



# Texas A&M Veterinary Medical Diagnostic Laboratory – Your One Health Partner



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Interim Director*



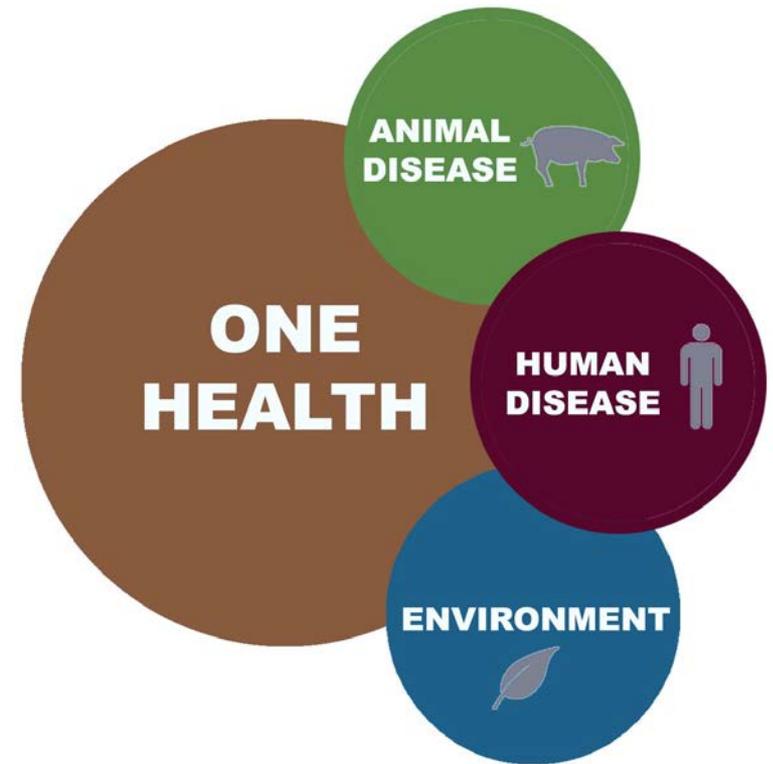
# VISION AND MISSION

## Vision

- To be the global leader in providing innovative and state-of-the-art veterinary diagnostic services

## Mission

- To promote **animal health** and protect agricultural, companion animal, **food safety** and **public health** interests in Texas and beyond by providing excellence in veterinary diagnostic service



# VALUE OF LIVESTOCK & COMPANION ANIMALS



- Livestock and poultry production contributes **\$18B annually** to the Texas economy<sup>1</sup>
- Agriculture directly accounts for over **56,000 Texas jobs**, while 1 in 7 Texans work in an agriculturally-related job<sup>1, 2</sup>
- **Exports** of livestock & livestock products total **\$3.66B<sup>2</sup>** annually
- Veterinary medicine contributes an estimated **\$827M** to the Texas economy<sup>3</sup>
- **56%** of all Texas households own at least one pet<sup>4</sup>



*1 Office of the Governor*

*2 Texas Department of Agriculture*

*3 College of Veterinary Medicine, Texas A&M University*

*4 American Veterinary Medical Association*



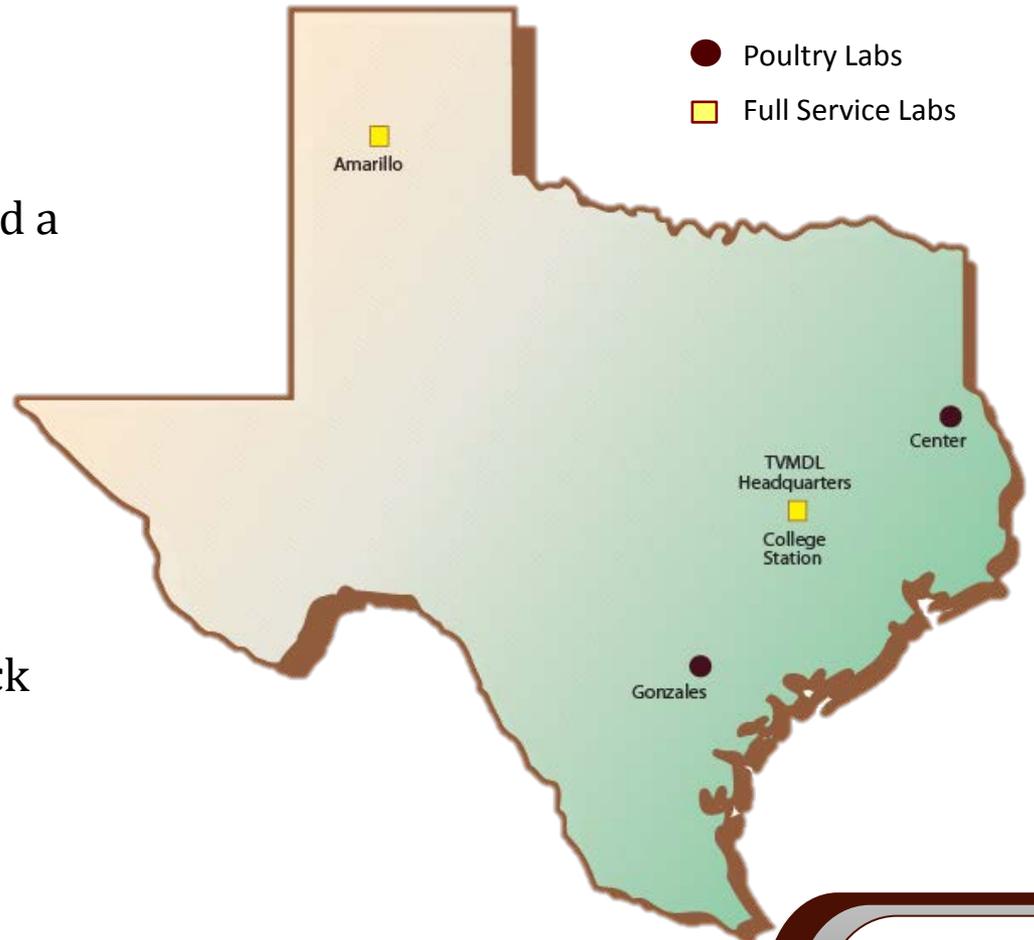
# AGENCY OVERVIEW

- Only state agency dedicated to providing **veterinary diagnostic services** to the citizens of Texas
- The backbone of a high consequence, emerging and/or zoonotic disease **surveillance** system
  - *Foot and Mouth Disease*
  - *Avian Influenza*
  - *Porcine Epidemic Diarrhea Virus*
  - *Equine Piroplasmosis*
  - *Anthrax*
- Houses the only **BSL-3** laboratories in Texas dedicated to animal disease testing and response
- Performs **drug testing** for pari-mutuel racing animals and livestock shows



# LOCATIONS

- 165 staff
- Over 30 professional staff who hold a DVM and/or PhD
- 21 professionals with board certifications in their specialty
- Strategically located in the livestock and poultry rich regions of Texas



# Accreditations



## ISO 17025



American Association for Laboratory Accreditation

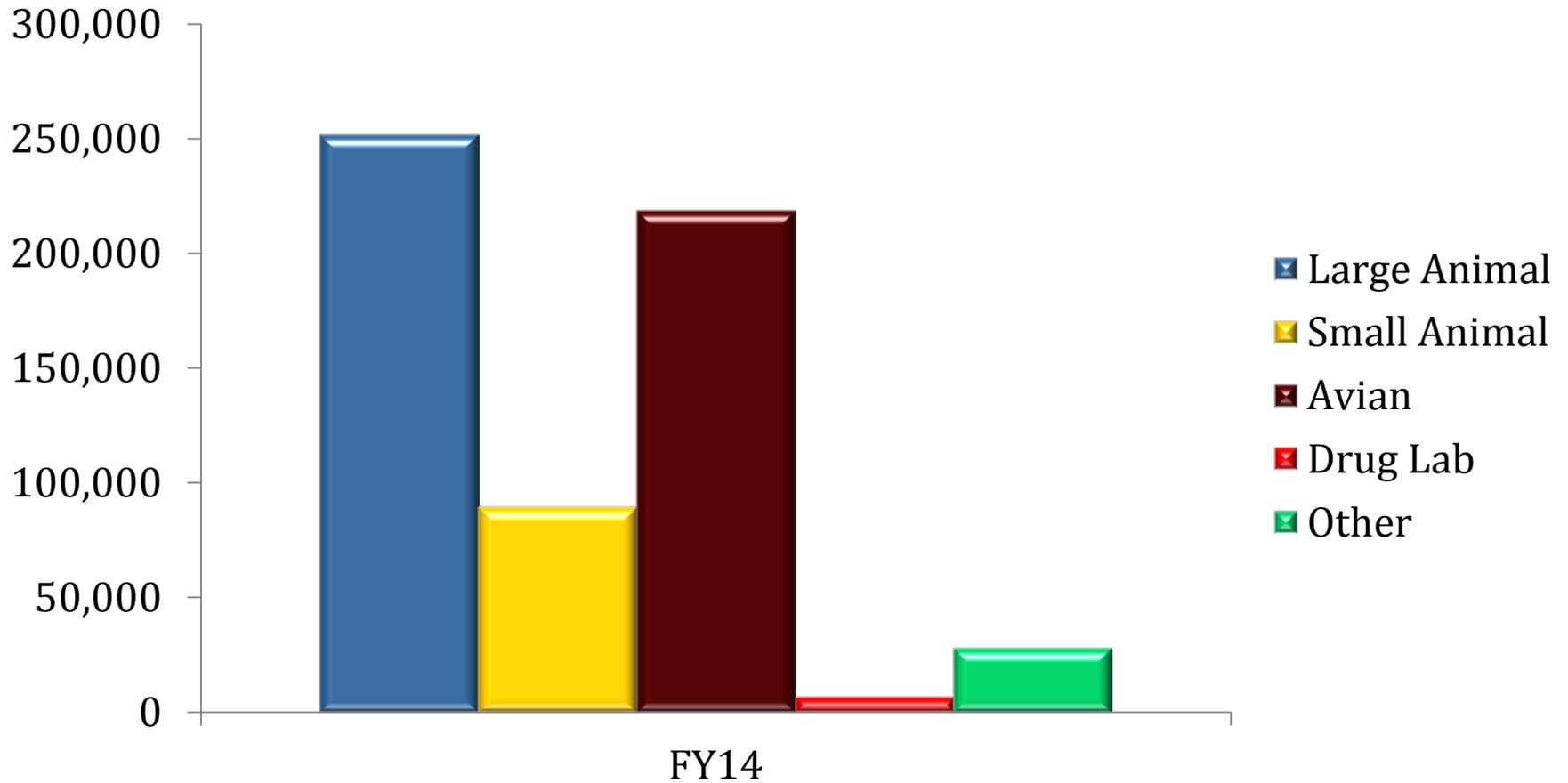
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**VETERINARY LABORATORY ASSOCIATION**

An Organization for the Advancement of Veterinary Diagnostic Medicine

# TESTS BY SPECIES



# Capabilities



Bacteriology  
Virology  
Serology  
Toxicology  
Necropsy  
Histopathology  
Clinical Pathology  
Endocrinology  
Drug Testing  
Methods Development

# Technologies

Aerobic/Anaerobic Culture

Antimicrobial Resistance Profiles

Virus Isolation

FA

Electron Microscopy

Classical PCR/RT-PCR/RRT-PCR

GC-MS/LC-MS

MALDI-TOF

Next Gen Sequencing

# TECHNOLOGY UPGRADES: MALDI-TOF

The screenshot displays the MALDI-TOF software interface. At the top, there is a 12x8 grid of spots labeled A through H and 1 through 12. A legend to the right of the grid defines the spot colors: Not occupied (white circle), Prepared (white circle), Aborted (red circle), Measured (white circle with a vertical line), Zeroline spectrum (orange circle), Measured, classified green (green circle), Measured, classified yellow (yellow circle), Measured, classified red (red circle), and Zeroline spectrum, not classified (orange circle). To the right of the legend is a patient data panel for 'Patient (MR) CAMPA RODRIGUEZ NIZAR', showing details like birth date, sex, hospital service, patient ID, second ID, room, spouse name, ward, patient name (Last, Middle, First, Title), physician, and specimen information (Accession Number, Action Code, Collection Time).

Below the grid and legend is a 'Hide Identified' button. The main part of the interface is a table with the following columns: Position, Name, Detected Species, Score, Comment, and Validation. The table contains 12 rows of data, with row A8 highlighted. The 'Validation' column contains radio buttons for 'species', 'genus-only', and 'unknown'.

Position	Name	Detected Species	Score	Comment	Validation
A2	A2	Acidiphilium acidophilum	2.712		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
A3	A3	Cupriavidus necator	2.215		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
A4	A4	Arthrobacter sulfureus	2.596		species <input type="radio"/> genus-only <input checked="" type="radio"/> unknown <input type="radio"/>
A5	A5	Microbacterium maritypicum	2.342		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
A6	A6	Proteus mirabilis	2.415		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
A7	A7	no reliable identification	1.261		species <input type="radio"/> genus-only <input type="radio"/> unknown <input checked="" type="radio"/>
A8	A8	Halomonas halodenitrificans	1.861		species <input type="radio"/> genus-only <input checked="" type="radio"/> unknown <input type="radio"/>
A9	A9	Lactobacillus rossiae	2.392		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
A10	A10	Methylobacterium rhodesian...	1.784		species <input type="radio"/> genus-only <input checked="" type="radio"/> unknown <input type="radio"/>
A11	A11	Xanthomonas pisi	2.417		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
A12	A12	Clostridium perfringens	2.105		species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>
B1	B1	no reliable identification	0.859		species <input type="radio"/> genus-only <input type="radio"/> unknown <input checked="" type="radio"/>
B2	B2	no reliable identification	1.313		species <input type="radio"/> genus-only <input type="radio"/> unknown <input checked="" type="radio"/>
B3	B3	Escherichia coli	2.441	closely related to Shigella and not de...	species <input checked="" type="radio"/> genus-only <input type="radio"/> unknown <input type="radio"/>

# Select Agent Surveillance - General

*Botulinum neurotoxins\**

*Coxiella burnetii*

Eastern Equine Encephalitis virus

*Francisella tularensis\**

*Yersinia pestis*

*Bacillus anthracis\**;

*Bacillus anthracis* (Pasteur strain);

*Brucella abortus*;

*Brucella melitensis*;

*Brucella suis*;

*Burkholderia mallei\**;

*Burkholderia pseudomallei\**;

Rift Valley fever virus;

Venezuelan equine encephalitis virus

# Select Agent Surveillance - USDA

African horse sickness virus

African swine fever virus

Avian influenza virus

Classical swine fever virus

\*Foot and-mouth disease virus

Goat pox virus

Lumpy skin disease virus

*Mycoplasma capricolum*

*Mycoplasma mycoides*

Newcastle disease virus

Peste des petits ruminants virus

\*Rinderpest virus

Sheep pox virus

Swine vesicular disease virus



# EXTENSION VETERINARIANS

- **2 Joint Appointments** with TVMDL and Texas A&M AgriLife Extension Service
- Develop and deliver **programs on herd health**, management/quality assurance in livestock systems, utilizing TVMDL as an extension of your practice
- Coordinate with **emergency management** professionals at AgriLife Extension to develop and deliver information on preparedness and response to animal owners
- Offer **advice and guidance** to animal owners and veterinarians
- Develop and deliver **educational programs**:
  - How to use TVMDL as an extension of your practice
  - Best practices for interpreting diagnostic results
  - Sampling, packaging, shipping
  - Test development





# NEW COLLEGE STATION LABORATORY

- Biosafety Level 2 (BSL-2) Laboratories : 33,350 NSF
- Biosafety Level 3 (BSL-3) Laboratories and Necropsy : 4,520 NSF
- Offices: 12,270 NSF
- Building Support Spaces: 11,920 NSF
- Total Net Assignable Square Footage: 62,060 NSF/96,000 GSF



# EXCEPTIONAL ITEM REQUEST: VETERINARY AND VETERINARY DIAGNOSTIC WORKFORCE DEVELOPMENT



- \$3.5M/biennium
- Joint request with the College of Veterinary Medicine & Biomedical Sciences, Texas A&M University (CVM)
- Enhance training opportunities for the next generation veterinary diagnostic workforce
- Develop a pipeline of professionals to assume leadership positions within CVM and TVMDL
- Enable veterinarians with specialized experience to enter public health and private enterprise occupations
- Instruct veterinary students in specialty areas that have a high demand for employment upon graduation
- Train up to **6 residents per year** and add 4 faculty/professional staff to CVM & TVMDL
- Equipment will be purchased to train residents on state-of-the-art technologies

# TEXAS A&M VETERINARY MEDICAL DIAGNOSTIC LABORATORY



*Protecting Animal and Human Health Through Diagnostics*

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