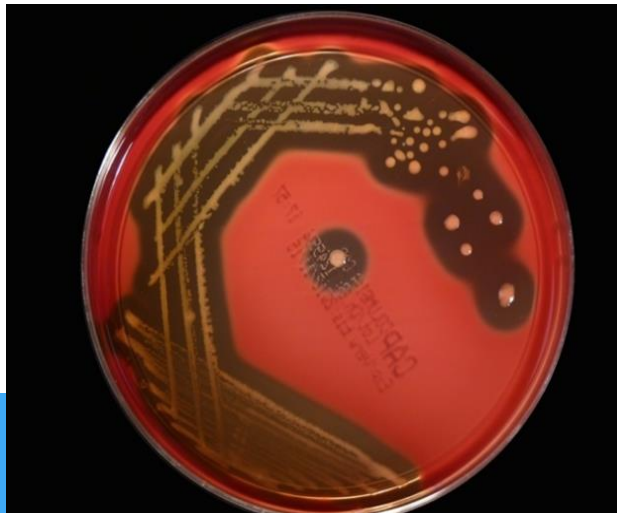


# Animal Disease Laboratory

Laura Morrow

Animal Disease Laboratory Supervisor



# Nevada Animal Disease and Food Safety Laboratory

## Role of the Nevada Animal Disease Laboratory:

To protect animal health and public health in the state of Nevada by identifying diseases in animals that can affect both animals and people.

## One Health-One Medicine:

The study of health and disease regardless of species differences between humans and animals.

## Did You Know?

Of the 1407 known infectious organisms (bacteria, viruses, etc.) that cause disease in human beings, 816 are **zoonotic** diseases. Animals can be sentinels (early disease detectors) for human diseases.



## What are Zoonotic Diseases?

*Answer:* **Zoonotic** diseases are infectious diseases transmitted from animals to people.  
**Examples:** Rabies, Anthrax, and West Nile Virus.

## How common are Zoonotic Diseases:

75% of human **emerging or new** infectious diseases are caused by zoonotic disease organisms.

## Diseases that the Nevada Animal Disease and Food Safety Laboratory works with:

West Nile Virus	Tuberculosis	Tularemia
Anthrax	Salmonella	Avian Influenza
Plague	E-coli	Western Equine
Rabies	Brucellosis	Encephalitis

Public  
Health Role

# 2019 WNV Statistics

- Since July, 918 mosquito pools and avian samples tested
- 24 positive mosquito pools consisting of 1,042 mosquitoes and 1 positive avian in northern Nevada
- No Equine Cases Reported
- Arbovirus season totals included
  - 1030 total pools of mosquitoes
  - 25,848 mosquitoes
  - 9 birds

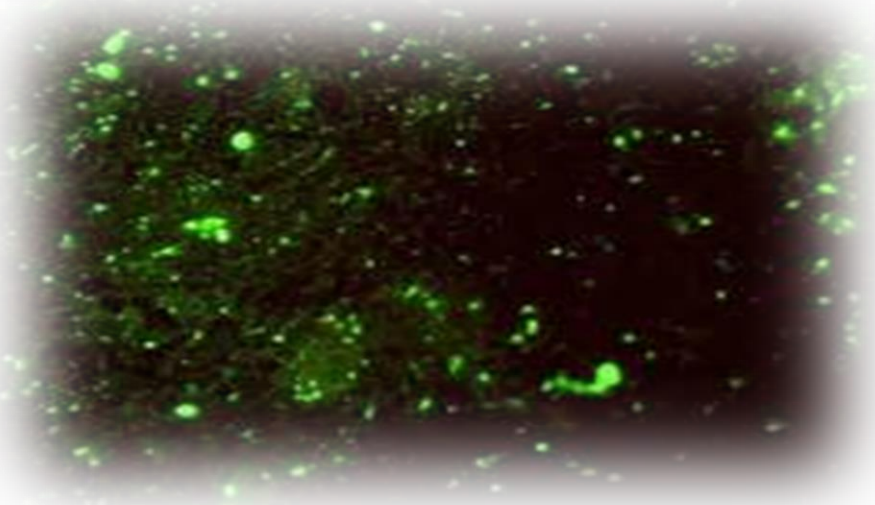
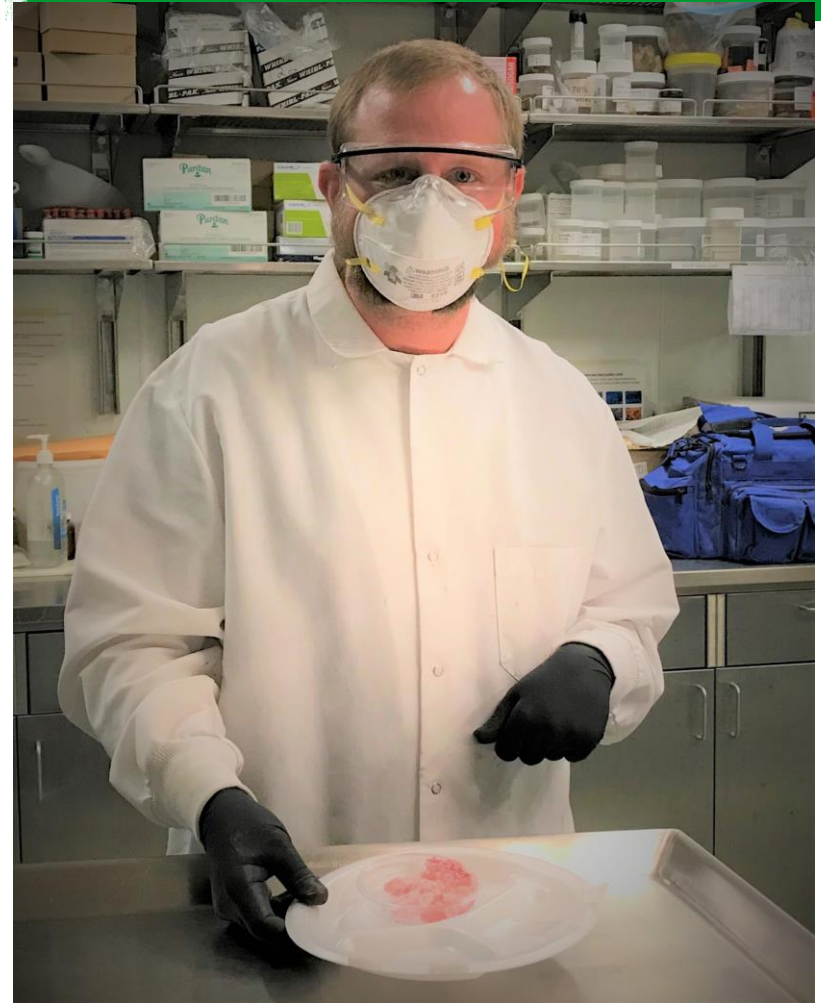




# Rabies

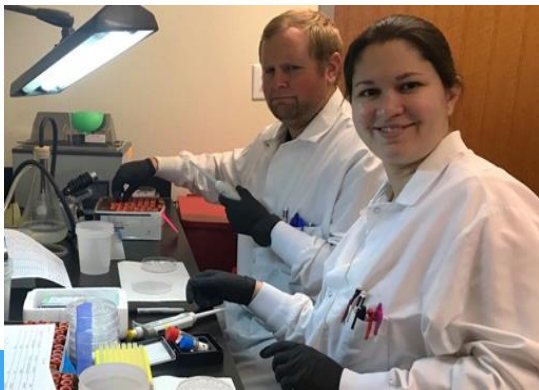
## Immunofluorescence (IFA)

- 215 rabies cases since July 2019
- 17 positive rabies cases, all bats
  - 1 human exposure
  - 7 animal exposures
  - 9 none or unknown exposures
- In 2014, ADL had its first positive rabies case in a dog in more than 30 years. A bat strain of rabies was found in a puppy by immunofluorescence and confirmed by PCR (performed by the CDC)
- **ADL will continue strengthening public education on vaccinating dogs, cats and ferrets and provide safe handling instructions for rabies testing**

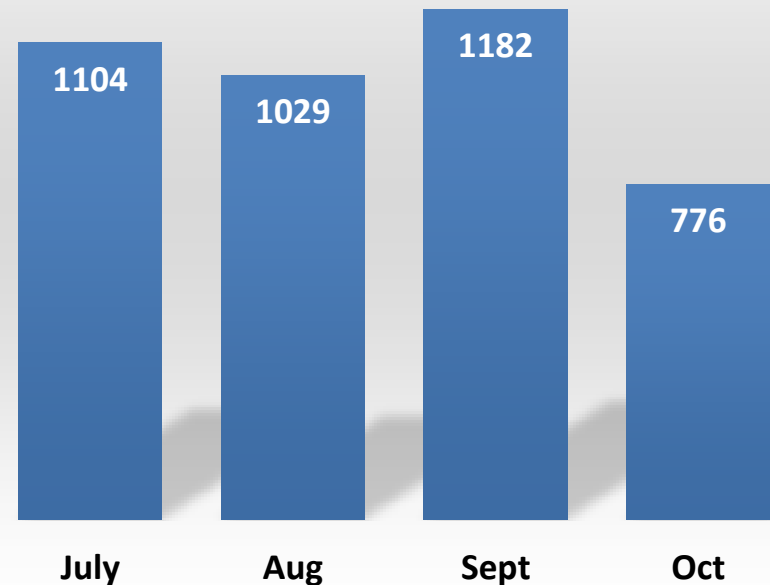


# Equine Infectious Anemia (EIA)

- Collaborating with partnership agencies over 4000 tests run in FY 2020
- ADL performs AGID and EIA testing
- **ADL plans to install automation to support ELISA testing reducing costs associated with labor**



Equine Infectious Anemia  
Total Tested FY 2020



# Industry Impacts

- **ADL is installing automation to support EIA testing by ELISA**
- **Future ADL installations include automating a significant portion of testing (extraction) for WNV and Trich testing**
- **Trich Pooled testing to be evaluated potentially reducing testing costs to the industry and improving workflow in the laboratory**

# Parasitology Quiz



## What am I?

- I have **hooks** to help me latch on to my host.
- I have an inner and outer membrane and **polar filaments**.

Tapeworm egg

Hymenolepsis species