

# ***DIAGNOSTIC CONNECTIONS***

Winter 2020  
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*Local. Trusted. Proven.*



**Florida Department of  
Agriculture and Consumer Services**

# FROM THE DIRECTOR

**Yugendar “Reddy” Bommineni, DVM, PhD, DACVM, DACPV**

The COVID-19 pandemic is a global health and societal emergency that requires effective, immediate action by governments, individuals, and businesses. All businesses have a key role to play in minimizing the likelihood of transmission and the impact on society. We appreciate your patience and thoughtfulness as we are limiting our staffing and interactions during the COVID-19 response. BADDL remains committed to our mission of protecting animal and human health during these unprecedented times.

I hope you enjoy reading the BADDL newsletter, *Diagnostic Connections*. It is important for the laboratory to be proficient in testing, strive for excellence in our operations, and foster an open relationship with the veterinarians and the public we serve. Please visit our website periodically to get updates about our services and don’t hesitate to contact me if you have any suggestions or concerns.



# **BADDL COVID-19 Operating Services Update**



Beginning at 8:00 a.m. April 8, 2020, the Bronson Animal Disease Diagnostic Laboratory (BADDL) will enact a mission-critical plan to reduce staffing at the laboratory during the Florida Safer at Home COVID-19, Executive Order Number 20-91. The laboratory will continue to receive and process limited samples from our clients.

Clients dropping off samples should fill out paperwork and place the samples in the drop-off coolers in front of the Receiving doors. The goal is to continue to provide mission-critical services to the animal industries of Florida. Turnaround times could vary depending on availability of staff, but reasonable efforts will be made to provide quality results in a timely manner.

BADDL will classify samples and necropsies into priority groups and will be processed accordingly.

## **Priority 1 - Samples will be processed immediately:**

- Foreign Animal Diseases (FADs), National Animal Health Laboratory Network (NAHLN) diseases, and Florida Reportable and Zoonotic diseases.
  - <https://www.fdacs.gov/Consumer-Resources/Animals/Animal-Diseases/Reportable-Animal-Diseases>
  - [https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/lab-info-services/nahln/ct\\_NAHLN\\_Activities](https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/lab-info-services/nahln/ct_NAHLN_Activities)
  - [https://www.aphis.usda.gov/emergency\\_response/downloads/nahems/fad.pdf](https://www.aphis.usda.gov/emergency_response/downloads/nahems/fad.pdf)
- Any samples from clinically ill, live animals submitted by veterinarians (swabs, exudate, urine and biopsies).
- Food and fiber animals and poultry species will be tested first within this category.
- Forensic cases from governmental sources such as county animal services, police departments, or sheriff's offices.

## **Priority 2 - Samples will be processed when staffing allows:**

- For samples that do not meet the above criteria (Priority 1), submitters will be given information of other diagnostic laboratories that may be accepting samples to avoid potential delays in testing. A list of AAVID accredited labs can be found at <https://aavid.memberclicks.net/accredited-laboratories>.
- If submitter agrees to delayed testing of Priority 2 samples, the submitted samples will be stored in a refrigerator and tested as soon as staffing allows.

## **Necropsy Considerations:**

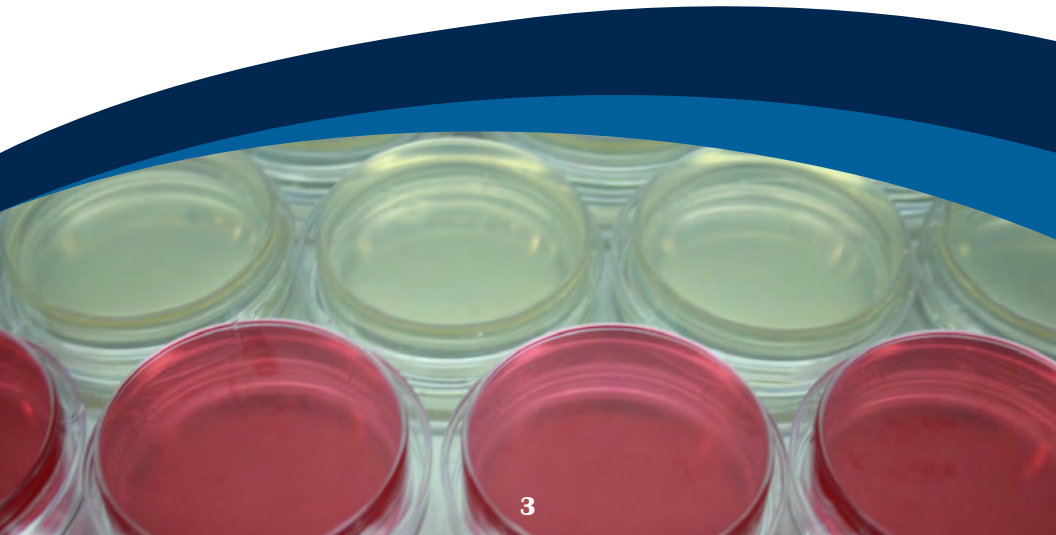
**Submitters are encouraged to call the laboratory prior to delivering necropsy submissions.**

Based on the best scientific judgment of the duty pathologist, a gross-only necropsy will be performed on any case.

- Food animal species, FADs, and Reportable and Zoonotic disease cases will be given priority. The specific, daily prioritization will be determined by the pathologist on duty and/or the Laboratory Director.
- BADDL may not accept other forensic, research, insurance-related necropsies of companion animals and horses. This decision will depend upon availability of staff and the necropsy cooler space.
- BADDL will only accept companion animal necropsies when there are potential contagious/infectious agents involved (Rabies, Salmonella, Campylobacter, etc.).

We appreciate your patience and thoughtfulness as we are limiting our staffing and interactions during the COVID-19 response.

If you have any questions, please do not hesitate to call our BADDL team at 321-697-1400.





## **USDA Grants for Animal Disease Prevention Awarded to FDACS**

As part of the federal 2018 Farm Bill, Florida received two awards from the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS). The awards totaled \$172,525. Grant funds have been awarded to 25 states to support animal disease prevention, emergency response training, and laboratory diagnostic capability. The two awards were granted to the Florida Department of Agriculture and Consumer Services (FDACS), Division of Animal Industry. One of the top public safety priorities of FDACS is to ensure that veterinarians and diagnosticians work hard to monitor health threats using cutting-edge diagnostic techniques to diagnose animal diseases and identify zoonotic threats to the public. The BADDL is Florida's only American Association of Veterinary Laboratory Diagnosticians (AAVLD) accredited animal disease diagnostic laboratory. The grants provided by USDA will enhance Florida's animal industries, increase emergency preparedness, and protect the health of Florida's animals and residents. The grant awards include \$150,000 for the BADDL to enhance testing capacity for Chronic Wasting Disease (CWD). This grant was awarded through the National Animal Health Laboratory Network (NAHLN). CWD is an infectious, degenerative disease found in deer. Currently, this disease is not found in Florida. Recent trends have shown that the disease has been moving south and that infected animals have been found as far south as Mississippi. Researchers and law enforcement agencies are working hard to prevent introduction into Florida. The capacity for performing CWD immunohistochemistry (IHC) testing and surveillance has greatly increased as has the number of samples received for diagnostic testing. See the exponential growth below:

| <b>CWD IHC Numbers<br/>FY = July-June</b> | <b># of CWD IHC<br/>Performed</b> |
|-------------------------------------------|-----------------------------------|
| <b>FY 19 to date</b>                      | 1570                              |
| <b>FY 18-19</b>                           | 2555                              |
| <b>FY 17-18</b>                           | 39                                |
| <b>FY 16-17</b>                           | 27                                |
| <b>FY 15-16</b>                           | 12                                |

The \$22,525 grant was awarded to help Florida prepare for the Foreign Animal Disease Southern Agriculture Functional Exercise (FAD SAFE). The exercises will be led by state animal health authorities and land-grant universities in 25 states, including Florida. These events will enhance disease emergency preparedness, improve capabilities, capacity, and readiness of animal agriculture sector responders, and address training priorities in the major livestock industries. This grant was awarded through the National Animal Disease Preparedness and Response Program.



## FedEx Labels Now Available in BADDL Web Portal

For your convenience, a new feature has been added to the BADDL web-based portal. Clients can now generate FedEx Shipping Labels directly from the web portal. Packages 40 lbs. or less can be shipped FedEx Priority Overnight using the Lab Sample Shipping Program. UPS Ground and Next Day Air shipping labels are also available to print within the web portal.

To create shipping labels:

1. Log into your BADDL Online web portal at <https://BADDL.FDACs.gov>
2. Click “Actions”
3. Select “FedEx Shipping Labels” or “UPS Shipping”

| Service Type             | Weight Limit    | Additional Restrictions                                                                                                      | Cost |
|--------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------|------|
| FedEx Priority Overnight | <10 lbs.        | Sent from Florida                                                                                                            | \$15 |
| FedEx Priority Overnight | 11-20 lbs.      | Sent from Florida                                                                                                            | \$25 |
| FedEx Priority Overnight | 21-40 lbs.      | Sent from Florida                                                                                                            | \$35 |
| UPS Ground               | 40 lbs. or less | Sent from Florida, east of the Apalachicola River, will be delivered within one business day. See UPS map for transit times. | \$7  |
| UPS Next Day Air         | 20 lbs. or less | Sent from Florida                                                                                                            | \$15 |
| UPS Next Day Air         | 10 lbs. or less | Sent from AL, GA, NC and SC                                                                                                  | \$20 |
| UPS Next Day Air         | 10 lbs. or less | Sent from the other 43 contiguous states                                                                                     | \$30 |
| Saturday Delivery        |                 | Cost is in addition to Priority Overnight or Next Day Air service rate.                                                      | \$20 |

Additional information accessible from within the web portal includes:

- Billing Statements
- Billing History
- Client Reports
- Invoices

## **BADDL Maintains as a Level 1 NAHLN Laboratory with Vet-LIRN Tier 1 Status**

The BADDL plays a significant role in protecting animal and public health by providing consultation and in-depth laboratory diagnostic support to veterinary practitioners, the livestock and poultry industry, stakeholders in companion animal health, wildlife conservationists, and state and federal regulatory agencies. In 2016, the BADDL joined the Food and Drug Administration (FDA) Veterinary Laboratory Investigation and Response (Vet-LIRN) Network. The Vet-LIRN Network's mission is to promote human and animal health. This is accomplished by collaborating with veterinary diagnostic laboratories to provide scientific information, build laboratory capacity, and train scientists to investigate potential problems with regulated products, and animal foods and drugs.

The BADDL is not only the State of Florida's only animal disease diagnostic laboratory, it is Florida's only laboratory accredited by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) and the only National Animal Health Laboratory Network (NAHLN) member. Prior to 2016, BADDL was one of the 12 laboratories designated as a NAHLN Core laboratories. Based on the laboratory's capability, capacity and quality assurance system, BADDL has been designated as a Level 1 Lab of the NAHLN. The NAHLN supports U.S. animal agriculture by increasing the capabilities and capacities of a national network of veterinary diagnostic laboratories to support early detection, rapid response, and appropriate recovery from high-consequence animal diseases. This partnership involves federal, state, and university-associated animal health laboratories. NAHLN laboratories are likely to be the first line of defense for the recognition of an intentionally or accidentally introduced agent in animals. Through rapid reporting and response, the veterinary diagnostic testing performed can detect biological threats to the nation's food animals, thus protecting animal health, public health, and the nation's food supply from unchecked spread. Samples that are submitted to BADDL as a part of a Foreign Animal Disease (FAD) investigation are performed at no charge to the Submitter.

BADDL is also a Tier 1 Laboratory of the FDA Vet-LIRN. The BADDL supports the mission of FDA Vet-LIRN by assisting to "investigate potential adverse events affecting the nation's food or animal feed supply by conducting testing of veterinary products, animal feeds, or diagnostic samples." The laboratory participates in FDA Vet-LIRN sample analysis, provides analytical data to support potential regulatory use, and participates in additional FDA Vet-LIRN research and development projects. Funding generated by having Tier 1 Lab status assists the BADDL in being involved in the ongoing FDA projects, developing new methods without interrupting routine diagnostic services, and more efficiently responding to foodborne disease outbreaks.





## **PATHOLOGY CORNER**

### ***West Nile Virus in a King Parrot***

**Necropsy performed and coordinated by: Mamoon Rashid, DVM, MSc, MS, CPM**  
**Histopathology performed by: Jennifer Dill-Okubo, DVM, PhD, Diplomate ACVP**

#### **History:**

The King Parrot, one of 30 other birds in the aviary, stopped eating and became neurologic about three days before submission for necropsy. The bird seemed to rebound but then became worse and developed bright green diarrhea. The submitting clinic collected blood before death and sent it to lab for chemistry and CBC (no reports submitted for CBC and chemistry). The X-rays taken by the veterinarian revealed dilated bowel loops and bright specks in the gizzard (possibly metal?). The parrot later died.

#### **Necropsy:**

The bird is in good body condition with mild autolysis. The liver is unilaterally enlarged and congested. The proventriculus at the entrance of the gizzard is thick with green mucosa. The intestines contain greenish digesta and edema with mild enteritis. The kidneys are enlarged and congested. The brain is mildly hyperemic. Ancillary testing is in progress. Differentials include, but are not limited to, salmonellosis and chlamydiosis.



Fig 1. Diseased King Parrot. Hepatitis. Signs of inflamed liver. Unilateral enlargement and mottled appearance of the liver (yellow arrow).

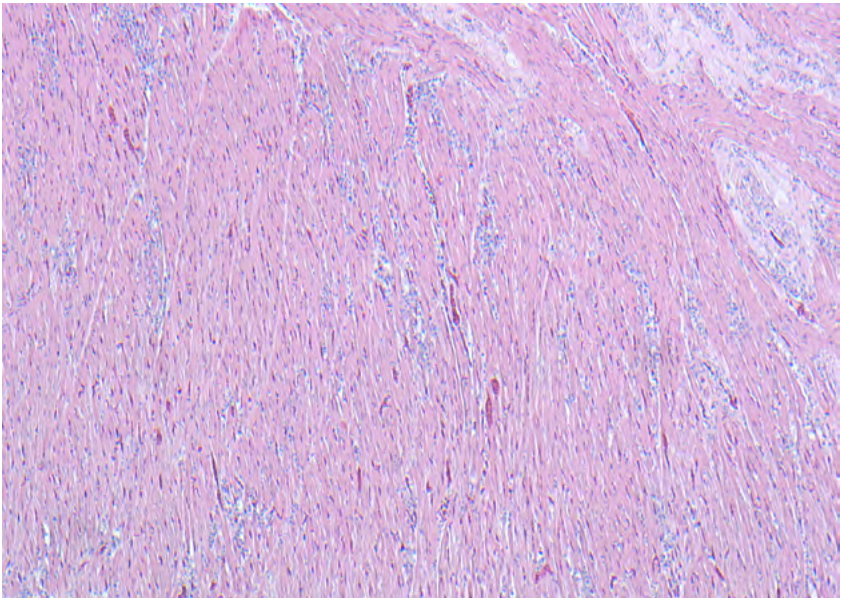


Fig 2. Microscopic view of the diseased heart of the King Parrot. Pancarditis. Signs of inflammation consisting of moderate lymphocytes, plasma cells, and macrophages (white blood cells) with necrosis (cell death) in a multifocal to coalescing pattern in the heart. The moderate changes affected multiple layers of the heart muscle. Hematoxylin & Eosin (H&E)

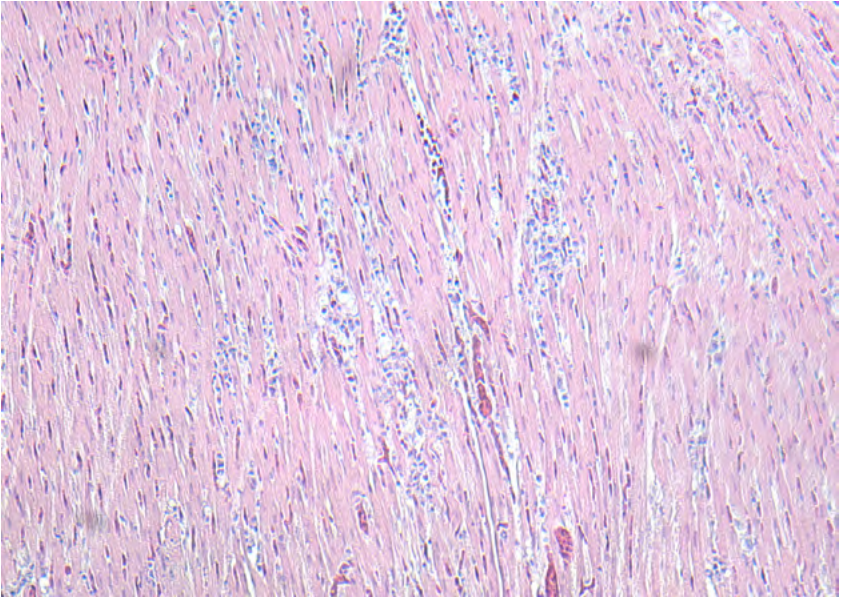


Fig 3. Microscopic view of the diseased heart of the King Parrot. Pancarditis. Closer magnification of inflammation and necrosis in a multifocal to coalescing pattern in the heart. H&E.

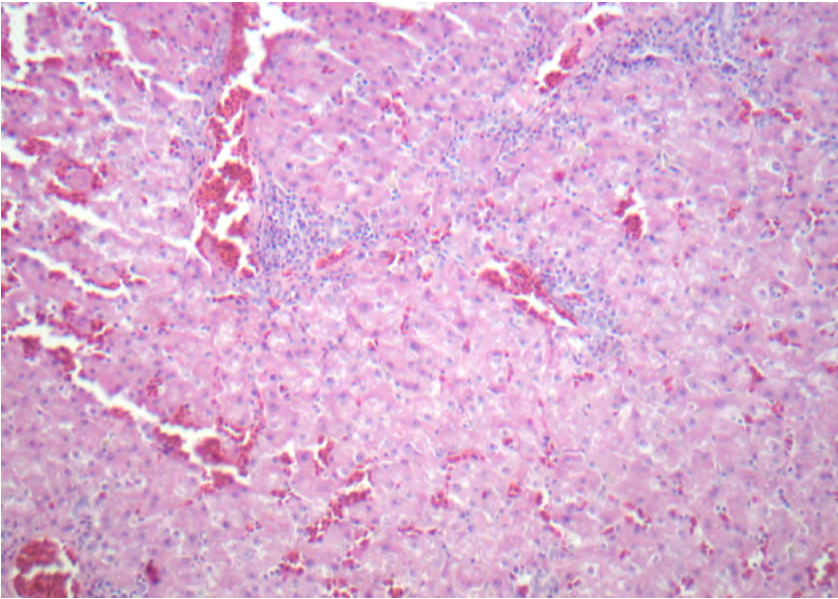


Fig 4. Microscopic view of the diseased liver from the King Parrot. Mild hepatitis. Signs of inflamed liver with necrosis. H&E.

Microscopic Examination

The following were examined microscopically: Liver, heart, spleen, lungs, air sac, kidney, ovary, pancreas, vessels proventriculus, ventriculus, intestine. 5 slides.

Morphological diagnoses:

Heart - Pancarditis, necrotizing, lymphoplasmacytic and histiocytic, multifocal to coalescing, moderate, subacute

Liver - Hepatitis, necrotizing, multifocal, mild

Spleen - Necrosis, multifocal, mild with lymphoid depletion

Brain - Gliosis, multifocal, mild

Ancillary testing was performed, and the findings were as follows:

Molecular Diagnostics

West Nile Virus was detected at a Cycle Threshold (Ct) value of 13.86.

Cts less than 29 are strong, positive reactions indicative of abundant target nucleic acid in the sample.

Cts of 30-37 are positive reactions indicative of moderate amounts of target nucleic acid. Cts equal

to 37 are weak reactions indicative of minimal amounts of target nucleic acid which could represent

an infection state. PCR results and associated Ct values should be evaluated in the context of herd health, probability of infection, and risk of exposure.

Bacteriology/Mycology Examination

Light growth of the aerobic bacteria *E. coli* and *Enterococcus faecalis* were isolated from the lung.

Parasitology Examination

Fecal specimen did not reveal parasite ova.

FINAL DIAGNOSES:

The PCR was positive for West Nile Virus (WNV) and microscopic findings of myocarditis and hepatitis are consistent with WNV infection. WNV is an arbovirus and a zoonotic disease that can cause fatal disease in humans, horses, birds, and other mammalian and reptilian species. Birds are the reservoir for transmission, with humans and horses becoming infected during the urban transmission cycle and considered incidental dead-end hosts. A fecal float and EEE PCRs were negative.

Tests available at BADDL

| Test                              | Fee/sample | Sample Needed                                                                                                                                                                                                              | Turnaround Time |
|-----------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Aerobic Culture                   | \$10.00    | Fresh tissues or body fluids in a sterile leakproof container or syringe; shipped chilled within 24 hours of collection.<br><br>Swabs in aerobic transport media; shipped chilled overnight within 24 hours of collection. | 3-5 days        |
| Fecal Examination<br>Direct Smear | \$10.00    | 2 gm of fresh feces in a leakproof container; shipped chilled overnight                                                                                                                                                    | 1 day           |

Tests available at BADDL (continued)

| Test                                 | Fee/sample | Sample Needed                                                                                                                                                                                                                                                                                                                                                                                                   | Turnaround Time                                       |
|--------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Fecal Exam – Zinc Sulfate Floatation | \$10.00    | 1 gm of fresh feces in a leakproof container; shipped chilled overnight.                                                                                                                                                                                                                                                                                                                                        | 1 day                                                 |
| West Nile Virus qPCR                 | \$30.00    | Fresh or frozen brain (preferable brain stem or medulla) and kidney from a horse; shipped chilled overnight.<br><br>Brain, liver, heart, or spleen from a bird; shipped chilled overnight.<br><br>Mosquitos - whole body in pools up to 50.<br><br>Mosquitos collected within 24 hours and shipped with dry ice (preferred) or ice pack overnight.<br>Mosquitos in RNAlater shipped room temperature overnight. | 1-3 days<br><br><b>Tests run Monday and Thursday.</b> |





## African Swine Fever – An Emerging Disease

**By: Dr. Karen McKenzie-Alfred**

African swine fever (ASF) is an emerging disease that is currently threatening the swine population throughout the world. It is caused by a large DNA virus of the *Asfarviridae* family. It can be transmitted by direct contact with infected pigs, by the bite of a tick, or by indirect with contaminated materials or fomites. ASF is a highly contagious hemorrhagic, viral disease of domestic and wild pigs which can cause serious economic and production losses. Although signs of ASF and Classical Swine Fever (CSF) may be similar, the ASF virus is unrelated to the CSF virus. There is no available vaccine to prevent the spread of ASF. While clinical signs and mortality may vary, the acute forms of ASF may display symptoms of high fever, depression, anorexia and loss of appetite, hemorrhages in the skin, abortion in pregnant sows, vomiting, diarrhea, and death within 6-13 days. Mortality rates may be as high as 100%. The subacute and chronic forms may have slightly lower mortality (30-70%) and less intense clinical signs may include fever, weight loss, arthritis, skin ulcers, and respiratory signs. Wild swine may be infected with the virus and not have clinical signs. If these animals are infected, they can act as a reservoir for disease, which could impact commercial herds. If the disease were to be introduced into a commercial herd, there would be a significant loss of animals due to fatalities and the effects of depopulation used to limit the spread of disease. This in turn could lead to the price of pork products going up significantly due to shortages of the supply. Currently, there is an outbreak that started in China but has also affected approximately 50 countries to date.

ASF is not a zoonotic disease, so it does not pose a risk to human health. It is, however a Florida reportable disease and considered a Foreign Animal Disease since it is not endemic to the United States. Prevention is key in countries that are free of this disease. This depends on appropriate import policies and biosecurity measures being in place to ensure that infected live pigs or pork products are not introduced. It is very important that if there is any increased swine sickness with related clinical signs or high mortality events, that these occurrences are reported to the State Veterinarian immediately. The Bronson Animal Disease Diagnostic Laboratory (BADDL) offers rapid testing via PCR. Samples that are submitted to BADDL as a part of a Foreign Animal Disease (FAD) investigation are performed at no charge to the Submitter.

### Tests available at BADDL

| Test                     | Fee/sample                                           | Sample Needed                                                                                                                                                                                                                                                                             | Turnaround Time                                       |
|--------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| African Swine Fever qPCR | \$45.00<br><br>No Charge for NAHLN FAD Investigation | Whole blood, tonsils, spleen, or lymph node from a porcine in a sterile tube or container; shipped chilled overnight.<br><br><b>This is an exotic disease. Request the FAD number from the State Veterinarian before sample shipment if submission is for an NAHLN FAD investigation.</b> | 1-3 days<br><br><b>Tests run Monday and Thursday.</b> |

## BADDL COMMUNITY OUTREACH



### BADDL Veterinarian Presents on Farm Biosecurity and Outreach

BADDL Necropsy Pathology Veterinarian, Dr. Mamoon Rashid, presented at the University of Veterinary and Animal Sciences (UVAS), Lahore and Jhang campuses in Pakistan. The seminar and the workshops were entitled, "Farm Biosecurity and Outreach Through Gross Pathology to Mitigate Zoonotic Risks." He also conducted necropsy demonstrations to the final year and postgraduate veterinary students.

### BADDL Veterinarians Present at the Florida Wildlife Rehabilitators Association Symposium

BADDL veterinarians were speakers at the 31st Annual Florida Wildlife Rehabilitators Association's Symposium in Haines City, FL. Client Services Veterinarian, Dr. Karen McKenzie-Alfred, gave an overall BADDL update to highlight the new \$11 million laboratory building completion, services offered by each laboratory section, new tests and pricing, tips for shipping samples and options to ship samples with discounted shipping labels. Other highlights included newly acquired laboratory equipment and the new FDACS.gov website. Pathology Department Head, Dr. Gizela Maldonado, gave a presentation entitled, "Distemper, Rabies, Parvovirus and the Neuro Raccoon - The Dilemma on Laboratory Testing." These diseases may present very similarly clinically, and it is important to perform appropriate diagnostics because of the zoonotic potential. Each of the discussed diseases are caused by viruses; however, the rabies virus is zoonotic (can be transmitted from animals to humans) and is fatal to humans and animals unless previously vaccinated for rabies. BADDL also had a booth manned by Laboratory Technician I, Susan Soto, featuring the reportable diseases and testing available at the lab.



## BADDL EVENTS

### BADDL Lab Tours

BADDL hosted meetings and provided laboratory tours of the recently constructed, \$11 million, 22,000 sq. ft. state laboratory to the Florida Aquaculture Association and the Animal Industry Technical Council. Created in 1959, the Animal Industry Technical Council (AITC) is a statutorily-designated advisory board reporting to the Commissioner of Agriculture. The Council is composed of leaders from the meat packing, beef, poultry, dairy, agricultural markets, reptile, equine, equine practitioners, swine, veterinary medicine, deer, and small ruminant industries. Their quarterly meeting was held on November 7th at BADDL.

## SERVICE AWARDS

In recognition of 10 years of service and dedication:

**Maribel Martinez**, Administrative Assistant I, Administration Section





## REMINDERS

**The following dates are upcoming office closures for the Bronson Animal Disease Diagnostic Laboratory:**

**Friday, July 3**  
Independence Day (Observed)



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Any news or information you'd like to see here?  
Please contact the newsletter editor, Dr. Karen McKenzie-Alfred, at:  
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