

Herd Health Management

Cameron Co. Master Rancher Program

Joe C. Paschal

Livestock Specialist

Texas A&M AgriLife Extension

Corpus Christi, Texas

j-paschal@tamu.edu

Cattle Diseases

- Sudden Death (Clostridium) bacteria
 - Chauvoei (Blackleg)
 - Septicum (Malignant edema)
 - Novyi (Black disease)
 - Sordelli (Gas gangrene)
 - Perfringens Type C & D (Enterotoxemia and enteritis) with some protection for Type B
 - Haemolyticum (Bacillary hemoglobinuria – Red water)
 - Tetani (Tetanus)
- Anthrax
 - (dry, calcareous soils)
- Pneumonia
 - Haemophilus somnus
 - Pasturella haemolytica (Mannheimia)
 - Leukotoxoid
- Scours
 - coronavirus, rotavirus, K99 *E. coli* bacteria or *Clostridium perfringens* Type C.
- Reproductive*
 - Brucellosis or Bang's (*Brucella abortus*) Bacteria Late abortion
 - Leptospira (Leptospirosis) Bacteria Late abortion Oil based best
 - Pomona, Hardjo (Hardjo-Bovis), Grippotyphosa, Canicola, Ictero-haemorrhagiae
 - Campylobacter fetus (Vibrio) Bacteria Early abortion
 - Neospora caninum
 - Tritrichomonas foetus (Trich) Protozoa Early abortion (Test bulls) Repeat breeders Vaccine?
- Respiratory (viral)
 - Infectious bovine rhinotracheitis (IBR)* Late abortion
 - Bovine virus diarrhea (BVD Type 1 and 2)* (Abortion any stage)
 - Para influenza Type 3 (PI3)
 - Bovine respiratory syncytial virus (BRSV)
- Others
 - Pinkeye (*Moraxcella bovis*)
 - Warts

Work with Your Veterinarian

- Need to have a preventative herd health plan
- Need a valid veterinary client patient relationship
- Document vaccinations, parasite control and other treatments



Valid Client Patient Relationship

- A veterinarian is an extra pair of eyes and hands.
- Usually they have seen a lot of different operations and problems.
- Best source of information of what to vaccinate and treat for and with.
- Develop a herd health management plan and treatment protocol.



Herd Health Plan

- Avoid diseases and parasites by controlling their access to cattle
- Biosecurity
 - Visitors
 - New cattle
 - Stray cattle
- Cattle and pasture management



Calves

- At 3 months of age:
 - Clostridial 7 or 8 way (8th way is for tetanus or redwater)
 - Revaccinate at weaning
 - Leptospirosis (5 way)
 - Revaccinate heifers at weaning
 - IBR/PI3/BVD/BRSV
 - Killed or MLV (Safe for pregnant cows)
 - Revaccinate heifers at weaning



Replacements/Stockers

- Steers (at or before weaning)
 - Clostridial 7 or 8 way
 - Revaccinate
 - IBR/PI3/BVD/BRSV
 - Killed or MLV (Safe for pregnant cows)
- Heifers
 - Brucellosis (2-10 months)
 - Leptospirosis (5 way)
 - Revaccinate
 - Campylobacter fetus (Vibrio) / Lepto 5 (oil based) prior to breeding



Cowherd

- Cows/Bulls
 - Clostridial: 7 or 8 way
 - Preg check time
 - IBR/PI3/BVD/BRSV
 - Safe for pregnant cows
 - Preg check time
 - Leptospirosis (5 way)
 - Preg check time
 - High risk herds 2X
 - Campylobacter fetus/Vibriosis
 - Prebreeding
 - NOT bulls
 - Scour vaccine
 - Preg check time



Killed Vaccines

- One dose with many killed bacterins
- Keep cool
- Keep clean
- Keep in shade
- Buy just the right number of doses to avoid wasting vaccine

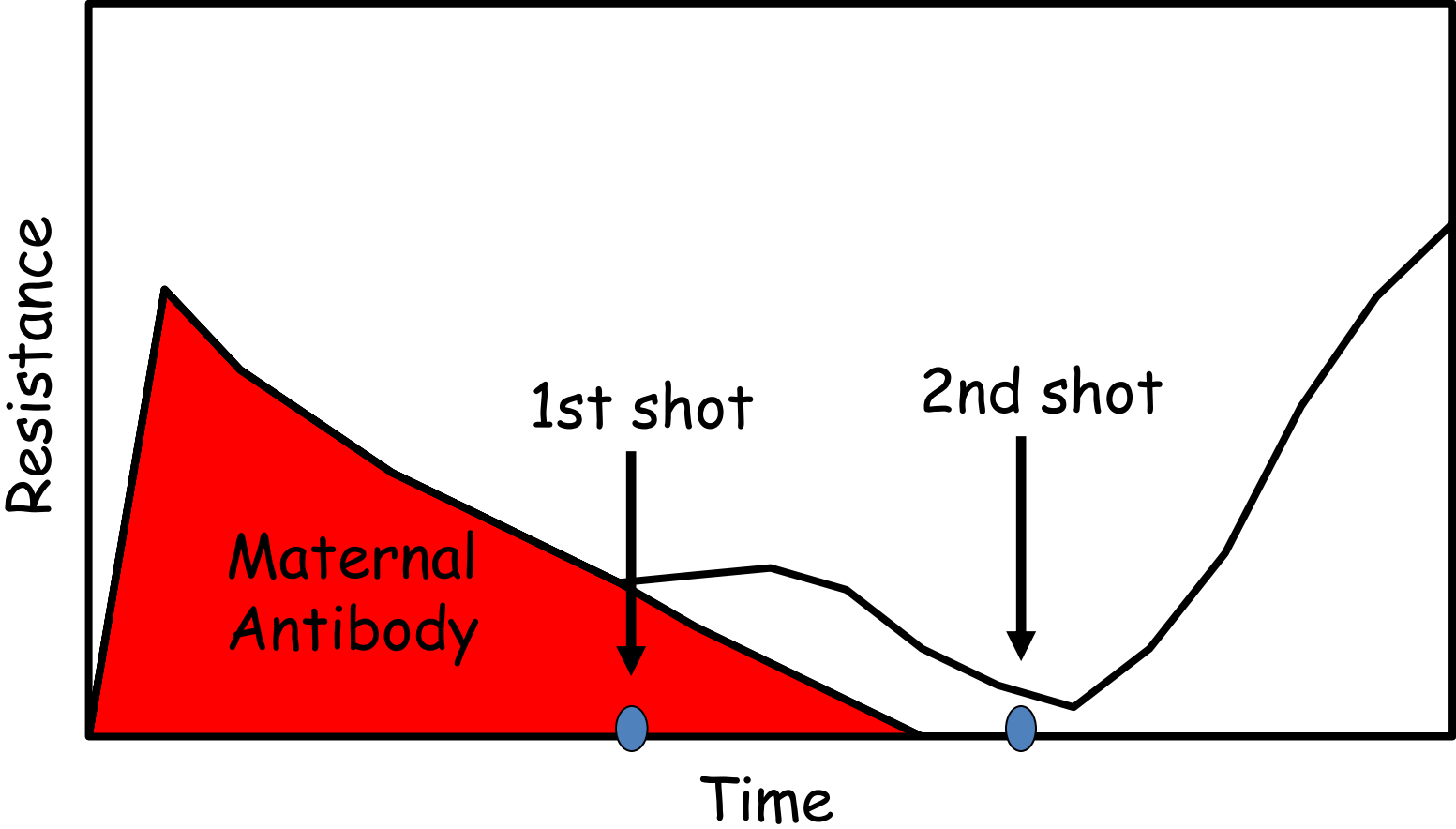


Modified Live Vaccines

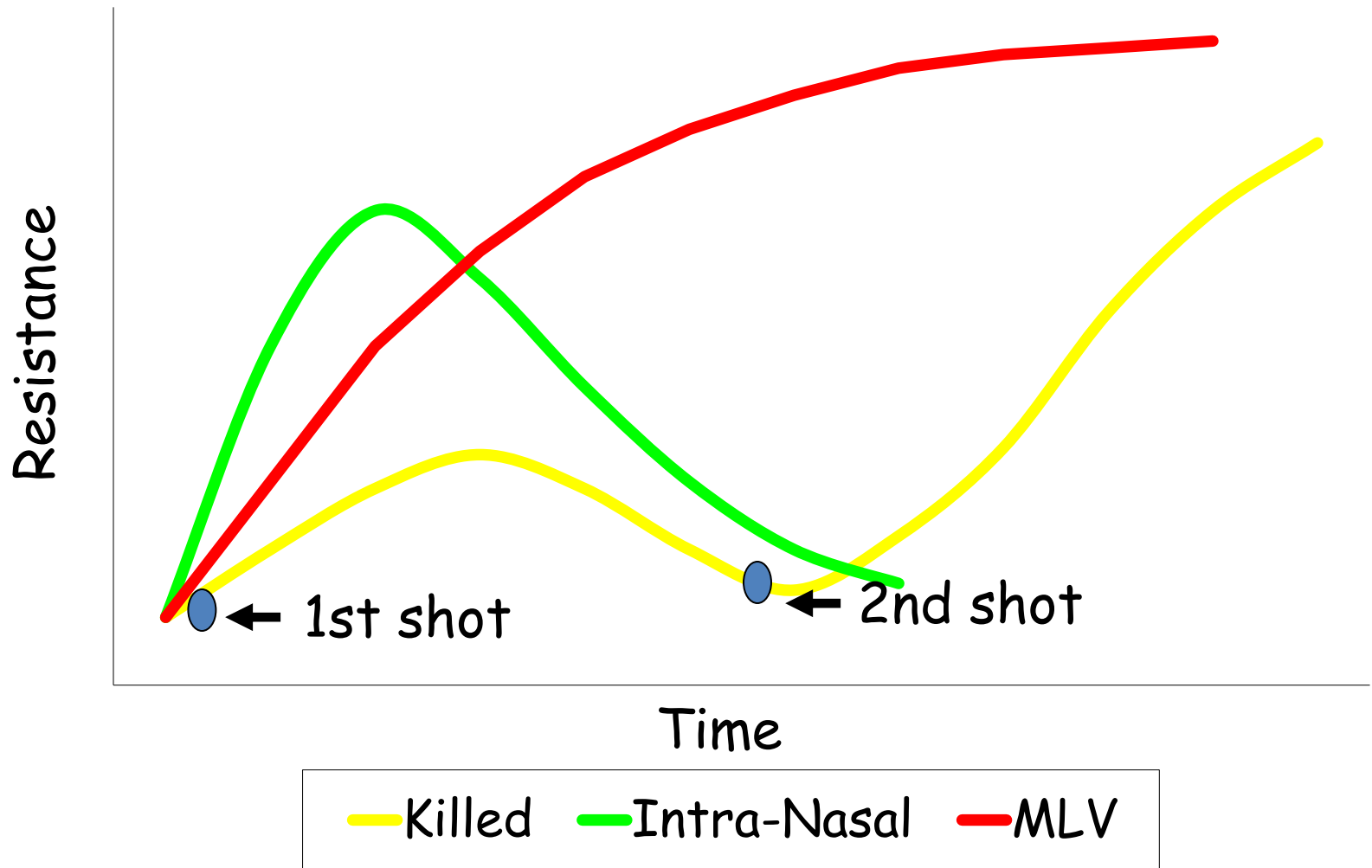
- Sterile diluent or a diluent that contains killed product (Lepto or Clostridials).
- Must be added to the dehydrated viral component
- Swirl (do not shake) contents (should be completely dissolved).
- Use within a couple of hours
- Cool, clean and shade
- Buy the right amount to avoid wasting vaccine.

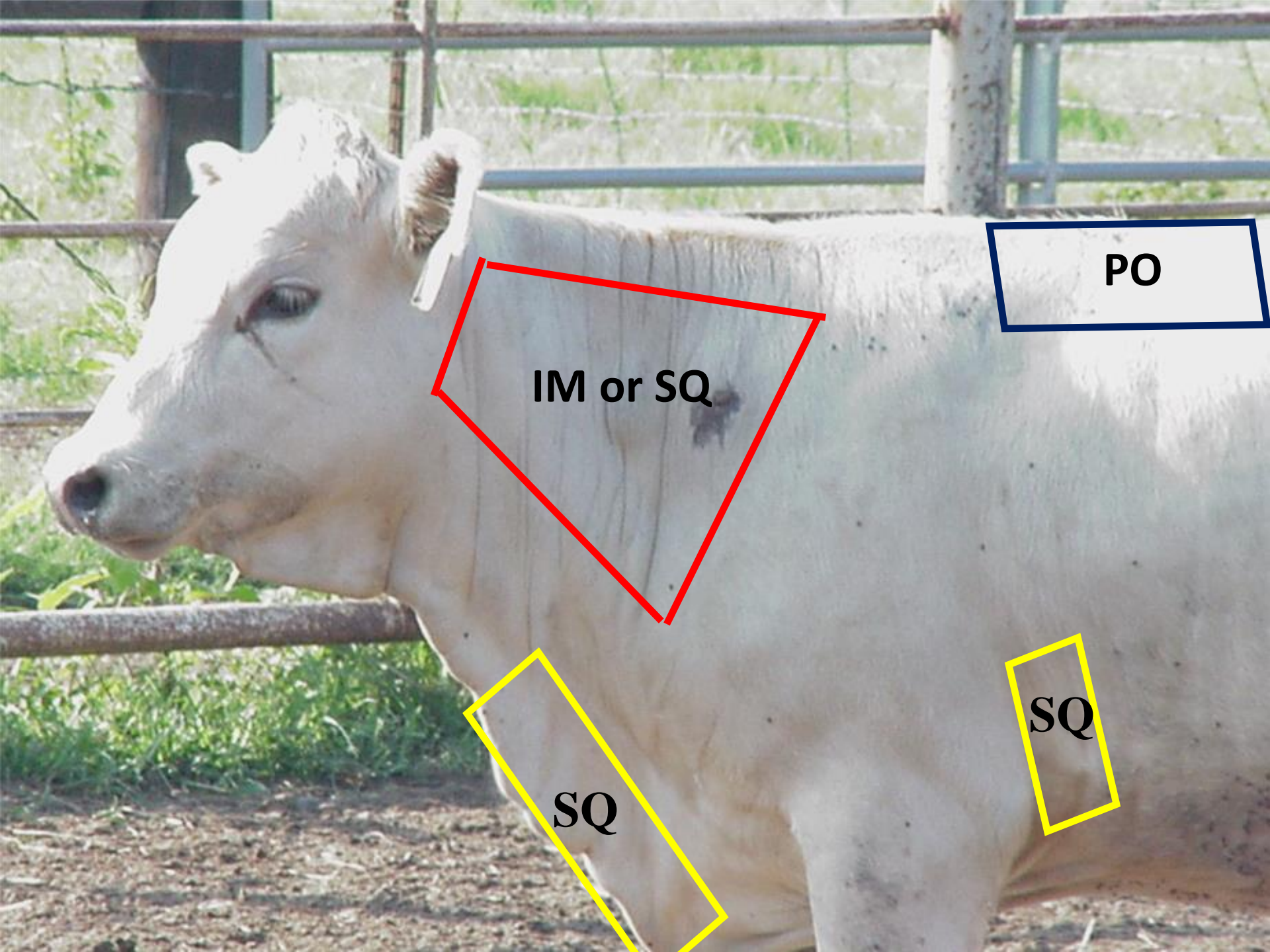


Killed Vaccines



Vaccination Responses





PO

IM or SQ

SQ

SQ

Route of Administration

| | SQ (1/2 to 1 inch needle) | | | IV (1 1/2 inch needle) | | | IM (1 to 1 1/2 inch needle) | | |
|---|------------------------------|-----------------|---------------|---------------------------|-----------------|----------------|--------------------------------|-----------------|----------------|
| Viscosity of Injectable | < 300 lbs. | 300-700 lbs. | > 700 lbs. | < 300 lbs. | 300-700 lbs. | > 700 lbs. | < 300 lbs. | 300-700 lbs. | > 700 lbs. |
| Thin Liquids Example: Saline | 18 gauge | 18-16 gauge | 16 gauge | 18-16 gauge | 16 gauge | 16-14 gauge | 20-18 gauge | 18-16 gauge | 18-16 gauge |
| Thick Liquids Example: Oxytetracycline | 18-16 gauge | 18-16 gauge | 16 gauge | 16 gauge | 16-14 gauge | 16-14 gauge | 18 gauge | 16 gauge | 16 gauge |

Select the needle to fit the cattle size.

Use the smallest practical size of needle you can, without bending it.

Tent Method for Subcutaneous



Reasons for Vaccine Failure

- Wrong type/time
- Expired (old)
- Too hot/cold
- UV radiation
- Not boosted
- Too little
- Wrong route/site
- Dirty (reused)
- Stressed/thin cows
- Mineral deficiency



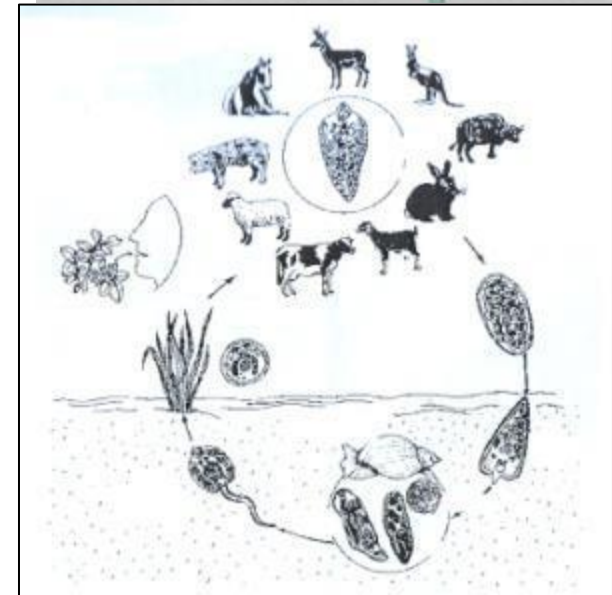
Major Internal Parasites of Cattle

- Nematodes or roundworms
 - *Ostertagia* spp
 - *Haemonchus* spp
 - *Trichostrongylus* spp
 - *Cooperia* spp
 - *Nematodirus*
- Trematodes
 - *Fasciola hepatica*
 - *F. magna*
- Cestodes (tapeworms)
- Protozoa
 - *Eimeria* spp



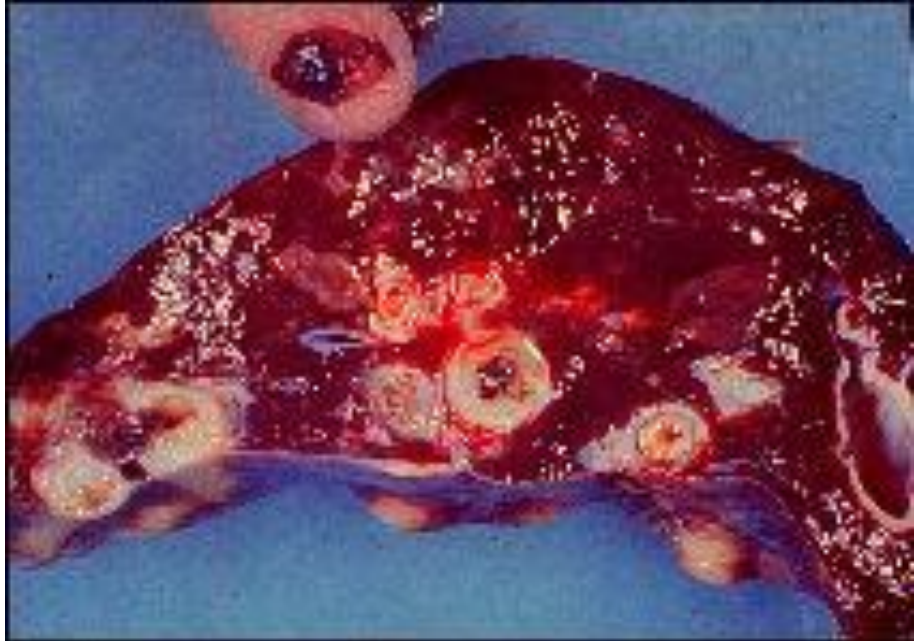
Liver Flukes

- Two types in South Texas
 - Common or cattle fluke
 - Giant or deer fluke
- Life cycle
 - Eggs released and hatch in fresh water
 - Lymnaeide snails are hosts for development
 - Cercariae leave the snail and encyst on vegetation
 - Cattle eat vegetation, cercariae become flukes and migrate to bile duct and shed eggs (5-6 mo usually)
- Liver damage may cause Clostridial infection (Redwater)
- Treat Fall and Spring





Incidence of Liver Flukes in the United States.



Coccidia

- Nine different species that cause coccidiosis (stress)
- Young animals (<1yr)
- Picked up in crowded pens/watering areas
- Infect small intestine
 - Mild – light scours
 - Severe – black or bloody scours, shaking, lying down
- Recovered animals are immune but shed spores
- Coccidiostats (read label)

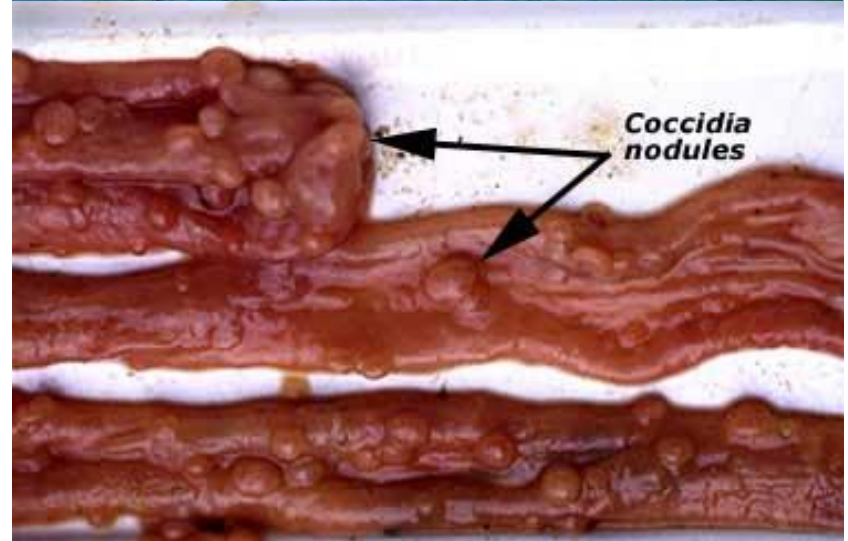
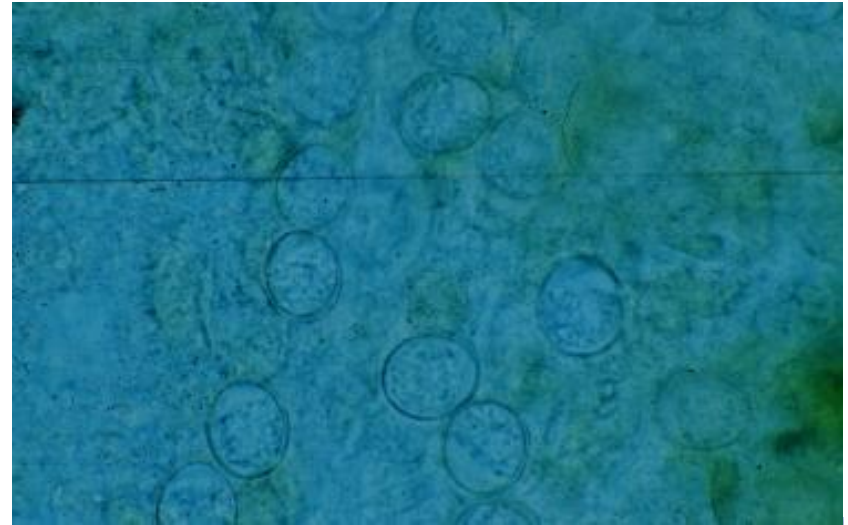


Table 1. Common Internal Parasites of Cattle

| | Common Name | Scientific Name | Infective Stages |
|---------------------|-------------------------------|--|--|
| STOMACH WORMS | Brown Stomach Worms | <i>Ostertagia ostertagi</i> | Adults, Fourth Stage Larvae, Inhibited Fourth Stage Larvae |
| | Barberpole Worms | <i>Haemonchus contortus</i> ; <i>H. placei</i> | Adults, Fourth Stage Larvae |
| | Small Stomach Worms | <i>Trichostrongylus axei</i> | Adults, Fourth Stage Larvae |
| INTESTINAL WORMS | Threadnecked Intestinal Worms | <i>Nematodirus spathiger</i> ; <i>N. helvetianua</i> | Adults, Fourth Stage Larvae |
| | Small Intestinal Worms | <i>Cooperia punctata</i> ; <i>C. oncophora</i> | Adults, Fourth Stage Larvae |
| | Hookworms | <i>Bunostomum phlebotomum</i> | Adults |
| | Bankrupt Worms | <i>Trichostrongylus colubriformis</i> | Adults |
| | Nodular Worms | <i>Oesophagostomum radiatum</i> | Adults |
| LUNGWORMS | | <i>Dictyocaulus viviparus</i> | Adults, Fourth Stage Larvae |
| LIVER FLUKES | | <i>Fasciola hepatica</i> | Adults |
| TAPEWORMS | | <i>Moniezia benedeni</i> ; <i>M. expansa</i> | Heads, Segments |

Table 1. Commonly Used Deworming Products

| Type | Trade Name | Product* Active Ingredient | Warnings and Withdrawals** | |
|-----------------------|-------------------------------|-------------------------------|----------------------------|------------------|
| | | | Dairy & Milk | Beef & Slaughter |
| Block | Safe-Guard En-Pro-AI | Fenbendazole | Note 1 | 11d |
| | Safe-Guard Sweetix | Fenbendazole | Note 1 | 11d |
| Bolus | Levasole Cattle Boluses | Levamisole | Note 1 | 48h |
| | Tramisol Oblets | Levamisole | Note 1 | 48h |
| Drench | Prohibit | Levamisole | Note 1 | 48h |
| | Synanthic 9.06% | Oxfendazole | Note 1 | 7d |
| | Synanthic 22.5% | Oxfendazole | Note 1 | 7d |
| | Panacur | Fenbendazole | 0 | 8d |
| | Safe-Guard | Fenbendazole | 0 | 8d |
| | Levasole | Levamisole | Note 1 | 48h |
| | Curatrem | Clorsulon | Note 1 | 8d |
| Valbazen | Albendazole | Note 1,2 | 27d (Note 2) | |
| Feed Additives | Safe-Guard | Fenbendazole | 0 | 13d |
| | Tramisol Feed Premix | Levamisole | Note 1 | 48h |
| | Rumatel | Morantel Tartrate | 0 | 14d |
| Injectable | Double Impact | Ivermectin | Note 1 | 35d |
| | Levamisol | Levamisole | Note 1 | 7d |
| | Levasole/Tramisol Injectable | Levamisole | Note 1 | 7d |
| | Ivermectin Containing | Ivermectin | Note 1 | 35d |
| | Ivomec Plus | Ivermectin/Clorsulon | Note 1 | 49d |
| | Dectomax | Doramectin | Note 3 | 35d |
| | Cydectin | Moxidectin | Note 1 | 21d |
| Paste | Synanthic 18.5% | Oxfendazole | Note 1 | 7d |
| | Panacur | Fenbendazole | 0 | 8d |
| | Safe-Guard | Fenbendazole | 0 | 8d |
| | Valbazen | Albendazole | Note 1,2 | 27d (Note 2) |
| Pour-on | Totalon | Levamisole | Note 1 | 9d |
| | Ivermectin Containing Pour-on | Ivermectin | Note 1 | 48d |
| | Eprinex | Eprinomectin | 0 | 0 |
| | Dectomax pour-on | Doramectin | Note 3 | 45d |
| | Cydectin | Moxidectin | 0 | 0 |
| Powder | SafeGuard Mineral dewormer | Fenbendazole | 0 | 13d |
| | Levasole 52g | Levamisole | Note 1 | 48h |
| | Tramisol 52g | Levamisole | Note 1 | 48h |

*Local feed dealerships may independently market feed mixes and blocks containing additive products.

Note 1: Not to be used on dairy cattle of breeding age.

Note 2: Do not administer during the first 45 days of pregnancy or for 45 days after bull removal.

Note 3: Safe in dairy heifers up to 20 months of age.

**Withdrawals are subject to change; always read the label before purchasing an animal health product.

Points to Consider

- Use brand name products
- Levamisoles less effective products
- Ox- and Fen- and Albendazoles (white dewormers) are still very effective
- Ivo-, Dora-, Moxi- and Eprino-mectin are still extremely effective (macro cyclic lactones - MCLs)
- No difference in efficacy of similar compounds (MCLs) for pour-on vs injectable
- No evidence of MCL resistance development in cattle
- Could occur in MCLs if dewormers are used for only fly control too frequently (cheap)
- Must dose appropriately – survivors could create resistance
- Read labels and follow usage requirements and withdrawals

Controlling Internal Parasites

- Strategic treatment
 - What to treat
 - When to treat
 - What to use
 - How much to use
 - Ask your vet and read the labels!
- Nutrition
 - Animals in better body condition are less susceptible (more immune) to internal parasites
 - Adequate levels of protein, energy and mineral nutrition
 - Practice good biosecurity
- Pasture management
 - Rotate and rest 3-4 weeks (longer in warm wet, shorter in cold or hot and dry)
 - Use low risk pastures for young animals
 - Avoid high risk pastures if possible
 - Graze pastures with other species or lower risk older animals first (more immune)
 - Allow grass to grow taller before grazing (4 in)
 - Burn pastures
 - Break up/remove manure pads

External Parasites of Cattle

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

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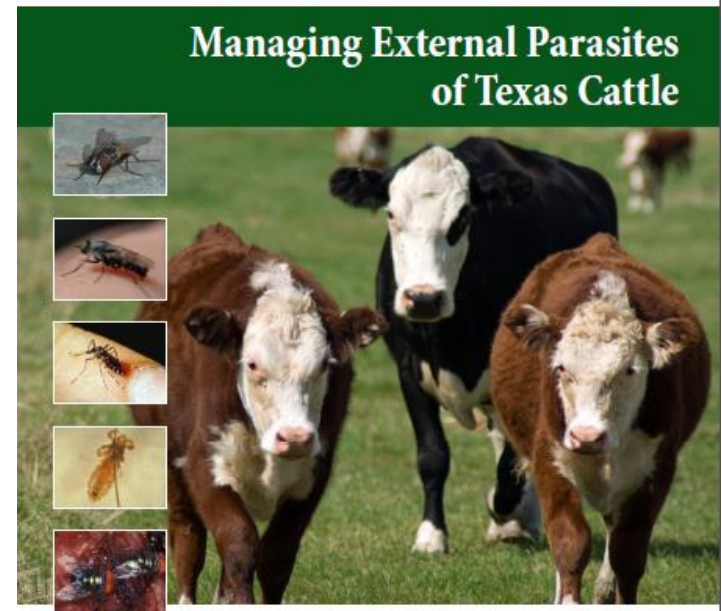
- Flies
- Mosquitoes

- Ticks

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

- Lice

- Mites



Sonja L Swiger

Assistant Professor and Extension Entomologist,
The Texas A&M System

Free copy at beef.tamu.edu
(under the health section)

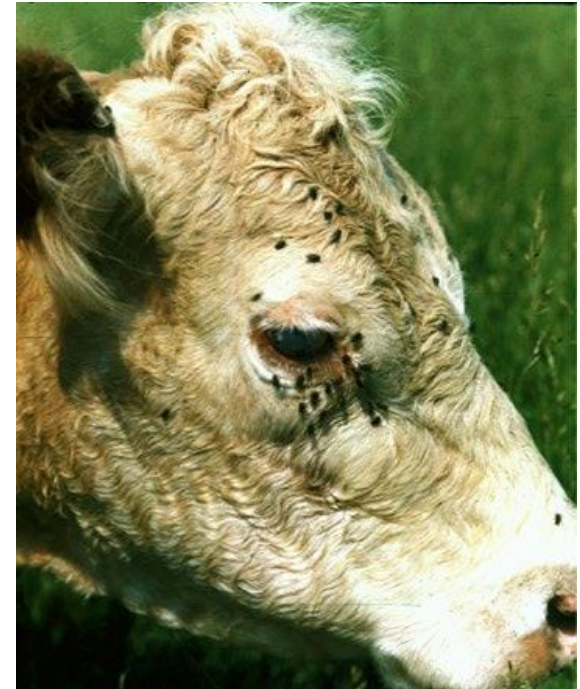
Pasture Management to Reduce External Parasites

- Proper grazing management
 - Overgrazing increases reinfestation rates
 - Rest-rotation
- Dragging/disking pastures will dry out manure pads
- Clean up litter/manure piles
- Avoid fly areas during season
- Brush control alters tick and fly habitat
- Prescribed fire



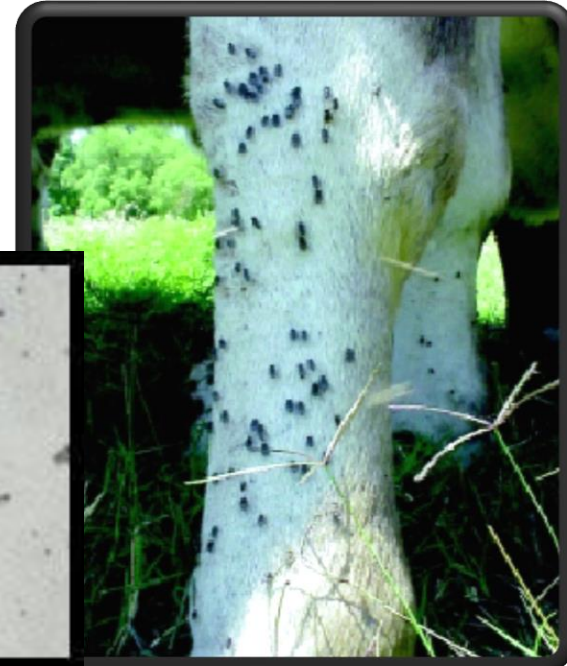
Face Fly (Musca)

- Size of a house fly
- Spring season usually
- Spend very little time on the animal, difficult to control except to feed on secretions or wounds
- Eggs laid in manure
- Affect cattle and horses
- Control includes sprays, dusts, oilers and pour-ons.
- Responsible for transmission of pinkeye



Stable Fly (Stomaxis)

- Larger than a house fly, both males and females take a blood meal
- Gather and breed around wet feeding, haying and bedding areas
- Feed on legs and abdomen 2-3 times/day
- Painful bite causes irritation, loss of production
- Hard to control on cattle
- Can transmit anaplasmosis, trypanosomiasis, anthrax and EIA



Horse Fly (Tabanidae)

- Large active flies
- Females bite animals and humans, males eat nectar
- Active in daylight, rest at night
- Wet or damp spoil areas
- Blood loss can be severe
- Difficult to control
- Transfer diseases such as EIA, anthrax, tularemia and some trypanosomes



Horn Fly (Haematobia)

- Horn flies came from Europe
- Reproduce in fresh manure
- Bite and suck blood and irritate animal 20-40x per day
- Treatment at 250 flies/head (2 hands)
- Transmit Stephanofilariasis
- Treatments includes sprays, dusts and dust bags, back rubbers, ear tags, a feed additive (Altosid), and pour-ons (with or without dewormer)
- New “Vet gun”
- Combination of different treatments is best



Heel, Warble or Grub Fly (Hypoderma)

- Medium sized fly lays eggs on legs and heels of cattle in late winter and early spring
- Eggs hatch and burrow into skin and travel through body emerging in fall along the back
- Emerge from back in fall
- Treatment includes CoRal, Warbex, Spotton, Neguvon, Tiguvon, or Prolate by early July or Ivomec, Eprinex, Dectomax and Cydectin anytime
- Severe hide and muscle damage



Cattle grubs emerging

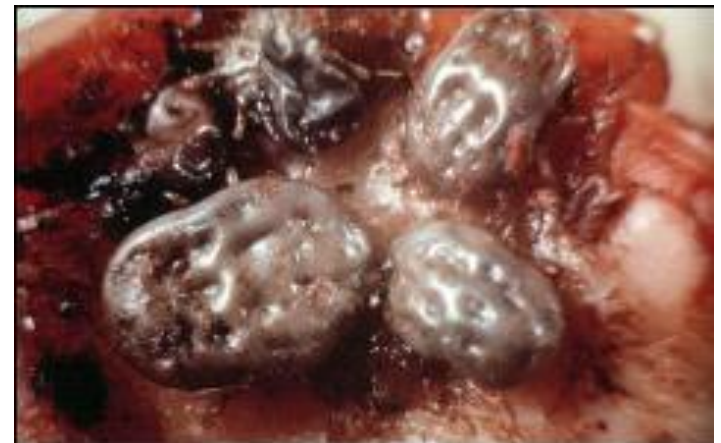
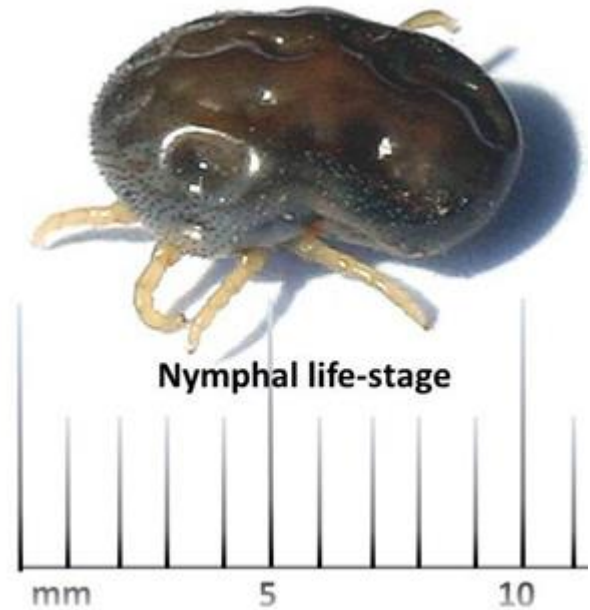
Mosquito (Culicidae)

- Mosquitos can transmit
 - Eastern, Western and Venezuelan Equine Encephalitis as well as West Nile Virus as well as dog heartworms
 - Zika virus - Aedes species
 - May transmit anaplasmosis
- In addition to blood loss and irritation mosquitoes can cause death by asphyxiation of young animals
- Mosquito control in cattle is difficult and usually ineffective
 - Reduce areas of standing water
 - Remove cattle to other locations



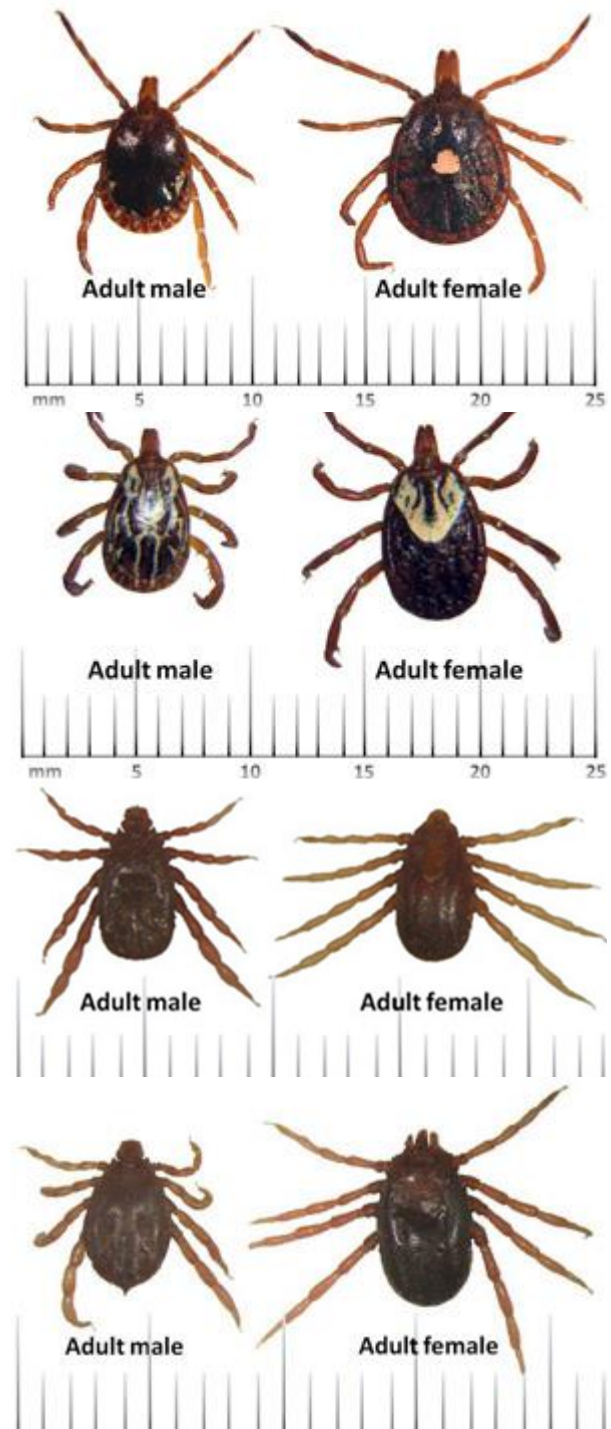
Soft Ear Tick (Otobius)

- Spinose ear tick can transmit anaplasmosis and cause nerve and tissue damage
- On animal use CoRal, Permethrin, ear tags (not less than 3 months of age!)
- Causes damage to ears and infections
- Not much of a problem



Hard Ticks (Ixoidadie)

- Lone Star and Gulf Coast Ear ticks are most prevalent
- Fever and Southern cattle tick are reportable! (Tick fever, piroplasmosis and anaplasmosis)
- Tropical horse tick (piroplasmosis)
- Cayenne tick in Rio Grande Valley
- Winter Tick is seen in cooler months
- American Dog, Brown Dog and Black Legged ticks
- Atroban, CoRal, Permethrin, or Ravap (not on *Bos indicus*), tags are very effective. Ivomec injectable.
- Ticks transmit a large number of blood borne diseases



Monthly Fever Tick Situation Report

December 31, 2019

Statewide Quarantine Summary

159 Infested Quarantine Premises:

- 54 permanent quarantine zone premises
- 105 non-permanent quarantine zone premises
- Counties with infested premises quarantines include: Cameron, Jim Wells, Starr, Webb, Willacy and Zapata

61 Exposed Quarantine Premises:

- 28 permanent quarantine zone premises
- 33 non-permanent quarantine zone premises

2,956 Adjacent/Check Quarantine Premises:

- 441 permanent quarantine zone premises
- 2,515 non-permanent quarantine zone premises

Total Quarantined Premises: 3,176

Changes since last report:

↓5 Infested ↓3 Exposed ↑8 Adjacent/Check

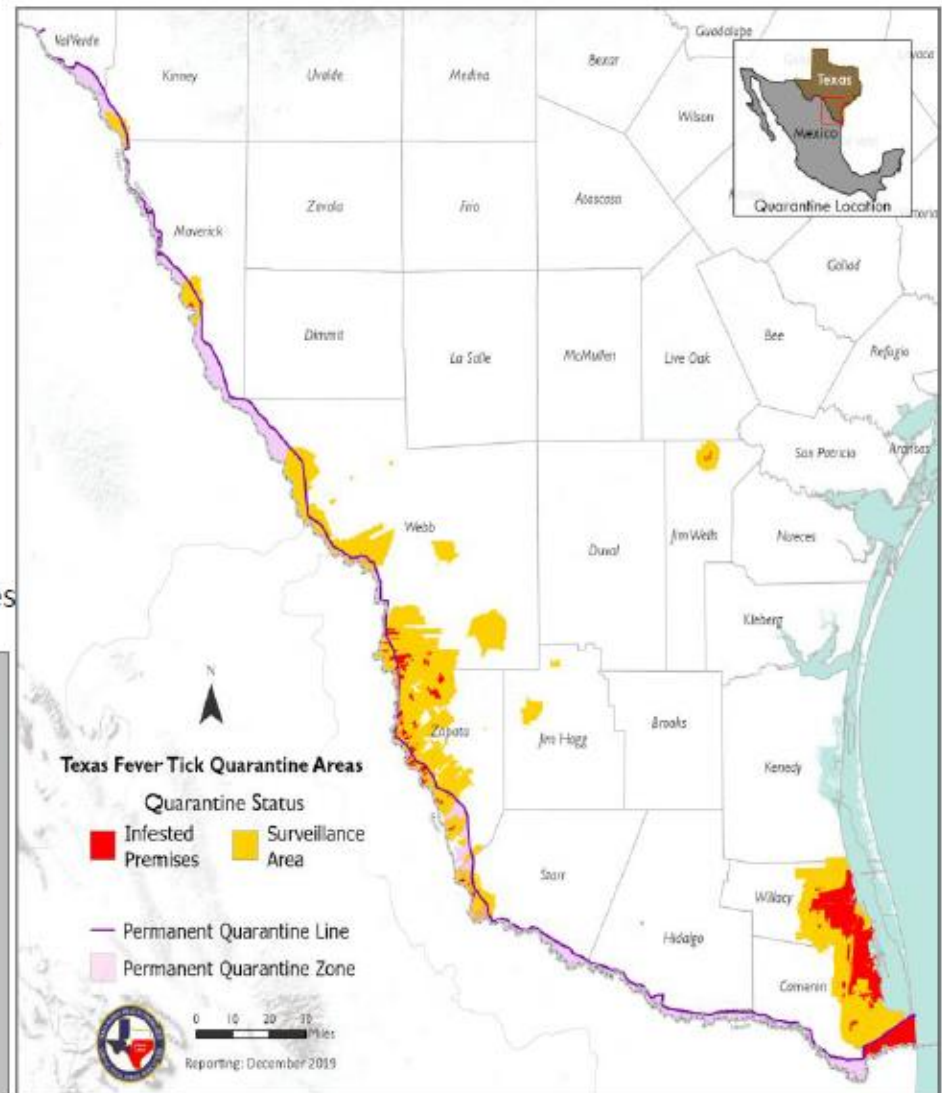
Non-Permanent Quarantine Zone Acreage:

949,559

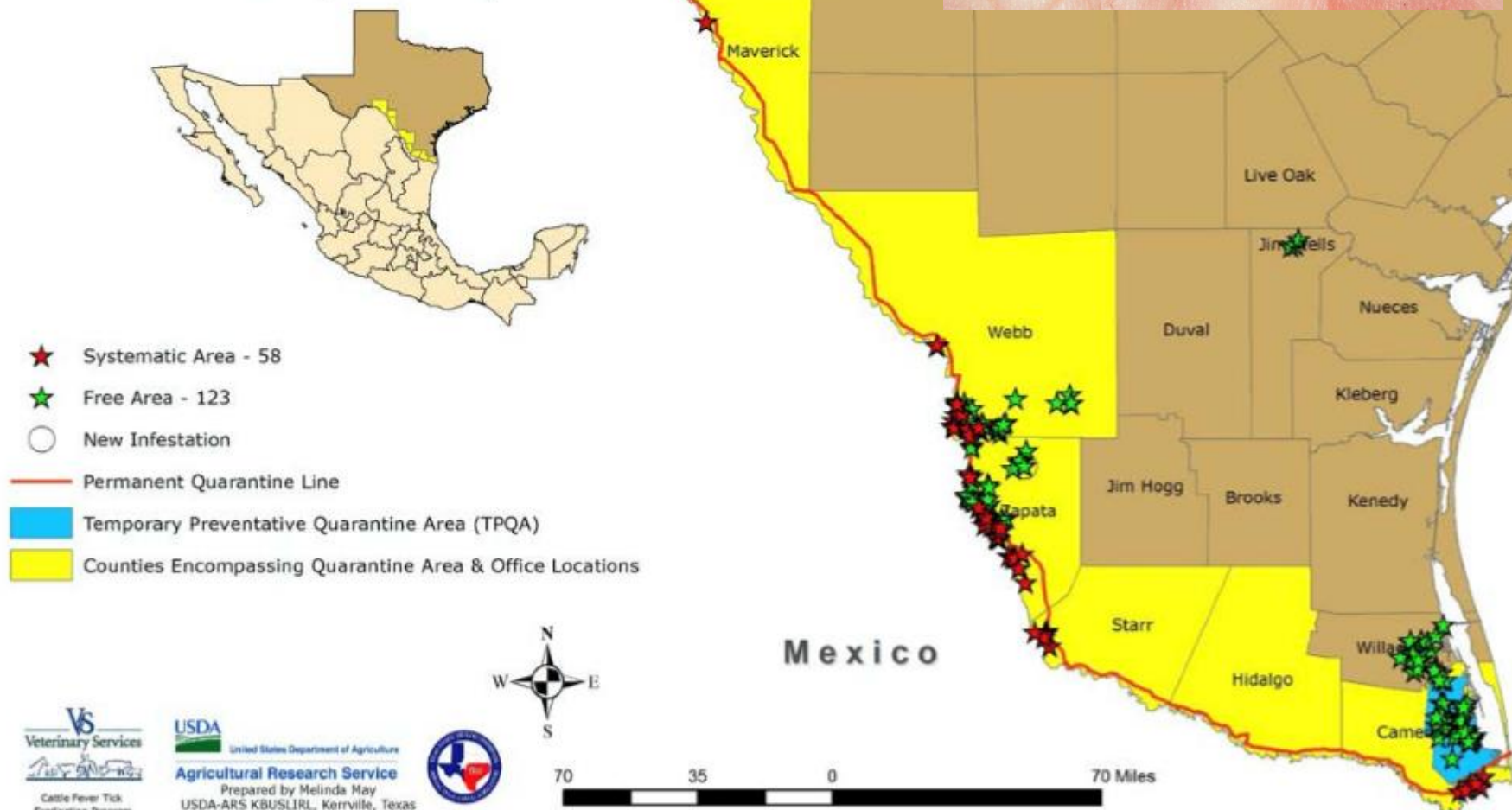
Permanent Quarantine Zone (PQZ) Acreage:

approx. 222,685 acres total

Texas Fever Tick Quarantine Areas



Current Infestations as of September 30, 2019



Longhorn Tick

- *Haemaphysalis longicornis*
- Formerly in Southeast Asia, Asia and Australasia
- Found in Arkansas, Kentucky, New Jersey, New York, North Carolina, Virginia, West Virginia, Pennsylvania, Maryland and
- Not in Texas
- It is a parthenogenetic (no males needed) three host tick with numerous hosts
- Tolerates a wide range of temperatures, dry periods and is longlived
- Transmits several blood diseases
- Tags, injectables, and pour-ons not as effective?



Lice

- Biting (1 specie)
 - Feeds on skin and hair
midline head to tail
- Sucking (4 species)
 - Short and long nose (head,
neck and brisket), little blue
(head and face) and cattle
tail louse – more likely to
transmit disease
 - Anaplasmosis, dermatitis
- Chemical control at 2 week
intervals, some tags or use
Ivomec, Eprinex, Dectomax or
Cydectin, LongRange
- Hair loss and hide damage



Filarial Dermatitis of Cattle (Stephanofilariasis)

- Small filarial parasite that causes circular dermatitis along the ventral midline in cattle and posterior
- Intermediate host: female horn fly which feeds on affected area
- Hyperkeratosis and parakeratosis – cull cow hide damage
- No approved treatment BUT most OPs and all pour-on dewormers appear to be effective – control horn flies!



Mites (Acari)

- Scabies is caused by sarcoptic (burrowing) and psoroptic (surface) mites
- Less severe mange is caused by chorioptes, demodex, or psorergates
- Feed on surface or just under the skin
- Taktic, CoRal, Lindane, Permethrin twice or with Ivomec, Dectomax, Cydectin
- Hair loss and hide damage



External Parasite Control

- Identification important
- Most methods will control more than one pest
- Long vs short term
- “Quick knock down”
- Combination is best
- Watch for resistance
- Withdrawal concerns
- Cost considerations
- Brahman breed effect
- Withdrawal time

