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.

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The Future of the National Bovine Tuberculosis Program

By Dr. Anita Edmondson

Bovine tuberculosis (TB) is a contagious, infectious, granulomatous disease caused by the bacterium *Mycobacterium bovis*. Although commonly a chronic debilitating disease, bovine TB occasionally assumes an acute, rapidly progressive course. While any body tissue can be affected, lesions are most frequently observed in the lymph nodes, lungs, intestines, liver, spleen, pleura, and peritoneum. Although cattle are considered to be the true hosts of *M. bovis*, the disease has been reported in several other species of domestic and nondomestic animals, and in humans.

At the beginning of the past century, bovine TB caused more losses of livestock than all other livestock diseases combined. This prompted the establishment of the National Cooperative State/Federal Bovine Tuberculosis Eradication Program for bovine TB in livestock. Laws enforcing this program require the testing of cattle, bison, and captive cervids for bovine TB, define the Federal bovine TB status levels for States or zones (accredited-free, modified accredited advanced, modified accredited, accreditation preparatory, and non-accredited), provide the criteria for attaining and maintaining status levels, and contain testing and movement requirements for cattle, bison, and captive cervids leaving States or zones of a particular status level.

Bovine TB has significant animal health, public health, and international trade consequences. The program to eradicate this disease from cattle in the U.S. has made significant progress since its inception in 1917. However, several challenges impede eradication. The USDA/APHIS/VS and the U.S. Animal Health Association (USAHA) held listening sessions and forums to pro-

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Recent Equine Piroplasmosis Incident in Texas

By Dr. Kent Fowler

A tick-borne disease known as equine piroplasmosis (EP) caused by the parasite *Theileria equi* was recently confirmed on a ranch in South Texas. 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 equine disease and treatment options are generally not effective. Current control measures include lifetime quarantine for a positive horse. To avoid spread of the disease, it is important to eliminate contact with ticks and to prevent the transfer of blood from one equine animal to another. Those animals that survive the acute phase of infection may continue to carry the parasite for long periods of time. Research is underway looking at alternative disease control strategies.

Testing in this latest Texas incident has now confirmed infection in 442 exposed horses out of 1,246 tested to date. There are 289 positive horses under quarantine on the index ranch. The remaining positive horses are located on other premises in the following states: Alabama (1), California (2), Florida (5), Georgia (1), Louisiana (5), Minnesota (1), North Carolina (2), New Jersey (3), Tennessee (1), Texas (30), Utah (1) and Wisconsin (1). Two horses

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National TB Program - *Continued*

vide industry personnel, veterinarians, regulators, diagnosticians and wildlife experts the opportunity to review and update the bovine TB program. Their recommendations were used to produce a concept paper for the future of this program entitled, "A New Approach for Managing Bovine Tuberculosis: Veterinary Services' Proposed Action Plan''. This paper presents the current USDA/APHIS/VS thoughts about changes for the TB program and provides an action plan to:

1. Reduce the introduction of TB into the U.S. national herd from imported animals and wildlife by:
   a. Applying additional requirements to cattle imported from Mexico
   b. Enhancing efforts to mitigate risks from wildlife
2. Enhance TB surveillance by:
   a. Crafting a comprehensive national surveillance plan
   b. Accelerating diagnostic test development to support surveillance
3. Increase options for managing TB-affected herds by:
   a. Conducting epidemiological investigations and assessing individual herd risk
   b. Applying whole-herd depopuation judiciously and developing alternative control strategies
   c. Applying animal identification standards to meet animal health needs
4. Modernize the regulatory framework to focus resources where the disease exists
5. Change the State classification system to a science-based zoning approach

The concept paper may be viewed at http://www.aphis.usda.gov/newsroom/hot_issues/bovine_tuberculosis/bovine_tb.shtml. The USAHA prepared a summary from their forum "The Future of the National Tuberculosis Program" which is posted at http://www.usaha.org/meetings/2009/2009_TB_Report.pdf.

The six listening sessions on bovine TB, held in California, Michigan, Minnesota, New Mexico, Texas and Washington DC, are also available on-line at http://www.aphis.usda.gov/newsroom/hot_issues/bovine_tuberculosis/tb_ls.shtml

The Animal Health Branch Newsletter will now be printed and mailed biannually to those on our mailing list. Contact ahbfeedback@cdfa.ca.gov to be added to the list

Equine Piroplasmosis - *Continued*

confirmed to have been shipped from the exposed ranch in Texas to California are positive for EP and are now under a lifetime CDFA quarantine. Eight (8) horses in close contact with these positive California horses have been tested and are negative. The quarantine on them has been lifted. CDFA expects to find more exposed horses that will need to be tested as the Texas investigation grows.

Amblyomma cajennense ticks from the index ranch have proven capable of transmitting *T. equi* to a previously negative horse at the USDA/ARS lab in Pullman, WA. Transmission experiments with other species of ticks from the index ranch are ongoing.

EP is considered a Foreign Animal Disease in the U.S., but cases have been detected on occasion. In the past 12 months, there have been two outbreaks of disease—one in Missouri and one in Florida—that included horses with confirmed clinical disease due to infection with *T. equi*. Epidemiological investigations indicated that the disease agents in the outbreaks were transmitted through the sharing of needles as well as blood transfusions among horses involved in unsanctioned racing. 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 transmission via tick vectors 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 considered resolved.

The increasingly global nature of the equine industry presents the potential for the reintroduction of EP into the U.S. To reduce the risk of importing infected equids from areas in which EP is endemic, it is required that blood from these equids be tested for the presence of antibodies to *B. caballi* and *T. equi* before importation. This U.S. import testing is conducted by the National Veterinary Services Laboratories (NVSL).

Prior to August 22, 2005, the official U.S. import test used for detecting antibodies to EP disease agents was the complement fixation test (CFT). Based on evidence that the CFT has relatively low sensitivity for detecting chronically infected equids, the official testing method was changed to a competitive enzyme-linked immunosorbent assay (cELISA). Thus, because of the low sensitivity of the CFT, it is possible that equids chronically infected with *B. caballi* or *T. equi* were imported into the U.S., making it possible that infection from either of these two parasites exists today in equids in the United States.

Recently, a national EP serosurvey was undertaken to address the 2007 United States Animal Health Association (USAHA) Resolution Number 19 from the Infectious Diseases of Horses Committee (IDOHC), EP Subcommittee, with a goal of reporting a national seroprevalence of antibodies to *T. equi* and *B. caballi* among U.S. equids. Members of the USAHA-IDOHC-EP Subcommittee contributed significantly to the project. The serosurvey was funded by USDA-APHIS-VS.

To ensure broad geographic representation among animals tested, the chair of the USAHA-IDOHC-EP subcommittee asked 36 National Animal Health Laboratory Network laboratories testing for equine infectious anemia

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Equine Piroplasmosis - *Continued*

(EIA) and 2 additional laboratories to participate in the EP serosurvey by submitting sera remaining after EIA testing. Of these, 35 laboratories located in 34 States contributed serum samples for the survey. Laboratory directors were assured that no link between contributing laboratories and test results would occur and that only national seroprevalence estimates would be reported. A sample size for the number of sera to be tested was allocated to each laboratory proportional to the number of EIA tests performed annually. A total of 15,300 samples were tested at NVSL, which was considered an adequate sample size to estimate a prevalence of 0.1 +/- 0.05 percent for *T. equi* or *B. caballi*. The estimate for the adjusted, weighted median for seroprevalence for *B. caballi* from this survey is 0.054 percent (54 horses per 100,000) [95-percent prediction interval 0.002- 0.21 percent]. The estimate for the adjusted weighted median for the seroprevalence for *T. equi* for this survey is 0.007 percent (7 horses per 100,000) [95-percent prediction interval 0.0003-0.036 percent]. This survey indicates that there are likely horses in the U.S. truly seropositive for *B. caballi* and *T. equi*, but at a very low prevalence.

Given the recent finding of equine piroplasmosis in Texas, a National Equine Piroplasmosis Working Group has been formed to address the current national perspective on this disease. The working group will consist of representatives from Veterinary Services, States, research, and industry. Dr. Kent Fowler will be representing CDFA on this working group. Adjunct members may be called upon from additional sectors to serve as expert resources to the working group. In forming a national perspective, the group will discuss options for management of domestic positives, recommendations for needed research, consideration of surveillance and national policy, impacts on stakeholders, and national disease status, among other relevant topics.

Brucellosis Vaccination, Official ID and Legible Tattoos

Each year, veterinarians Brucellosis vaccinate approximately 850,000 female calves in California. Veterinarians are responsible for properly vaccinating the calves for brucellosis, applying official Brucellosis identification tags, and applying a brucellosis vaccination tattoo with all three tattoo characters legible. Brucellosis identification tag numbers are the principle form of official animal identification that must be used and recorded on test charts and Certificates of Veterinary Inspection (CVIs). Brucellosis identification tag numbers are essential when tracing animals to their origin during disease investigations. "Silver bright" identification tags should only be applied to cattle that lack a form of official identification.

Veterinarians are also responsible for completing and mailing Brucellosis Calfhood Vaccination Records to the AHB District Office within 14 days of vaccination. The identification tag number and vaccination record provide invaluable information for the tracing of female cattle. The vaccination record includes information on the owner of the animal, the location of the animal at time of vaccination, the type and number of cattle vaccinated, and the accredited veterinarian who administered the vaccine. This information is entered into a reference database for use in tracing of diseased and stray animals. Tracing of animals may be delayed or impossible without this information, so prompt submission of vaccination records is essential. Delayed receipt of vaccination records creates obvious problems with traceability.

Contract Veterinarians are required to submit Brucellosis vaccination records to CDFA District Offices within 14 days of vaccination

When preparing CVIs for cattle leaving California, check the import requirements for the state of destination, including the brucellosis identification requirements. Record all official identification on the CVI. Official Brucellosis calfhood identification tags and vaccination tattoos are scrutinized closely during interstate movement. If when examining cattle, you observe a Brucellosis identification tag, but a poor or illegible tattoo, contact your Animal Health Branch (AHB) District Office for the proper procedure to correct the tattoo before the cattle are shipped. Cattle that move with illegible Brucellosis tattoos may be denied entry in the destination state and be shipped back to California.

Accredited Veterinarians are required to mail original CVIs and test charts to CDFA Offices within 10 days of completion

Your assistance, in applying official identification and tattoos, vaccinating and testing animals, collecting and recording identification, and completing official forms, is essential for successful disease control programs and animal traceability.

UC Davis Biosecurity Outreach Summit

December 12, 2009 9 AM – 3 PM

The summit will focus on bio-security risks and related traceability issues of 4-H Animal Science projects.

Advance registration required

Lunch provided

To register - http://ucce.ucdavis.edu/survey.cfm?survey_number=4238 or contact Martin Smith (mhsmith@ucdavis.edu)

CA Update Contagious Equine Metritis Investigation

Contagious Equine Metritis (CEM) testing and treatment of the forty-three (43) mares and one (1) stallion traced to California is complete. During the investigation, two (2) CEM test positive trace mares were treated and test negative on follow-up testing. Quarantines in place during testing and treatment of

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CEM Update - *Continued*

California horses are all released. Nationally, 991 horses located in forty-eight states were investigated in this incident. Twenty-two stallions and five mares were CEM test positive. The epidemiologic investigation to determine the origin of the outbreak continues since no source has been determined. Approximately 90% of the horses involved in this investigation are known to be free of *Taylorella equigenitalis.*

CDFA AHB appreciates the efforts of the UC Davis Center for Equine Health and the accredited equine practitioners across the state for their assistance in the management of the California investigation. Their partnerships with state animal health officials during this investigation were invaluable.

Avian Influenza surveillance is ongoing.
Backyard poultry owners may submit sick or dead poultry to the CAHFS Laboratory System for necropsy services free of charge.

Staff Biographies

Dr. Oliver Kenagy was born and raised on a farm in Iowa. He is a 1959 alumnus of the Iowa State University College of Veterinary Medicine. After working for thirty-two years as a large animal practitioner in Iowa, Dr. Kenagy joined CDFA Animal Health & Food Safety Services in April 1991. Some of his notable activities during his tenure with CDFA include participation in the Brucellosis Task Force and in swine surveys for Classical Swine Fever and Pseudorabies. Dr. Kenagy manages the California Egg Quality Assurance Plan for the Ontario District and also provides veterinary support for the Equine Medication Monitoring Program.

Dr. Predrag Pecic is a 1969 graduate of the College of Veterinary Medicine University of Belgrade, Yugoslavia. He worked in two dairy practices in New Ulm, Minnesota and Whitehall, Wisconsin for several years before moving to California. Dr. Pecic obtained postgraduate education at the UC Davis School of Veterinary Medicine and joined the CDFA Animal Health Branch in December 1979. He was trained as a Foreign Animal Disease Diagnostician at Plum Island in 1988. During his career with CDFA, Dr. Pecic actively participated in the eradication programs for Brucellosis, Pseudorabies, and Tuberculosis. He also participated in emergency responses to Exotic Newcastle Disease and Contagious Equine Metritis. Dr. Pecic routinely assists the San Diego Wild Animal Park and several zoos with their Tuberculosis testing programs.