

Cattle Fever Ticks

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Cattle fever ticks pose a significant health threat to U.S. cattle and, if not controlled, could cost livestock producers an estimated \$1 billion.

The ticks can carry parasites that cause cattle fever, a significant and often fatal disease in livestock. The disease causes anemia, rapid breathing, weight loss, decreased milk production, and death. Of the infected cattle that have not been exposed to the disease previously, 70 to 90 percent die.

The ticks also affect horses, white-tailed deer, nilgai antelope, exotic hoofstock, and red deer.

Because no vaccine or cure has been found for tick fever, the best available management tools are prevention, quarantine of tick-infested cattle, and tick control on cattle and deer.

Disease spread

The disease is spread by two species, the cattle fever tick (*Rhipicephalus annulatus*) and the southern cattle tick (*Rhipicephalus microplus*).

After the adult ticks (Fig. 1) mate, the female feeds on the host until it is fully engorged with blood. Then it drops to the ground, lays up to 4,000 eggs, and dies.

The eggs hatch into nymphs, which crawl onto tall plants and attach to a host animal walking by. The fever tick life cycle ranges from 3 to 4 weeks, and up to four generations can be produced each year.

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Figure 1. Cattle fever ticks: female, left; male, right. Source: *Rhipicephalus-microplus-ixodid-female-male* by Doktoridudu (Own work) (CC BY-SA 4.0)

Prevention

After buying livestock, do not commingle them with the existing herd until you are sure that they are free of diseases and pests. Unfed cattle tick adults are brown, oval, and up to 0.2 inch long; engorged adult females can reach almost ½ inch long. Grooves run lengthwise down the back.

On animals, the ticks are typically found from the dewlap to the perianal area and more specifically in the region from the elbow to the stifle and on the inside of the hind legs. However, when infestations are heavy, the ticks may be found anywhere on the body (Fig. 2).

To keep fever tick populations from building up on your property, report any unusual or suspicious pest infestation to your veterinarian or the regional office of the Texas Animal Health Commission (TAHC) immediately.



Figure 2. If the infestation is heavy, cattle fever ticks may be found anywhere on the body.

Another preventive measure is the establishment of a buffer zone on the Texas–Mexico border. More than half a million acres have been designated as the *Permanent Fever Tick Quarantine Zone*. This zone separates Mexico, where cattle ticks are prevalent, from the rest of the United States that is fever tick free.

Quarantine

If fever ticks are found on your livestock or wildlife, the premises—including property, livestock, and wildlife—will be placed under quarantine immediately. Animals may not be moved from the area or from nearby properties without inspection (Fig. 3) and approval from TAHC or USDA inspectors.



Figure 3. Inspection for cattle fever ticks
Source: k5441-1 by USDAgov (CC BY 2.0)

If a cattle fever tick has been discovered outside the permanent quarantine zone, that area will be designated as a *Control Purpose Quarantine Area*. The boundaries will be set according to local barriers and conditions that could affect the spread of ticks from the area.

Four categories of properties may be quarantined for cattle fever ticks:

- ▶ **Infested premises**, on which fever ticks have been detected on livestock or wildlife
- ▶ **Adjacent premises**, the areas closest to exposed or infested premises, including those separated by roads, double fences, or fordable streams. TAHC employees will contact the owners of premises near infested premises.
- ▶ **Exposed premises**, sites where the ticks have been detected on livestock or wildlife, and treatment has begun but not completed
- ▶ **Check premises**: properties in a tick-eradication area but not classified as infested, exposed, or adjacent

If the situation becomes more complex, one or a cluster of control purpose areas will be designated as a *Temporary Preventative Quarantine Area*. Stricter regulations as well as public awareness efforts will follow.

Tick control

If cattle fever ticks are found on an animal on your premises, a TAHC representative will create an action plan to rid the animals and your property of fever ticks. The most common options:

- 1) **Injectable doramectin**: A ready-to-use injectable is given every **25 to 28 days** for **6 to 9 months**. This treatment kills the ticks and relieves the stress of cattle being dipped and/or moved from the premises. It costs substantially less than dipping and nearly halves the number of times that the cattle must be gathered during the quarantine period.
- 2) **Scheduled dipping**: Cattle are dipped (Fig. 4) every **7 to 14 days** (based on the fever tick life cycle) for **6 to 9 months**. Quarantined cattle are sprayed on the ranch or trucked to an authorized dipping vat, where 100 percent of



Figure 4. Cattle being dipped to rid them of ticks in McAllen, TX

the herd are treated under the supervision of a TAHC or USDA inspector. The animals are then returned to their pasture to collect more ticks before the next dipping.

This procedure is repeated as needed for 6 to 9 months until a pasture is confirmed to be “clean” of fever ticks.

- 3) **Vacating premises:** Ranchers “starve out” the ticks by removing the hosts. First, the cattle are dipped every **7 to 14 days** until they are considered free of ticks. After **two consecutive** tick-free inspections and a dipping, the cattle are moved to a new, tick-free pasture. The infested pasture will then be left empty for **9 months**.

Although more economical for some ranchers, this method is not necessarily the most effective at controlling the fever tick. Untreated free-ranging deer and exotics could still have access to the pastures and sustain the fever tick life cycle.

Property owners do not have to pay for TAHC inspections or treatments.

Treatment for free-ranging wildlife

Treating free-range wildlife and/or exotic animals is challenging because they generally cannot be gathered for dipping and spraying. Treatment is limited to:

- ▶ Feeding corn treated with ivermectin
- ▶ Using four-poster feeders that have rubbing posts infused with permethrin

These methods also pose challenges: Only TAHC and USDA personnel can use ivermectin for deer. And the drug has a withdrawal period of 60 days before the start of deer hunting season. During this period, many fever ticks can complete their life cycle.

Treatment for penned deer or exotics

To treat penned white-tailed deer or exotics, use the same methods as for cattle or free-ranging wildlife. Deer can be treated with TAHC-approved spray in a chute before being moved from the premises.

Before moving penned deer from quarantined premises, contact TAHC to devise a plan.

Harvesting wildlife in a quarantine area

A TAHC or USDA representative **must** inspect all deer, nilgai antelope, and other exotic livestock that can host cattle fever ticks (including their heads, hides, and capes) before they can be moved or disposed of from the premises.

For detailed information on this procedure, see *Cattle Fever Ticks: Frequently Asked Questions* at http://www.tahc.state.tx.us/news/brochures/TAHCBrochure_FeverTickFAQ.pdf.

For more information or to request an inspection

Contact your local TAHC regional office; see the *TAHC Region Offices* map at http://www.tahc.texas.gov/agency/TAHC_RegionalOfficeMap.pdf.

Other resources

Fever Ticks: http://www.tahc.state.tx.us/animal_health/cattle/#ticks

Cattle Fever Tick Quarantine Areas: http://www.tahc.state.tx.us/animal_health/cattle/2016-12_FeverTickInfestations.pdf

Texas Administrative Code fever tick regulations:

[https://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac_view=4&ti=4&pt=2&ch=41&rl=Y](https://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=4&pt=2&ch=41&rl=Y)

Hunting regulations: *Fever Tick Inspection, Treatment and Movement Requirements for Native and Exotic Wildlife From Premises Quarantined as Infested, Exposed, Adjacent or Check*: http://www.tahc.state.tx.us/animal_health/cattle/TAHCBrochure_FeverTickWildlifeInspection.pdf

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