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# FIGHT

JUL 16 1974

## CATTLE FEVER TICKS

CURRENT SERIAL RECORDS



PROGRAM AID NO.1086

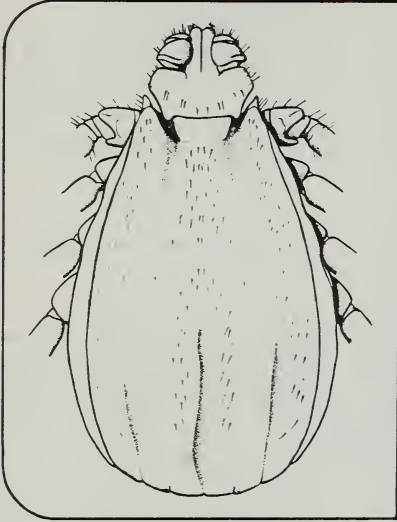
U.S. DEPARTMENT OF AGRICULTURE



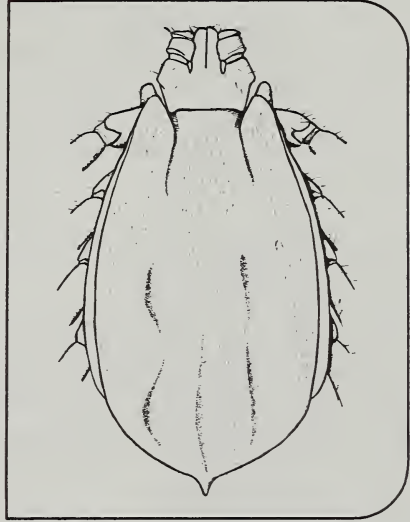
# FIGHT

## CATTLE FEVER TICKS

These are one-host ticks, and they spend their entire development period—from young larva, or seed ticks, to mature adults—on one animal.



Boophilus annulatus



Boophilus microplus

### THESE TICKS CAN CARRY CATTLE TICK FEVER

A disease that could cripple the cattle industry in the South and Southwest.

Cattle tick fever is caused by a blood parasite carried only by cattle fever ticks.

It affects only cattle.

In the past, this tick-borne disease has killed up to 90 percent of a cattle herd.

These ticks can also spread anaplasmosis and spirochaetosis.

### Even Though Not Carrying Cattle Tick Fever

Infested animals need extra feed to meet the demands of the parasites.

Milk production drops.

Growth is retarded.

Cattle become emaciated, stunted, and unprofitable.

## CASE HISTORY OF AN OUTBREAK

### Discovery

It is a hot, dusty day—August 22, 1972—at the South Texas Auction Market in Alice, Tex.

An inspector examines cattle in a loading chute.

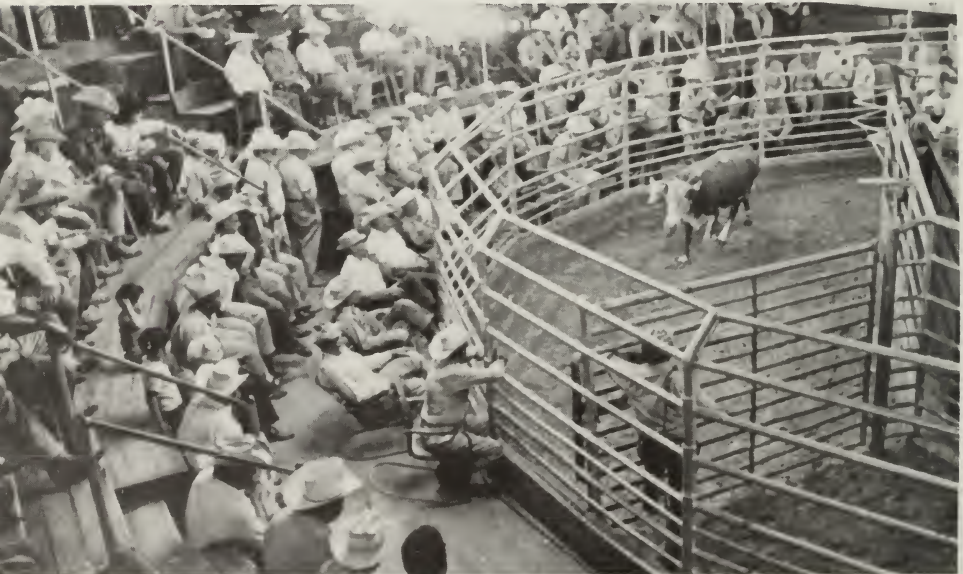
He runs his hand carefully, expertly, over a cow's hide. He feels a lump, parts the hair. He finds a tick, engorged with blood.

Suspecting it might be a cattle fever tick, he carefully places it in a vial and sends it to a USDA laboratory for identification. There are a number of ticks common to Texas besides cattle fever ticks—winter ticks, brown dog ticks, ear ticks—that might be mistaken for cattle fever ticks.

The laboratory report comes back—the tick is **Boophilus microplus**, a carrier of cattle tick fever.

Traceback soon reveals a number of infested cattle—including one shipment sent to a feedlot in Imperial County, Calif. Horses—also hosts for cattle fever ticks although they don't get the fever—are inspected and the ticks are found on them.

The fight is on again!





## Clean-Up Begins

State-Federal quarantine zones are established.

A cattle fever tick eradication task force center is set up with headquarters at Alice, Tex.

Additional State—Federal inspectors are added to the eradication task force and to the force patrolling the buffer zone along the Rio Grande River.

Cattle and horses on infested and exposed ranches are dipped in USDA-permitted tickicides every 14 days.

Cattle and horses moving out of the quarantine areas are dipped or sprayed.

Cattle and horses on infested premises are inspected before each dipping until they have passed two tick-free inspections.



Auction sale barns which have handled infested cattle are treated.

No livestock, hay, feed, or soil is allowed to leave the quarantined area without being inspected, dipped, or treated.

## **PREVENTING FUTURE OUTBREAKS**

Inspectors on horseback continually patrol a government permanent zone—a “buffer zone”—set up in 1941 as a barrier against strays from Mexico that might be carrying ticks.

This buffer zone extends 500 miles from Amistand Dam near Del Rio, Tex., to the Gulf of Mexico. Cattle and horses leaving this area must be inspected, dipped and certified in USDA-permitted tickicides, and certified free of ticks.







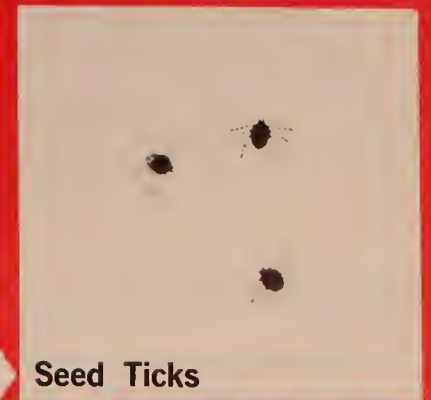
# LIFE CYCLE OF CATTLE FEVER TICKS



Female Laying Eggs



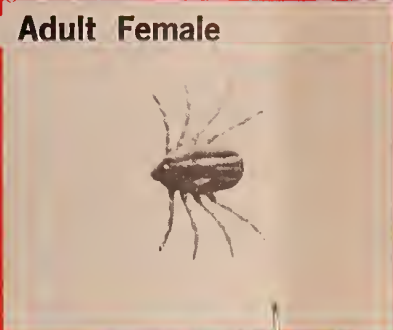
Eggs



Seed Ticks



Engorged Female



Adult Female



Adult Male



Nymph

## HOW CATTLE FEVER TICKS LIVE . . .

- The female tick lays several thousand eggs in the grass . . . and then dies.
  - Eggs usually hatch in 2-6 weeks. (In cool weather, it may take 7 months.)
  - Barely visible six-legged seed ticks attach themselves to passing host animals. (Ticks **must** have blood to complete their life cycle.)
  - The blood-sucking ticks molt twice:
    - First into tiny, white, eight-legged nymphs.
    - A week later, into male and female adults (about 1/10 inch long).
  - The ticks mate on the animal.
    - The male continues to suck blood, then falls off and dies.
    - The female engorges until she is  $\frac{1}{4}$  to  $\frac{1}{2}$  inch long, then drops to the ground to lay her eggs and begin the cycle again.
- \* \* \* \*
- Ticks can live 3 to 4 months without blood in summer—6 months in cool weather.
  - They can complete their life cycle in 6-10 weeks in mild weather; and may take up to a year in cold weather.
  - Ticks are usually killed at 12° F. Eggs are destroyed at 2° F.



## COSTLY PROBLEM

Cattle fever ticks were eradicated from the United States in 1943, following a 37-year fight by USDA and the states.

Before the start of the eradication program in 1906, they were causing the U.S. cattle industry

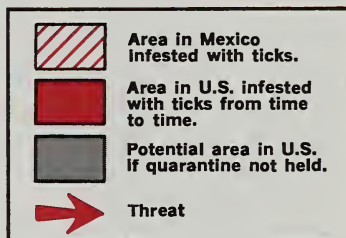
LOSSES OF \$40 MILLION ANNUALLY

Since then, occasional outbreaks have been eradicated by State-Federal quarantines, along with systematic inspection and dipping procedures.

## POTENTIAL INFESTATION AREA

If not contained, cattle fever ticks could infest the area shown in the map below. Moisture and temperature conditions in these states are favorable to their development.

### CATTLE FEVER TICK SITUATION



## TO KILL CATTLE FEVER TICKS . . .

### DIP ANIMALS EVERY 14-18 DAYS

Depending upon kind and strength of tickicide. (The shorter period is used with arsenical dips.)

Dipping at these intervals prevents the female cattle fever ticks from maturing on the animal.

Host animals act as "harvesters."

After being dipped, they return to their pastures. On the way, seed ticks in the grass jump on them and are killed when the animals are again dipped. The process is repeated until no more seed ticks are left.

To ensure eradication, treatment should be continued

**EVEN AFTER THE LAST CATTLE FEVER TICKS ARE FOUND.**

The length of time depends upon the season.

### Another Way

Vacate all infested pastures of host animals for at least 9 months—ticks without blood will starve to death. The presence of deer in the pastures—deer also serve as hosts—could extend the time needed for eradication.





## WHAT YOU CAN DO

- Inspect your cattle regularly for ticks.
- Send any ticks you find to—  
**USDA – APHIS**  
**Parasite Reference Laboratory**  
**Veterinary Services Diagnostic Laboratory**  
**Bldg. 320 – Agriculture Research Center**  
**Beltsville, Md. 20705**  
or  
**State–Federal Cooperative Laboratory**  
**Room 301**  
**702 Colorado St.**  
**Austin, Tex. 78701**
- Observe quarantine restrictions.
- Cooperate with State–Federal dipping and inspection programs.
- Under certain circumstances, vacate infested pastures of all host animals long enough for the ticks to die of starvation.

## WHAT THE GOVERNMENT DOES

- Usually, the State provides the tickicide for the dipping solution and the marking paint—each animal is marked after going through the tickicide.
- The counties provide vats, pens, and other facilities needed at the dipping sites.
- State–Federal inspectors see that the dipping and spraying procedures are done properly to protect the environment from possible pollution and that the animals are handled humanely.

## YOU PROVIDE

The labor to handle the animals through the vats and the necessary transportation to and from the dipping.



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**Veterinary Services  
Animal and Plant Health Inspection Service  
May 1974**