Texas Cattle Fever Tick Update

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Current Cattle Fever Tick Situation

- Quarantines
  - **206** Infested Quarantine Premises
  - **81** Exposed Quarantine Premises
  - **2,497** Adjacent/Check Quarantine Premises
Current Situation

- Statewide Infested Quarantines and Traces by County
  - 7 counties with trace investigations
  - 75 counties with completed trace investigations
Cattle Fever Tick Quarantine Areas
October 2017
Cattle Fever Tick Quarantine Areas
October 2018
Live Oak County
CPQA
October 2017
Voluntary Surveillance and Treatment

- Increased surveillance
- Decreased tracing
- Live Oak County Vat – 79,298 head
- Gulf Coast Vat – 22,838 head
Fever Tick Eradication Challenges

- Wildlife
- Changing land use
- Limited Treatment
- Climate
- Funding
- Mexico
Challenges - Wildlife

• White-Tailed Deer
  • Increased deer densities statewide
    • (ex: Lake Falcon, est. 128 deer per square mile)
  • Eradication of New World Screwworm in 1964
  • State laws changed to allow agriculture appraisal for managed wildlife operations in 1995.
    • Subsequent shift from livestock production to wildlife management
  • Limited treatment options
Challenges - Wildlife

• Nilgai
  • Imported to zoos in 1920s and released to pastures in 1930s
  • Est. Texas population: 30,000
  • Home range of young females is 25 square miles
  • No treatment options currently exist
Challenges – Funding

• Economic Impact of Expanded Fever Tick Range
  • Analysis estimates that a representative 500 cow-calf ranch in Texas would incur costs for the following:
    • A nine month dipping protocol of $250 per cow
    • A 47% increase in cash expenses
    • An 80% decline in net cash farm income.
  • Extending the fever tick outbreak to cases in the historic range of the ticks would result in a minimum cost of $1.2 billion dollars in a year 1 outbreak.
    • That is a lower range estimate due to the lack of inspection and surveillance infrastructure in those states.
Challenges – Mexico

Mexican National Campaign for the Control of Cattle Ticks

The free areas correspond to the officially recognized activities of the Campaign, including the states of Baja, CA, Sonora, Chihuahua (with the exception of Morelos, Guadalupe and Calvo), Aguascalientes and Tlaxcala. The rest of the free area are regions where environmental conditions are not feasible for cattle tick development (High Central Plains and Northern Plateau).
Acaricide-Resistant Populations Detected in Mexico

Classes of acaricides used in Mexico for controlling Cattle Fever Ticks:
- Organophosphates (OP), i.e. coumaphos*
- Synthetic Pyrethroids (SP), i.e. permethrin
- Formamadines (AMZ), i.e. amitraz
- Macrocyclic Lactones (ML), i.e. ivermectin

* The only acaricide approved for use in the U.S. Cattle Fever Tick Eradication Program is the OP chemical, coumaphos.
Moving Forward - Strategy

• Continue current fever tick eradication strategies and implement new technologies and treatment options as they become available
• Coordinate with Mexico to reduce fever tick populations and incursions
• Game fence in strategic locations between permanent and free areas - 50 miles proposed – only 2 miles approved
• Encourage voluntary inspection and treatment of cattle shipped from South Texas
• Need for continued funding and support for State-Federal cooperative effort
• Accelerate database development and utilization, and implement real time electronic data collection
• Support applied research
2017 USAHA Resolutions

- Resolution 24 – “Development and Implementation of a Cattle Fever Tick Control Program in Mexican States Bordering Texas”
  - ‘Ticks on the River’ Meeting, September 5-6, 2018 in Laredo, Texas
  - “US-Mexico Joint Strategic Plan for the Control and Eradication of Invasive Cattle Fever Ticks Rhipicephalus (Boophilus) microplus and R. (B) annulatus, 2017-2021”
    - Signed August 2018
2017 USAHA Resolutions

- Resolution 25 - “Accelerated Research and Development for Support of Integrated Eradication efforts of the Cattle Fever Tick”
  - Nilgai Antelope – develop treatment options
  - White-tailed deer – additional treatment options
  - Cattle – additional treatment options with longer lasting effects
  - Horses – additional treatment options
  - Equipment decontamination
  - Pen and pasture treatment options
  - Vaccines for all hosts
# 2018 CFT Applied Research Projects

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<thead>
<tr>
<th>Vaccine</th>
<th>Location</th>
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<tr>
<td>Implement a field or pen trial for the testing of long range eprinomectin for cattle. Change to a pen trial with eprinomectin and vaccine</td>
<td>TAMU College Station</td>
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<tr>
<td>Development of cattle fever tick vaccine based on the P-zero (Cuban) &quot;P0&quot; antigen (ARS)</td>
<td>TAMU College Station</td>
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<td>Funding for systemic treatment modality for horses and BM-86 vaccine trial at Pullman, WA (ARS)</td>
<td>Washington State University</td>
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<tr>
<td>Evaluation of feed-through and topical spray formulations of 3% diflubenzuron for effects on cattle fever tick growth on cattle and white-tailed deer in south Texas</td>
<td>TAMU Kingsville</td>
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<tr>
<td>Supplement research done by John Goolsby to further identify, test, mass rear, and release natural parasitoids of cattle fever ticks (ARS)</td>
<td>UT-RGV</td>
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<tr>
<td>Create prototype spray boxes and hand-held guns for electrostatic spraying of topical treatments (to include acaricides and botanical oils on cattle and horses)</td>
<td>ARS</td>
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<td>Big Data Field Study - Funds for fencing and supplies for cattle grazing project on refuge land. Purchase cattle and implement the use of hobo environmental monitors and GPS collars on cattle during the grazing study to gather ground level data for predictive models (ARS)</td>
<td>TAMU College Station</td>
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<tr>
<td>Complete animal and food safety studies for Bayer 10% moxidectin product and &quot;experimental use&quot; label approval (ARS)</td>
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<td>Development of a cost-efficient sprayer for teating nilgai and white tailed deer with entomopathogenic nematodes, fungi, etc. (ARS)</td>
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<td>Nilgai Feeder Project</td>
<td>TAMU Kingsville</td>
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<td>Modeling of cattle-nilgai-deer interactions: potential role of nilgai in the maintenance of cattle fever ticks.</td>
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Questions?