Animal Health Bulletin

Winter 2009 Division of Animal Industry

Equine Piroplasmosis Update

By: Mike Short, D.V.M.

Equine Piroplasmosis (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. Transmission to foals in utero has also been reported.The disease was eradicated from Florida in the 1980s and the United States has been considered free of the disease since 1988. The tick species believed to transmit EP in other countries have not been identified in Florida in many years; however, there are endemic ticks that have been shown to be potential vectors. Because of the health threat to horses and major trade implications if EP is reintroduced into the United States, all suspected cases of EP must be reported to the State Veterinarian's Office in Tallahassee.

The incubation period for EP can range from 10 to 30 days and clinical signs vary. In peracute cases, animals can be found dead or dying. Acutely affected horses can show signs of depression, fever, jaundice, labored breathing, colic, anemia, petechial hemorrhages, hemaglobinuria and thrombocytopenia. In chronic cases, the clinical signs can be mild or absent. Common clinical signs in chronic cases include inappetence, intermittent fever, roughened hair coat, exercise intolerance, weight loss and enlarged spleen. Antemortem cases are diagnosed by testing serum and whole blood and suspected cases should have samples submitted to the Kissimmee Animal Disease Diagnostic Laboratory for testing.

The greatest threat of reintroduction of EP into the United States is the movement of horses into the U.S. from endemic countries. This was the case in the 2008 EP incident in Florida, which began in August, when a horse was diagnosed with clinical EP. The horse presented to a referral hospital with clinical signs consistent with EP and it was quickly determined the horse was infected with *Babesia equi*. The investigation that resulted from the identification of the positive EP horse involved testing over 200 horses, quarantining 25 premises and collecting more than 600 ticks for identification and testing. All of the premises investigated were involved with unsanctioned racing of quarter horses.

Natural transmission of the organism usually occurs via ticks; however, during this incident transmission of the *Babesia organism* is believed to have occurred from unsanitary management practices resulting in the transfer of whole blood between horses. During the investigation, 20 horses were determined to be positive for EP. In each case, the owners elected to euthanize the infected horses and currently, there are no positive horses remaining in the state. After the 60-day post-exposure time period and subsequent negative test results, the last quarantine was released on February 12, 2009.

For a summary of the information on the 2008 EP incident, see the tables on page 2.

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Florida Department of Agriculture and Consumer Services

Charles H. Bronson, Commissioner

Avian Influenza – Then and Now

By: Jennifer Jennings-Glover

It has been almost four years now since Avian Influenza (AI) became headline news with reports of "Bird Flu" infecting people in parts of Asia resulting in several deaths. With these reports quickly came the concerns that this AI virus could mutate and ultimately spread from human to human resulting in Pandemic Flu. That was **then** and with this potential threat many things have occurred to get us to where we are today – **now**.

What is Avian Influenza? It is a viral infection affecting domestic and wild birds. It is a highly infectious and contagious disease of poultry. The severity of the disease varies from mild to fatal. This disease has been circulating in various bird populations for many, many years and has always been a concern to the poultry industry.

Then in 2005, an Asian strain of AI virus – Bird Flu - surfaced and spread to humans by infected birds. Infected birds shed flu virus in their saliva, nasal secretions and feces and it is believed that the human cases of bird flu infection resulted from contact with infected poultry and/or contaminated surfaces. Usually the spread of AI is bird to bird, but the virus managed to mutate which led to the threat of bird to human spread and then the fear of human to human transmission.

Soon after the discovery of this Asian strain of the AI virus the Florida Department of Agriculture and Consumer Services (FDACS) teamed up with the Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Department of Health (FDOH). Surveillance for AI was immediately stepped-up by FDACS, Division of Animal Industry, in domestic poultry and by FWC in wild birds. In addition to the increased surveillance efforts; state response and containment plans were developed, bio-security measures implemented as well as an outreach education campaign. All these efforts are still ongoing today. There have been numerous AI table top exercises statewide with the FDOH, FDACS and FWC.

- FDACS sampled 4,838 domestic birds for AI in 2005 and by the end of 2008 that number had increased to 20,500.
- AI surveillance is being performed at the following poultry premises statewide:
  - Commercial Poultry Premises
  - Live Bird Markets
  - Animal Sale Markets
  - Botanicas
  - Fairs and Exhibitions
  - Backyard Flocks

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Equine Piroplasmosis Update

Continued from page 1

Positive Premises Data 2/13/09

	Premises 1 (Manatee)	Premises 2 (De Soto)	Premises 3 (Polk)	Premises 4 (Polk)	Premises 5 (Lake)	Premises 6 (Dade)	Premises 7 (Orange)
# of Positive Horses	5	2	6	4	1	1	1
# of Horses on Premises	21	29	22	13	8	12	0
# Positives left on Premises	0	0	0	0	0	0	0
Premises Currently Under State Quarantine	No	No	No	No	No	No	No

Quarantine Data 2/13/09

Total Quarantined Premises	25
Number of Premises Currently Under Quarantine	0
Number of the Total Quarantined Premises (25) Having Horses Test Positive	7
Number of Premises Currently Having Positive Horses	0

Rift Valley Fever Exercise

By: Greg Christy, D.V.M.

On November 18th through November 20th, 2008, the Florida Department of Agriculture and Consumer Services, Division of Animal Industry, hosted a Rift Valley Fever (RVF) tabletop exercise at the Florida State Emergency Operations Center.

RVF is an emerging foreign animal disease that primarily affects animals but also has the capacity to infect humans. Infection can cause severe disease in both animals and humans, leading to high rates of disease and death. The disease results in significant economic losses due to death and abortion among infected livestock. It has been listed as the most economically devastating livestock disease, behind Foot and Mouth Disease and Avian Influenza (High Path). RVF has been listed as a Select Agent by the United States Department of Agriculture and the Food and Drug Administration and is considered a terrorist biological threat agent.

This exercise was produced by a team, led by Dr. Paul Gibbs from the University of Florida, College of Veterinary Medicine, and Dr. Greg Christy from the Florida Department of Agriculture and Consumer Services who enlisted disease experts and exercise participants throughout the United States in order to produce a realistic disease scenario.

There was a high level of interest in this exercise and more than 90 participants attended. The following agencies and organizations were represented:

Florida Department of Agriculture and Consumer Services
Florida Cattlemen's Association
Florida Division of Emergency Management
Florida Department of Health
Florida Fish and Wildlife Conservation Commission

Florida Veterinary Medical Association
Health and Human Services/Centers for Disease Control
United States Department of Agriculture
Department of Homeland Security

The purpose of the training exercise was to provide participants an opportunity to plan, initiate, and evaluate current response concepts and capabilities in a simulated introduction and outbreak of RVF in Florida. Information for the exercise was placed on the State Agricultural Response Team (SART) website located at: **www.flsart.org/rvf/**.

This website provides links to fact sheets and PowerPoint presentations on the disease, the causal virus, and its epidemiology. Also available are amateur video clips of an August 2008 interview with Dr. Koos Coetzer of the University of Pretoria, Republic of South Africa. Dr. Coetzer is a world renowned expert on the disease and discusses the history of the disease in Africa and the potential impact that the disease could have on Florida.

If you have any questions regarding the Rift Valley Fever exercise contact Dr. Greg Christy, Florida Department of Agriculture and Consumer Services, at 850-410-0900 or **christg@doacs.state.fl.us**.

Avian Influenza - Then and Now

Continued from page 2

- Mosquito Control Sentinel Flocks
- Sick Bird Investigations

Two Brochures: Avian Influenza – Frequently Asked Questions and Report Sick Birds have been developed (English and Spanish) and distributed statewide. These brochures are also available at feed stores in the state.

What was **then** a serious threat to the poultry industry and possibly human health is **now** a sigh of relief. To date the state of Florida has not detected this Asian strain of AI.

The increased efforts taken to detect AI have led to:

- Increased public awareness and knowledge of "bird flu";
- Increased interest in participation in the National Poultry Improvement Plan;
- Increased number of calls related to sick birds and reporting of sick domestic and wild birds;
- A trend over the past few years of more back yard flocks with youth and adults;
- An interest in learning about bio-security measures and how to have a healthy flock; and
- An interest in raising poultry for meat and eggs as a means of sustainable agriculture.

AI will always remain a threat to the U.S. Poultry Industry and the poultry owner is our first line of defense in identifying avian diseases. Early detection will result in early eradication. Report sick birds to FDACS, Division of Animal Industry: 1-877-815-0034 or 850-410-0900.

To find out more about Avian Influenza, visit the Department's Division of Animal Industry website at: **www.doacs.state.fl.us/ai**

Gertrude Maxwell Save-a-Pet, Inc.

By: Anne Vuxton and Diana Fuchs

"They can't speak for themselves, but we can," Gertrude Maxwell has said about her tireless work in saving abandoned, discarded, homeless or lost pets from being euthanized. In 1972, Ms. Maxwell was stunned to learn that every month, over 90,000 animals were destroyed after five days or less in animal care shelters in the United States. Since then, she has pioneered the founding of "Save-a-Pet" humane organizations established as "no-kill" shelters where euthanasia is never practiced. It is estimated that since 1972, she has saved over 70,000 cats and dogs.

The recipient of many awards and honors for her lifetime contributions to the welfare of animals, Gertrude Maxwell proposed bills sponsored by Representative Carl J. Domino and Senator Jeffrey H. "Jeff" Atwater that were passed and signed into law on May 28, 2008 by Governor Charlie Crist. The Gertrude Maxwell Save-a-Pet Act created a Direct Support Organization.

On December 4, 2008, Gertrude Maxwell Save-a-Pet, Inc. held its first meeting in West Palm Beach and elected officers. This organization, established by House Bill 219, designates the Department of Agriculture and Consumer Services as a direct support agency for the Gertrude Maxwell Save-a-Pet, Inc. organization. Its purpose is to provide grants to animal shelters for spaying and neutering animals, to aid shelters during

times of emergencies, and to disseminate pet care materials. Gertrude Maxwell Save-a-Pet, Inc. organization is a not-for-profit corporation and is staffed by volunteers.

Ms. Maxwell, who will be 98 years old in April, is an honorary member of the organization. At the December meeting, she spoke at length of her commitment to saving companion animals from euthanasia. Board members present were Dr. Ernest Godfrey, Jr., Lois Kostroski, Diane Albers, James Crosby, Richard Watson, Commissioner Bronson's designee, and Diana Fuchs, Departmental representative. Members Pat Hawk and Alfred Hammond were unable to attend. Members elected Mr. Crosby, Chairman, Dr. Godfrey, Treasurer, and Mr. Watson, Secretary.

Also present from the Department were Deputy Commissioner Jay Levenstein, Attorney David Young, and Advisory Council Coordinator Richard Gunnels. The next meeting site and date are as yet undetermined.

Tuberculosis in a Roping Steer from Florida

By: Diane L. Kitchen, D.V.M., Ph.D.

In November 2008, a roping steer slaughtered at a San Angelo, TX plant was found to have lesions suggestive of Bovine Tuberculosis. The lesions were forwarded to the National Veterinary Services Laboratory (NVSL) in Ames, IA. Histology was compatible and confirmation of PCR positive to IS6110 (M. tuberculosis complex) resulted in the initiation of a trace of this animal.

The infected animal was traced through a market buyer to a livestock market in Mississippi and further to a consignor from Florida. Extensive tracing of the potentially exposed animals led to the quarantine of animals in Mississippi, Alabama, and Florida. It was determined that the index animal had been on the premises in Florida for over two years, but was M branded and therefore of Mexican origin. The blue tag placed at import had been lost or removed. All cattle on the premises were indemnified and slaughtered at Auburn University for collection of lymph nodes and cultures at National Veterinary Services Laboratory. No compatible lesions were identified in any of the animals and cultures were negative.

Florida has been an Accredited Free State for Tuberculosis since May 1989. This status is important in allowing for interstate movement of our cattle without testing for tuberculosis. The discovery of tuberculosis infected cattle in Florida would jeopardize this status. Fortunately, for Florida, it appears that this steer will not impact our status since he is of Mexican origin.

We may not continue to be so lucky unless we remain vigilant. Legal and illegal Mexican imports have introduced tuberculosis into a number of previously accredited states over the past 5 years. The identification and sterilization of Mexican imports is intended to indicate safeguards for our domestic cattle herds, but management practices that allow co-mingling and contact exposure are continuing and have allowed the introduction of tuberculosis into valuable domestic cow herds. We, as veterinarians, need to advise our producers that they need to assist in the protection of our state status and of the national herd. Mexican import cattle and rodeo stock exposed to Mexican imports should not be allowed to commingle or have fence line contact with our breeding herds. It is important to maintain animal identification and herd records in all herds, but it is especially critical in those herds that have animals with high risk of exposure. For roping stock, when eartags are removed an alternative method of individual identification should be utilized and records correlating all eartag information to the alternate identification are vital.

The Dangers of Brucellosis in Feral Swine

By: Pamela A. Hunter, D.V.M. Danielle Stanek, D.V.M. Florida Department of Health

Swine are not a native livestock species in America but were introduced by settlers from Spain and Europe for domestication. Populations of these animals have escaped and returned to the wild leading to an explosion of feral swine roaming throughout the continental United States. Today, over 1 million feral swine wander the landscapes of Florida. Like all animals, they are capable of carrying a wide range of infectious and parasitic diseases. Some of these diseases affect their species alone, while others are shared with other animal species and humans. As their numbers increased and their geographic distribution widened, contacts between feral swine, domestic animals, and humans have also increased.

A disease of special concern is Brucellosis. Brucellosis is an infectious disease of animals and humans caused by the bacterium *Brucella*. It was first reported in feral swine in South Carolina in 1976 (Woods, et al). In Florida, surveillance of the feral swine population has found infection rates in up to 30% of the animals sampled. The effect of the disease in the primary host is limited to abortions and reproductive organ infections, with the most obvious signs being abortion or birth of weak newborns. Not all infected animals abort; usually, sows or gilts that abort early in gestation return to estrus soon afterward and are rebred. Sterility in sows, gilts, and boars is common and may be the only sign. Infected animals that do not abort will develop a positive reaction to the diagnostic test within 30 to 60 days after infection. Animals and humans are exposed to the bacterium by handling or coming in contact with infected reproductive tissue, other organs, blood, discharge or newborns from infected sows. Farmers, ranchers, veterinarians, and packing plant workers are infected most frequently because they come into direct contact with infected animals' organs and blood.

In Florida, another population that has the potential to show a high infection rate are feral swine trappers/hunters. There are over 2,000 feral swine trappers/hunters registered with the Florida Department of Agriculture and Consumer Services. They hunt these animals for sport, catch them to sell to hunting reserves, or raise them as an alternative meat source at home. Trappers/hunters and those who handle the raw meat are especially at risk of becoming infected as they routinely handle animal tissues without taking the necessary precautions to avoid transmission of the bacterium. In 2008, eight Florida residents were identified as having confirmed or likely *Brucella suis* infections. Seven of these cases were feral swine hunters or regularly prepared and ate undercooked meat from feral swine.

Infected people usually develop symptoms similar to a severe flu, but this disease can persist for several months and may get progressively worse. The initial symptoms are fatigue and headaches, followed by intermittent high fever, chills, drenching sweats, joint pains, backache, and weight loss. Testicular inflammation can also be seen. Long-lasting or chronic symptoms include recurrent fevers, joint pain, abscesses of bone or organs, and fatigue. While there is no cure for Brucellosis in animals, humans are treated with a combination of antibiotics for extended periods to clear the infection. Relapse can occur, particularly if appropriate antibiotics are not used, the full course of antibiotics is not completed, or treatment is delayed until illness becomes chronic. Safety measures should be taken when field dressing hogs and should include wearing disposable gloves, avoiding direct contact with blood, meat, reproductive organs and other organs, burying or burning gloves and remains from the dressed hog, and cleaning up with hot water and soap after butchering. Those preparing meat for cooking should also wear gloves. As with all wild game, meat should be cooked thoroughly before eating to prevent infection with infectious agents such as *Brucella* and *Trichonella*. Carcasses should be properly disposed of to prevent disease spread. Because of its zoonotic nature, Brucellosis is a disease of great concern to state and federal agencies responsible for its control and eradication in the U.S.

Lab Connections

Construction of New Necropsy and Incineration Facility for the Bureau of Diagnostic Laboratories (BDL)

By: A. Agasan, Ph.D, J. Maxwell, D.V.M. and M. Markley, State Contract Manager

Attached to the newly completed specimen Shipping/Receiving (S/R) facility at the Kissimmee Laboratory, will be the state-of-the art Necropsy and Incineration facility. The contracts for the new facility were approved in July 2008 and construction began in August 2008. The new facility will have a gross footage of 4,609 sq. ft., towering to a height of 26 feet. The new construction will feature covered walkways connecting the existing BSL-3 Laboratory and S/R facilities with the Necropsy/Incinerator (N/I) facility.

Designed to accept and process large animal carcasses, the new N/I suite will have extensive hoist, monorail and cooling systems. Two large and one small necropsy tables will be available to conduct necropsies on a range of animal species. Three veterinarian pathologists will be able to conduct necropsy studies on different cases, simultaneously. Ample-sized receiving and data entry rooms plus two spacious bathroom and locker facilities are also built into the structure.

The new incineration unit will be able to handle 2,000-pound burns. The unit will replace the incinerator which is currently in use. The new incineration equipment will be both time- and fuel-efficient.

The campus traffic pattern was altered with the construction of the S/R facility to provide one-way traffic flow through the campus thus relieving traffic congestion. The new Necropsy/Incinerator facility will bring about additional improvements to the Shipping/Receiving building dock access by providing a larger area for delivery vehicles to maneuver.

The new Necropsy/Incinerator facility construction project received funding approval from the Florida Legislature during the 07/08 session. Construction is scheduled to be completed in May, 2009.

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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@doacs.state.fl.us)	**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	**352-333-3120**

Florida Department of Agriculture and Consumer Services

Charles H. Bronson, Commissioner

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