



Theileria & the Asian Longhorned Tick: What Every Cattle Producer Should Know

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The Asian Longhorned Tick (ALT) is an invasive tick species that has become a growing concern for livestock producers across the United States. As the primary vector of *Theileria orientalis*, this tick poses a potential health risk to cattle, sheep, and deer. Understanding the disease, recognizing the signs, and implementing effective prevention strategies are key to protecting your herd.

Meet the Asian Longhorned Tick

The Asian Longhorned Tick is known for its rapid reproduction and swarming behavior. A single female can produce more than 2,500 eggs without mating, allowing populations to expand quickly. This hard-shell tick is the primary carrier of *Theileria orientalis*, a protozoal parasite that infects red blood cells in mammals, including cattle, sheep, and deer.

Understanding Theileria

Exposure and Disease: Most cattle exposed to low levels of *Theileria orientalis* become asymptomatic carriers, showing no outward signs of illness. Clinical disease most often develops when animals are exposed to a sudden, high protozoal load.

Across the United States, mortality is generally less than 5%, and true herd outbreaks are uncommon. However, when outbreaks do occur, they can be severe, causing illness in up to 20% of a herd. It's also important to note that the number of ticks present does not always reflect the amount of *Theileria* being transmitted.

Clinical Signs

Watch for the following symptoms:

- Fever
- Lethargy
- Poor body condition or ill thrift
- Sporadic abortions
- Weakness
- Increased respiratory rate
- Pale or yellow (icteric) mucous membranes caused by anemia

If these signs are observed, consult your herd health veterinarian promptly.

Treatment

There is currently no cure for *Theileria orientalis*, and antibiotics are not effective because the disease is caused by a protozoan rather than bacteria. Although anti-protozoal medications are available in some countries, they are not legally approved in the United States nor would they be practical due to specific treatment timing and extremely extended meat withdrawal periods exceeding 18 months.

Theileria vs. Anaplasmosis

Because both diseases cause anemia, they are often compared.

Similarities

- Both can cause anemia and weakness.
- Both can leave recovered animals as lifelong carriers.
- Infected animals may continue to test positive for life despite showing no clinical signs or experiencing production losses.

Key Difference

- Anaplasmosis: Clinical disease can be treated with specific antibiotics to manage active infection.
- Theileria: There is currently no approved or effective treatment for clinical disease.

Testing and Screening

Screening for Theileria is simple and very similar to testing for anaplasmosis. A routine blood sample submitted to your state diagnostic laboratory can provide valuable information about herd health. In many cases, a single blood sample can be tested for:

- Theileria orientalis
- Anaplasma
- Bovine Leukosis Virus (BLV)
- Johne's disease

Talk with your herd health veterinarian about whether testing is appropriate for your operation.

Control and Prevention

- **Tick Control:** Standard tick-control practices remain effective against the Asian Longhorned Tick because it is a hard-shell tick, similar to the lone star tick and American dog tick commonly found in Tennessee. **Recommended control measures include:** *Insecticide ear tags, Pour-on products, Back rubbers, Regular inspection of cattle and pastures, especially wooded areas where ALT swarms are more likely to occur.*
- **Targeted Management:** Because ALT infestations can be localized, treating known "hot spots" with approved fogging products may help reduce tick populations in specific areas.
- **Vaccination:** At this time, there is no evidence that a tick vaccine is effective against the Asian Longhorned Tick or in preventing transmission of Theileria orientalis.

While the odds of theileria orientalis causing issues on your farm remains low, awareness is essential. Early recognition of clinical signs, routine herd health screening, and consistent tick-control practices are the best tools available to help reduce the risk of disease. Work closely with your herd health veterinarian to determine the most appropriate prevention and monitoring plan for your operation.