

Animal Health Bulletin

Spring 2011

Division of Animal Industry



From the State Veterinarian's Desk

Thomas J. Holt, D.V.M.
Division of Animal Industry

Florida has continued to be very fortunate in our animal disease status with respect to dangerous transmissible diseases or reportable diseases of animals. While the Division routinely receives reports of endemic diseases such as swine brucellosis, pseudorabies, strangles, and rabies, we also investigate suspected foreign animal diseases that could devastate our livestock industry and threaten animal and public health in Florida.

In January, the Division of Animal Industry identified a virulent Newcastle Disease in double crested cormorants in the St. Petersburg area. While we have known these birds carry this virus, it has rarely been reported to cause disease in Florida and rarely reported as being transmitted to domestic birds. A few years ago, there was a virulent Newcastle Disease outbreak in backyard poultry in California and the costs

of eradication exceeded \$100 million. The Division continues to combat Equine Piroplasmiasis (EP) in Florida. Positive cases are believed to have been imported from endemic areas or transmitted by blood transfusions or the use of contaminated needles. More details on the Newcastle Disease finding and related activities and our current EP status are reported in this Bulletin.

Screwworm larvae are also found in dogs coming into the United States from South America or the Caribbean and horses coming through the Miami Import Center for quarantine prior to release into the United States. Earlier this year, screwworm larvae were detected in the preputial area of a horse imported from Argentina. Fortunately, this was picked

Continued on page 2

Inside This Issue:



*Florida Department of Agriculture
and Consumer Services
Commissioner Adam H. Putnam*

From the State Veterinarian's Desk	Page 1
Animal Disease Traceability	Page 2
Hatching Egg Interdiction Pilot Project	Page 3
Newcastle Disease	Page 3
The Pet Law Program	Page 4
Veterinary Medical Loan Repayment Program-Florida's First Successful Applicant	Page 5
Equine Piroplasmiasis Update	Page 5
State County Meetings Focus on Animal Emergency Preparedness and Response	Page 6
Older laboratory Technology Still Valuable: Electron Microscope Use in the Laboratory	Page 6
Laboratory Institutes Biosecurity Measures in Response to Exotic Newcastle Disease	Page 7

From the State Veterinarian's Desk

Continued from page 1

up by USDA veterinarians while the horse was quarantined at the Miami Import Center. The preputial area is a common site for screwworm findings in male horses and USDA requires tranquilization and careful examination of this area prior to importation. In 2010, a veterinarian reported a positive case in a dog and actions were quickly taken to prevent fly release. In the first week of March 2011, a veterinarian reported a suspected case in a dog from Brazil which caused a great deal of concern, as it had been in the U.S. for 2 months and the life cycle of screwworm is about 21 days. Fortunately, the lab report identified it as a cuterebra (Rabbit Bot Fly Larvae). Florida veterinarians have reported 11 positive cases of screwworm over the last 11 years. Undoubtedly, we have missed catching some and we are fortunate that we have not imported any that have matured and been released as flies and then completed a successful mating cycle. Our success in

preventing the establishment of screwworm populations here in Florida has been primarily because practicing veterinarians have reported suspect findings quickly for laboratory confirmation and the implementation of appropriate control measures.

Thus, Florida has had three confirmed diseases considered foreign to the United States in the first three months of this year. With the near tropical climate of Florida and the very high movement of animals, animal products, and people into our state, veterinarians must be extremely vigilant to report suspected foreign animal diseases and other reportable diseases. Any clinical signs or suspected diseases that appear unique or are of concern to our practicing veterinarians should be reported to state or federal offices so that they can be fully investigated and samples collected for thorough laboratory testing. Early detection and reporting are essential to any control or eradication efforts. ■

Animal Disease Traceability

*By: Stephen J. Monroe
Division of Animal Industry*

USDA announced a new framework for animal disease traceability in 2010 and formed a working group to develop federal regulations. New regulations would require livestock moving across state lines to be individually identified and originate from a state that meets certain traceability standards or performance measures. There has been national discussion by all stakeholders and a draft rule is scheduled for publication soon.

Once published, the new proposed rule will have a comment period where USDA will accept input from all stakeholders. There has been much discussion about the stages or phases of implementing the new rule which would allow industry time to adapt.

FDACS, Division of Animal Industry, continues to cooperate with USDA on implementation of a program for Florida. The Division is working with the Animal Industry Technical Council Subcommittee on Animal Traceability to seek industry input as we advance down the path to traceability. State animal health officials and industry leaders recognize the need for traceability but also recognize the role that USDA must play by providing national rules, funding, and a lasting commitment to make program efforts successful.

As of March 4, 2011, Florida had a total of 9,078 registered premises including farms, ranches, veterinary clinics, livestock market, and processing facilities. The USDA has agreed to continue to maintain the national premises registration database and premises registrations will continue. The premises database will allow timely and efficient contact with producers should the need arise.

Veterinarians who are interested in electronic data capture and electronic certificates of veterinary inspection can also receive assistance through the Division of Animal Industry and USDA. Veterinary Services Process Streamlining (VSPTS) provides a consistent and standard method of data capture at all levels and provides data dissemination to the appropriate existing databases. This provides a more comprehensive analysis tool for animal tracking and disease analysis which, in turn, would allow officials to respond quickly to any threats to animal health in the United States. Additional information is available at: <https://vsps.aphis.usda.gov/vsps/public/Login.do>.

For further information, contact Stephen Monroe, FDACS Division of Animal Industry, 850-410-0944 or e-mail: Stephen.Monroe@FreshFromFlorida.com. ■

Hatching Egg Interdiction Pilot Project

By: Suzan M. Loerzel, D.V.M., PhD
Area Epidemiologist, USDA APHIS VS

Protecting American agriculture by safeguarding animal health and productivity is vital to the American people. Healthy livestock and poultry is one component to providing the public a safe, affordable, and wholesome food supply. Preventing the introduction of foreign animal diseases that harm both livestock and the livelihoods of producers also creates economic stability and opportunity. In addition, when U.S. livestock are healthy and disease prevention and control measures are adequate, our trading partners have confidence in our products.

In December 2009, several federal agencies partnered to conduct intense and focused interdiction activities aimed at intercepting illegally imported agricultural products. This project involved evaluating and inspecting international flights and passengers arriving into the Miami International Airport. Among the findings of contraband during the monthlong "blitz," there were 22 interceptions of illegally imported hatching eggs, many of which were from countries where Exotic Newcastle Disease (END) and High Path Avian Influenza (HPAI) are known to exist. All of the interceptions were of eggs brought into the country without appropriate documentation (e.g., import permits and health certificates). These events pose a significant threat to the safety of the U.S. poultry and pet bird populations. Federal officials seized the illegal hatching eggs, followed biosecurity measures, and destroyed the eggs and accompanying packing materials by incineration.

The result of this special interdiction project resulted in the identification of a vulnerability to possible introduction of high consequence diseases to our livestock industry. In response, USDA-APHIS-Veterinary Services (VS) coordinated another trial project with APHIS-Investigative Enforcement Services (IES) to

trace the intended destinations of the eggs and conduct farm-level follow-up investigations and surveillance. In conjunction with Customs and Border Protection (CBP) personnel, who notified VS of new interceptions of illegally imported eggs, VS and IES investigated the intended destination location to determine if there were domestic birds present and to evaluate the health of those birds.

Between April 5 and November 1, 2010, VS and IES conducted 17 investigations as a result of the interceptions by CBP. The "trend" of most interceptions identified passengers originating in Cuba as high risk for violations. Cuba is a country that is considered not free of HPAI and END. One investigation led to an arrest of violators under the Lacey Act. CBP has identified other ports in the U.S. in which they suspect similar violations.

This pilot project resulted in improved notification, communication and coordination among numerous agencies including VS, IES, CBP, the Florida Department of Agriculture and Consumer Services, and others. Efforts have been implemented to continue this enhanced interagency relationship. The possible expansion of this type of activity on a broader scale is being evaluated. Additional benefits included identifying a pathway of potential introduction of an animal pest or disease into the U.S., and identifying new high-risk premises for END and HPAI surveillance. The project provided an important opportunity for VS field personnel to collaborate with law enforcement and other federal agencies, enhanced investigative and interviewing experience, and training opportunities in procedures such as evidence collection and chain of custody. This project significantly enhanced the safeguarding of U.S. agriculture by strengthening our multidisciplinary and multiagency prevention and response network.

Newcastle Disease

By: Greg Christy, D.V.M.
Division of Animal Industry

In the second week of January, a case of Newcastle Disease was diagnosed in double crested cormorants in Pinellas County in a wildlife rehabilitation facility. Newcastle Disease is relatively common among double crested cormorants. Usually, they contract the non-pathogenic form of the disease, meaning it does not make them ill. In this case, tests showed it to be the more virulent, or pathogenic, form of Newcastle Disease. The Division of Animal Industry worked

closely with Florida Fish and Wildlife Conservation Commission and a number of rehabilitation facilities following the finding of positive cases.

In total, six wildlife rehabilitation facility investigations were completed, along with one domestic bird facility that had received birds from one of the rehabilitation facilities. Positive double crested cormorants were disclosed on two of the rehabilitation facilities with negative testing completed on the other

Continued on page 4

Newcastle Disease

Continued from page 3

premises investigated. All clinically affected and positive birds have been euthanized and removed from these facilities. There has been no evidence of disease transmission at any of the investigated premises and after a period of monitoring, movement restrictions have currently been released on all premises and there are no pending investigations at this time.

Enhanced surveillance testing at commercial egg production facilities, live bird markets, and backyard flocks was carried out for Newcastle Disease. This testing is performed at our Bronson Animal Disease Diagnostic Laboratory (BADDL). There was no reported clinical disease and we have had eight samples test positive on screening tests that tested negative on a secondary, more specific test in the laboratory. These samples were also sent to the USDA National Veterinary Services Laboratory for confirmation testing and all have been confirmed negative.

The Division will continue routine surveillance of domestic poultry and will continue to work with Florida Fish and Wildlife Conservation Commission to monitor susceptible waterfowl and wild birds in Florida.



Commercial poultry, exotic and/or pet birds demonstrating clinical signs of Newcastle Disease infection are to be reported to the Florida Department of Agriculture and Consumer Services at: rad@Fresh-FromFlorida.com or call (850) 410-0900 during business hours or (800) 342-5869 after hours. You may also contact the USDA Area Office at: vsfl@usda.gov or call (352) 333-3060 during business hours. ■

The Pet Law Program

The Florida Pet Law Program, within the Bureau of Animal Disease Control, provides information to buyers and sellers of dogs or cats, and to veterinarians for health certificate compliance issues and client education. The program is based on Florida Statute 828.29, Dogs and Cats Transported or Offered for Sale; Health Requirements; Consumer Guarantee; and Chapter 585, Animal Industry, Disease Inspection, Control and Eradication. The Pet Law Program encompasses information, complaint assistance and mediation, pet dealer inspections, violation investigations, and administrative fines.

The most active support and education part of the program is the annual Pet Facilities (pet dealer) Inspections. Division of Animal Industry inspectors visit individual sellers and pet stores, review health certificates for dogs and cats for sale in the past year, and review the statutory requirements from Section 828.29. Between November and December, 192 pet dealer inspections were made by District field inspectors, and 8 facilities were found to have at least one violation concerning health certificates for dogs or cats for sale. First-time violators are presented with administrative fine educational warnings. Subsequent violations can result in fines as prescribed in Rule

*By: Teresea Brown
Division of Animal Industry*

5C-30, Florida Administrative Code.

Another part of the program involves complaint handling and informal mediation of consumer complaints. From August 2010 through January 2011, the Small Animal Programs and Bureau staff answered over 1,200 Pet Law calls. During this 6-month period, 124 new complaint and mediation cases were opened. Of the 103 cases that were closed in the same period, informal mediation resulted in a total of \$9,249.51 in refunds or reimbursements for veterinary care to consumers.

Additionally, eight cases were referred to the Department's Office of Agricultural Law Enforcement for felony violation investigations related to forged or altered health certificates. Reports of the suspected forging or altering of health certificates is one of the most active areas of referrals to the Office of Agricultural Law Enforcement. Veterinarians and their staff are the front line of defense against this crime, which can impact a veterinary practice economically and adversely affect a clinic's and a veterinarian's professional reputation. Reports of suspected health certificate fraud should be directed to Teresea Brown, Companion Animal Program, (850) 410-0951, and fax copies of the veterinarian's copy and, if available, the suspected forgery to (850) 410-0929. ■

Veterinary Medical Loan Repayment Program-Florida's First Successful Applicant

By: Diane Kitchen, D.V.M., PhD
Division of Animal Industry

In the first year of the federally funded program to promote the recruitment and retention of food supply veterinarians, Florida was one of 34 states to have at least one successful applicant for the 2010 Veterinary Medical Loan Repayment Program (VMLRP). This program was authorized by the National Veterinary Medical Services Act (NVMSA) to help qualified veterinarians offset a significant portion of the debt incurred in pursuit of their veterinary medicine degrees in return for their service in certain high-priority veterinary shortage situations. More information regarding this program is available at: www.nifa.usda.gov/nea/animals/in_focus/an_health_if_vmlrp.html. Florida has been allowed to nominate 4 shortage situations and all 4 designated areas passed the review process and were available in 2010. Seven young veterinarians applied for these designated areas and 1 candidate was successful and signed a contract with a starting date of 1/1/2011. Nationally, 187 designated shortage areas

in 42 states were included in the program. Of the 260 applicants for the program, 62 were awarded contracts to participate.

The VMLRP has an extensive review process for the shortage situations and for the applicants to the designated shortage areas. The application is reviewed by 2 committees, one reviews the financial aspects and the other reviews the applicant's background, references and personal statement. The financial qualifications are extremely strict and repayment is specifically limited to veterinary college educational debt.

The 2011 VMLRP has begun the process of accepting nominations for shortage situations. They are scheduled to announce the designated areas in early May. Applicants will begin very soon after this announcement. If you or one of your associates or potential hires is interested in the program, please visit the Web site (www.nifa.usda.gov/vmlrp) for more information. ■

Equine Piroplasmiasis Update

By: Mike Short, D.V.M.
Division of Animal Industry

Equine Piroplasmiasis (EP) is considered a foreign animal disease by the United States Department of Agriculture (USDA) and is a reportable disease in Florida. EP is a blood-borne parasitic disease of horses, caused by the protozoans *Babesia caballi* and *Babesia equi* (*Theileria equi*). The organisms infect the red blood cells of horses and are primarily transmitted by ticks, contaminated needles, and blood transfusions.

There have been several major EP investigations in the United States since 2008, all primarily involving the *B. equi* organism. These investigations include the 2008 Florida incident when 20 horses were determined to be positive for *B. equi* and the largest investigation, which occurred in South Texas, where over 490 horses were tested positive for *B. equi*. To date, only the Texas outbreak is believed to have been caused by natural tick transmission, while the incidences in other states are believed to have been caused by iatrogenic spread of the EP organism.

Due to the recent detection of EP in the U.S., multiple states have begun EP testing requirements for movement. Most states' requirements are restricted to horses originating in Texas, but some states have re-

quirements that pertain to horses being imported from other states as well. In addition to states, many private venues and various foreign countries have instituted EP testing requirements. Currently, all of Florida's sanctioned thoroughbred and quarter horses' racetracks have instituted EP testing requirements as well as the Palm Meadows Training Center in South Florida and the Ocala Breeders Sales Company at specific sales. Due to these testing requirements, horses in Florida continue to be tested. In the last quarter of 2010, more than 3,000 Florida horses were tested for EP. For questions about sampling or submissions, please contact the Bronson Animal Disease Diagnostic Laboratory at (321) 697-1400.

It is strongly recommended that the state and venue of destination be contacted, prior to shipping horses, to ensure compliance with all regulations and testing requirements. We further recommend monitoring the Division Web site at www.Fresh-FromFlorida.com/ai/ for continued updates. ■



State County Meetings Focus on Animal Emergency Preparedness and Response

By: Joe Kight
ESF-17 ECO
Division of Animal Industry

The Division has recently completed two successful animal emergency preparedness activities, with the first being the completion of annual Emergency Support Function-17 (ESF-17), Animals and Agriculture, meetings with all county emergency management program coordinators in the state. These meetings are held to increase the ability of the county to manage its own animal concerns during disastrous events. It is the long-held standard of the Division that the strength of animal preparedness programs begins at the county level with assistance from the state for catastrophic events.

This year's focus was three-fold:

1. The state's veterinary response capabilities,
2. The state's response equipment availability, including vector control,
3. Discussing our third biennial state SART planning meeting.

A special thanks to the District ESF-17 liaisons for their assistance in coordinating these meetings in an efficient and effective manner for the Division. The counties expressed their thanks to our staff for taking the time to personally visit their county to discuss their issues of concern at the county level.

As one would expect, the counties were concerned with budget and staff reductions and the effect that

would have on their ability to respond to local issues and how they will be looking to the Division of Animal Industry for greater involvement, even in small disasters. The statewide effort to increase the number of counties with pet friendly shelters continues to move in a positive direction.

A second major accomplishment was to coordinate the third biennial State Agricultural Response Team (SART) planning meeting which wrapped up on March 2nd in Altamonte Springs. The 2-day program was attended by over 175 participants, including some participants from outside Florida. This year's planning session goal was to enhance the involvement of the county extension offices. The program's emphasis was on problem identification and solution finding at the local level through the utilization of the multiple agencies, including private and not-for-profit groups. One of the highlights was the recognition of four outstanding volunteers and their accomplishments. This year's award winners were the Division's David Perry, State Employee Outstanding Volunteer; Kim Duffiney, Federal Responder; Ronnie Brooks, Private/Nongovernmental Responder; and Daisy Harsch, County Responder. ■



Older Laboratory Technology Still Valuable: Electron Microscope Use in the Laboratory

Microscopy is the most common method used both for the detection of microorganisms directly in clinical specimens and for the morphologic characterization of organisms grown in culture. Though light microscopy is in common use in clinical laboratories for detection of bacteria and fungi, it has limitations for detecting viruses. Electron microscopy (EM) is the only technique available for directly observing viruses and, therefore, has many applications beyond purely diagnostic ones. The electron microscope uses electrons instead of light to visualize small objects and, instead of lenses, the electrons are focused by electromagnetic fields and form an image on a fluorescent screen, like a television screen. Because of the substantially increased resolu-

tion the technology allows, magnifications in excess of 100,000x compared with the 1000x magnification provided by light microscopy are achieved.

One of the main advantages of using EM for viral diagnosis is that it does not require specific reagents for recognizing the viral particles like other serological or molecular tests where a specific probe is required. It is difficult to obtain a specific probe or reagent to identify an unknown pathogen for use in molecular or serological testing.

EM is most helpful for the detection of viruses that

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Continued on page 7

**Older Laboratory Technology
Still Valuable: Electron Microscope Use in the Laboratory**
Continued from page 6

do not grow readily in cell culture and works best if the titer of the virus is at least 10^6 to 10^7 particles per milliliter. In the diagnostic virology laboratory, EM is most useful for the detection of gastroenteritis viruses (i.e., noroviruses, coronaviruses and astroviruses) that cannot be detected by other methods and viruses causing encephalitis (i.e., herpes simplex, measles and JC polyomavirus) that are not detected with cell culture. In addition, the etiology of newly recognized viral syndromes can be recognized rapidly by identifying characteristic viral morphology by EM in infected tissue. This was exemplified by the early recognition of Ebola virus as the cause of an outbreak of viral hemorrhagic fever in Africa in the 1970s and sin nombre virus as the cause of fatal pneumonia in the four corners' area of the United States in the 1990s.

Though considered an old technique, even today in the age of molecular diagnostics, EM is the technology which could be used in detecting new and unusual outbreaks. Another advantage of EM is that it does not require live or intact virus. The tissue or virus stored in a solution for a long period of time could be used for detecting the virus.



Although electron microscopy is an older technology and costly to maintain, it is still the only method of choice and primary tool used in the identification of viral agents in their purest form in multiple types of samples and tissues. In this era of emerging pathogens and potential acts of bioterrorism, electron microscopy is an invaluable technique in the speedy detection and identification of novel viruses causing illness or death in animals and humans. ■



Laboratory Institutes Biosecurity Measures in Response to Exotic Newcastle Disease

In January 2011, Bronson Animal Disease Diagnostic Laboratory assisted Division of Animal Industry efforts for a Foreign Animal Disease (FAD) investigation involving Exotic Newcastle Disease virus confirmed in double-crested cormorants. Exotic Newcastle Disease (END), also termed Velogenic Newcastle Disease Virus (vNDV) or pathogenic NDV, is highly contagious and can be devastating for commercial poultry operations. While the vNDV in Florida was only detected in cormorants at wildlife rehabilitation centers, there was a concern that it could inadvertently be transmitted to chickens as had occurred during 2004 in a North Dakota occurrence of cormorant END. For this reason, Division of Animal Industry through the State Veterinarian Dr. Thomas Holt in cooperation with USDA and FWC, initiated surveillance testing to determine if

*By: Kindra Kelly-Quagliana, Biosafety Officer and
James Maxwell, D.V.M., Laboratories Director
Bronson Animal Disease Diagnostic Laboratory*

disease had spread and monitor poultry that had been in association with the rehab centers. This included bringing cormorant carcasses to the laboratory for testing and carcass disposal. Due to the highly infectious nature of this virus and to prevent inadvertent spread of virus from the facility, this required instituting special biosecurity measures.

Over the past two years, with the help of the Division of Animal Industry's Emergency Response Liaison and Division leadership, the Bronson Animal Disease Diagnostic Laboratory has conducted live emergency response drills in preparation for responding to an FAD outbreak. This planning and drilling was put into action to rapidly establish additional biosecurity

Continued on page 8



Laboratory Institutes Biosecurity Measures in Response to Exotic Newcastle Disease
Continued from page 7

measures just after Velogenic Newcastle Disease Virus was confirmed in Florida's double-crested cormorants. The laboratory quickly activated their Laboratory Emergency Management Team (LEMT) consisting of lead personnel from Administration, Specimen Receiving, Necropsy, Communications, Quality Assurance, Molecular/BSL3, Facilities, Biosafety/Biosecurity, Information Technologies, Inventory, and Microbiology, and set its additional biosecurity measures in place.

In order to allow regular diagnostic work to continue, areas within Necropsy and Shipping and Receiving had to be segregated and PPE changed for movement between the segregated areas. A reminder training session preceded any staff member being permitted to work

within the red zone so that everyone was on the same page. A link to the special handling and PPE instructions could be found on the Shift Action Plan.

Overall, the LEMT provided framework for emergency deployment to special procedures for handling the additional biosafety measures unique to this disease agent and for the scope of carcass and sample deliveries related to the FAD investigation. Regular delivery and testing operations remained intact and personnel adapted well as processes evolved during the activation. Lessons were learned with regard to flow dynamics that will contribute to the revisions of the existent FAD plan, and after-action meetings are ongoing to develop and improve laboratory emergency preparedness. ■

Emergency Contact Information

The Florida Department of Agriculture and Consumer Services, Division of Animal Industry, works hard to ensure the safety of all Floridians through its vital animal disease programs. If you know or suspect a case of contagious infectious disease in pets or livestock, please contact the office of the State Veterinarian.

If you have any questions, input or reports, please contact us at:

Animal Industry/State Veterinarian, M-F, 8-5	850-410-0900
After-Hours Reportable Diseases (rad@FreshFromFlorida.com)	877-815-0034
Animal Industry's Kissimmee Laboratory, M-F, 8-5	321-697-1400
Animal Industry's Live Oak Laboratory, M-F, 8-5	386-330-5700
Agricultural Law Enforcement, M-F, 8-5	850-245-1300
Agricultural Law Enforcement After-hours	800-342-5869
Department of Health, M-F, 8-5	850-245-4250
USDA/APHIS, M-F, 8-5	352-313-3060

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