



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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Melamine in Pet Food – What Did We Learn?

By Dr. Richard E. Breitmeyer,
State Veterinarian

It appears that the recent incident of melamine in pet food is now behind us. So what did we learn, and what relevance does it have to food animal production?

In case you missed it, here is a short synopsis. Melamine is a small, nitrogen-containing compound that has a number of industrial uses, including as an industrial binding agent, flame retardant and as part of a polymer in the manufacture of cooking utensils and plates. It is not, however, an approved feed ingredient, and is classified as an adulterant by the Food and Drug Administration (FDA). It now appears that unscrupulous manufacturers in China were intentionally adding it to plant-based protein supplements to artificially increase the apparent protein content. This practice came to light in March 2007 when several melamine-contaminated pet foods were associated with renal disease in cats and dogs.

Our Office became involved when we were notified by the FDA on April 18 that scrap pet food, likely contaminated with melamine, was sold to a hog producer in Stanislaus County. Since an adulterated feed was fed to food-producing animals, we immediately quarantined about 1,000 hogs and tested the feed and hogs for melamine. It was quickly determined that feed, urine and meat tissue samples were all found to be positive for melamine. Within days, similar situations were discovered across the U.S. where contaminated pet food was fed to thousands of hogs and to millions of chickens and turkeys. USDA and FDA also announced that these animals were not eligible to enter the food supply.

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History of the Animal Health Branch

By Dr. Kent Fowler, AHB Chief

The Animal Health Branch (AHB) dates its origin to the creation of the Office of the State Veterinarian in 1899. The cited mission was "to protect the health of all domestic animals in the State from all contagious and infectious diseases, so far as practical". Though its functions have increasingly diversified in response to changes in agriculture and public health events, the mission remains the same.

The control and eradication of diseases, inspection of animal shipments, and the creation of livestock organizations were the initial focus of the first State Veterinarian, Dr. Charles H. Blemer. Efforts were directed to the control and eradication of tuberculosis, sheep scabies, and Texas cattle fever. The control of anthrax, contagious abortion in cattle, hog cholera and glanders was also of importance at that time.

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Melamine - Continued

In this instance, it was fortunate that melamine is water-soluble, and further testing demonstrated that swine urine and meat tissue sample results quickly reverted to negative. We were able to release the quarantine on May 18 and allow the producer to sell his hogs.

So what did we learn and why is this important to everyone involved with food animal production?

- California is fortunate to have one of the premier diagnostic laboratories in the world – the California Animal Health and Food Safety Laboratory System (CAHFS), administered by the School of Veterinary Medicine, U.C. Davis, under the direction of Dr. Alex Ardans, Director. This laboratory is funded largely by California Department of Food and Agriculture, through general funds appropriated annually by the Legislature. This laboratory is essential to the safety of our food supply and to the health and economic viability of our livestock and poultry industries.
- Know your suppliers of feed and feed ingredients. In this case, some very prominent pet food manufacturers chose to source feed ingredients from relatively new companies operating in China. FDA indicated that both Chinese companies associated with manufacturing contaminated products had only been in operation since 2006.
- As costs of feed ingredients rise, livestock and poultry producers may look to alternative and competitively priced commodities. Again, know your supplier and be aware of unintended biological or chemical contamination that could inadvertently pass into meat or milk.
- California and the U.S. enjoy a safe and abundant food supply. But that food supply continues to

grow more global every day. It is apparent that other countries may not have an equivalent level of regulatory oversight. It is appropriate to reflect on the importance of keeping California agriculture viable. 

History - Continued

A brief glimpse at information on California livestock census and market value reinforces the historical significance of animal agriculture to the State. In 1910, the State had 452,000 head of dairy cattle valued at \$38.40/hd; other cattle numbered 1,120,000 hd, but marketed for \$20.10/hd. Sheep were the dominant livestock species numbering 2,372,000 and brought \$3.30/hd at market. Market swine numbered 540,000 at \$8.20/hd. Horses and mules numbered 503,000 hd and were highly valued at \$105.00 and \$122.00/hd respectively.

Historical documentation about the AHB is most interesting, and we will continue to share tidbits of historical significance in future issues of our quarterly newsletter. My own tenure and history with CDFA is relatively short, as I left my Central Coast equine practice of 26 years just over three years ago. Although it was very difficult to say good-bye to clients and patients, the move into regulatory veterinary medicine has been rewarding and challenging. The more predictable working schedule has been appreciated by family, the second career stimulating. I often felt that private practice was my career path until retirement—regulatory medicine has fostered new and exciting adventures. 

Avian Influenza (AI)

Highly pathogenic avian influenza (HPAI) remains a serious threat to California and the U.S. and continues to be a difficult disease to control in other parts of the world. In collaboration with USDA, California Department of Fish and Game (CDFG), and other State agencies, CDFA continues

surveillance programs, outreach and education, and emergency disease response preparations related to AI.

California avian surveillance programs include sampling of commercial poultry production facilities, live bird markets, game birds, wild birds and backyard flocks. Active AI surveillance programs in 2006 resulted in the laboratory submission of over 100,000 samples.

Avian Health outreach and education focuses on recognition of clinical disease in birds and poultry, procedures for reporting sick and dead birds, and implementation of flock biosecurity procedures.

Avian Health Hotline - Report sick birds:
1-800-491-1899 

Equine West Nile Virus (WNV)

This year, CDFA and the California Department of Health Services (DHS) are again subsidizing, at no cost, WNV diagnostic testing submitted to the California Animal Health and Food Safety Laboratory System (CAHFS) for arboviral encephalitis viruses on clinically affected horses.

California private practitioners are to be commended for the upgraded quality of laboratory submission forms received last year. In 2006, the number of equine WNV cases diagnosed in California decreased significantly from the previous two years. Fifty-eight reported clinical cases were confirmed and 24 of these horses died or were euthanized.

As of July 20, 2007, four cases of equine WNV in California have been confirmed for the year. Vaccination, mosquito control, and owner education remain key elements in the prevention and control of this disease.

For more information: http://www.cdfa.ca.gov/ahfss/ah/wnv_info.htm

Dead Bird WNV Reporting: 1-877-968-2473 or online at <http://westnile.ca.gov> 

Equine Herpes Virus-1 (EHV-1)

California has recently been impacted by an increase in EHV-1 cases. Multiple strains of the virus may cause clinical signs ranging from abortion to mild respiratory and severe neurogenic disease in horses. Stress and lack of previous exposure to the virus may increase susceptibility.

Occasionally, there are no observable clinical signs during incubation. However, many times incubation signs are limited to fever in excess of 102° F. The predictive value and significance of diagnostic testing (PCR test) results, in the absence of clinical disease consistent with EHV-1, are uncertain at this time. However, testing is a useful adjunct to diagnosis in the presence of clinical disease consistent with EHV-1.

Horse-to-horse contact, aerosol transmission, and contaminated hands, equipment, tack, and feed all play a role in disease spread. However, horses with severe clinical signs of neurological EHV-1 illness tend to have large viral loads in their blood and nasal secretions and therefore present the greatest danger for spreading the disease. **Immediate isolation of identified suspect cases and biosecurity are key elements for disease control.** There is no equine vaccine with a label claim for protection against the neurological strain of this EHV-1.

Practitioners working with horse owners and trainers are encouraged to develop suitable prevention and monitoring plans for their clients' horses. The following Web sites may help in that planning:

<http://www.cahfs.ucdavis.edu/> or
<http://www.vetmed.ucdavis.edu/ceh/topics.htm> 

Bovine Tuberculosis (TB) Control Program

California has been Bovine TB Accredited-Free since April 15, 2005; however, the threat of TB to California's cattle is ever present. To maintain the State's TB-Free status, regulatory officials continue slaughter surveillance and live-animal testing programs.

Accredited California private practitioners are integral participants in the live-animal testing component of the State's TB surveillance program.

WHEN TB TESTING CATTLE:

- Expect a caudal fold response rate of about 1 %
- Report any response at the tuberculin injection site to CDFA.

In 2006, California private practitioners performed 73,783 TB caudal fold tests (CFT). All confirmatory tests performed on CFT responders by CDFA or USDA were negative. Accurate reading and reporting of caudal fold responses are essential components of California's live animal TB surveillance.

More than 774,000 adult cattle were inspected for TB at slaughter in California's major adult cattle packing plants in 2006. Laboratory evaluation of 1,273 suspicious samples was conducted. Samples found to be histocompatible with bovine TB were further tested (i.e., PCR, culture). Continued vigilance to include preventing contact between cattle of Mexican origin and California's breeding cattle is necessary for maintaining our TB-Free status.

As of July 2007 only Michigan, Minnesota and New Mexico have less than TB-Free status. Texas gained TB-Free status on October 3, 2006 after a long battle with TB and implementation of an enhanced bovine TB surveillance program.

For more information:
CDFA: http://www.cdfa.ca.gov/ahfss/ah/tb_info.htm
USDA: <http://www.aphis.usda.gov/vs/nahps/tb/> 

Bovine Brucellosis

California has been brucellosis free since 1997. The California's Brucellosis Control Program includes calfhood vaccination and testing of live animals, slaughter animals, and milk. Private practitioners routinely test cattle prior to movement, show, and sale. In 2006, 27,822 animals from 805 beef and dairy operations were brucellosis tested. Additionally, private veterinarians vaccinated nearly one million beef and dairy calves for brucellosis.

A recent change in brucellosis vaccination regulations of dairy calves has been implemented. **All female dairy and beef calves can be brucellosis vaccinated between four and twelve months of age.** Brucellosis vaccine has increased in price. The current price of a five-dose vial is \$3.74; a twenty-five-dose vial is \$16.66.

State and Federal agencies oversee the Brucellosis Market Cattle Identification (MCI) and Brucellosis Ring Test (BRT) programs. The MCI program samples and tests all adult cattle slaughtered in California for bovine brucellosis; 732,994 blood samples were taken at slaughter in 2006. The BRT program screens milk samples quarterly from every dairy in the State; 7,889 BRT tests were performed in 2006. The MCI and BRT surveillance programs stimulated 50 whole herd tests in the State. All herd tests were negative for bovine brucellosis. **Remember to include brucellosis testing in any cattle abortion investigation.**

For more information:
http://www.cdfa.ca.gov/ahfss/ah/brucellosis_info.htm 

Livestock Movement

Livestock movement across California's borders represent an important potential for introduction and spread of disease into the State. In 2006, CA Pest Exclusion Border Stations recorded 31,149 shipments of 16,651,318 animals of various species into California.

California issued 6,106 Livestock Entry Permits to veterinarians from 45 states and two foreign countries in 2006. Approximately half of these permits were for the introduction of beef cattle, including cattle for immediate slaughter. Approximately 170 Pasture-to-Pasture Permits were also issued for the movement of 90,000 head of cattle for seasonal grazing between California and Oregon, Nevada, or Idaho.

California Pest Exclusion Border Station personnel are valuable partners for monitoring animal movement into California. Upgraded computer programs and a direct link from border stations to CDFA headquarters enable real-time electronic transfer of animal movement information. Animal Health Branch educational outreach has been directed to enhance the quality and quantity of animal movement information recorded at border stations.

Livestock & Poultry Entry Through CA Border Stations 2006	
Swine	2,316,624
Beef Cattle	785,909
Sheep	279,340
Dairy Cattle	72,871
Goats	70,919
Horses	11,755
Poultry	10,763,211
Hatching Eggs	1,945,684



Bovine Trichomonosis

Trichomonosis, a venereal disease of cattle caused by the protozoan parasite *Tritrichomonas foetus*, is a reportable disease in California. The disease must be reported to CDFA within two days of discovery. California's Bovine Trichomonosis Control Program began September 2003. Since implementation, 138 trained USDA accredited California veterinarians have been certified for official trichomonosis sampling; 58 laboratories are approved to officially test, read and diagnose *Tritrichomonas foetus*.

Changes in current regulations for the Bovine Trichomonosis Control Program have been proposed. The proposed modifications clarify testing requirements for bulls entering California and specify procedures for management of *Tritrichomonas foetus* positive and exposed herds. The comment period for the proposed changes closed July 10, 2007. Implementation of modified regulations are expected by Fall 2007. To view proposed changes and more information:

http://www.cdfa.ca.gov/ahfss/ah/trichomonosis_info.htm 

Porcine Circovirus (PCV Type 2)

Several cases of PCV2 were reported in California in 2007. This is a DNA viral disease of swine that may cause poor growth, weight loss, and mortality in piglets between 5 to 14 weeks of age. Pigs may die suddenly, or experience wasting and demonstrate lymphadenopathy, pyrexia, dyspnea, skin rashes, jaundice, stomach ulcers and diarrhea. Many swine are infected and serologically positive for PCV2, but only a small percentage of animals show clinical signs of the disease. Diagnosis is based upon the presence of PCV2 histological lesions in lung, tonsil, spleen, liver and kidney tissues.

For more information: http://www.cdfa.ca.gov/ahfss/ah/porcine_Circovirus.htm 

National Animal Identification System (NAIS)--Update

The National Animal Identification System is generating discussion across the livestock industry. The NAIS is a necessary tool for animal health officials to quickly and efficiently respond to a disease incident. Several recent events including bovine tuberculosis, swine pseudorabies, and melamine feed contamination clearly demonstrate the need for better traceability systems at state and federal levels. The lack of good identification, premises identification, and quality records hindered the response of animal health officials in each of these incidents. Current systems rely too heavily on paper-based records and a variety of identification that can substantially increase the response time and size of a disease event. The NAIS would standardize these systems and enhance disease traceability programs for small to large disease incidents. Veterinarians are a valuable part of the implementation of the NAIS. Therefore, it is important to the success of this program that veterinarians communicate accurate information about NAIS to their clients. Veterinarians should take the first step and register their practice and encourage clients to follow their lead.

Visit www.californiaid.org or www.usda.gov/nais for more information or call 1-866-325-5681. 



California Animal Emergency Response System (CARES)

It's an exciting time for CARES! Governor Schwarzenegger approved AB 450 in September 2006. This legislation requires CARES incorporation into the State mandated Standardized Emergency Management System (SEMS). A Memorandum of Understanding (MOU) between the California Department of Food and Agriculture (CDFA) and the Governor's Office of Emergency Services (OES) was submitted to the Governor's office for approval. This MOU has provisions for OES training and credentialing of Animal Health Branch District veterinarians for service as CDFA representatives in Regional Emergency Operational Centers (REOC).

Those interested in becoming a CARES Stakeholder or being added to the CARES mailing list, contact: Glenn Cadman (glenn.cadman@oes.ca.gov) or Sheryl Fuller, DVM (sfuller@cdfa.ca.gov) 

New Employee Profiles

CDFA's Animal Health Branch is pleased to share a biographical sketch of two new employees.

Dr. John Evans, PhD recently accepted a Research Scientist III position at Sacramento Headquarters. Originally from Santa Rosa, Dr. Evans earned his BS from Chico State University and a MS and PhD in Animal Sciences from Colorado State University. In 2000, Oklahoma State University was fortunate to have Dr. Evans join their faculty in the Dept. of Animal Science. He returned to California in 2004 and served as a lecturer for Chico State University and as a consultant for several organizations. Over the past year, Dr. Evans has been a CDFA project manager working on NAIS projects to implement both electronic identification systems for horses, cattle, and sheep, and an outreach education project with UC Extension. His education, experience, and

background with livestock make him a valuable addition to the AHB staff. Dr. Evans is glad to be part of the CDFA team making important contributions to animal agriculture in California.

Alana McQuarry, DVM, MPVM is the newest VMO III staff veterinarian at Sacramento Headquarters. Dr. McQuarry began her studies in Animal Science at the University of Arizona and then earned a BS (Veterinary Science), a DVM (Food Animal Medicine) and MPVM (Population Health) from the UC Davis School of Veterinary Medicine. Additionally, Dr. McQuarry has completed training as a Foreign Animal Disease Diagnostician (FADD) at the USDA Plum Island Animal Disease Center. Dr. McQuarry worked in a mixed animal practice for several years before joining CDFA. Although she misses her private practice patients and clients, Dr. McQuarry enjoys the increased interaction with colleagues at CDFA having similar interests coupled with regular work hours. Her education, background, and love of cattle and horses are well suited for her involvement in the AHB bovine and equine programs.

We welcome Drs. Evans and McQuarry to the Animal Health Branch.



Drs. John Evans and Alana McQuarry

Oh, by the way, congratulations are in order...

Livestock Inspector Kristen Weitemier Davis has been accepted in a Master of Science Program in Comparative Pathology at the University of California Davis. Kristen will begin her studies in September 2007 while continuing her involvement in the Avian Health Surveillance and NAIS programs.

Drs. Edward Henry (Tulare District) and **Antoinette Markin** (Redding District) have recently completed the USDA Foreign Animal Disease Diagnostician (FADD) training at Plum Island, New York. This two-week program provides intensive training on the recognition of foreign animal diseases and appropriate sample collection for diagnosis. There are currently 14 trained FADDs on staff with CDFA.

Dr. Mike Poulos has recently accepted a VMO IV position in the CDFA Avian Health Program. Dr. Poulos will oversee the avian surveillance efforts throughout California. 

Reminder to:

**CDFA - USDA - CAHFS STAFF
AHB Statewide Meeting
September 18-20, 2007**

Hopefully, this inaugural issue provides interesting information. Please contact us at ahbfeedback@cdfa.ca.gov for suggested revisions and/or additions to make this publication a useful and educational professional tool for you, our reader. If you would like to receive this newsletter or other AHB information electronically, please provide us your E-mail address.



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