

Texas Veterinary Medical Diagnostic Laboratory

**Agency Brief for VetLRN Program Meeting
March 3-4, 2011**

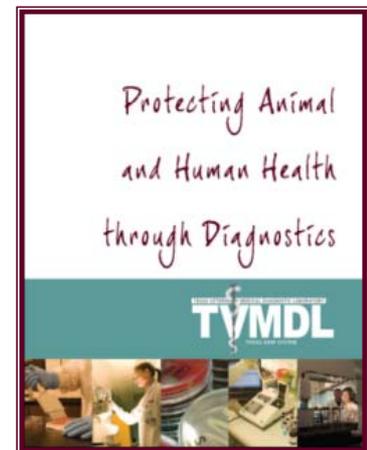
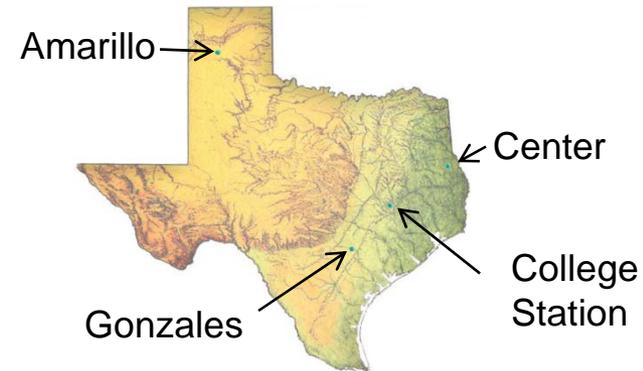
**Roger W. Parker
DVM, PhD, DACVM, DACVPM
Deputy Director**

Protecting Animal and Human Health through Diagnostics



Who We Are

- **One of four state agencies under the auspices of the Vice Chancellor for Agriculture within The Texas A&M University System**
- **TVMDL Director:**
Tammy R. Beckham, DVM, PhD
- **Facilities and staff at four locations throughout the state**
- **Only state agency dedicated to providing veterinary diagnostic services to the citizens of Texas (service-based)**
 - Backbone of Texas animal and emerging/zoonotic disease surveillance program
 - Only state lab with ability and response capacity for high consequence animal diseases.



Mission



Promote animal health and protect agricultural, companion animal, and public health interests in Texas and beyond, by providing excellence in veterinary diagnostic services:

- **Provide veterinary medical diagnostic services to the citizens of Texas**
- **Reduce costs and suffering associated with animal diseases**
- **Contribute to an animal and zoonotic disease surveillance system**
- **Respond to potential high consequence and/or emerging/zoonotic disease events**
- **Contribute to the benefits of healthy human/animal interactions.**



History of TVMDL

1969 – College Station lab opened

1975 – Amarillo lab opened

1987 – Texas Racing Act

1989 – First equine testing

1992 – First greyhound testing

1991 – Responsibility for Texas Pullorum-Typhoid Act

Center Poultry Laboratory

Gonzales Poultry Laboratory

2004 – BSE testing

2004 – BSL-3 testing capacity.



Laboratory Locations



Amarillo



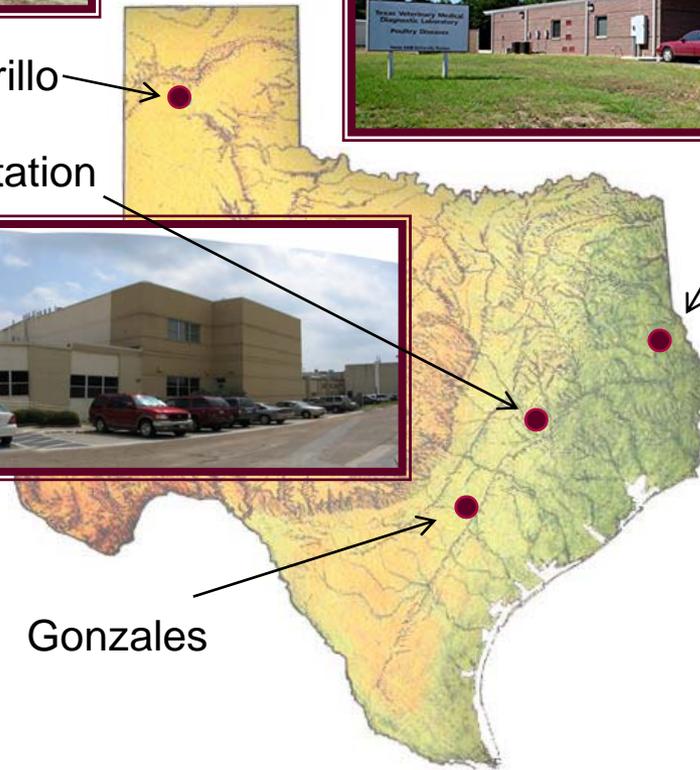
College Station



Center



Gonzales

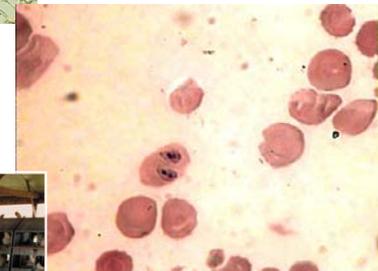
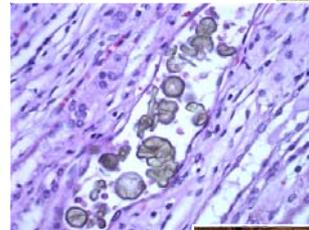
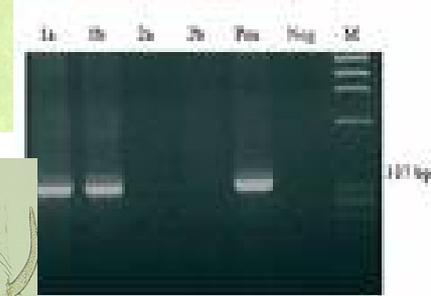


Total Staff: 155
26 DVMs and 10 PhDs



Disciplines

- Bacteriology
- Virology
- Serology
- Parasitology
- Molecular Biology
- Endocrinology
- Toxicology
- Pathology
- Clinical Pathology
- Poultry Diagnostics.



Multi-Species Necropsy Facility



Specialized Testing Capacity

- Drug Lab – testing for pari-mutuel racing
- Biosafety Level 3 laboratory capacity
- Chronic Wasting Disease (CWD)
- Bovine Spongiform Encephalopathy (BSE)
- Equine Piroplasmosis
- Swine Influenza
- Foreign Animal Disease (FAD) testing
 - Foot and Mouth Disease (FMD)
 - Classical Swine Fever (CSF)
 - Avian Influenza (AI)
 - Domestic Poultry Surveillance
 - Wildlife Surveillance
 - Game Bird Surveillance.



Protecting Animal
and Human Health
through Diagnostics

TVMDL



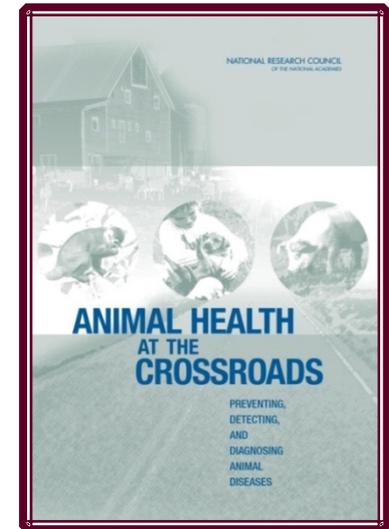
Mission — Surveillance

Backbone of a Texas Animal and Emerging/Zoonotic Disease Surveillance System

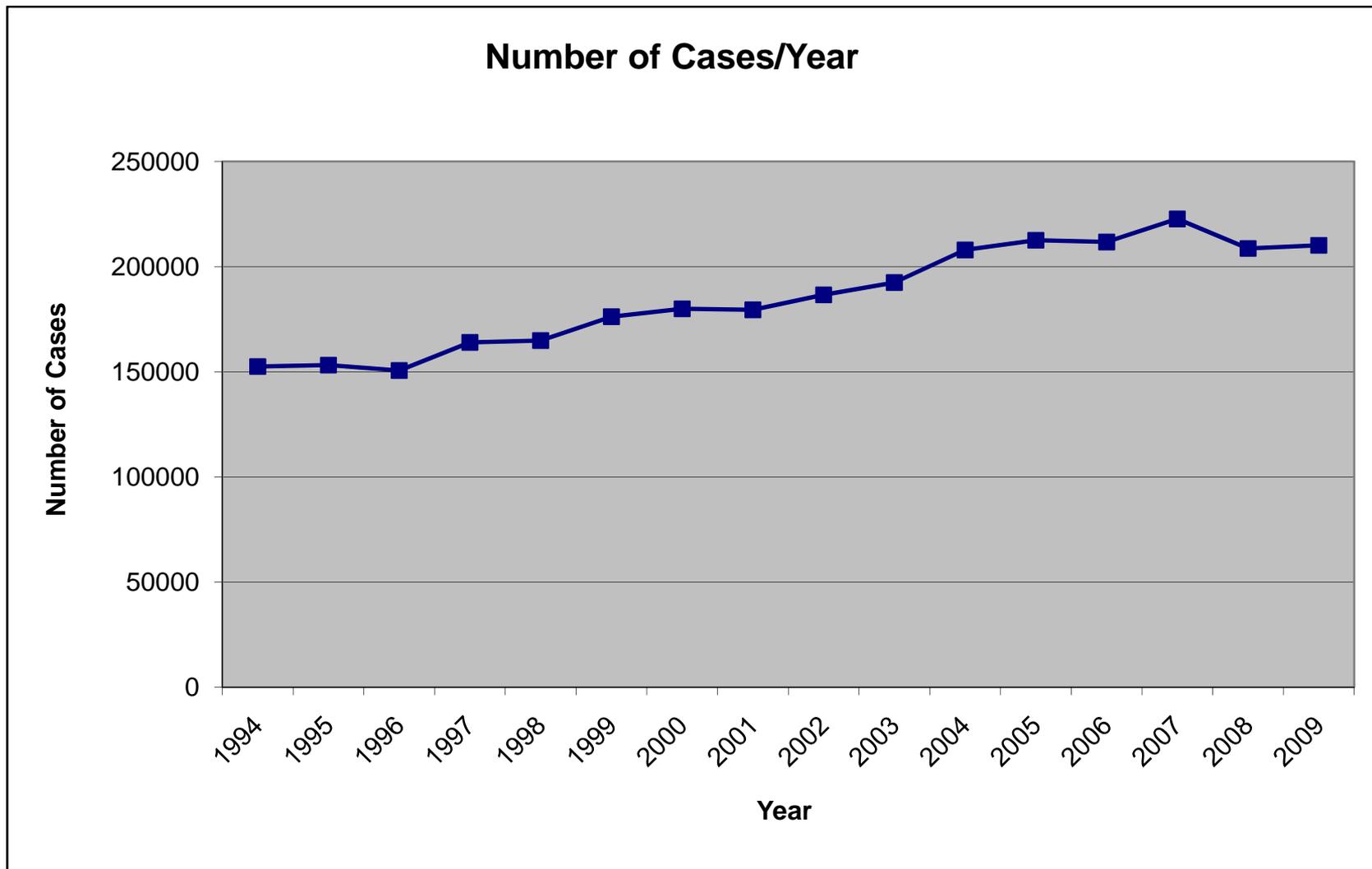
“Today animal health is at a crossroads. The risk of disease is coming from many directions, including the globalization of commerce, the restructuring and consolidation of global food and agriculture productions into larger commercial units, the interactions of humans and companion animals, human incursions into wildlife habitats, and the threat of bioterrorism.”

Animal Health at the Crossroads

The National Academy of Sciences, 2005.



TVMDL Mission Impacts — Surveillance



Selected Surveillance Impacts

- **Animal and Public Health Surveillance**

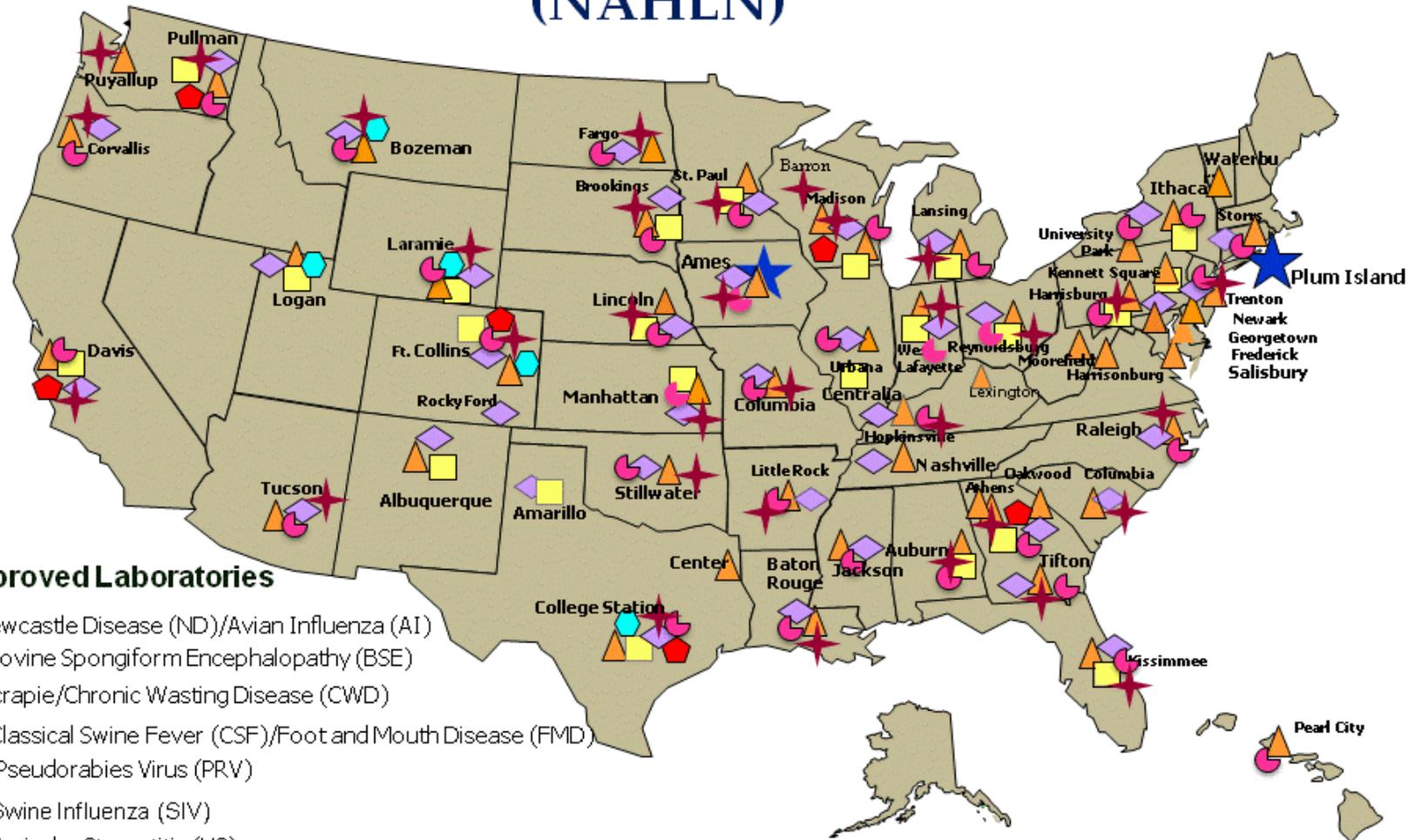
- ▶ 2008 over 1.4M tests
- ▶ Performed > 600K tests in 2008 in support of public health
 - ▶ >400K on specimens with zoonotic potential
 - ▶ >280K for early detection of highly pathogenic avian flu
- ▶ **Endemic and Exotic Surveillance Capabilities**
 - ▶ Malignant Catarrhal Fever – 2008
 - ▶ Toxic plants cause an estimated \$50 million to \$100 million in livestock losses in Texas every year



- **Nationally Recognized**

- ▶ Developing new technologies for control of tick and vector-borne diseases (Epizootic Hemorrhagic Disease, Bluetongue)
- ▶ AAVLD accreditation
- ▶ One of twelve core members of National Animal Health Laboratory Network (NAHLN) laboratories
 - ✓ Surveillance (BSE, avian flu, chronic wasting disease).

National Animal Health Laboratory Network (NAHLN)

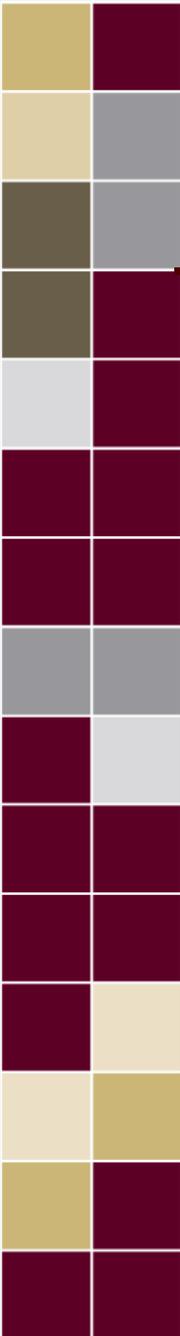


Approved Laboratories

- ▲ Newcastle Disease (ND)/Avian Influenza (AI)
- ◆ *Bovine Spongiform Encephalopathy (BSE)
- Scrapie/Chronic Wasting Disease (CWD)
- ◆ *Classical Swine Fever (CSF)/Foot and Mouth Disease (FMD)
- ★ *Pseudorabies Virus (PRV)
- Swine Influenza (SIV)
- Vesicular Stomatitis (VS)
- ★ National Veterinary Services Laboratories

*For specified agents, not all laboratories are currently participating in surveillance testing.

January 10, 2011



TVMDL Role in Effective Response

- **Early Detection/Surveillance**
 - Routine diagnostic testing—backbone of Texas animal and emerging/zoonotic disease surveillance program
 - Targeted testing of high risks populations—National Animal Health Laboratory Network (NAHLN)
- **Response**
 - High volume testing; surge testing
 - Confirmation of new premises—providing key decision makers with results to make informed decisions
- **Recovery**
 - High volume testing
 - Freedom from disease
 - Resumption of trade.

Collaborators/Partners

- **State/Federal Partners**
 - Texas Animal Health Commission
 - USDA
 - NAHLN
 - National Veterinary Services Laboratories (NVSL)
 - Foreign Animal Disease Diagnostic Laboratory (FADDL)
 - Department of Homeland Security
- **System Collaborators/Partners**
 - National Center for Foreign Animal and Zoonotic Disease Defense (FAZD Center)
 - College of Veterinary Medicine
 - Texas AgriLife Extension
 - Texas Forest Service
 - Texas AgriLife Research
 - Office of the Texas State Chemist.

Office of the Texas State Chemist

- Protects consumers and enhances agribusiness through its feed and fertilizer regulatory compliance program, surveillance and monitoring of animal-human health and environmental hazards, and preparedness planning
- FERN laboratory—Microbiological, Chemical
- Contact info:

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Toxicology Tests—TVMDL

Aflatoxin	Drug screen, eyes	Mushroom identification
Aldicarb	Drug screen, general	Nitrates, quantitative
Ammonia	Drug screen, livestock shows	Nitrates/Nitrites, qualitative
Anticoagulant screen	Drug screen, NSAID	Petroleum
Arsenic inorganic, qualitative	Drug test (ELISA)	pH determination
Arsenic, quantitative	Drug test (HPLC)	Phenobarbital, quantitative
Avitrol	Fumonisin B1	Phosphine
Beetle identification	GC/MS Herbicide Screen, qualitative	Plant identification
Bone Ash	GC/MS Herbicide, quantitative	Pyrethroid compounds (LC/MSn)
Bromide	GC/MS Insecticide Screen, qualitative	Selenium (Se)
Cadmium (Cd)	GC/MS Insecticide, quantitative	Sodium (Na)
Calculi identification	Glycolic acid	Strychnine
Cantharidin	Ionophore screen, qualitative	Theophylline, quantitative
Chlorate, qualitative	Ionophore, quantitative	Urea spot test
Chloride (Cl)	Iron (Fe)	Urocystolith analysis
Cholinesterase	Ivermectin	Vitamin A assay, serum
Chromium (Cr)	Lead (Pb)	Vitamin A, liver
Copper, feed/tissue	Lead (Pb) in blood	Vitamin E, liver
Copper, serum	Magnesium (Mg)	Vitamin E, serum
Copper, urine	Manganese (Mn)	Water analysis, routine
Cyanide, qualitative, prussic acid	Metaldehyde	Zinc
Digoxin	Microscopic analysis	Zinc, serum

Questions/Comments?

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