

Mississippi Veterinary Research & Diagnostic Laboratory System (MVRDLS)

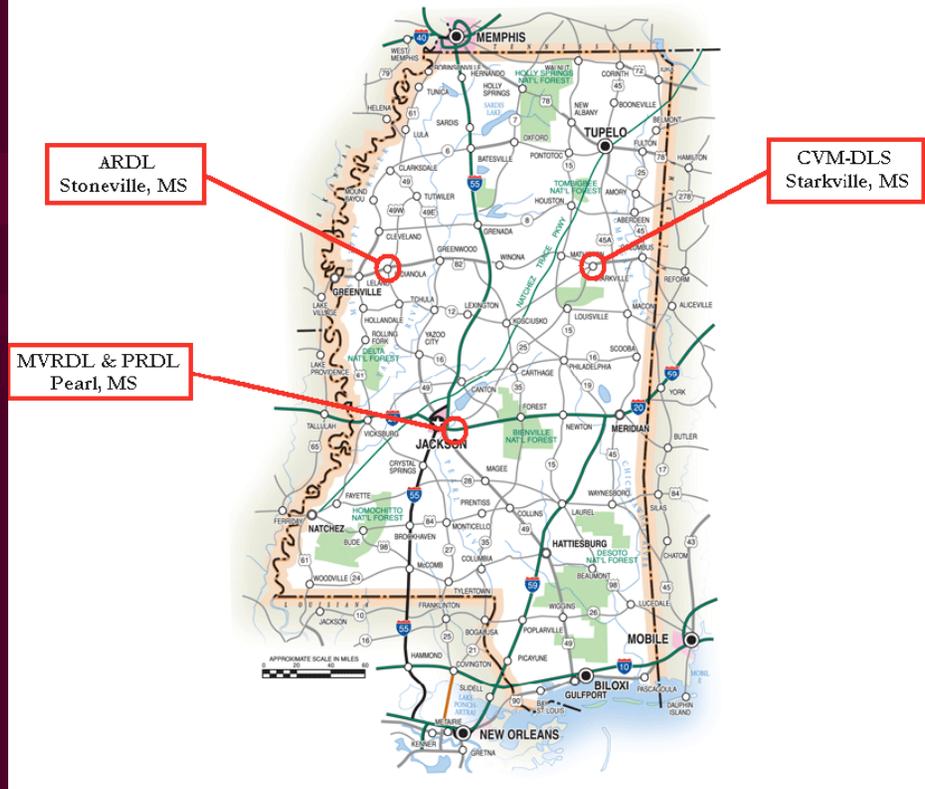
College of Veterinary Medicine
Mississippi State University

Department of Pathobiology & Population Medicine

- Diagnostic Lab system
- Food Animal Clinic
- Ambulatory
- Theriogenology
- Food Safety
- Epidemiology

MVRDLS – 4 labs in three locations

MVRDLS Laboratory Locations:



MSU-CVM Diagnostic Laboratory System

- Laboratories in 3 locations
 - Essential part of our national human and animal health infrastructure (70,000 cases per year)
 - Labs support public health; poultry, livestock, aquaculture, equine industries (\$3B farm gate)

Pearl



Stoneville



CVM-Diagnostic lab services

- CVM-Diagnostic lab services provides laboratory testing to support the teaching, research, and clinical functions of the college and serves practitioners of the State



ARDL – Stoneville, MS

Aquatic Research
Diagnostic Lab
(ARDL), in
Stoneville, MS,
specializes in tests
relating to catfish
production.



MVRDL/PRDL - Pearl



MVRDL & PRDL



Necropsy labs



- **Mississippi Veterinary Research & Diagnostic Laboratory (MVRDL):**

Faculty	Title
Lanny W. Pace, DVM, PhD, DACVP	Professor & Executive Director
Brittany Baughman, DVM, MS	Assistant Clinical Professor
Carol Vice, DVM, MS, DACVP	Associate Clinical Professor & Asst. Director
Floyd Wilson, DVM, MS	Associate Clinical Professor
Alejandro Banda, DVM, PhD, DACVM, DACPV	Associate Clinical Professor
Microbiologist position (open)	Associate Clinical Professor

- **Poultry Research and Diagnostic Laboratory (PRDL):**

Faculty	Title
Danny Magee, DVM, MAM, DACPV	Clinical Professor and Director
Sue Ann Hubbard, DVM, MS, DACPV	Associate Clinical Professor
Floyd Wilson, DVM, MS (.20 FTE)	Associate Clinical Professor
Alejandro Banda, DVM, PhD, DACVM, DACPV	Associate Clinical Professor
Timothy Cummings, DVM, MS, DACPV	Associate Clinical Professor
Kelli Jones, DVM, MS, DACPV	Assistant Clinical Professor

- **Aquatic Research and Diagnostic Laboratory (Stoneville):**

Faculty	Title
Lester Khoo, DVM, PhD	Professor and Director
Pat Gaunt, DVM, PhD, DACVT	Associate Professor
Michael Mauel, PhD	Associate Professor
Matt Griffin, DVM, PhD	Assistant Professor

- **CVM Diagnostic Laboratory Services (CVM-DLS):**

Faculty	Title
William B. Epperson, DVM, MS, DACVPM	Professor and Head, DPPM
Frank Austin, DVM, PhD	Associate Professor
Camilo Bulla, DVM, PhD	Assistant Professor
Kathy-Anne Clarke, DVM, PhD	Assistant Professor
Jim Cooley, DVM, DACVP	Associate Professor
Larry Hanson, PhD (0.25 FTE)	Professor
Melanie Johnson, DVM, PhD, DACVP	Assistant Professor
Mark Lawrence, DVM, PhD (0.15 FTE)	Associate Professor
William Maslin, DVM, PhD, DACVP	Associate Professor
Tim Morgan, DVM, PhD, DACVP	Associate Professor
Lora Petrie-Hanson, PhD (0.2 FTE)	Associate Professor
Anatomic Pathologist (open)	Assistant/Associate Professor
Anatomic Path/Clin Path residents - 5	Resident

MS Veterinary Research & Diagnostic Laboratory System

Personnel – 25 Faculty/58 Staff

13 Board certifications

Facilities

Dx capabilities & capacity

National Disease surveillance – NAHLN/MBAH

HPAI, LPAI, AI wildlife, CSF, FMD, Johne's

Support of Legislature and Industry leaders

Poultry – Lab and Field operations

Line item budget within CVM line item budget

Self generated funds

Research areas

Infectious diseases of poultry, Salmonella, poultry lameness,
BVDV, infectious diseases of catfish, visceral toxicosis of catfish

Poultry Research & Diagnostic Lab

- 5 Poultry veterinarians
 - Necropsy
 - Field service
- 758 field service site visits in 2010
 - Broiler grower farms
 - Hatchery checks
 - Processing plants

Pre-harvest food safety

- Volkova, Victoriya V.; Bailey, R. Hartford; Hubbard, Sue Ann; Magee, Danny L.; Byrd, J. Allen; and Robert W. Wills. 2010. Risk Factors Associated with *Salmonella* Status of Broiler Flocks Delivered to Grow-Out Farms. *Zoonoses and Public Health*. Submitted 12/18/09. Revisions submitted 4/8/10. Accepted 6/28/2010. doi: 10.1111/j.1863-2378.2010.01348.x
- Victoriya V. Volkova, J. Allen Byrd, Sue Ann Hubbard, Danny Magee, Richard H. Bailey and Robert W. Wills. 2010. Lighting during Grow-out and Salmonella in Broiler Flocks. doi:10.1186/1751-0147-52-46. *Acta Veterinaria Scandinavica* 52:46.
- Volkova, Victoriya V.; Wills, Robert W.; Hubbard, Sue Ann; Magee, Danny L.; Byrd, J. Allen; and Bailey, R. Hartford. 2010. Risk Factors Associated with Detection of Salmonella in Broiler Litter at the Time of New Flock Placement. *Zoonoses and Public Health*. ZPH-May-09-103. doi:10.1111/j.1863-2378.2009.01323.x.
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- Volkova V. V., R. W. Wills, S. A. Hubbard, D. Magee, J. A. Byrd, and R. H. Bailey. Associations between vaccinations against protozoal and viral infections and Salmonella in broiler flocks. *Epidemiology and Infection*. doi:10.1017/S0950268810000804. Published online by Cambridge University Press 17 March 2010.
- Volkova, Victoriya V.; Bailey, R. Hartford; Rybolt, Michael L.; Dazo-Galarneau, Karen; Hubbard, Sue Ann; Magee, Danny; Byrd, J. Allen; and Robert W. Wills. 2010. Interrelationships of *Salmonella* Status of Flock and Grow-Out Environment at Sequential Segments in Broiler Production and Processing. *Zoonoses and Public Health* 57(7-8):463-475. doi:10.1111/j.1863-2378.2009.01263.x

MVRDL System Accession (case) and test numbers
 July 1, 2009 – June 30, 2010

<u>Lab</u>	<u>Number of Accessions</u>	<u>Test numbers by section</u>	
MVRDL	45,358	Microbiology	2,416
		Clin Path	7,776
		Molecular	1,178
		Pathology	6,720
		Serology	45,083
		Virology	<u>302</u>
		Total	63,475

PRDL	4,583	Microbiology	12,456
		Clin Path	1,652
		Molecular	448
		Pathology	2,128
		Serology	274,232
		Virology	<u>847</u>
		Total	291,763

CVM-DLS	18,743	Bacteriology	2,514
		Clin Path	15,084
		Aquatic	113
		Pathology	5,435
		Toxicology	<u>331</u>
		Total	23,477

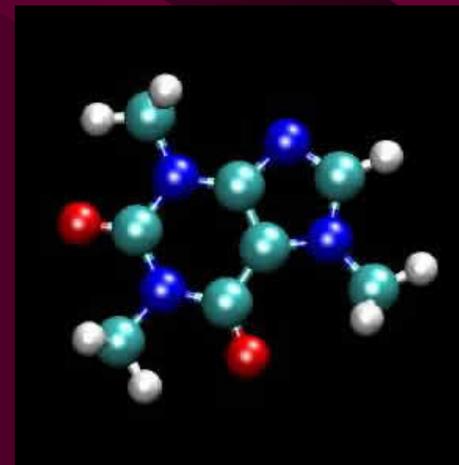
ARDL	1,150	Bacteriology	513
		Virology	239
		Mycology	64
		Water quality/other	<u>2,712</u>
		Total	3,528

Grand totals 69,834 cases 389,243 tests



Mississippi State Chemical Laboratory

*Kevin L. Armbrust, Ph.D.
Office of the State Chemist
Mississippi*



Overview of the Office of the State Chemist and the Mississippi State Chemical Laboratory

Main Purpose: Consumer Protection

Mission and Activities dictated by statute

Regulation (Joint with MDAC)

- Feed, fertilizer, lime, gasoline, diesel, kerosene and antifreeze registration and regulation.
- Rules, specifications and regulation development.

Chemical analysis

- Quality Monitoring
- Contaminant Analysis

Organization

Regulatory Divisions – Quality Monitoring

- *Chemical Regulatory*
 - Label compliance for feed, fertilizer, lime and pesticides sold in the state.
 - 30,000 tests on 6,000 samples each year.
- *Petroleum Products*
 - Quality control analysis of gasoline, diesel, kerosene and antifreeze sold at retail establishments.
 - 20,000 tests on 3,000 samples each year.

Organization (cont)

Research and Service Divisions – Contaminant Monitoring

- Regulatory enforcement for MS and other state agencies - MDAC, DHS, DEQ.
 - Pesticide Misuse (spray drift, poisoning cases).
 - Food Adulteration (Seafood, Animal Feed).
- Service to private industries, citizens and federal agencies.
 - Lead testing in Day Care Centers
 - Contaminant Monitoring for USFWS and NY State

Matrices Analyzed

- **Soil, Sediment and Water** – (freshwater and marine)
- **Insects** – bees, grasshoppers, crickets
- **Reptiles** – lizards, snakes
- **Amphibians** – salamanders, frogs (eggs, tadpoles, adults), turtles
- **Mammals** – Walrus blubber, manatee fat, seal teeth, bat skin (museum specimens), deer carcasses, dogs (including feces)
- **Avian (multiple species)** – Tissues, eggs, brains.
- **Fish** - (multiple species both freshwater and marine)
- **Aquatic Invertebrates** - shrimp, lobster, crayfish, oysters, clams.
- **Human** – adipose, serum, urine, breast milk.
- **Stomach contents** – human, dogs, cats, birds, fish, possums, coyotes.
- **Field Crops** - many
- **Food Items** – (meats, vegetables, soups, snack foods)
- **Miscellaneous** – swab samples, air samples, and some limited field sampling.

Eat Mississippi Farm Raised Catfish

