

OADDL E-News

In this Issue

West Nile Virus Alert	1
Rabies in Oklahoma: Diagnostic Results and Distribution.....	2
New Word Screwworm (<i>Chochliomyia hominivorax</i>)	3
Coming Soon from Serology!	3
Tularemia Diagnosed in Two Unrelated Cats.....	4
Message from the Director	5
Getting to Know Us:	5
Ideas/Suggestions for Future Content.....	5
Contact Us.....	5

Faculty

Director:

Dr. Jerry Saliki

Assistant Director/ Quality Manager:

Emily J. Cooper

Associate Director & Microbiology/Molecular Diagnostics:

Dr. Akhilesh Ramachandran

Parasitology:

Dr. Ruth Scimeca

Pathology:

Dr. Clare Brown
Dr. Justin Greenlee
Dr. Valerie McElliot
Dr. Sunil Moré
Dr. Brianne Taylor

Serology:

Dr. Jerry Saliki

Graphic Design/Layout:

Clarissa Walton



West Nile Virus Alert

West Nile disease is transmitted by mosquitoes. The Oklahoma Animal Disease Diagnostic Laboratory (OADDL) in collaboration with Oklahoma State Department of Health (OSDH) actively participates in surveillance testing for West Nile virus (WNV) in mosquito populations. Recently, mosquito samples collected from Adair County tested positive for WNV by PCR. Information on human cases of WNV infection from different counties in Oklahoma can be found at <https://oklahoma.gov/health/health-education/acute-disease-service/tick-borne-and-mosquitoborne-diseases/west-nile-virus.html>

WNV infections are commonly identified in birds, which serve as reservoir hosts, and in horses. While infections in other animals such as sheep, dogs, and cats are typically sporadic and mild, horses often develop neurological symptoms that can be fatal. Prevention measures, including vaccination of horses and mosquito control strategies such as eliminating breeding sites and minimizing exposure are critical to reducing the risk of infection.

— Andrew Danker, Robin Madden,
Shannon Caseltine and Drs. Akhilesh
Ramachandran and Jerry Saliki



VETERINARY MEDICINE

Rabies in Oklahoma: Diagnostic Results and Distribution

The Oklahoma Animal Disease Diagnostic Laboratory (OADDL) in partnership with the Oklahoma State Department of Health (OSDH) provide rabies testing services for the State of Oklahoma. Whole animal submissions, head or brain specimens may be delivered to the laboratory at any time during work hours (M-F 8-5pm). Boxed samples in the state-supplied rabies shipping box can also be dropped off at the lab 24/7/365. Detailed information on sample submission

procedures and shipping guidelines is available on the OADDL website (<https://oaddl.okstate.edu/>).

From January through mid-August 2025, a total of 33 positive cases have been identified from 695 specimens submitted for testing, representing samples originating from 21 counties. Notably, a higher incidence of rabies has been detected in dogs during 2025 compared to 2024. The numbers of positive cases by year and animal

species are presented in **Figure 1** and **Table 1**. A map illustrating the geographic distribution and temporal patterns of positive cases is also available on the OADDL website (<https://experience.arcgis.com/experience/c87a66d0f70e4c9b811eff021789fda7>).

— Dr. Sushim Gupta,
Shannon Caseltine, Amy Hoyt,
Robin Madden, Dr. Jerry Saliki,
Dr. Akhilesh Ramachandran

FIGURE 1: Positive Rabies Cases by Animal Species (2022-2025)

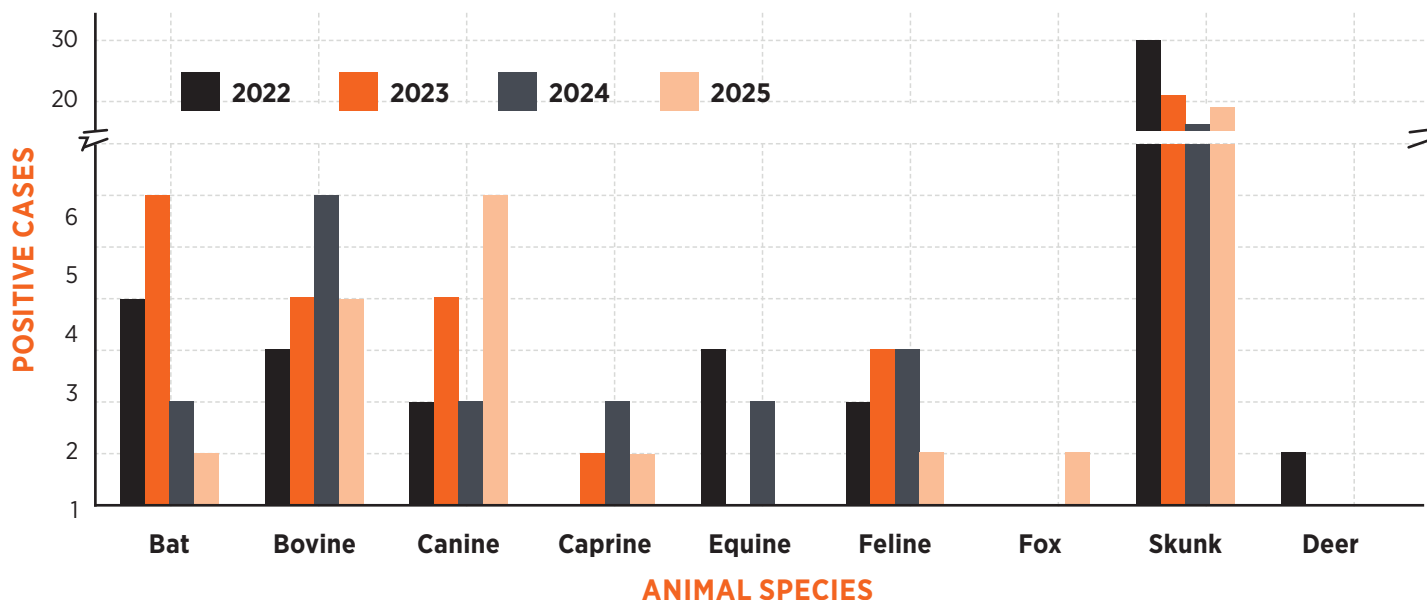


TABLE 1: Specimen testing and confirmed rabies-positive cases by county from 2022 to mid-August 2025

	Specimens Tested	Positive Cases	Positive Counties
2022	759	45	30
2023	795	38	24
2024	782	33	22
2025	695	33	21



VIEW THE INTERACTIVE MAP OF POSITIVE RABIES CASES IN OKLAHOMA

New Word Screwworm (*Chochliomyia hominivorax*)

New World Screwworm (*Cochliomyia hominivorax*) is an obligate parasite of warm-blooded animals that poses a serious threat to animal and public health. Although eradicated from the United States decades ago, recent detections associated with international travel underscore the ongoing risk of reintroduction. Early recognition, accurate diagnosis, and prompt reporting are critical for protecting livestock, companion animals, wildlife, and human health.

Informational Facts

- **First described:** 1858 by the entomologist Charles Coquerel
- **Eradication in the U.S. :** Previously endemic but eradicated in 1966 with the exception of Texas where eradication was accomplished in 1982.
- **Oklahoma Status:** no cases reported (as of September 30, 2025)
- **United States Status:** reported in human in Maryland in August 2025 (recent travel from El Salvador)

What is New World Screwworm?

- Fly native to tropical and subtropical America
- Causes myiasis (fly larva/maggot infestation) in living tissue of warm-blooded animals (including humans).
- Complete life cycle is 18 - 24 days, pupal stage can last from 7 days to 2 months depending on environmental conditions.
- Adults are attracted to open wounds in host tissue, where they lay up to 500 eggs/oviposition (see Figure 1)

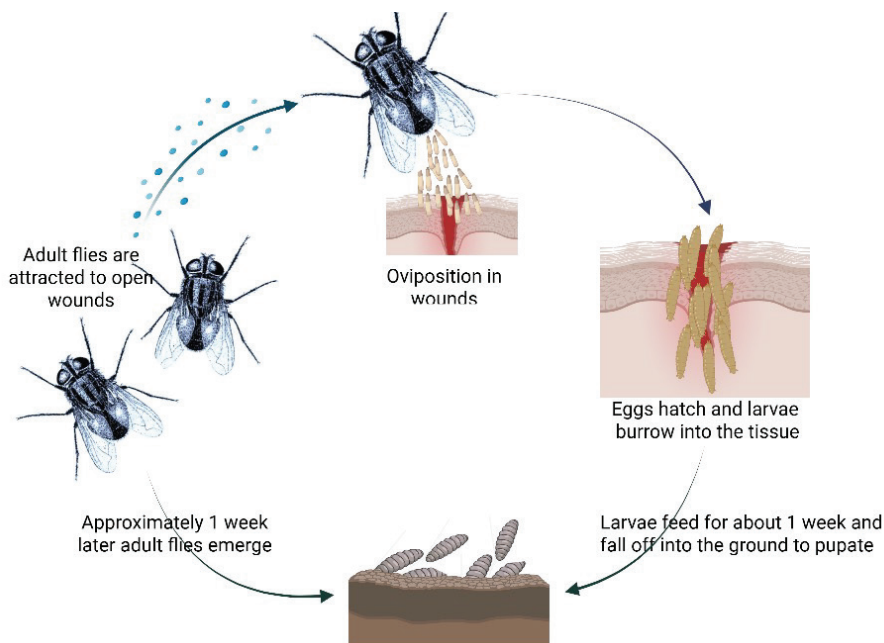


Figure 1. Life cycle of *Chochliomyia hominivorax* (New World Screwworm)

- In cattle, dehorning, castration, or umbilical cord area are common sites of infestation
- Other production animals, horses, pets and wildlife are at risk of becoming infested through any wound

What is your role in prevention and reporting?

- Call your veterinarian or [OSU County Extension Educator](#) to collect and submit specimens to state authorities for evaluation.
- Wait for professional diagnosis and proper treatment recommendations.

– Dr. Ruth Scimeca

Other Resources:

[USDA/APHIS brochure](#)

[OSU Extension website](#)

TO REPORT POSSIBLE SIGHTINGS OF NWS, SCAN HERE OR CALL 405-522-6141.



Coming Soon from Serology!

Caseous lymphadenitis (CL) antibody testing

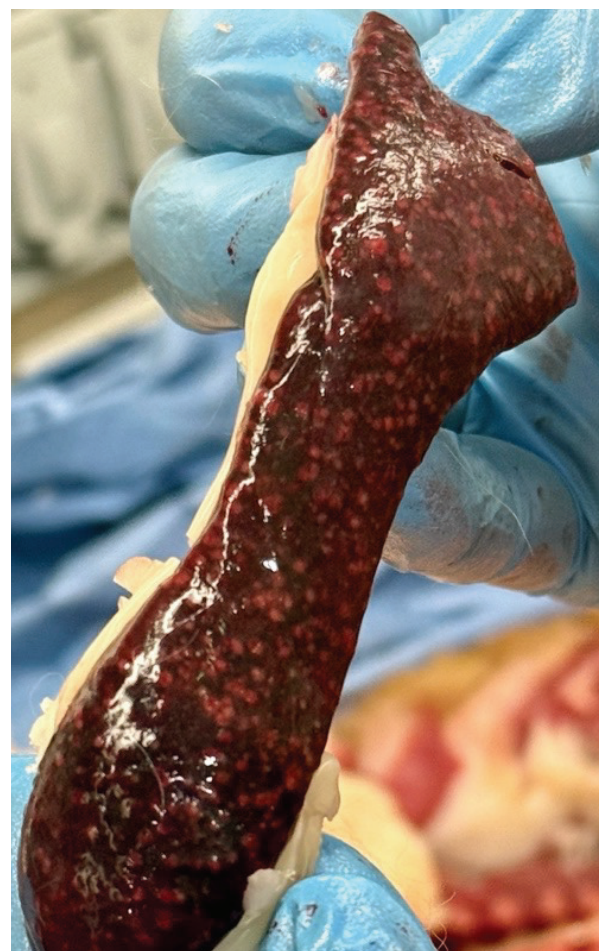
Caseous lymphadenitis (CL) antibody testing is one of the components of our Serology small ruminant biosecurity panel, which also includes CAE/OPP and Johne's diseases. Currently, we use a referral lab for the CL Synergistic Hemolysin Inhibition (SHI) Test. We are in the final stages of validating an ELISA, which we will soon be offering for CL in place of the CL SHI test. Turnaround time for the panel will be reduced from 7 days to 3 days.

“Seeing Double”: Tularemia Diagnosed in Two Unrelated Cats

We recently diagnosed not one but two unrelated cases of tularemia in domestic cats. Both cats originated in Stillwater, had outdoor access, and presented with similar clinical findings. Cat #1 was a two-month-old, intact male domestic shorthair cat reported as a barn cat. He initially presented with anorexia, weight loss, and difficulty walking. The submitting veterinarian reported this cat had a fever, ataxia, and whole-body tremors. He did not improve with enrofloxacin and was euthanized; the progression of disease from time of onset to death was six days. Cat #2 was a two-year-old, spayed female, indoor/outdoor domestic shorthair cat. The referring veterinarian indicated she initially presented with acute onset of lethargy, inappetence, and high fever, and was euthanized four days later due to rapid decline.

Based on the clinical history (particularly the acute onset of fever of unknown origin), both cats were necropsied in a biosafety cabinet. The gross evaluation was similar in both cats; the most striking finding was numerous 1-3 mm, off-white, occasionally raised foci randomly scattered throughout the spleen. While the peripheral lymph nodes were not readily palpable, the mesenteric lymph nodes were moderately to markedly enlarged and mottled red to pale tan. Scant foci similar to those in the spleen were in the liver. Fresh splenic tissue from each cat was PCR positive for *Francisella tularensis*, confirming the diagnosis of tularemia in both cases.

Tularemia, also known as “rabbit fever”, is a highly infectious, zoonotic, and reportable disease caused by *Francisella tularensis*, a gram-negative coccobacillus. *F. tularensis* is particularly dangerous due to its very low infective dose. Peak incidence of disease is in the summer months. Without proper and timely treatment, tularemia can lead to disease and death in several species, including humans. Importantly,



tularemia is considered a USDA/CDC select agent due to its potential to cause severe threat to humans and animals. In 2023, the CDC reported that Oklahoma had the third highest number of tularemia cases in humans (12 cases), behind Missouri (24 cases) and Kansas (20 cases).

F. tularensis is abundant in nature in many species of rodents and wild rabbits. The North American biovar (type A) is associated with a tick-rabbit infection cycle. While dogs are considered highly resistant to tularemia, cats develop severe systemic illness, as in both these cases. Foals and sheep are also at risk of tularemia and typically associated with heavy tick infestation. While ticks and deer flies can transmit the disease to animals and humans,

other routes of infection include inhalation, ingestion, or direct contact with infected tissues. Any cat with outdoor access and acute onset of systemic illness, particularly fever and/or lymphadenomegaly, should be considered suspect for tularemia. Antemortem PCR may be performed on fine needle aspirates of enlarged lymph nodes, oropharyngeal/lesion swabs, or whole blood as appropriate. Do not open the carcass of a suspected infected animal. If you suspect tularemia in a cat or other at-risk species, call OADDL and/or the state veterinarian's office.

**- Drs. Brianne Taylor, Haley Furman,
and Akhilesh Ramachandran, and
Robin Madden**

<https://www.cdc.gov/tularemia/data-research/index.html>

https://www.askjpc.org/vspo/show_page.php?id=bUZnQ2NjbnJTaDRUdjJvUTNhY0lyUT09

https://oaddl.okstate.edu/site-files/documents/newsletter_summer_2021.pdf

Message from the Director

We are pleased to share another issue of the OADDL eNewsletter. One of the most significant developments at OADDL is the allocation of \$20 million in state funding for facilities renovations and equipment upgrades. The main OADDL facility was inaugurated in 1975. In 2009, the facility was extended with the addition of 18,550 sq ft of space. Our renovation efforts will focus on the 1975 wing of the building.

Expanding Diagnostic Capacity and Services

Funding will support acquisition of specialized toxicology testing equipment, enabling OADDL to begin offering **limited toxicology diagnostics** in collaboration with the OSU Center for Health Sciences. This fills a critical gap in current test offerings and strengthens our ability to respond to toxic exposure cases. Renovations will also add new

office space and laboratory areas, including a dedicated lab for research and development of novel assays, ensuring OADDL can meet the growing needs of veterinarians and producers statewide.

Improving Diagnostic Workflow and Efficiency

Reconfiguration of the Parasitology, Serology, and Mycology laboratories will streamline workflow and case handling. The Receiving area will be expanded to manage increased case volume, while facility-wide updates to doors, floors, ceilings, lighting, and mechanical systems will further modernize our working environment.

Modernizing Critical Equipment

Pending final approvals, the outdated and decommissioned tissue digester will be replaced with an incinerator to improve safe disposal of biohazardous

Diagnostic
Excellence
SINCE 1975

waste. Additional upgrades including replacement of cold rooms, autoclaves, glassware/instrument washers, and tissue trimming stations will strengthen biosafety and ensure reliability of diagnostic testing.

Renovations will be phased to allow the facility to remain operational, with work expected to begin by the end of Q1 2026. We are grateful to the State of Oklahoma for this critical investment, which will enhance our capacity to serve our stakeholders by supporting agriculture and the health of animals and people in our state.

— Dr. Jerry Saliki

Getting to Know Us:

Kody Strecker is from Stillwater, Oklahoma. He began working at OADDL in May 2022 as a student worker in the Bacteriology Section and became a Senior Lab Technician in May 2025. Outside of work, Kody has a passion for Irish dance and achieved the highest level of Irish Dance and also won an invitation to compete at the World Championships in Ireland in 2024. He also enjoys serving at his church, whether that be through playing in the orchestra, singing specials, or leading songs in the Gems class, a class for senior members.



Pryscilla Velasco is from Mexico. She received a M.S. in Food Science with a concentration in Microbiology and Food Safety from Oklahoma State University in 2017. She joined OADDL in June 2025 as a Sr. Lab Technician. In her free time, she enjoys reading, being outdoors and bead weaving.



Ideas/Suggestions for Future Content

We want to hear from you. Send your ideas and suggestions to oaddl@okstate.edu.

Contact Us

Oklahoma Animal Disease
Diagnostic Laboratory
Ph: 405-744-6623
Fax: 405-744-8612
vetmed.okstate.edu/oaddl

 Follow us on Facebook