

Mission Statement

The Animal Health Branch 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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CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

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New State Veterinarian Dr. Annette Whiteford

Secretary of Food and Agriculture, A.G. Kawamura, appointed Dr. Annette Whiteford as the State Veterinarian, effective September 2, 2010, following the retirement of Dr. Richard Breitmeyer.

Dr. Whiteford's agricultural interests and involvement with government began at an early age. Raised in a Northern California suburban neighborhood, zoning variances were sought and obtained to allow her to raise horses, calves, chickens, and rabbits. Early business and management experiences were obtained working on an equine breeding ranch and also providing riding lessons.

She graduated with honors from the University of California-Davis with a B.A. in Economics and had lead responsibility at Lockheed Missiles and Space for analysis and negotiation of multi-billion dollar annual fixed asset allocations, large-scale project management, and identification of cost problems and development of budget solutions. She further enhanced her management experience as business manager for a Sacramento engineering firm.

In 1994, she pursued her life-long dream of attending veterinary school. In spite of family responsibilities and two small children, she completed her Doctorate in Veterinary Medicine at the University of California - Davis in 1998, graduating at the top of her class! Following graduation, Dr. Whiteford was a mixed animal private practitioner focused on herd health management, preventive healthcare, internal medicine, surgery, emergency care, and hospital management. In addition to honing a wide array of veterinary skills, she committed to a common sense approach to animal health management and medical practice.

Dr. Whiteford joined CDFA in 2001 as a member of the Animal Health Emergency Management Team. She was involved in Foot and Mouth Disease preparedness and prevention planning, and took part in avian influenza and bovine tuberculosis outbreak response activities in California. In 2002-2003, Dr. Whiteford was the Incident Commander and California Area Commander for the Exotic Newcastle Disease (END) incident in southern California. Her collaborative style, vision, decision-making skill and willingness to accept responsibility contributed significantly to the ultimate success of END eradication from California.

On July 1, 2004, Dr. Whiteford was appointed Director, Division of Animal Health and Food Safety Services. In this capacity, she oversees an annual budget of \$45.5 million and 222 employees engaged in programs for animal health, milk and dairy food safety, meat and poultry inspection, and livestock identification. She also works closely with the California Animal Health and Food Safety Laboratory System, which is operated by U.C. Davis, School of Veterinary Medicine, under a contract with her Division. As Director, she has implemented organizational changes to meet the demands of shrinking budgets yet remain effective in the most critical mission area; was part of the management team for several disease outbreaks and food and feed contamination events; provided radio and television interviews in support of farmers and ranchers and the work done to maintain a plentiful and safe food supply; collaborated with federal, state and local agencies; and provided testimony at several legislative sessions.

In September of 2010, besides continuing to perform as Director, Dr. Whiteford was appointed State Veterinarian, the position ultimately responsible for the State's veterinary authority on animal health and food safety related to livestock and poultry.



Note: In an effort to reduce costs this newsletter will only be sent electronically.



Special Report

United States Animal Health Association Annual Meeting Summaries

The United States Animal Health Association (USAHA) is a science-based, voluntary organization of State and federal animal health officials, national allied organizations, regional representatives and individual members that works with state/federal governments, universities, livestock producers, national livestock and poultry organizations, research scientists and extension services to control livestock and poultry diseases and protect public health in the US. With thirty-two active committees, the annual meeting is an important venue for sharing of new information and methods that may be incorporated into laws, regulations, policy and programs. This special report features summaries of the plenary session and some of the committee meetings from the 114th USAHA Annual Meeting in Minneapolis, MN on November 12 - 17, 2010.

Plenary Session - One Medicine: It's All Herd Health



This session provided valuable One Health perspectives from producers and animal health, public health and environmental health practitioners. 60% of the 1451 known infectious diseases of humans can infect both animals and humans, and 85% of new emerging infectious diseases are zoonotic. Alert frontline health care workers are critically important in emerging disease detection. Responsibly addressing emerging diseases requires coordinated, collaborative efforts of inter-disciplinary, multi-organizational, working groups. For veterinarians, One Health is not a new concept but a professional imperative. Producer concerns regarding One Health are rooted in a lack of communication, misinformation, and limited interactions with some disciplines. The lack of public understanding of animal health issues and modern agriculture compound the problem, so producers feel that the objectives of the initiative must emphasize relevant issues to all parties without slighting animal health. Communication, outreach programs, and building trust are thought essential for forward movement of this concept. Environmental health practitioners foster the involvement of all related professions and sectors in One Health since connections between food production, land use, environmental degradation, human nutrition and animal health cannot be separated. The establishment of relationships and lines of communication are key for One Health and the dissemination of information on zoonotic and emerging diseases.

Committee on Tuberculosis



A New Approach to the National Tuberculosis Program was the concept document distributed by the USDA/APHIS in October 2009. The regulatory framework for the new program will be available for public comment in January 2011. USDA plans to have a Proposed Rule by July 2011 and a Final Rule in 2012. The tuberculosis program rulemaking will be done with the changes in the Brucellosis program. Due to the lengthy rulemaking process, the April 2010 TB Federal Order implements several interim measures to mitigate disease spread and address the most urgent changes. The Federal Order suspends the automatic loss of TB-Free status for states that detect a TB-affected herd and removes the TB test requirement for cattle not known to be exposed to TB being moved from states with Modified Accredited Advanced (MAA) status.

Tuberculosis Disease Information: http://www.aphis.usda.gov/animal_health/animal_diseases/tuberculosis/
 Tuberculosis / Brucellosis Working Group: http://www.aphis.usda.gov/animal_health/tb_bruc/



National Tuberculosis Program: Forty-six states have bovine tuberculosis-free status, California has MAA status, and Michigan, Minnesota and New Mexico have split-state status. Thirteen TB-affected herds were detected in 2010; 11 beef herds and 2 dairy herds. The herds were located in Colorado (1 dairy and 1 beef), Kentucky (1 beef), Michigan (5 beef), Mississippi (1 beef), Nebraska (1 beef), Ohio (1 dairy), and South Dakota (2 beef). Ten of the herds were depopulated with Federal indemnity, two Michigan beef herds are on a test and removal plan, and the Ohio dairy, though mostly dispersed at the time of detection, was also depopulated.

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Committee on Tuberculosis (Continued)

The TB strain, identified in the South Dakota beef herd in 2010, matches that found in captive cervid herds in the 1990s and in the affected Nebraska elk & fallow deer herd in 2009. No direct contact between any of these herds has been established. Subsequently, this same strain was identified in beef cattle herds in Nebraska and South Dakota that received replacement heifers from the index South Dakota herd. The TB strain in the Kentucky beef herd also matches the 1990's captive cervid strain type, but no link with captive cervids has been established. The cervid strain type found in three Indiana cervid herds in 2009 matches the strain identified on slaughter surveillance in two feeder steers currently under investigation in Indiana and Ohio. The source herd of these feeder steers is not yet determined.

Surveillance Activities: Slaughter surveillance remains a critical component of the TB program. Currently, the minimum slaughter surveillance standard is collection of 5 samples per 10,000 adult cattle slaughtered; there is no minimum standard for feeder cattle. A surveillance standard of 1 sample per 20,000 cattle slaughtered is being examined for feeder cattle. Last year nearly 11,000 granuloma lesions were collected by 157 US slaughter establishments and examined histologically. Of the 11,000 samples, 17 were histologically-compatible with bovine TB; bovine TB was confirmed in 2 adult cattle and 6 feeder cattle. The positive adult cattle traced back to the Colorado dairy and the Kentucky beef herd. Of the six feeder cattle, one was an aged roping steer that traced to the Mississippi herd; one had eartags that traced to Mexico; 2 originated in Mexico, but could not be definitively traced; and the investigation and tracing of the 2 domestic steers is ongoing in Indiana and Ohio.

In the tuberculin skin testing component of the national surveillance program, nearly 1.28 million cattle were caudal fold skin tested last year with more than 18,000 responders (1.4% response rate). Also more than 11,000 single cervical skin tests were performed on captive cervid species with 182 suspect responders (1.7% response rate).

Mexican-Origin Tuberculosis Cases: Only one (1) Mexican-origin fed cattle case with official Mexican identification was detected through slaughter surveillance last year, the lowest number ever recorded. During 2008 and 2009 more than 800,000 Mexican cattle were imported into the U.S.

State Updates on recent TB Incidents:

- **Colorado:** One affected 500-cow southern Colorado dairy herd was confirmed following the detection of an *M. bovis* infected cow during routine slaughter inspection. This heavily infected herd was depopulated. Infection was found in calves that left the herd at a day of age and which resulted in the depopulation of 5 other affected facilities. The strain type in the herd is similar to some isolates from Mexican cattle.
- **Indiana:** Three infected cervid herds were depopulated. All the infected animals were from one premises and moved to the other two herds. Wildlife surveillance around the herds is ongoing. The origins of two TB-infected steers detected during routine slaughter inspection are currently being investigated in Indiana and Ohio.
- **Kentucky:** Trace back of an *M. bovis* infected cow detected during routine slaughter inspection led to detection of an affected beef herd. The strain type matches the cervid strain; to date, no source is determined. Wildlife surveillance is planned.
- **Michigan:** Michigan currently has 3 USDA TB zones and 3 sub-zones. In 2010, five TB-affected beef herds were detected; three herds were in the MA zone (one had been previously infected and depopulated in 2001) and two herds in the MAA zone. Four of the herds were detected through surveillance skin testing and one through tracing. Three of the herds were depopulated and two herds are on a test and removal plan. A dairy herd, first identified in 2000 and affected a second time in 2004, also remains on a test and removal plan. Since 1998, 138 infected cattle in 50 affected cattle herds have been detected in Michigan. Of the 184,000 free-ranging white tailed deer examined, 667 infected animals were identified. All the *M. bovis* infections were of the same strain type, a strain type not found in any animals outside Michigan.
- **Minnesota:** In October 2010 the state advanced to split-state status with a TB-free area and a small MAA area. The 12 affected beef herds were depopulated. Free-ranging white-tailed deer surveillance is ongoing; 27 TB-infected deer have been identified to date.
- **Nebraska:** In March 2009, a cervid examined for Chronic Wasting Disease was found to be infected with *M. bovis*. The traceback investigation led to an accredited-free cervid herd that was on an annual TB single cervical test plan. Depopulation of the herd revealed 60% of the herd with visible TB lesions and 70% culture-positive for TB. An 800 cow beef herd, identified with 2 *M. bovis* infected cows with a strain type similar to Mexican strains

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Committee on Tuberculosis
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in 2009, is on a test and removal program. In 2010, a beef herd identified with the cervid TB strain type was depopulated with indemnity; this herd had received heifers from the South Dakota index herd.

- **New Mexico:** The state has split-state status with most of the state as TB-free with a small MAA area. There are currently no TB-affected herds in the state. A trace investigation from the affected Ohio dairy is ongoing.
- **Ohio:** A TB-affected dairy was identified during movement testing for a dispersal sale. Currently, at least 16 states are involved in this investigation as possible source or destination premises.
- **South Dakota:** Two beef herds were identified in a traceback investigation from a feeder heifer detected with *M. bovis* through routine slaughter surveillance in 2009. The TB strain type found matches the captive cervid strain. A total of 5 infected cohort heifers were detected, including heifers tracing to the second South Dakota herd and a Nebraska herd. The index heifers had been in a Nebraska pasture close to the TB-affected captive cervid herd that was depopulated in 2009.

Molecular Targets for Diagnosis of Bovine Tuberculosis:
A PCR test to better detect cattle with TB infection is being examined.

Elephant Tuberculosis Guidelines: There are 455 elephants in licensed herds in the US. The proposed guidelines require that the elephants be TB tested annually by a trunk wash culture and serologically with an Elephant TB Stat Pak Assay. Between 1994 and 2010, fifty elephants were found to be TB-infected; one (1) was confirmed with *M. bovis* and 49 with *M. tuberculosis*.

Committee on Brucellosis



The USAHA Committee on Brucellosis provides support and direction to complete the eradication of brucellosis and serves as a forum for ideas and proposals submitted by state and federal officials, industry representatives, researchers, and others. The Committee maintains three Subcommittees: Scientific Advisory, Swine and Greater Yellowstone Area (GYA).

1. The Scientific Advisory Subcommittee reported on the research problems created by the Department of Homeland Security listing of *B. abortus* as a Select Agent.
2. The Swine Subcommittee reported on the mapping of feral swine in 37 states and the presence of swine brucellosis and pseudorabies in feral swine nationwide.
3. The GYA Subcommittee reported on elk studies and that elk are the most likely source of infection to the newly diagnosed Wyoming cattle herd.



*National Cooperative Brucellosis Eradication Program:
All 50 states have Brucellosis - Free status.*

- **Montana** - Infection in a bison herd of 4,600 in the designated surveillance area (DSA) was found on routine surveillance in November 2010. Elk are suspect as the source of infection for the last affected cattle herd found in June 2008. To leave the DSA, cattle require a negative brucellosis test and the herd must be on a herd plan with testing every 3 years. An annual herd test is required if there is not a herd plan. Calfhood vaccination is required and animal identification is mandatory for cattle over 12 months of age. A negative brucellosis test is also required for change of ownership.
- **Idaho** - The affected beef herd, located just outside the DSA in December 2009, is on a test and removal program; many of the adult animals were sent to slaughter. Nearby elk are suspect as the source of infection. There is a requirement for testing of cattle herds in the DSA every three years, but no testing requirements for change ownership or movement from the DSA.

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Committee on Brucellosis (Continued)

- **Wyoming** - In October 2010, four brucellosis-infected cows were detected in a 300-head herd in the DSA. The index herd and 11 other herds were placed under quarantine for testing. Of the almost 4,000 cattle tested, no additional cases were found. The affected herd remains under quarantine on a one-year test and removal program. If testing reveals additional cases in this herd, a decision to depopulate may occur. Elk, driven near the DSA border by wolves, are suspect as the source of infection. A heifer in a 250-head cattle herd in the same county, also exposed to free-ranging elk, was confirmed positive for brucellosis in late November 2010; the index herd and adjacent herds will be quarantined and tested. There is a requirement for testing of cattle for change of ownership and movement from the DSA. Investigations in the state are ongoing.

2010 National Surveillance Program Data:

- MCI Program: ~ 6 million blood samples collected at slaughter revealed 400 suspicious samples and the identification of one affected herd.
- BRT Program: Testing of ~ 114,000 milk tank samples revealed 77 suspicious herds with no affected herds identified.
- On-farm testing: ~ 500,000 animal tests revealed no infected animals
- Calfhood vaccination: ~ 3.1 million calves vaccinated
- Certified-Free Herds: ~ 2,200

Future of the US Brucellosis Program: A concept document published in October 2009 offers a new approach for the Brucellosis eradication program. USDA anticipates the issue of an interim federal rule detailing program changes by the end of 2010. Surveillance will focus around the GYA; proposed changes include the elimination of funding for the nationwide BRT program and a 50% reduction in funding for the MCI program. In addition, the presence of an affected herd, or the detection of two affected herds within 24 months, will no longer result in the loss of brucellosis-free status by a state. The final brucellosis plan will most likely be in a common framework with the new bovine tuberculosis plan. We expect to see the framework document by the end of 2010. From January through March 2011, there will be public meetings to discuss the new plan. A Proposed Rule is expected in July 2011 and a Final Rule in April 2012.

For additional information - http://www.aphis.usda.gov/animal_health/animal_diseases/brucellosis/

Committee on Infectious Diseases of Horses



A time-specific paper titled "Equine Viral Arteritis (EVA) Outbreak in Argentina" was presented, which exemplified the rapid dissemination of this contagious respiratory and reproductive disease of equids through importation of frozen infected semen and index mare exposure by artificial insemination. Subsequent respiratory spread of infection complicated this outbreak. Outbreak consequences included the interruption of equine movements, abortion losses, veterinary expenses, required monitoring, the closure of markets in many countries and conflicts at the international level.

EVA was first recognized following a 1953 outbreak in Ohio. There is global distribution of the virus; it is one of three major equine respiratory diseases. The main risk of spread is through national/international movement and use of semen, since a significant number of infected stallions remain persistent-shedders. EVA exposure may result in subclinical or inapparent infection, abortion in pregnant mares, and infrequently in fatal respiratory infection in foals. Exposure of naïve populations of pregnant mares can result in extensive outbreaks of abortion. Since a 1984 outbreak in Kentucky, the disease prevalence has remained unchanged in the state; over 17,000 fetuses in KY have been examined without diagnosis of EVA. Reported outbreaks may be associated with increased movement of infected stallions and semen, increased reporting, greater awareness of the disease, and improved diagnostic capabilities. It is notable that the US is the only country that allows importation of EVA-infected stallions and semen. EVA survives in cold temperatures and semen cryopreservation does not affect the infectivity of infected semen. The USDA EVA Uniform Methods and Rules (2004) remain under review.

USDA ARS presented a time-specific paper "Chemotherapeutic Treatment of Horses Chronically Infected with

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Committee on Infectious Diseases of Horses (Continued)

Babesia equi". Encouraging research results are being documented and research to develop and validate a method to demonstrate EP clearance after treatment is needed.

USDA APHIS VS presented a "National Equine Piroplasmiosis Update". In October 2009, *Babesia equi* infection was confirmed in a herd of domestic Quarter Horses on a large south Texas ranch. Nearly 2,500 horses were tested for equine piroplasmiosis (EP) during the traceback and epidemiological investigation; a total of 412 *B. equi*-positive horses were identified. Active natural transmission of *B. equi* to horses on the index ranch by *Amblyomma cajennense* and *Dermacentor variabilis* ticks was confirmed. The extensive investigation indicates that *B. equi* infection had likely been present in horses on the ranch since at least 1990. Some factors influencing the efficiency for tick transmission of EP include the number of horses in the area, the number of ticks present, the species of ticks, and environmental factors. With this incident, there is no indication of natural tick-borne transmission outside Texas.

An additional presentation summarized a 2010 EP investigation associated with Florida Thoroughbred racetracks. The index horse tested cELISA and CF positive for *Babesia equi* in New Mexico as required prior to entry to race. The trainer of the index horse had horses located in three barns; 94 horses were quarantined and tested; four additional horses under this trainer were EP positive. One of 70 horses at an Ocala farm with the same owner/trainer as the index horse was EP positive. Additionally, tracing/testing of 33 horses located in 10 states identified one additional EP positive horse. The owner/trainer of the index horse had been implicated in a 2008 Florida EP investigation that revealed a history of veterinary medical procedures on both bush tracks and the home premises. A total of 213 high-risk horses were tested in this investigation. There was evidence of cross over to bush tracks, but no evidence of tick transmission. The incidence in Florida Thoroughbred race horses is thought to be low; more than 1000 tests (> 500 Thoroughbred horses) since October 2010 have all been negative. EP testing is now required for some Florida race tracks and training facilities.

The Texas EP investigation is reported to be 99.9% complete. Of the 2489 horses tested, 412 were found EP positive. Only one cohort was found EP positive; this horse had a history of race track contact. The index ranch is maintaining all positive horses under ranch quarantine; 117 positive horses are in a treatment research project at this time. Five states currently require EP testing of horses before movement from Texas. It was opined that EP is not just a Texas problem; there are 130 EP positive horses identified across the US in three high-risk categories: horse on the index ranch, racing Quarter horses and horses imported into the US on negative CF tests before 2005. Support for more EP and tick research is needed.

Summary information from the American Horse Council / USDA meeting held in Washington, DC in June 2010 was provided. Equine industry representatives and state and federal animal health officials participated in evaluation of two infectious disease scenarios for the identification of collaborative opportunities for prevention and control. The equine industry has a \$102 billion impact on the US economy and supports 1.4M full time jobs and 4M taxpaying Americans. The US equine industry annually has live equine exports valued at \$406M. One meeting outcome was the acknowledgement by United States (U.S.) equine industry, animal health regulatory officials and other external stakeholder groups that the establishment of a national equine program is a necessity. The increased occurrence of equine piroplasmiosis (EP), equine viral arteritis (EVA), and the recent incursion of contagious equine metritis (CEM) within US equine populations illustrate the industry vulnerabilities and the need for an equine health program to control diseases, mitigate risks and minimize financial impacts to horse owners.

A brief report on the Alltech FEI World Equestrian Games (WEG) 2010 was provided. The WEG, with attendance of over 500,000 people, was the largest equestrian spectator event ever held in the US. The event showcased competition of 746 horses from 58 countries; 323 noncompeting horses were also on the Kentucky Horse Park grounds for WEG ceremonies.

A USDA APHIS VS Equine Infectious Anemia (EIA) Laboratory Approval Working Group has reviewed EIA laboratory procedures and addressed criteria for fair and appropriate consideration of applications to establish new approved laboratories. Revisions of the approval process for laboratories to conduct EIA testing (VS Memorandum 555.16) are moving forward and a new procedure for EIA laboratory applications will soon be released. Approval of changes is anticipated in the near future.

The EIA Subcommittee report reinforced the need to evaluate equine populations being tested; some populations are thought to be over tested and some are under tested. A five-state EIA Group (TX, OK, LA, AR, and MS) is promoting a 3-tiered laboratory system, but funding is required. Eradication of EIA is still considered possible if adequate tools and funding are made available.

Committee on Animal Emergency Management



USDA APHIS VS provided an overview of the National Center for Animal Health Emergency Management (NCAHEM), which includes sections for Preparedness and Incident Coordination (PIC), Interagency Coordination (IC), and the National Veterinary Stockpile (NVS). Research in depopulation, disposal and decontamination is ongoing. NCAHEM staff activities are devoted to development of strategies and policies for effective incident response management. PIC efforts in Fiscal Year 2010 included the releases of the Secure Egg Supply Plan, the revised FAD Investigation Protocol (VS Memo 580.4), and Memoranda of Understanding for incorporation of CART and SART in incident responses. The IC coordinates and creates partnerships with multiple entities and conducts exercises with partnerships throughout the year. The NVS operates the national response repository for vaccines, personal protective equipment, and other veterinary supplies and services for response. In 2010, NVS conducted numerous training exercises across the country.

A Japanese Food Safety & Consumer Affairs representative presented an overview and lessons learned from the 2010 Foot and Mouth Disease (FMD) outbreak in Japan. This outbreak of FMD serotype O affected 1066 farms; affected premises were in close proximity to each other, and disease spread was by movement of people and equipment. More than 200,000 infected animals were depopulated, another 126,000 animals were vaccinated-to-kill in efforts to control the disease, and burial was the method of carcass disposal. Japan requires identification of all cattle. More than 4000 people were incorporated in the emergency response. A delay in farmer and/or veterinarian recognition of the subtle clinical signs of disease and a prolonged disease confirmation interval are thought to have contributed to the unchecked initial spread. Compensation to producers was approximately \$600 M (US); the cost of the entire response was not presented.

A National Bio and Agro-Defense Facility (NBAF) project update was provided. The project was initiated in response to the Homeland Security Presidential Directive (HSPD-9) for a plan to provide modern, safe, high capacity, state-of-the-art agricultural biocontainment laboratories that research and develop diagnostic capabilities and vaccines for foreign and zoonotic diseases of livestock. The NBAF would be the first BSL-4 laboratory for livestock research in the US. The selected site for construction is Manhattan, Kansas; the project cost estimate is greater than \$525 M with a projected completion date of May 2018. Congress required completion of a Risk Assessment for the project before release of funds; the 464 page report released on November 15, 2010 cited numerous concerns on the selected site. No decision has been announced on forward movement of the project.

Several presentations reflected the ever-increasing interest in Foreign Animal Disease outbreak response planning to include continuity of business planning. A study report on potential triggers for FMD vaccination in the US highlighted the complexity of the US animal populations, the tremendous routine and rapid movement of animals and products, the naivety of the US animals to FMD, and the estimated \$9-17 billion potential impact of an outbreak in the US. The difficult decision to use vaccination would be made at the highest levels of government. A clear decision-making process for vaccine strategies and clarification of roles and responsibilities for decision makers is essential. Additionally, animal and animal product movement control strategies must be clearly defined. The logistics for acquisition, distribution and rapid administration of FMD vaccine to large, concentrated populations of cattle is one of the focused planning efforts underway in California. California representatives are actively participating in the Secure Milk Supply (SMS) Workgroup that is focusing on developing processes to mitigate risks during an outbreak to allow business to continue. Objectives for the SMS workgroup are the consensus development of practices for milk pick-up from unaffected farms; risk assessments will be performed; and biosecurity processes will be defined for unaffected premises, milk haulers, and processing plants. The initial focus is on the risk of FMD spread with movement of raw milk. A decision-making matrix will be developed over the next 9-12 months.

USDA APHIS National Surveillance Unit developed a web-based program for strategic surveillance planning in a disease outbreak for the epidemiology toolbox. The toolbox contains a plan template, instructions, calculators with disease models, and appropriate references. This expanding resource currently has sixty case definitions, disease control areas and zoning, enhanced mapping capabilities and sampling plans. In response to disease detection, a strategic surveillance plan can be developed within 24 hours.

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Committee on Animal Emergency Management (Continued)

The National Center for Foreign Animal and Zoonotic Disease Defense developed the Animal Health Network as a system to enable State Veterinarians to deliver animal health alerts to underserved noncommercial livestock and poultry producers through agricultural extension agents and feed retailers. County agents can strengthen contacts with feed retailers and develop trust. The network enables the State Veterinarian to send out an animal health alert to extension agents, who in turn contact feed retailers, and feed retailers pass the information along to the producers who frequent their stores. The network has demonstrated the capability of getting the State Veterinarian message to noncommercial livestock and poultry producers, on average, within 48 hours. Several states have adopted use of this system.

USDA APHIS Animal Care Emergency Management (ACEM) has created a Nine Best Practices working group for animal care. ACEM developed a web-based training module entitled "Introduction to Animal Emergency Management". ACEM is partnering with the CDFA in conducting planning workshops to develop a stronger response plan under the California Animal Response Emergency System (CARES).

Committee on Animal Welfare



A USDA APHIS Animal Care (AC) update stressed that AC staff deal with animal welfare, not animal cruelty; if animal cruelty is encountered, AC staff bring the matter to the attention of the appropriate local/state authorities. AC developed a quality assurance program for pet distributors in which participating distributors avoid procurement of animals from breeders with violations of the Animal Welfare Act; names of violators of the Animal Welfare Act are posted on the USDA APHIS AC website.

http://www.aphis.usda.gov/newsroom/content/2010/06/enforcement_actions.shtml

An update of the Ohio Livestock Care Standards Board was provided. The Ohio legislature allocated a board budget of approximately \$100,000, but the board is costing the state more than \$500,000 to manage. Standards are being developed by priority. Development and evaluation of dairy, beef, and veal standards are underway. The board membership is diversified: to enhance understanding of commodity-related issues, the board is touring commodity areas and premises.

An AVMA legislative update noted that approximately 190,000 bills were introduced across the US in 2009/2010. Of these bills, AVMA sent alerts of importance to respective state chapters for 2500 bills. Several states are considering legislation regarding who can legally treat animals. Approximately 90 bills dealing with various aspects of pet breeding were introduced in 30 states emphasizing the widespread interest in addressing pet breeding issues. AVMA has a model pet breeder bill posted on their website for consideration. The AVMA tracks bills state by state and posts bill tracking on their website:

<http://www.cqstatetrack.com/texis/viewrpt?report=4cdd5d679d9&sid=>

Several presentations were given by animal welfare scientists from the US and the United Kingdom. One presentation focused on if and when animal welfare should be legislated. Recent activities in the US illustrated the pros and cons of approaches through legislation, propositions, and voluntary programs. Different results for stakeholders may result from the approach taken. As an example, in response to HSUS demands, Michigan negotiated an approach through the legislature resulting in defined space requirements for poultry and civil penalties for violations. In contrast, the proposition approach in California resulted in no clear standards to attain criminal penalties for violations. Australia is currently re-evaluating their voluntary code of practice. It is clear that there is no single easy answer for the method to develop and implement welfare standards.

Another presentation focused on developing an equation for animal welfare and defining quantitative measures for evaluation of procedures. Tail docking and dehorning procedures were examples for evaluation. Potential quantitative elements for consideration included monitoring of cortisol levels and observation of visible physical reactions during these procedures. The selection of certain practices providing optimal behavior must be weighted by the availability of pain relievers if available for use.

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Committee on Animal Welfare (Continued)

A study presentation from a UK scientist on a government sponsored project compared resource-based measures and animal-based criteria. An example of resource-based monitoring is the monitoring of temperature in a poultry facility; animal-based monitoring of the poultry facility would be based on bird observations and their reaction to temperature (e.g., respiratory rate). Most welfare systems focus on resource monitoring such as available square footage of space, number of feeders, and number of watering devices, but do not capture animal behavior. It was suggested that animal-based criteria might provide greater flexibility and acceptability in practices such as animal stocking rates. The adoption of animal-based criteria would require cost absorption by producers and retailer organizations.

In the European Union, consumer preferences for egg production method are reflected in retail stores. Buyer preferences vary in different parts of the Europe, with Northern Europe preferring and paying for free range poultry eggs, while Southern Europe prefers eggs from conventional production. The layer industry in Europe is migrating away from conventional layer caging to the larger, more spacious cages.

Committee on Livestock Identification



In February 2010, the United States Department of Agriculture (USDA) announced a new approach to animal disease traceability to strengthen our ability to successfully respond to animal diseases. A new section will be added to the Code of Federal Regulations with requirements for the interstate movement of livestock. With some exemptions, all livestock moved interstate will need to be officially identified and accompanied by an interstate certificate of veterinary inspection (ICVI) or other official documentation. Program implementation will be phased-in beginning with cattle. *Step I* will include all dairy breeding cattle, sexually-intact beef breeding cattle over 18 months of age, cattle used for rodeos or recreational events, and cattle moving to shows or exhibitions. The following classes of cattle are exempt: commuter herds, beef cattle under 18 months of age moving to a custom slaughter facility, cattle moving between any two States with other identification methods as agreed upon by the involved state animal health officials, cattle moving to an approved tagging site, and cattle moving directly from one State through another State and back to the original State. *Step II* will assess the workability of *Step I*. A key component will be the evaluation of performance indicators such as percentage of animals in compliance. *Step III* will start one year after the *Step II* assessment is completed and will include all cattle in *Step I* and beef cattle less than 18 months of age. There is no phase-in for the requirement for an ICVI, but the recording of official identification numbers on an ICVI will not be required for beef cattle less 18 months of age (young stock or feeder cattle) and cattle moved directly to slaughter from an approved livestock facility. However, the accredited veterinarian must confirm that the official ID requirements, when applicable, are met.

The following movements will be exempt from having an ICVI: cattle movement directly to slaughter or directly to an approved livestock facility handling "for slaughter only" animals and then moved direct to slaughter (an owner shipper statement is required); directly to an approved livestock facility (feedlot) with an owner shipper statement; from a farm to veterinary clinic and returning to same farm without change of ownership; as a commuter herd with a copy of the commuter herd agreement; between any two States/Tribes with documentation agreed upon by animal health officials - does not apply to adult breeding cattle.



To achieve uniformity, all official identification devices must have the US Shield imprinted and be nationally unique. The following numbering systems will be accepted for cattle:

1. National Uniform Eartagging System (NUES) which consist of the "silver brite" and "orange" metal tags
2. Animal Identification Number (AIN) System which is referred to as "840" plus 12 digits
3. Location based number systems administered by the States.

For other species, the current identification and documentation requirements will continue as defined by existing

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Committee on Livestock Identification (Continued)

animal health programs (i.e., Scrapie Program for sheep and goats, Equine Infectious Anemia Program for horses).

The proposed rule will be published in the spring of 2011; the final rule is likely to be published in 2012. It is expected that *Step III* will be effective by 2015. Since a large component of the proposed animal disease traceability framework includes the use of ICVIs, USDA and the States encourage all accredited veterinarians to stay informed and consider the use of the electronic ICVI systems offered by the USDA and private companies.

For additional information: <http://www.aphis.usda.gov/traceability/>

Committee on Scrapie



The nationwide Scrapie Eradication Program continues to make rapid progress. Slaughter surveillance and the eradication efforts combined with producer selection for scrapie-resistant genetics are keys to decreased incidence. Since the slaughter surveillance program began in 2003, there has been a 90% decrease in scrapie positive samples found at slaughter. At the current rate of progress, USDA predicts scrapie incidence will be at or near zero by 2017. During the last year there were 72 cases of classical scrapie and 5 cases of atypical or Nor98-like scrapie diagnosed in the US. To date, 12 cases of atypical scrapie have been diagnosed in the US; 2 of these were California cases. An atypical scrapie case represents a separate disease usually affecting older sheep, does not appear to be contagious, and often has no associated clinical signs. Flocks diagnosed with atypical scrapie have identification requirements, but no other restrictions placed on them. Scrapie has been diagnosed more frequently in goats with 21 goat cases reported since 2002; three (3) of which were California cases. In every case where the history is known, there was contact with scrapie positive sheep or sheep of unknown status. It has been more than 5 years since classical scrapie has been diagnosed in a California flock.

Committee on Transmissible Diseases of Swine



USDA provided fiscal year 2010 summary reports for several swine-related programs. Surveillance sampling for Classical Swine Fever supported US freedom from this disease. In the Swine Health Program, there are 1405 accredited garbage cookers in the US; there were 94 violations issued to the licensed cookers that were inspected. Additionally, 142 non-licensed garbage feeders were located during the year. There are currently 42 herds enrolled in the voluntary Trichinae Herd Certification Program, a pre-harvest pork safety program that documents swine management practices which minimize risk of exposure of swine to the zoonotic parasite *Trichinella spiralis*. Swine Influenza Virus (SIV) is a major concern of the swine industry. The SIV Program monitors the genetic evolution and ecology of the virus and provides SIV isolates for research activities. The three surveillance streams for this virus are: case compatible submissions to the National Animal Health Laboratory Network laboratories, sampling of sick swine at first points of concentration and swine linked to human cases of SIV. Response to detection is directed on a case-by-case basis by state animal health officials. Changes to risk-based surveillance are anticipated in the Pseudorabies Surveillance Program as part of the national plan approved by industry in 2004. Changes will be directed by the Swine Health Program, NVSL, and the USDA regional offices. The revised plan will reduce slaughter surveillance to 5% of the current level and will require more surveillance of high-risk herds (e.g., garbage feeders) in high-risk states.

There was a presentation given on the 2009 Teschen Disease outbreak in Haiti. Teschen Disease is an emerging non-zoonotic disease of pigs caused by Teschovirus PTV-1. Twelve serotypes of this enterovirus virus have been identified, some strains causing subclinical or mild disease, and some highly virulent strains causing encephalomyelitis. The disease

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Committee on Transmissible Diseases of Swine (Continued)

spreads by ingestion or inhalation of products contaminated by feces, urine, or oral secretions of infected animals. The incubation period is approximately 40 days, and all ages of pigs are susceptible. Clinical signs range from nonspecific signs of fever, anorexia and depression to hypersensitivity, paralysis and death within 3 to 4 days. Although mild cases may recover, progressive ascending paralysis with death due to respiratory paralysis may be seen in up to 90% of the cases. The disease is now endemic in Haiti.

USDA presented an overview of the National Veterinary Stockpile (NVS) Program. In addition to personal protective equipment, NVS stockpiles certain vaccines for use in outbreaks. New additions to the NVS vaccine bank are two forms of Classical Swine Fever vaccine, a Modified Live Virus product and a killed E2 DIVA (differentiates infected and vaccinated animals) product. The US, Mexico and Canada are members of the North American FMD Vaccine Bank. A decision to use FMD vaccine in the US requires the approval of the USDAAPHIS VS Deputy Administrator. The NVS Program would coordinate the delivery of banked FMD vaccine to the manufacturer for reconstitution and return delivery for approved use. The NVS program plans to add vaccines for Rift Valley Fever, Nipah-Hendra Virus, Classical Swine Fever DIVA Live Virus Vaccine, Japanese Encephalitis, and African Swine Fever. When shipped, vaccines will be in Kool Temp packs with temperature monitoring devices. The NVS Program now has large animal handling equipment for cattle, swine and small ruminants located with contractors who maintain the equipment and exercise equipment set-up and use. The program is evaluating the feasibility of a swine electrocution unit and portable pneumatic captive bolt guns for mass euthanasia. Professional responder contractors are also in place for 3D services – depopulation, disposal and decontamination – with response required within 24 hours of notification, and staff capacity of up to 1000 people within a week.

A report on a collaborative project evaluating mass vaccination for FMD utilizing experiences in Uruguay and Argentina to develop best practices was presented. An essential element for the project was the partnership between regulators, academia and industry. Key factors for consideration by the US for a mass FMD vaccination project include premises identification, prompt initiation of area controls, communication plans with owners and managers of production facilities, detailed plans for biosecurity and vaccination implementation, and defined strategies for assembling personnel and resources. The keys to success were distilled to three points: a) work on details during disease-free period, b) area controls and speed in establishing controls stops the spread of disease, and c) reliance on communication and trust built through collaborative work during disease-free periods.

Research on the highly contagious African Swine Fever (ASF) virus is ongoing at the Plum Island facility in New York. The ASF virus, a foreign animal disease to the US, is a large DNA Asfarviridae that infects ticks and affects all Suidae. The virulence varies from very high to mild; in domestic swine mortality is almost 100%, yet wild pigs may have a subclinical or chronic form of the disease with inapparent infections. Some strain-specific variability may exist since transmission in domestic swine does not require tick vectors. The virus can survive for long periods of time and has been demonstrated to be active in salted hams and frozen meats. With current distribution in Armenia, the Republic of Georgia, Azerbaijan and Africa, cruise ship and airline food scraps are a risk for the US. Once introduced to domestic swine, the virus can spread by direct and indirect contact. USDA Agricultural Research Services is working to develop solutions, but there are gaps in information on the immune response to this agent. There are no known confirmed transmission cycles and there is no effective vaccine to protect swine from the disease. Current research efforts are directed toward control strategies through identification of the virus-host relationship and the development of a vaccine. An ASF virus real-time polymerase chain reaction test was developed and is being validated at this time.

Perspectives on the Swine Influenza Virus were provided by representatives from the Centers for Disease Control and Prevention (CDC), the swine industry and the National Veterinary Services Laboratory (NVSL). Public health concerns are related to potential for virus mutations. Industry emphasized the need for improved diagnostic tools, vaccine development, and supports surveillance with anonymous identifiers. NVSL launched a voluntary surveillance plan for novel H1N1 in 2009 targeting commercial and backyard swine populations and facilities with high potential for human/animal interface. NVSL performs matrix PCR screening; if positive, then rt-PCR and virus isolation and sequencing are performed. NVSL is staffed to handle the current surveillance stream with anonymity and establish an SIV isolate repository.

Committee on Food and Feed Safety



Escherichia coli 0157:H7 was the focus of the meeting with presentations demonstrating current knowledge of this organism. Reports of research on the ecology of the organism on-farm and efforts to identify the location in the GI tract where the organism resides, illustrate that fecal counts may underestimate organism load. The ecological component for development of organism “super shedders” was also discussed. Some potential factors affecting shedding patterns and on-farm mitigation have been identified, but more questions than answers have resulted from the work. The use of vaccines to control *Escherichia coli* 0157:H7 has some potential, but true value of this mitigation may not be known until incorporated in commercial cattle production practices.

USDA Food Safety Inspection Service (FSIS) presented sampling data demonstrating a decreasing trend in detection of *Escherichia coli* 0157:H7, however, non-0157:H7 shiga toxin-producing *Escherichia coli* are strains now attracting attention. Large meat processors are succeeding in implementation of measures to control microbial contamination, but very small plants need additional resources and FSIS assistance to develop the necessary food defense plans.

Committee on Salmonella



Updates on Salmonella investigations and research were provided by various agencies. The Center for Disease Control and Prevention (CDC) presentation highlighted the widespread distribution of this organism; a pet frog was the source of a recent salmonella outbreak investigation adding this species to turtles and reptiles with exposure potential to children. Reported incidents of Salmonella in baby chicks reinforced that the organism is with all classes of poultry production including backyard production. The CDC website http://www.cdc.gov/healthypets/easter_chicks.htm has Salmonella outreach information and efforts are being made to distribute disease risk and mitigation information to small producers through feed retailers. A case report of contaminated pepper on deli meats demonstrated the contamination of ingredients being increasingly seen as the cause of food outbreaks and recalls.

The National Antimicrobial Resistance Monitoring System (NARMS) is a national public health surveillance system that tracks antibiotic resistance in foodborne bacteria. NARMS staff provided a comparison of trends in antibiotic resistance for animals and humans. NARMS monitors antimicrobial susceptibility among enteric bacteria from humans, retail meats, and food animals. The major bacteria currently under surveillance are *Salmonella*, *Campylobacter*, *Escherichia coli*, and *Enterococcus*. Recognizing data limitations and analysis, trends suggest that resistance in humans does not correlate to resistance in animals. Improved strain typing is needed to improve studies and appropriately categorize different strains in humans and animals. To access reports go to <http://www.ars.usda.gov/Main/docs.htm?docid=6750>. Data from 2008 and 2009 is to be posted in the near future, and 2010 data will be posted before the end of the year.

A description of VetNet was provided. USDA VetNet commenced in March 2004 and a central computer server houses the USDA PFGE pattern libraries for comparison to human PulseNet PFGE patterns. The objectives of USDA VetNet are to determine PFGE patterns of Salmonella isolates submitted to NARMS, compare USDA VetNet and PulseNet PFGE patterns, and to use the comparative data for surveillance and investigation of food-borne illness outbreaks.

Additionally, a concept of subpopulations within classic serovars of Salmonella was presented with a theory for the emergence of phage types 4 and 13a. This new perspective was possible following the genomic sequencing of the organism.

Staff Biographies

After growing up in the East Bay, Stacey Shepherd left her cheerleader outfit and surfboards behind and moved to Shasta County. She responded to a position announcement for the Redding District Office one day in 2002. That turned out to be our lucky day because she has been with CDFA ever since!

As the lead Office Technician, Stacey is the most indispensable in the Redding District. Her friendly voice is probably the first you hear when you call the office. She genuinely enjoys her job and always tries to be helpful. Her skills and knowledge of the Animal Health Branch Programs go beyond her clerical duties. Prior to accepting her current position, she did field work in the Scrapie and Tuberculosis Programs for both USDA and CDFA. She is a true asset to the Animal Health Branch. We are most fortunate to have her on staff in the Redding District! Stacy loves the outdoors and enjoys fishing and snow skiing in her free time.



Dr. Antoinette Markin, better known as “Toni”, was raised in Southern California. She received a BS in Animal Science from Cal Poly-Pomona (1975) and in 1978 moved to Fayetteville, AR where she managed a 500 sow farrowing unit for Tyson Foods. She pursued and received a MS in Agriculture from the University of Arkansas (1984) and a DVM from the University of Missouri - Columbia College of Veterinary Medicine (1988). Following graduation, Toni returned to Southern California to work in a small animal practice.

Dr. Markin joined the Ontario District of the Animal Health Branch in 1990. After helping to successfully eradicate Brucellosis from Southern California, she was promoted to Veterinary Medical Officer III, and in 1993, moved to the Redding District. She has been a cornerstone of district field activities ever since. Her abilities and experience have made her a key resource, not only in the Redding District, but also on several disease task forces. In addition to regular disease programs, Toni has a special interest in Emergency and Disaster Preparedness at both the State and local level. Completion of the Foreign Animal Disease Diagnostician (FADD) training program at Plum Island Animal Disease Center in 2007 has further increased her value to the Branch.

Toni lives in Cottonwood, CA with her husband, David, who is a small animal veterinarian. They have two horses and enjoy trail riding and participating in Old West Re-enactments. Toni also enjoys belly dancing! Their son, Ryan, lives in Arkansas with his wife and their granddaughter, Kieran. Toni loves being a Grandma! Don't even hint about grandbaby pictures, unless you really want to see them!

Animal Health Branch

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