicate the Texas cattle fever tick. Since that time, the fever tick has been pushed back to the Texas-Mexico boarder with occasional outbreaks outside the buffer zone.

Helpful Resources

- **Fever Tick Frequently Asked Questions:** http://www.tahc.texas.gov/news/brochures/TAHCBrochure_FeverTickFAQ.pdf
- **Wildlife Inspection Requirements:** http://www.tahc.texas.gov/animal_health/fevertick/TAHCBrochure_FeverTickWildlifeInspection.pdf
- **Fever Tick Vaccine Fact Sheet:** http://www.tahc.texas.gov/news/brochures/TAHCBrochure_FeverTickVaccineFactSheet.pdf

Information provided by the
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