Cooperative Work Towards a Common Goal

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) is responsible for protecting the health of American agriculture, including our livestock industries. As part of our mission, APHIS leads the Cattle Fever Tick Eradication Program (CFTEP), a cooperative effort started in 1906 to rid the country of a serious cattle disease called babesiosis. The program depends on Federal and State animal health officials, the cattle industry, and producers, both in the United States and in Mexico, working together to prevent the spread of this tick-borne illness.

Commonly called cattle fever, babesiosis causes cattle to lose weight, produce less milk, and even die. The disease caused enormous losses to the cattle industry in the past. Before the eradication program began, direct and indirect economic losses were estimated to be $130.5 million—more than $3 billion today. USDA and its partners worked together to eradicate the disease from the country by 1943, except for a permanent quarantine area along the Texas/Mexico border, where the ticks that carry this disease are still found. Mexico continues to find babesiosis, so this buffer zone plays an important role in keeping ticks from spreading the disease back into the United States. USDA works closely with the Texas Animal Health Commission (TAHC) to carry out cattle fever tick eradication efforts. USDA and TAHC rely on research partners for livestock, wildlife, and environmental treatments, and for strategy and planning for future outbreak management. CFTEP research partners outside USDA APHIS and TAHC include the USDA Agricultural Research Service, Texas Agricultural Mechanical University, and Northern Arizona University.

Deer at an Ivermectin corn feeder.

Front Cover Photo: CFTEP mounted patrol officer looking for stray animals from Mexico. Inset: An unfed male cattle fever tick.

For More Information

If you have questions, contact the Cattle Fever Tick Eradication Program or Texas Animal Health Commission.

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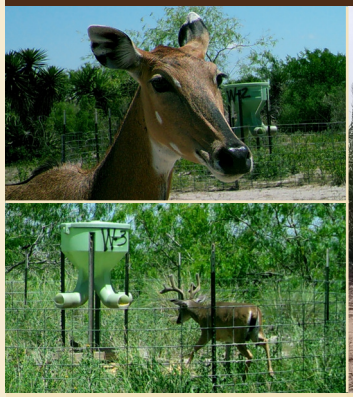
Cattle Fever Tick Research Milestones

Current Treatments

- **Coumaphos (Co Ral):** This pesticide treatment is used in dip vats and sprayed on animals. It quickly kills ticks. Co Ral treatment allows producers to sell their animals almost immediately, and there is little tick resistance.
- **BM86:** This anti-tick vaccine is used in the quarantine zone. When used with other treatments, BM86 can kill all or many ticks on an animal.
- **Dectomax:** This is the brand name of doramectin, which will kill ticks for a few weeks when injected into an animal.
- **Ivermectin Corn:** This is the only approved treatment for deer. When deer eat ivermectin-treated corn, it kills their ticks.
- **Ivermectin Tubs:** These tubs can be used on some properties as a preventative treatment. When cattle eat molasses treated with ivermectin, it will kill ticks on them.

Moving Towards New Ways to Solve an Old Problem



Nilgai (top) and white-tailed deer (bottom) can move ticks to new areas.

Topping Carrizo cane reduces tick refuge (left); Wildlife Fencing in Zapata County, TX stops movement of tick infested wildlife (center); Cows ready for inspection and treatment (right).

Changing Landscape

Exotic wildlife species, such as white-tailed deer and nilgai, are increasing in South Texas. These animals can become infested with and spread cattle fever ticks to new areas.

Rio Bravo Buffer Zone

A 6-month cooperative pilot project between USDA, Mexico, and the Mexican States of Tamaulipas and Coahuila, was put in place in 2022. Funds were used to treat animals in areas where stray animals have crossed the border historically.

Carrizo Cane

Carrizo cane is an invasive reed that grows along the Rio Grande River.

Along the river, 520 miles of carrizo cane have been cut short (topped). Cutting the cane and using biocontrol wasps stunts the cane's growth and reduces the area where livestock coming in from Mexico can hide.

Topping also reduces the area where cattle fever ticks might live in the environment and frees more water that would have been used by the cane.

Developing New Treatments

Lavender oil, nootkatone, and other botanicals have shown promise as treatments against ticks on animals, wildlife skins, and in the environment.

Nematodes that can eat ticks are useful when applied to wildlife.

Pairing current treatments like vaccine and macrocyclic lactones is showing a combined effectiveness against ticks.

Better vaccines that target both ticks and babesiosis are in development.

Population Genetics and Tick Resistance

Program cooperators are studying population genetics to learn where cattle fever ticks originated and their relationships to other tick outbreaks. They are also testing for pesticide resistant ticks to know where to use certain treatments and how to strategize eradication efforts.

Preventing Spread

Program cooperators are testing wildlife to see if they can harbor bovine babesiosis. By 2026, USDA will have constructed 70 miles of high fence to stop wildlife from spreading ticks.

Strategy/ Technology for Tick Control in the Future

Technology will play a great role in tick control in the future. Examples include:

- Applying GPS and GIS to better understand how to treat cattle on a landscape
- Using aerial drones for better habitat and host information
- Using weather data to model when and where future tick outbreaks will occur
- Improving pen-side tick infestation detection