

# **A Review of the Current Status of the Fever Tick Outbreak in South Texas**

**Joe C. Paschal**

**Livestock Specialist**

**Texas A&M AgriLife Extension**

**Corpus Christi, Texas**

**[j-paschal@tamu.edu](mailto:j-paschal@tamu.edu)**

**361-265-9203**

# Brief History of the Fever Tick(s) and the Eradication and Control Program

- Long history – US eradication program began in 1906.
- Eradicated to narrow strip of southwest Texas in 1943 from Del Rio to Brownsville called the Permanent Quarantine Zone (PQZ). Texas Animal Health Commission (TAHC) has statutory responsibility for fever tick program in Texas.
- Tick or Cattle Fever is carried by *Rhipicephalus* (formerly *Boophilus*) *annulatus* and *R. microplus* and is caused by protozoa *Babesia bovis* or *B. bigemina*.
- *Babesia* destroys red blood cells, causing acute anemia, high fever, and enlargement of the spleen and liver, resulting in death for up to 90% of susceptible cattle.
- Can be carried by livestock, cervids and Nilgai.
- Estimated that 50% of imported Mexican steers have *Babesia*.
- Texas has the ticks occasionally but **NOT** the disease.

# Fever Tick Outbreaks in South Texas

- November 2016 fever ticks were found on cattle in Live Oak County south of San Antonio between Three Rivers and George West.
- A Control Purpose Quarantine Area (CPQA) was established on 11/30/16 by TAHC.
- TAHC is investigating the origin of the infestation and the movement of livestock in the area.
- TAHC has found 8 infected premises as of 1/12/17.
- Original premise of 80 head was heavily infected.
- At least 4,000 head of cattle and over 300 horses are affected.
- This quarantine covers 57,541 acres as of 1/12/17.
- No deer have been found to be infected. Deer have smaller mouths and are considered better groomers.
- Older outbreaks in Jim Wells, Kleberg, Cameron and Willacy counties are traced to Nilgai.

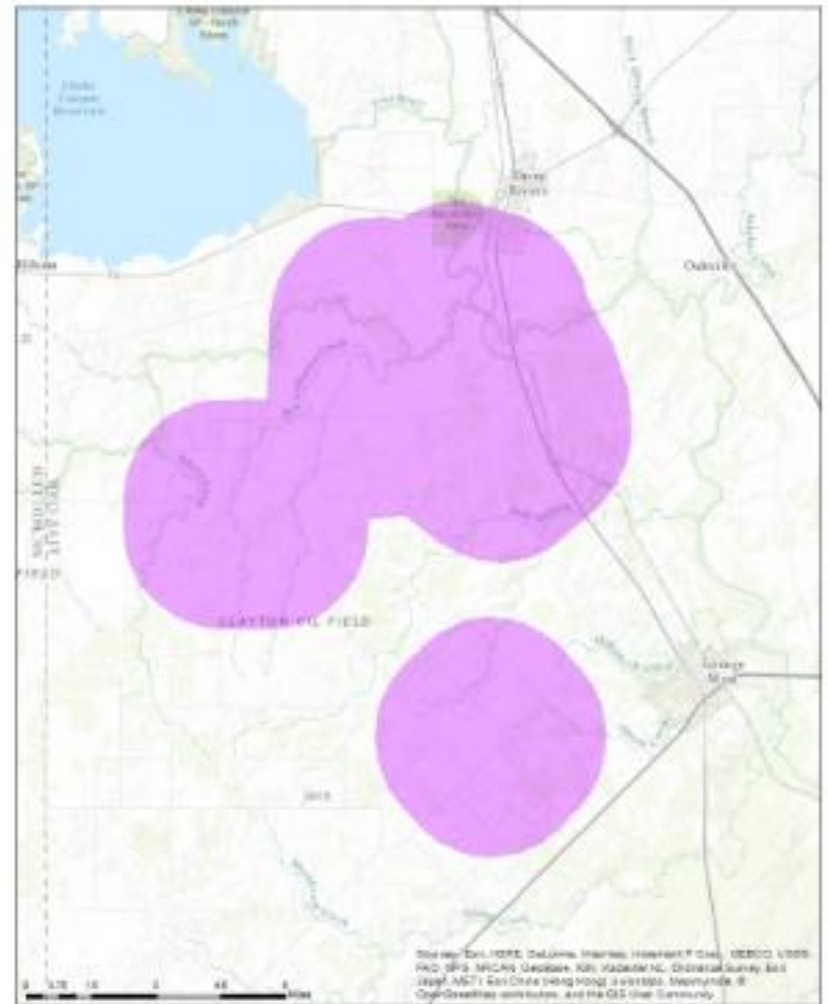
# Map of Live Oak County CPQA



Live Oak County CPQA as of 01/12/17

- Map of the Control Purpose Quarantine Area established by TAHC.
- Two separate CPQAs based on movements between premises.
- Extends 2 miles from closest exposed premise.
- Circular in design to account for potential 2 mile radius of white tail buck deer travel in rut.

[http://www.tahc.state.tx.us/animal\\_health/cattle/2017-01-12\\_LiveOakCountyCPQA.pdf](http://www.tahc.state.tx.us/animal_health/cattle/2017-01-12_LiveOakCountyCPQA.pdf)



Author: Mark Carter, TAHC  
Date: 01/12/2017

# Ticks That Can Carrying Cattle Fever

<http://tickapp.tamu.edu/>

- Visual ID is difficult.
- Specimens should be placed in isopropyl alcohol in a 10mL tube.
- Each tube should only have specimens from an individual animal.
- Secure tube stopper with one piece of tape only.
- Call 512-832-6580 for mailing labels or send via courier to:

TAHC

8200 Cameron Rd

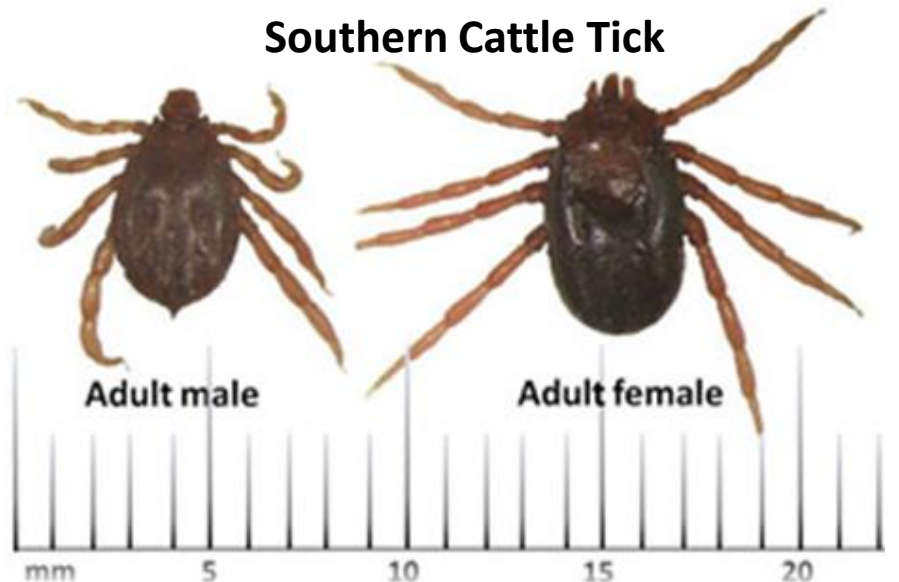
Suite A186

Austin, TX 78754

**Cattle Tick**



**Southern Cattle Tick**

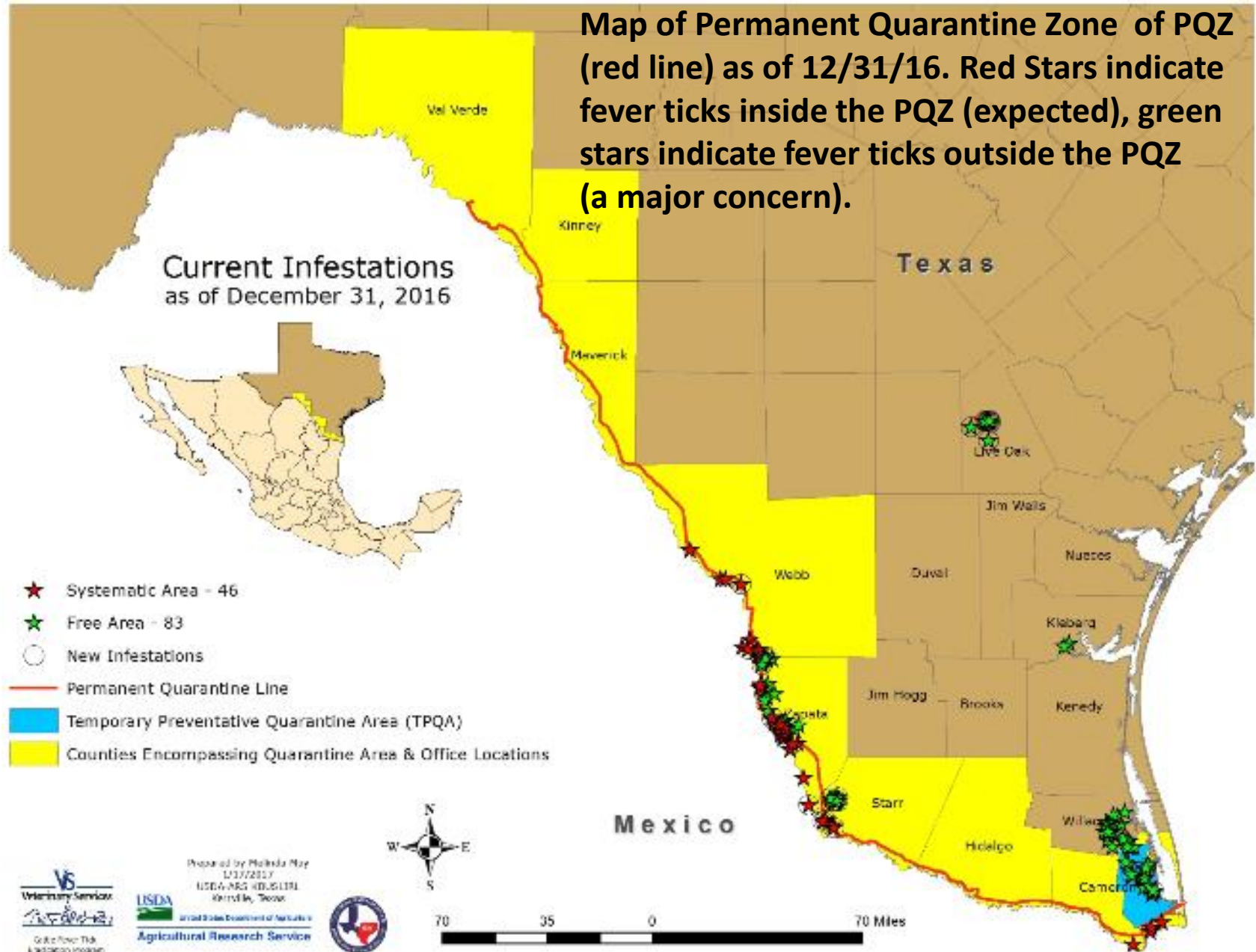




[http://www.tahc.state.tx.us/animal\\_health/cattle/#ticks](http://www.tahc.state.tx.us/animal_health/cattle/#ticks)

**Cattle Fever Tick as a nymph, adult and engorged adult.**

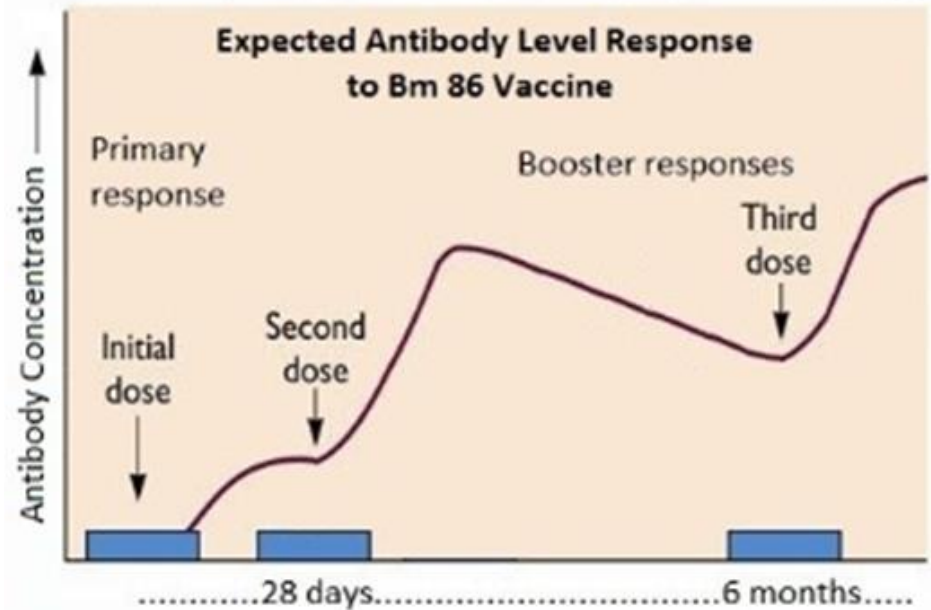
Map of Permanent Quarantine Zone of PQZ (red line) as of 12/31/16. Red Stars indicate fever ticks inside the PQZ (expected), green stars indicate fever ticks outside the PQZ (a major concern).



# New Tick Vaccine Used in PQZ

- Bm86 immunomodulator by Zoetis is *an experimental vaccine used only in the PQZ*.
- Effective against both *R. annulatus* (99%) and *microplus* (45%).
- Vaccine produced from protein produced in gut of ticks.
- Antibodies in vaccinated cattle bind to tick's gut, prevents nutrient absorption.
- Mandatory use in PQZ.
- Not used in the CPQAs.
- Initial dose, repeat in 4 weeks, then every 6 months thereafter.
- Systematic treatments options will continue in all areas.

- No cost to producers
- Safe
- 60 d withdrawal



**Graph showing response to initial vaccination and subsequent booster vaccinations.**

[http://www.tahc.state.tx.us/news/brochures/TAHCBrochure\\_FeverTickVaccineFactSheet.pdf](http://www.tahc.state.tx.us/news/brochures/TAHCBrochure_FeverTickVaccineFactSheet.pdf)



# Quarantine Treatment Options

- **Infected or Exposed Premises -**
- 1. Gather and dip or spray cattle every 7-14 days for 6-9 months.
- 2. Vacate the premises for 6-9 months (after the cattle are dipped and clean for 2 successive treatments).
- 3. Dectomax injection every 25-28 days for 6-9 months.
- All treated cattle are tagged with an RFID tag.
- **Adjacent or Check Premises –**
- Two inspections 90 days apart

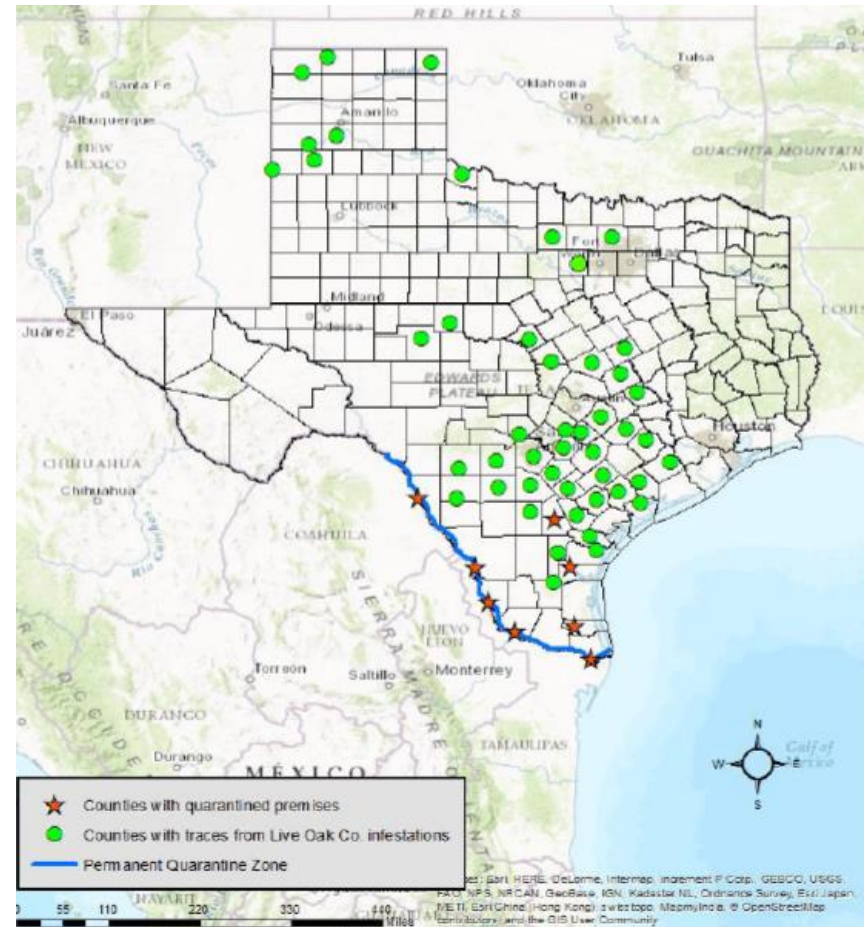
[http://www.tahc.state.tx.us/news/brochures/TAHCBrochure\\_FeverTick.pdf](http://www.tahc.state.tx.us/news/brochures/TAHCBrochure_FeverTick.pdf)



Cattle dipping vat charged with coumaphos (Corral) in South Texas.

# Counties With Cattle from the Fever Tick CPQZ in Live Oak County (1/23/17)

- A total of 34 counties have livestock that came from the CPQZ in Live Oak Co.
- TAHC will need to inspect these animals for fever ticks.
- The counties include: Bastrop, Bee, Caldwell, Calhoun, Cameron, Colorado, Denton, Dewitt, Dimmit, Falls, Fayette, Frio, Goliad, Gonzales, Hidalgo, Jim Wells, Karnes, Kendall, Kinney, Kleberg, Live Oak, Maverick, McMullen, Milam, Maverick, Mills, Parker, Runnels, Starr, Uvalde, Val Verde, Webb, Wharton, Willacy and Zapata



# Causes and Concerns

- Increase in absentee landowners, lack of knowledge of and treatment for ticks (and their diseases), increase in brush and deer populations for hunting are part of the problem.
- An uncontrolled outbreak could cause a state wide quarantine and cost the livestock sector billions of dollars.
- There are many ticks on livestock and wildlife.
- Some carry diseases or can cause infections.
- Only *R. annulatus* and *R. microplus* carry tick fever but they can also carry Anaplasmosis.



# Texas A&M AgriLife Response

- Affected and Trace Back counties:
  - Assist TAHC if requested.
  - Educate livestock owners and wildlife managers about fever ticks, the disease.
  - Collect unusual ticks for identification and send to TAHC.
- Non affected counties:
  - Educate livestock owners and wildlife managers about ticks in general and fever ticks specifically.
  - Encourage livestock producers to adopt management practices to control ticks and practice biosecurity (all counties).

# TAHC Contact and Fever Tick Information

- TAHC Public Information Officers:
  - Ms. Callie Ward and/or Mr. Thomas Swafford
  - Phone: 512-719-0750
  - Email: [public\\_info@tahc.texas.gov](mailto:public_info@tahc.texas.gov)
- Website:
  - [http://www.tahc.state.tx.us/animal\\_health/cattle/#ticks](http://www.tahc.state.tx.us/animal_health/cattle/#ticks)
- Excellent YouTube video of TAHC meeting in Live Oak Co. with Dr. Brodie Miller:
  - <https://www.youtube.com/watch?v=6ZfnKQ2C9cA&feature=youtu.be>



- Fever Tick Brochure (en Español):
  - [http://www.tahc.state.tx.us/news/brochures/TAHCBrochure\\_FeverTick-SPANISH.pdf](http://www.tahc.state.tx.us/news/brochures/TAHCBrochure_FeverTick-SPANISH.pdf)