

The background of the slide features a large, semi-transparent seal of the State of Texas on the left side. The seal is circular with a five-pointed star in the center, surrounded by a wreath. The words "STATE OF TEXAS" are inscribed around the perimeter of the seal.

# Texas Authorized Personnel Program (TAPP) – Module 4

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- *Diseases of Swine and Equine*



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# Texas Swine Disease Program

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# Reportable Diseases of Swine in Texas

- <http://www.tahc.texas.gov/regs/reportable.html>
  - African swine fever - Asfarvirus
  - Classical swine fever (hog cholera) - Pestivirus
  - Pseudorabies - *Herpesvirus suis*
  - Porcine brucellosis - *Brucella suis*
  - Novel swine enteric coronavirus disease(s)
  - Swine vesicular disease - Picornavirus
  - Vesicular exanthema - Calicivirus



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# Definitions for Swine Herds

- Commercial production swine:
  - Swine continuously managed in adequate facilities
  - Biosecurity practices prevent exposure to transitional or feral swine
- Transitional production swine:
  - Show hogs/small farms
  - Swine with reasonable opportunity for exposure to feral swine OR captive feral swine
- Feral or wild swine:
  - Free-roaming swine



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# Swine Diseases

- Brucellosis – caused by bacterium *Brucella suis*
- Pseudorabies – caused by *Herpesvirus suis*
- Novel Swine Enteric Coronavirus disease(s)





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# Swine Brucellosis and Pseudorabies in Texas

- Commercial Herds – no
- Transitional Herds – yes
- Feral Swine – yes





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# Feral Swine: Disease Reservoir

- Brucellosis 10% infected
- Pseudorabies 20% infected
- Foreign Animal Diseases
  - Classical Swine Fever (Hog Cholera)
  - Foot-and-Mouth Disease
  - African Swine Fever





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# Beware of Swine Brucellosis!

- Brucellosis-infected feral swine are a threat to cattle
- Herd tests may be necessary to rule out *Brucella abortus*





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# Swine Disease Surveillance in TX

- 2019 fiscal year 8955 Brucellosis & 7495 Pseudorabies tests
- Waste-food feeder herd tests
- High risk herd tests – exposure to feral swine
- Status herd tests
- Private tests (sales, exhibition)
- Slaughter tests
  - Sows and boars tested
- Markets tests
  - Sows and boars tested
  - Feral swine not allowed to be sold at markets



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# Your Role in Swine Brucellosis

- All states are Swine Brucellosis free
- Feral swine impact total eradication
  - >4 million feral swine
  - Known herds in 39 states
- Your responsibility
  - Certificates
  - Permits
  - Sample collection





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# Controlling Live Feral Swine in TX

- Holding Facilities - around 120
- Hunting Preserves - about 40





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# Approved Holding Facilities

- Operator applies with TAHC
- No fee, but TAHC inspection required
- Facility constructed to prevent escape of feral swine
- > 200 yards from domestic swine
- Records must be maintained on animals in/out
- “Escape” or release is a violation of the Rule





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# Approved Holding Facilities

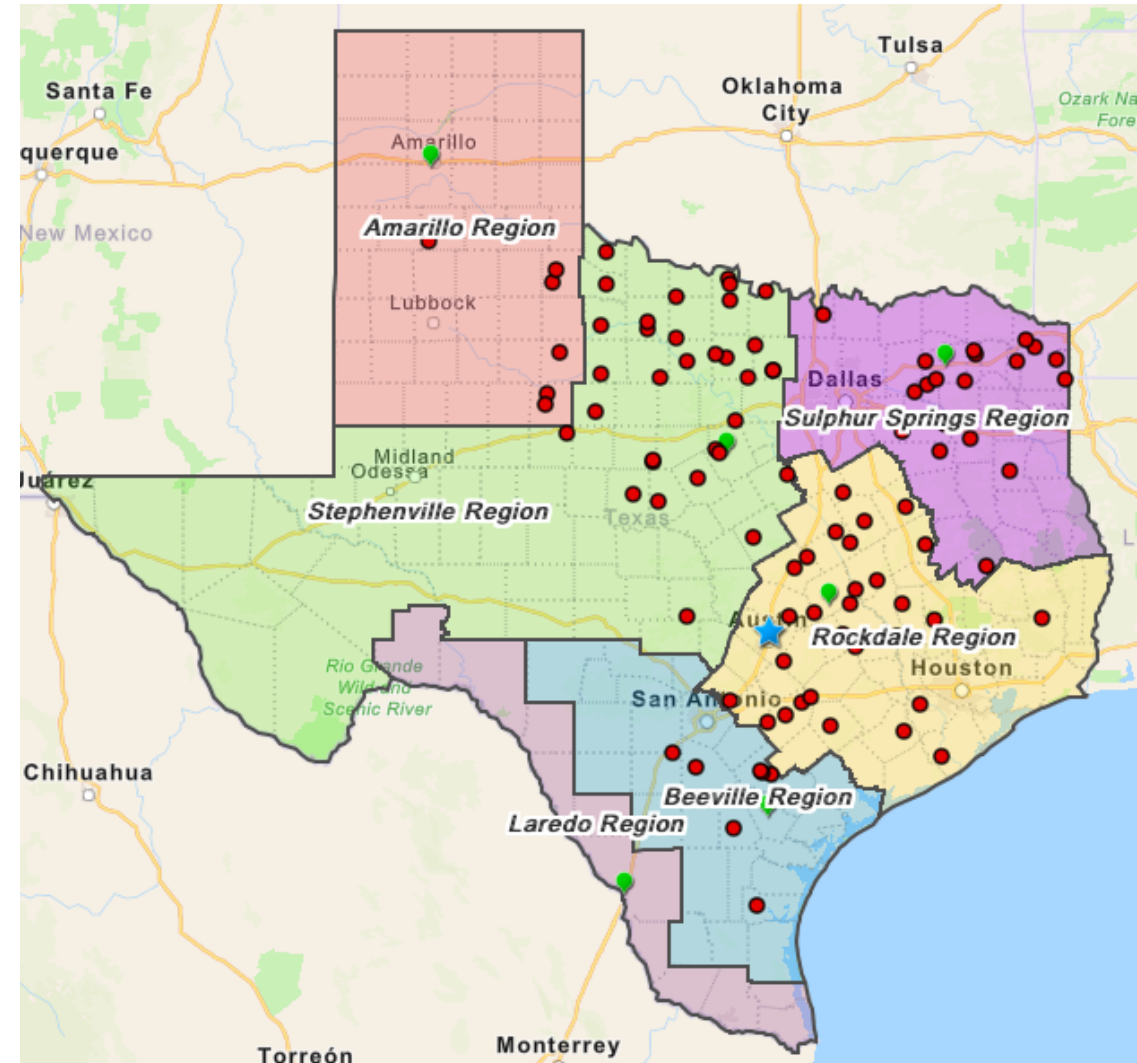


Feral hog approved holding facilities are constructed to prevent escape.  
(Photo courtesy Jared Timmons, Texas A&M AgriLife Extension Service)



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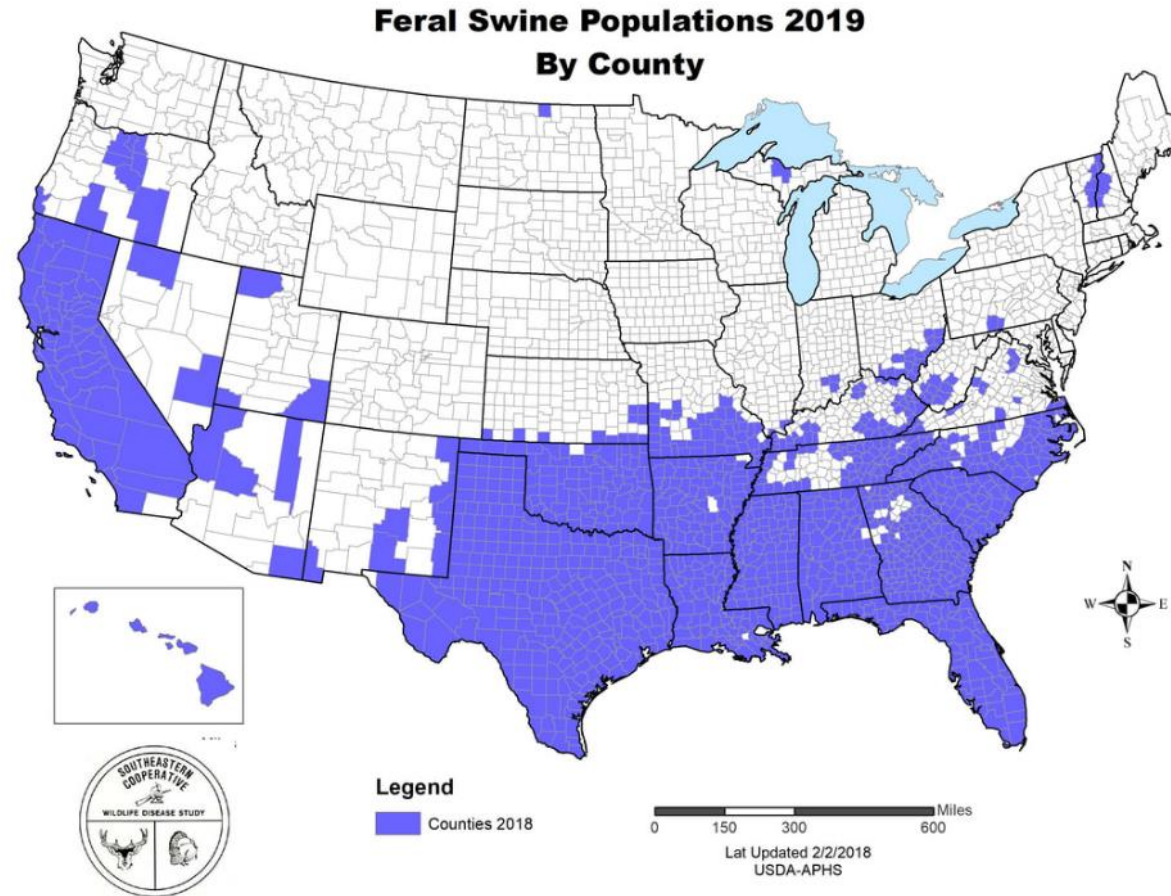
# Counties with Active Feral Swine Facilities





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# Swine brucellosis also is transmissible to humans, horses & cattle!





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# Your Role in Pseudorabies

- Status in U.S.: All states in Free status
- Your responsibility
  - Certificates
  - Permits
- Feral swine affect
  - Serological evidence
  - All considered positive
  - Depopulation approach



# Swine Enteric Coronavirus Diseases (SECD)

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# Swine Enteric Coronavirus Diseases (SECD)

- Identified in U.S. by NVSL on May 17, 2013
- Purportedly killed > 4,000,000 pigs
- Primarily a disease of commercial swine
- SECD Federally Reportable as of June 5, 2014
- Novel Swine Enteric Coronavirus reportable in Texas as of January 2015\*
- USDA Ends Required Reporting of Swine Enteric Coronavirus Diseases – Effective March 5, 2018



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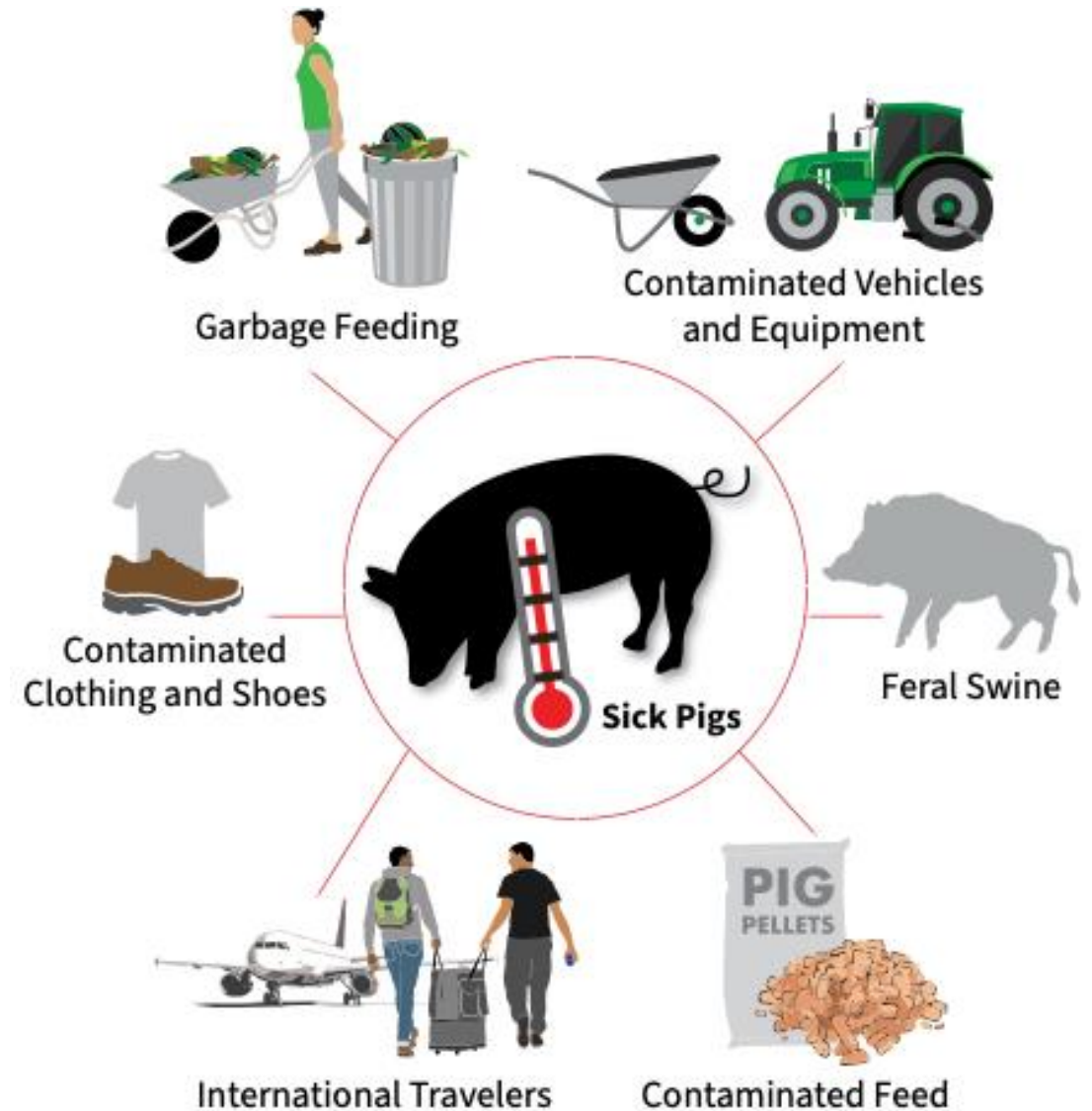
# Swine Enteric Coronavirus Diseases (SECD)

- Not a zoonotic disease
- Is not a food safety concern
- Mode of transmission is fecal-oral; however, contaminated personnel, equipment or other fomites may introduce SDCv into a susceptible herd
- No vector or reservoir has been implicated in its spread
- Economic loss occurs directly in the form of death and production loss in swine
- Further monetary loss occurs because of the cost of biosecurity



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# BIOSECURITY IS THE KEY TO PREVENTION!





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# Swine Entry Requirement

- Effective February 7, 2014, CVIs accompanying non-commercial hogs entering Texas for purposes other than immediate slaughter require the following statement from the issuing veterinarian:
- *"To the best of my knowledge, swine represented on this certificate have not originated from a premises known to be affected Novel Swine Enteric Coronavirus Disease(s) (SECD), and have not been exposed to SECD within the last 30 days."*



# Texas Equine Health Programs

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# Reportable Diseases of Equine in Texas

- <http://www.tahc.texas.gov/regs/reportable.html>
  - African horse sickness - Orbivirus
  - Contagious equine metritis - Tayorella equigenitalis
  - Dourine - Trypanosoma equiperdum
  - Epizootic lymphangitis - Histoplasma farciminosum
  - Equine encephalomyelitis (Eastern and Western)\*\* - Alphavirus
  - Equine infectious anemia - Lentivirus
  - Equine morbillivirus pneumonia - Morbillivirus
  - Equine piroplasmosis - *Babesia equi*, *B. caballi*
  - Glanders - Pseudomonas mallei
  - Japanese encephalitis - Flavovirus
  - Surra - Trypanosoma evansi
  - Venezuelan equine encephalomyelitis\*\* - Alphavirus; Togaviridae family
  - Equine Viral Arteritis (EVA)\*\*\*
  - Equine Herpes Virus-1 (EHV-1)



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# TAHC Equine Programs

- EIA
- Equine Piroplasmiasis
- Equine Viral Arteritis (EVA)
- Equine Herpes Virus-1 (EHV-1)
- Vesicular Stomatitis Virus



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# Equine Infectious Anemia (EIA)

- Negative EIA test required within previous 12 months for:
  - Transfer of ownership
  - Interstate movement
  - Trail rides
  - Shows, fairs, rodeos
  - Public trails – state parks
  - Equine in boarding stables
  - Breeding farms
  - Training farms
  - Race tracks
  - Less than 200 yards apart requires current negative EIA test





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# Equine Infectious Anemia (EIA)

- Unless euthanized within 10 days, EIA infected equine are permanently identified on the left shoulder with "74-A"



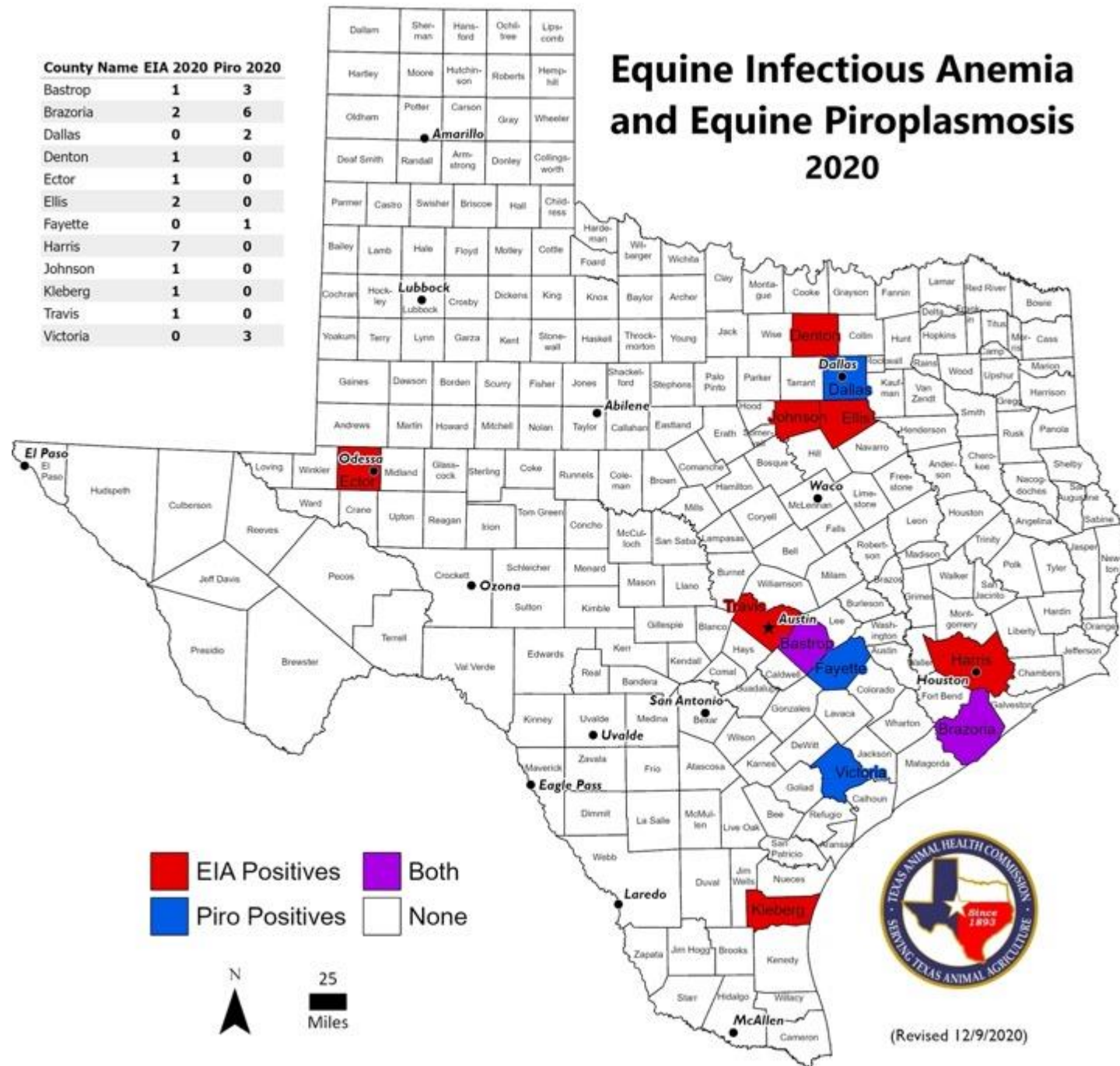


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County Name EIA 2020 Piro 2020

Bastrop	1	3
Brazoria	2	6
Dallas	0	2
Denton	1	0
Ector	1	0
Ellis	2	0
Fayette	0	1
Harris	7	0
Johnson	1	0
Kleberg	1	0
Travis	1	0
Victoria	0	3

## Equine Infectious Anemia and Equine Piroplasmosis 2020



(Revised 12/9/2020)



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# Equine Piroplasmosis

- Reportable disease
- Not a human health threat
- Horses, donkeys, mules, and zebras affected
- Not endemic to the U.S.





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# Piroplasmosis

- Protozoa – *Babesia caballi* or *Theileria equi*
  - Blood-borne, can be mild or acute, depending on virulence
  - Mechanical transmission by ticks
  - Readily transmitted iatrogenically through use of blood-contaminated syringes, needles, or surgical equipment, or by transfusion of infective blood or blood products



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# Transmission

- Ticks are important vectors
  - 12 different species
- Mechanical transmission
  - Blood transfusions
  - Shared syringes
  - Shared surgical instruments





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# Piro... An Emerging Disease

- Horses entering Texas racetracks are required to have a negative test within the previous 12 months






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# Piroplasmosis Test Form

- Must be submitted with samples
- Digital photos or hand drawn markings and description
- Solid identification of tested, positive horses

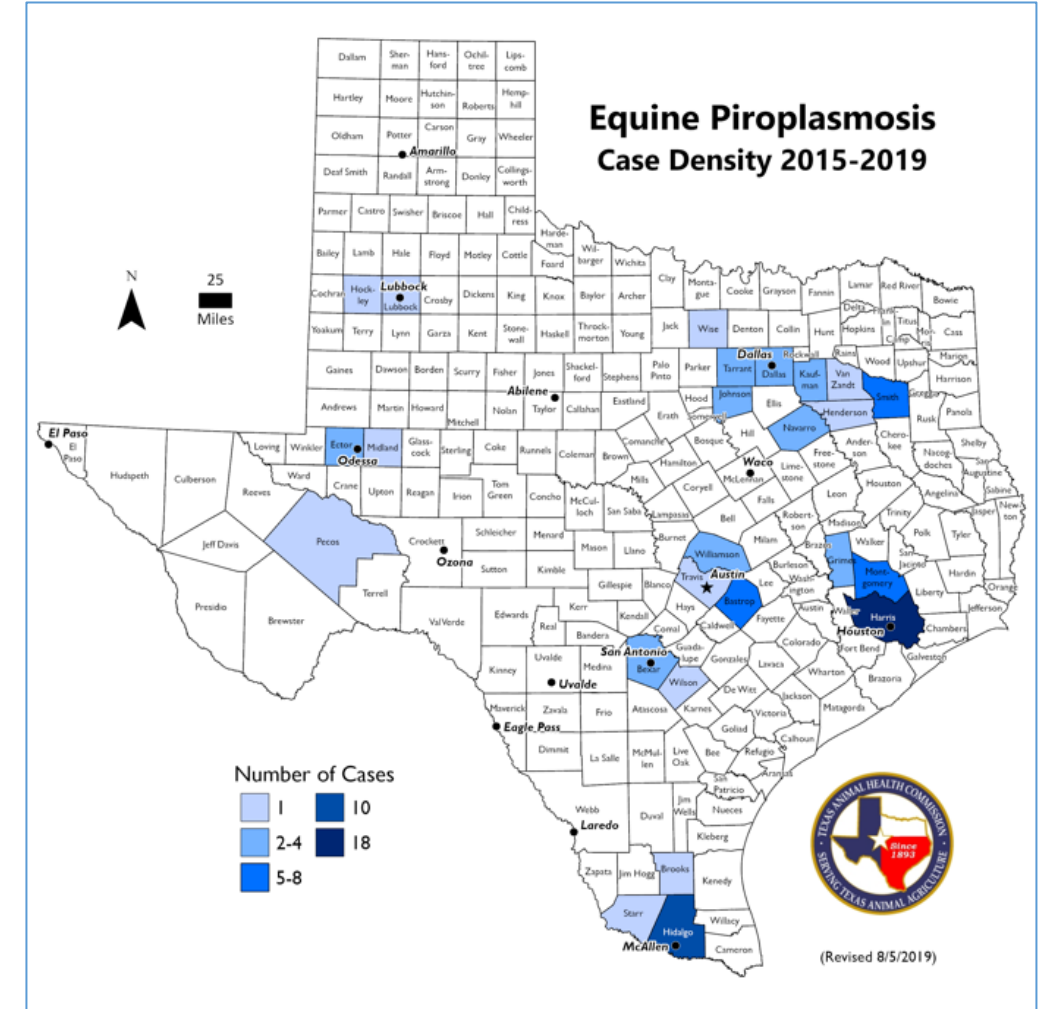
Texas Animal Health Commission		TVMDL or NVSL Account Number
EQUINE PIROPLASMOSIS LABORATORY TEST		Accession Number
Incomplete forms will not be processed.		Reset Form
NAME AND ADDRESS OF OWNER (Please type or print)		REASON FOR TESTING
City: _____ Zip code: _____		TVMDL: <input type="checkbox"/> Change of Ownership <input type="checkbox"/> Interstate <input type="checkbox"/> Breed / Race / Show
NAME AND ADDRESS OF STABLE / MARKET (Please type or print)		NVSL: <input type="checkbox"/> Export <input type="checkbox"/> Report of Positive (FAC only) <input type="checkbox"/> Diagnostic <input checked="" type="checkbox"/> Epi
Address: _____ County: _____ Zip code: _____		TESTS REQUESTED: <input checked="" type="checkbox"/> T. equi <input checked="" type="checkbox"/> B. cabali DATE BLOOD DRAWN (MM / DD / YYYY): 08/15/2010
I certify the specimen submitted with this form was drawn by me from the horse described below on the date indicated above.		COMMENTS
TAHC Region 3 8751 West Camp Bowie #104 Fort Worth, TX 76116		Exposed Cohorts to TXP 10007
Signature / Date: _____ Telephone number: (800) 687-4603 USDA Accreditation number: _____		
Official Tag No. 2	Permanent ID: Brand / Microchip / Tattoo	Name of Horse
Color Bay	Breed QH	DOB (Y / M / D) 3
Sex Male	Station <input checked="" type="checkbox"/> Gelding	Mare <input type="checkbox"/>
SHOW ALL SIGNIFICANT MARKINGS, WHORLS, BRANDS, AND SCARS		
		
PROVIDE NARRATIVE DESCRIPTION AND REMARKS IF DISTINCTIVE MARKINGS ARE NOT SHOWN ON ATTACHED PHOTOS.		
Head Few white hairs faint star		Other markings and brands none - solid bay
Left Forelimb None		Right Forelimb None
Left Hindlimb None		Right Hindlimb none
FOR LABORATORY USE ONLY		
Laboratory Name	Date received	T. equi
	Date reported out	B. cabali
		eELISA
		CF
		PCR
		Blood smear
TAHC Form 19-07 (Revised 08/03/2010)		
EQUINE PIROPLASMOSIS LABORATORY TEST		



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# Piroplasmosis

- South Texas – tick related
- Racing Quarter Horses
  - Associated with poor sanitation, dirty needles

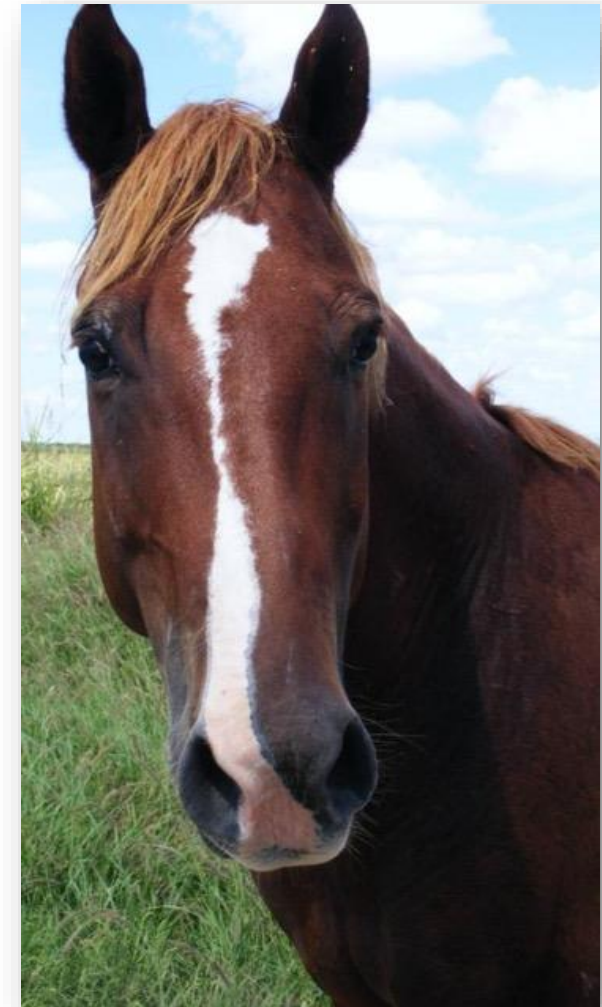




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# Piroplasmosis Disease Management

- No vaccine
- Approved treatment is done under supervision of TAHC with stringent post-treatment testing protocol
- Contact TAHC Region Office **BEFORE** initiating treatment





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# Equine Herpes Virus-1

- Reportable disease
- Does not affect humans
- Two forms
  - Causes abortions
  - Respiratory infection and neurological signs
- Endemic in the U.S.
- Spread through the air, on equipment, clothing and hands





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# Equine Herpes Myeloencephalopathy (EHM)

- Herpes Virus
  - Neurologic disease linked to Equine Herpes Virus (EHV-1) and causes respiratory disease, abortion, and neonatal death
  - Recent outbreaks at large equine events
  - Direct and indirect contacts are most important for transmission – horse-to-horse, contaminated equipment, short distance aerosol



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# Equine Viral Arteritis (EVA)

- Reportable disease
- Does not affect humans
- Primarily a respiratory disease, but may be transmitted by carrier stallions during breeding





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# Vesicular Stomatitis (VS)

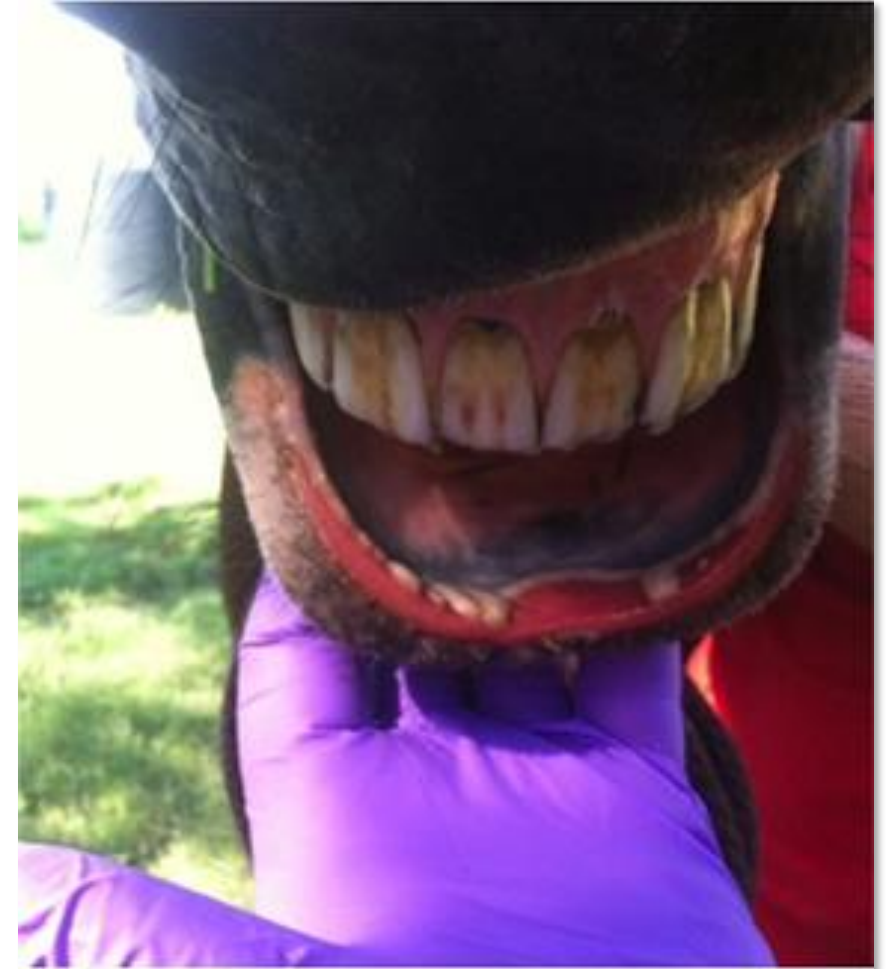
- Viral Disease
  - Primarily affects horses and cattle
  - Common in Southwest US
  - Economic impact due to resemblance of Foot and Mouth Disease in cattle



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# Vesicular Stomatitis (VS)

- Outbreaks sporadic in TX, MN, CO, AZ
- Signs:
  - blisters, sores, lameness
- Looks like Foot-and-mouth disease!
- Affects:
  - horses, pigs, cows
- Cause:
  - virus
- Confirmed through lab testing
- Animals quarantined until 14 days after onset of lesions





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# VS Clinical Signs

- Excessive salivation – oral blisters/erosions
  - Horses – upper surface of tongue, around nostrils, corner of mouth, sheath, ventral abdomen
  - Cattle – tongue, lips, gums, teats
  - Swine – nose
- Severe weight loss, milk production loss
- Lameness



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# VS Clinical Signs

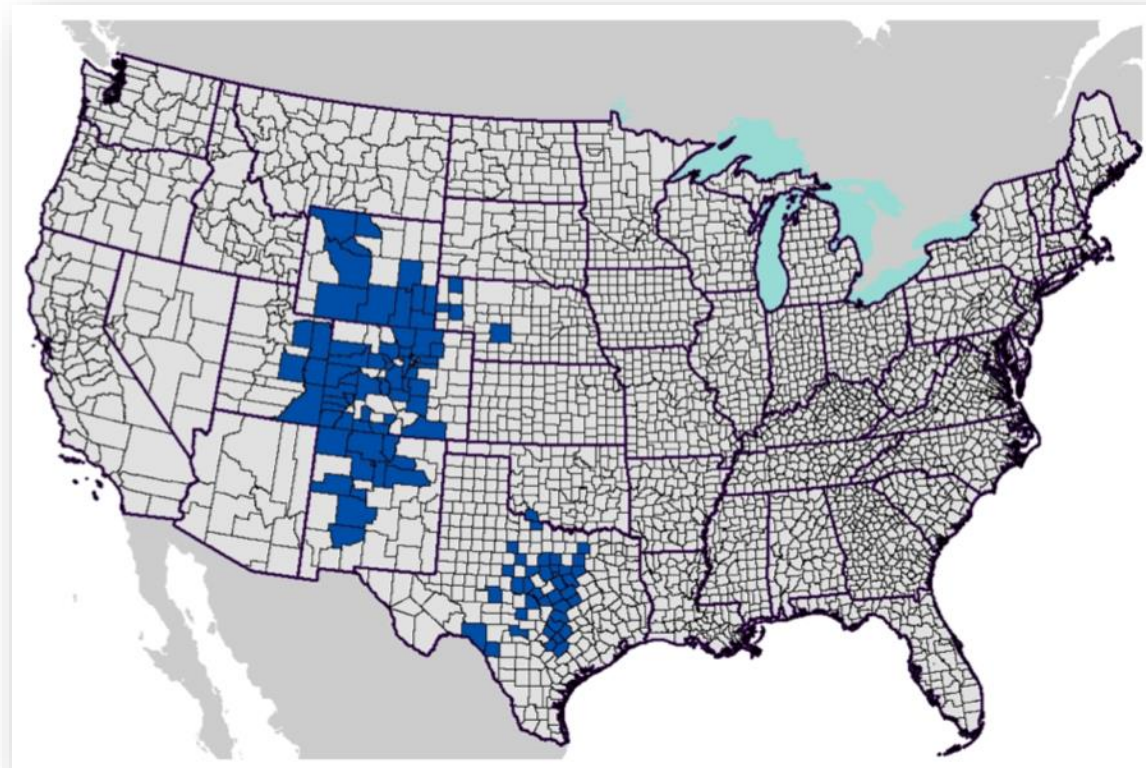




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# 2019 VSV Outbreak

- Cumulative: 1029 premises, 7 states
- Currently: All Texas premises have been released





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# Vesicular Stomatitis (VS)

- Classification of Equine Cases:
  - Premises that have laboratory diagnostic confirmation of VS are categorized as confirmed 'positive' premises and quarantined
  - Once a county is confirmed as VS-positive, new premises with equine that present with clinical signs of VS are not required to be tested, but the accredited veterinarian should provide the case information to regional office and the premises will be quarantined as a 'suspect' premises
  - Both 'confirmed' and 'suspect' premises that are quarantined are monitored until 14 days after clinical VS signs are observed



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# Vesicular Stomatitis (VS)

- Classification of other Livestock Cases:
  - All cattle, pigs, sheep, goats with lesions are tested by a regulatory veterinarian