CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

Animal Health Branch News

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Mission Statement

The Animal Health Branch (AHB) is California's organized, professional veterinary medical unit that protects livestock populations, consumers, and the State's economy from catastrophic animal diseases and other health or agricultural problems.

Contact Information

Animal Health Branch
Dr. Kent Fowler, Chief
Headquarters: (916) 654-1447
Permit Line: (916) 651-6278

District Offices
Veterinarians In Charge (VIC)
Redding: Dr. Charles Palmer
(530) 225-2140

Modesto: Dr. David Willoughby
(209) 491-9350

Tulare: Dr. Jeffrey Davidson
(559) 685-3500

Ontario: Dr. Predrag Pecic, Acting
(909) 947-4462

State Veterinarian
Dr. Richard E. Breitmeyer
(916) 651-6870

Animal Health & Food Safety Services
Dr. Annette Whiteford, Director
(916) 654-0881

Additional AHFSS Branches

Bureau of Livestock Identification
Greg Lawley, Chief
(916) 654-0889

Milk & Dairy Food Safety
Dr. Stephen Beam, Chief
(916) 654-0773

Meat & Poultry Inspection
Dr. Douglas Hepper, Acting Chief
(916) 654-0504

Emergency Preparedness and Support Unit (EPSU)
John Rowden, Manager
(916) 651-0399

United States Department of Agriculture
Area Veterinarian In Charge
Dr. Gary Brickler
(916) 854-3950/Toll Free: (877) 741-3690

2010 Contagious Equine Metritis

By Dr. Kent Fowler

A recently imported 11-year old Arabian stallion in Southern California was confirmed by the National Veterinary Services Laboratory (NVSL) as positive for *Taylorella equigenitalis*, the bacterium that causes contagious equine metritis (CEM). The stallion was being tested for certification of semen for export from the U.S. The Belgium-born stallion was a resident of the United Arab Emirates (UAE) before entering the United States in early March 2010. CEM is a foreign animal disease to the U.S., and the UAE is not considered to be a CEM-affected country. NVSL testing and analysis confirms the isolate from this stallion as different from any other CEM isolate previously found in the U.S.

Five cohort stallions on the premises are epidemiologically-linked to the positive stallion. Eighteen (18) mares, known-exposed to the positive stallion through artificial insemination, are being traced in eight (8) states and two (2) Canadian provinces. California animal health officials have contacted state veterinarians in the states with known exposed mares. The positive stallion and exposed stallions and mares will be tested and treated in accordance with the USDA FY 2009 CEM Incident Testing Protocol For Investigations.

Equine Piroplasmosis Updates

By Dr. Kent Fowler

A tick-borne disease, equine piroplasmosis (EP), caused by the blood parasite *Theileria equi*, was confirmed in horses on a South Texas ranch in October 2009. EP can affect horses, donkeys, mules and zebras, and cause clinical signs common to many diseases, including weakness, loss of appetite, fever, and weight loss. There is currently no available vaccine for this disease and treatment options are generally not effective. Since animals that survive the acute phase of the infection may con-

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Foot and Mouth Disease - Asia

By Dr. Dennis Wilson

Many nations in Asia are endemic for various strains of Foot and Mouth Disease Virus (FMDV), but it is worth noting that two OIE-listed FMDV-free countries, Korea and Japan, have recently experienced disease incursions. Korea's FMDV-free status was suspended on January 7, 2010 and Japan's status was suspended on April 4, 2010.

The South Korean event, which began on January 2, 2010, involved FMDV-serotype A, only in cattle. This event was successfully resolved by March 11, 2010, but on April 8, 2010, a second incursion with FMDV-serotype O began in cattle on Ganghwa Island, 60 km west of Seoul. The OIE follow-up report of May 13, 2010 indicates there were 20 affected premises. Police and 8,000 soldiers have been incorporated in control strategies. The stamp-out strategy destroying all cloven-hoofed animals has 0.5 km and 3 km zones. Nearly 6,000 animals, including swine, cattle and goats, have been destroyed. On May 3, 2010 the Ministry of Food, Agriculture, Forestry and Fisheries estimated that the current event had an accumulated cost of approximately $144 million (U.S.).

Japan's disease event began in cattle on Miyazaki Prefecture, Kyushu Island, March 31, 2010, but confirmation of FMDV-serotype O as the causative agent

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tinue to carry the parasite for long periods of time, current control measures for a positive horse include euthanasia or lifetime quarantine. To avoid spread of the disease, it is important to eliminate contact with ticks to prevent the transfer of blood from one equid to another. Research is underway for alternative disease control and treatment strategies.

The extensive epidemiologic investigation undertaken in the Texas incident involves equine traces from the index ranch extending back to the 1990s, the testing of horses on premises adjacent to the index ranch, and the testing of horses, termed cohorts, that have had recent direct contact with positive traceout horses from the index ranch. As of May 24, 2010, testing in this incident has confirmed EP infection in 402 of the 2,284 exposed horses tested to date. There are 311 positive horses under quarantine at the index ranch. The remaining positive horses are located on other Texas premises (59) and in seven other states. Testing of horses on premises adjacent to the index ranch is ongoing; only one (1) horse was identified as *T. equi* positive of the 616 horses on 77 adjacent premises tested to date. All cohorts have tested negative with the exception of one (1) 20-year-old former racehorse that may have been exposed during his racing career.

The epidemiological investigation revealed that five (5) horses from the index ranch had been shipped to California in the past two years. CDFA veterinarians located two (2) of these trace horses on one premises and quarantined them. Blood samples obtained from the horses were confirmed EP test positive for *T. equi* at the National Veterinary Services Laboratory (NVSL). Eight cohorts located on the same affected premises were test negative for EP. The two positive horses were returned to the Texas index ranch and remain under quarantine. The California investigation also found that the remaining three (3) trace horses had been relocated to other states.

Amblyomma cajennense and *Dermacentor variabilis* ticks found on the index ranch have proven to be capable of transmitting *T. equi* at the USDA/ARS laboratory in Pullman, WA. Transmission experiments with other species of ticks from the index ranch are ongoing. Research on transplacental transmission of *T. equi* by EP positive pregnant mares and viable treatment options are also in progress.

Equine piroplasmosis is considered a foreign animal disease in the U.S.; on occasion, cases are detected. In the past 12 months, there were outbreaks of EP in both Missouri and Florida. These incidents included horses with confirmed clinical disease due to *T. equi* infection. Epidemiological investigations indicated that the disease agents in these outbreaks were transmitted iatrogenically; only horses involved in unsanctioned racing, in which needles were shared and blood transfusions were administered, were infected. In both states tick surveys, utilizing tick dragging and wildlife trapping conducted by the Southeastern Cooperative Wildlife Disease Study, ruled out the presence of exotic and competent tick vectors for *T. equi.* It appeared that tick vector disease transmission had not occurred in either outbreak based on the tick studies and the distribution of infection among the horses on the premises with disease. There was a regulatory response to both outbreaks and the outbreaks are resolved.

The increasingly global nature of the equine industry presents the ever present potential for the introduction of EP into the U.S. To reduce the risk of importing infected equids from EP-endemic countries, equids must be blood tested for the presence of antibodies to *Babesia caballi* and *T. equi* at NVSL before importation. Prior to August 22, 2005, the official U.S. EP import test was the compliment fixation test (CFT). Based on evidence that the CFT has relatively low sensitivity for detecting chronically-infected equids compared to the competitive enzyme-linked immunosorbent assay (cELISA), the official test method was changed to a cELISA. Due to the low sensitivity of the CFT, it is possible that equids chronically-infected with *B. caballi* and *T. equi* were imported into the U.S. on a false negative CFT. It is therefore possible that some legally-imported equids into the U.S before 2005 are infected with these two parasites today. In fact, a recent national EP survey indicated a likely seroprevalence of *T. equi* from this survey is 0.007 percent (7 horses per 100,000) and of *B. caballi* from this survey is 0.054 percent (54 horses per 100,000). The survey results indicate that there are likely horses in the U.S. truly seropositive for *B. caballi* and *T. equi*, but at a low prevalence.

Given the recent finding of equine piroplasmosis in Texas, a National Equine Piroplasmosis Working Group was formed to address the current national perspective on this disease. The working group has representatives from USDA Veterinary Services, State Departments of Agriculture, research, and industry. Dr. Kent Fowler represents CDFA on this working group. Adjunct members from additional sectors are called upon as expert resources to the working group. In forming a national perspective, the group is discussing relevant topics to include management options for EP-positive domestic equids, recommendations for needed research, consideration of surveillance and national policy, impacts on stakeholders, and the national disease status.

For more information on equine piroplasmosis: http://www.aphis.usda.gov/animal_health/animal_diseases/piroplasmosis/index.shtml

(***Foot and Mouth*** - *Continued)*

did not occur until April 20, 2010. Cattle, swine, water buffalo and goats on 201 premises within the prefecture are now affected. Japan's initial response included a 10 km movement restriction control line with a stamp-out strategy; a vaccinate-to-destroy policy within the 10 km perimeter was initiated on May 19, 2010. As of May 28, 2010, 71 teams of veterinarians were engaged in the vaccination of more than 125,000 head of livestock located on several hundred premises; 320,000 head of livestock were scheduled to be destroyed.

The identified FMDV serotypes in both South Korea and Japan are similar to isolates from the recent events in Hong Kong, but the sources of the Japanese and South Korean serotypes remain under investigation. Since Febru-

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ary 22, 2010, China has experienced the spread of a FMDV-serotype O strain to seven provinces. Additionally, a FMDV-serotype O event began in another endemic country, Mongolia, on April, 21, 2010. Several other FMDV strains are also endemic in a number of other Asian countries.

California hosts many Asian visitors, including guests from Japan, South Korea and China. Periodically, CDFA and other industry stakeholders receive requests from foreign visitors for farm tours. Appropriate farm biosecurity practices should always be in place, but special precautions should be considered for visitors from countries experiencing FMDV events.

When traveling internationally, especially if there are plans to visit farms, it is highly recommended you know the animal disease status of the countries being visited. Your personal biosecurity practices and awareness of risk reduction steps for returning visitors reduces the risks of disease entry into the U.S. For more information on FMDV and travel tips, please review the accompanying materials and visit our website (http://www.cdfa.ca.gov/ahfss/Animal_Health/FMD_Info.html).

Federal Order - Bovine TB

On April 15, 2010, the USDA/APHIS issued a Federal Order on bovine tuberculosis. This is the first step in changes to the national tuberculosis (TB) program proposed in the October 2009 USDA concept paper. The Federal Order ends the automatic depopulation of TB-affected herds, the automatic state Free-status change to Modified Accredited Advanced (MAA) status when TB-affected herds are found and not depopulated, and the movement test requirements for cattle from MAA states, including California. The order also enhances surveillance and movement restrictions upon detection of TB-infected wildlife. The order will be in effect for two years and may be extended or superseded. As the proposed national TB program is developed into law, inputs from stakeholders and other interested parties are needed.

Vesicular Stomatitis Alert

The first U.S. cases of Vesicular Stomatitis (VS) in 2010 were confirmed in three horses in Cochise County, Arizona, in late May. VS causes blister-like lesions in the mouth, hooves, and teats similar to FMDV lesions.

All horses, cattle, and swine originating from a state where VS has been diagnosed, except those going directly to slaughter, must be accompanied by a certificate of veterinary inspection, including the statement: *"The animals represented on this certificate have not originated from a premises or area under quarantine for vesicular stomatitis, or a premises on which VS has been diagnosed in the past 30 days. I have examined the animals and have found no signs of vesicular stomatitis."* Additionally, the California Horse Racing Board (CHRB) requires that any horse arriving from a VS-infected state must have a negative VS test, obtained within the past thirty (30) days, to enter CA race tracks and/or CHRB approved training centers.

Bovine Brucellosis Update

All states are now classified Free of *Brucella abortus* in cattle. Infection remains in Greater Yellowstone Area (GYA) wildlife with occasional spill-over into livestock. Brucellosis-affected cattle herds have been detected in Idaho (December 2009), Wyoming (June 2008), and Montana (May 2007 and June 2008). Infected free-ranging elk are considered the most likely source of infection in these cases. A management plan is in effect preventing the comingling of cattle and bison and allowing bison to graze within an established range. The USDA concept paper for the new Bovine Brucellosis Program, published in October 2009, provides an action plan for focusing funds to the GYA and reducing slaughter surveillance. The plan eliminates federal funding for the brucellosis milk test in states that do not have infected wildlife and are brucellosis-free for 5 years or more, consolidates diagnostic laboratories for slaughter surveillance testing, and standardizes testing protocols. Federal rules enforcing these changes are expected by January 2011.

Brucellosis Investigation British Columbia May 2010

The Canadian Food Inspection Agency (CIFA) has recently launched a brucellosis disease investigation in British Columbia (BC) after three exported beef cows from two premises were classified as "reactors" on routine U.S. brucellosis surveillance testing. Sexually intact cattle and bison that have resided in BC, must now be brucellosis test negative prior to export to the U.S., unless being exported for immediate slaughter. Brucellosis in cattle was last detected in Canada in 1989.

Bovine Trichomonosis Program Revision - California

Recently, several states have adopted programs or changed their existing programs for control of bovine trichomonosis, a venereal disease of cattle caused by *Tritrichomonas foetus.*

In California, official samples may only be collected by or under the supervision of an approved veterinarian, and must be analyzed at an approved laboratory. Bulls being offered for sale at public auctions that are 18 months of age and older, require evidence of a negative trichomonosis test or they must be sold for slaughter. Since there is no approved treatment for the disease, infected bulls must be held on the premises or sold for slaughter, and the remaining bulls in the herd must be held and isolated from female cattle until they test negative.

A recent California program change accepts a single negative real-time PCR test as an alternative to three negative cultures on bulls from affected herds. The conventional PCR (cPCR) test may be requested at the CAHFS laboratory to differentiate *T. foetus* from fecal contaminants.

TB Testing - 2010 California Fairs

Due to the ongoing bovine TB investigation, CDFA requires that fair exhibitors provide signed documentation from a licensed accredited veterinarian of a negative TB test, obtained within sixty (60) days prior to the sale, for all dairy breeding cattle over six (6) months of age that are to be sold at the fair.

California Department of Food and Agriculture
Animal Health and Food Safety Services
Animal Health Branch
1220 N Street, A-107
Sacramento, CA 95814

Staff Biographies

Livestock Inspector **Nicole Elbert** is a 2008 graduate of Sierra College with Associate degrees in Animal Science, Agriculture and Biology. Nicole joined the CDFA AHB in February 2007 as an Outreach and Education Agricultural Aide. She was assigned to the 2008 TB Taskforce in Fresno, where she actively participated in Incident Command Post and field activities. Nicole was reassigned to the Equine Medication Monitoring Program (EMMP) at CDFA Headquarters in early 2009. She successfully achieved a permanent position as a livestock inspector in November 2009. Her current full time assignment is in the Livestock Movement Section; she is also a part-time EMMP field tester. In her free time, Nicole enjoys poetry and heading to the beach for long walks. She is also an active member of the California Women for Agriculture Association!

AHB Chief **Kent Fowler** was a life-long resident of Monterey County prior to moving to Sacramento six years ago. He received a B.S. in Animal Science and Doctorate in Veterinary Medicine (1977) from the University of California-Davis. At UCD, he was President of the Rodeo Club and Alpha Gamma Rho fraternity. Kent practiced large animal veterinary medicine, specializing in equine, in the tri-county central coast from 1977 until January 2004. He has been with CDFA since February 2004, initially in the Animal Health Emergency Programs, and advancing in 2005 to his current position as AHB Chief. He and his wife, Cindy, have been married 30 years. Cindy is a published short story author with a Masters degree in Creative Writing. Previously, she taught English, creative writing, and drama at Palma High School in Salinas.

Their son, Josh, graduated from UCD with a BA in political science and spent three rewarding years in the Peace Corps in Lesotho, Africa. He is currently writing and working on a PhD in International Affairs in New York. Their daughter, Jaclyn, graduated from UC Santa Barbara and recently participated in Orca whale research in Australia, New Zealand and Alaska. She is starting graduate studies in Environmental Marine Biology at UCSD Scripps Institution of Oceanography in San Diego. Kent and Cindy moved to Rancho Murieta one year ago and enjoy being back out in the country. Kent enjoys working on his golf game at local courses - there is a lot of work to be done!