



POULTRY PONDERINGS



A QUARTERLY NEWSLETTER SUMMARIZING POULTRY RELATED WORK AT UC

California Animal Health and Food Safety Services Laboratory System (CAHFS): Vision for Valley Labs Becoming Reality

by Dr. Richard E. Breitmeyer, Director CAHFS

For nearly 20 years, we have had a vision to construct two full service laboratories in the San Joaquin Valley to better serve our livestock and poultry clients, as well as our many stakeholders and the public in general. As a reminder, CAHFS operates in partnership with the California Department of Food and Agriculture (CDFA) to protect the health of California's livestock and poultry populations by providing broad-based surveillance not only for endemic diseases, but most importantly for all catastrophic animal diseases not currently found in the United States. We also serve as California's early warning system to safeguard public health from food-borne pathogens, toxins, and diseases common to animals and humans.



Picture of new CAHFS Tulare Branch under construction

In 1987, when the laboratory system was transferred from CDFA to the School of Veterinary Medicine, the decision was made to operate five laboratories – the newly constructed reference lab, which was completed in 1988 on the Davis campus, and four branch labs in Turlock, Fresno, Tulare and San Bernardino. The Tulare lab was located at the Veterinary Medicine Teaching and Research Center (VMTRC) in space, which was originally designed as a teaching facility; and was designated to provide mammalian services only. The Fresno and Turlock labs were older CDFA facilities, which were built in the 1950's, and were designated to jointly provide limited poultry services. It was also recognized that these older laboratories lacked adequate bio-containment capabilities and would need to be replaced in the near future.

A Valley Lab Task Force was established in 1995 and presented its recommendations to the CAHFS Advisory Board in 1998. The Board approved the recommendation to replace the existing three limited-service laboratories (Turlock, Fresno and Tulare) with two full-service laboratories serving both avian and mammalian species; one lab to be located in the North Valley (Turlock/Modesto) and one in the South Valley (Tulare). In 2000 a detailed project plan was developed and a budget change proposal (BCP) submitted in 2001 by CDFA to the Department of Finance (DOF). *Continued on next page.*

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QUESTIONS OR COMMENTS

In 2006 a revised BCP was prepared and submitted based on the recommendation from DOF to have two phases of the project. Because land was already available at the VMTRC, the new South Valley Lab was approved as Phase 1; and the North Valley Lab in the Turlock area was designated as Phase 2.

Construction of the new Tulare Lab began in January of this year and is now scheduled to open in early 2016. This will be a modern facility with increased space and capabilities, and will enhance service to our clients in the South Valley for decades to come. We are now working with CDFA on a proposal to complete Phase 2 and bring a new full-service laboratory to the Turlock/Modesto area. We are also working closely with our stakeholders in the area to locate a no-cost or low-cost site on which to build our new full-service laboratory. As this area has the greatest concentration of commercial poultry operations in the State, we want to ensure that this laboratory, and its location, fully meets the service needs of our avian clients.

As the recent detection of H5 avian influenza reminded us, disease risks are not diminishing. CAHFS provides a vital piece of the animal health infrastructure in California; and along with CDFA, partners with our avian clients every day to keep high-consequence diseases out of California. We are nearly half-way to our goal of having two full-service labs in the Valley – and we look forward to working closely with all of our poultry stakeholders to complete this task.

For questions or additional information, please contact Dr. Breitmeyer at 530-752-8709 or rebreitmeyer@ucdavis.edu

UC Davis School of Veterinary Medicine Presents at PACVET

by Dr. Rodrigo Gallardo, UC Davis School of Veterinary Medicine

Fourth year student Emily Lane and Dr. Rodrigo Gallardo lectured at the Pacific Veterinary Conference in San Francisco on June 21st, 2014. This conference organized by the California Veterinary Medical Association gathers small and large animal veterinary practitioners from California and Western U.S. training them different aspects of veterinary medicine. The topics presented were “Introduction to Common Infectious Diseases in Backyard Poultry”, “Non Infectious Diseases in Backyard Poultry” and “Practical Biosecurity in Small Poultry Flocks”. These topics were displayed in an interactive way to catch the attention of practitioners. This is a good way to expose future poultry veterinarians as Emily Lane to a different audience and learn how to translate productive medicine to backyard medicine.



Fourth year UC Davis veterinary student Emily Lane presenting at PACVET in San Francisco, CA.

Necrotic Enteritis in Broiler Chickens and Turkeys on the Rise in Central California

HL Shivaprasad and G. Senties-Cue

California Animal Health and Food Safety Laboratory System – Tulare and Turlock branches, School of Veterinary Medicine, University of California, Davis

Necrotic Enteritis (NE) is an acute bacterial disease of primarily chickens and turkeys caused by the bacterium *Clostridium perfringens*. *C. perfringens* is an anaerobic Gram-positive bacillus that produces alpha and NetB toxins. But *C. perfringens* is a normal inhabitant of the gut. NE is seen commonly in chickens between 2 and 10 weeks and in turkeys between 7 and 12 weeks of age. NE is often a result of predisposing factors that facilitate the proliferation of *C. perfringens* in the intestine including change in feed formulations, infectious diseases such as coccidiosis and immunosuppressive viral infections like Gumboro (IBD) in chickens and hemorrhagic enteritis (HE) in turkeys. The disease is characterized by birds being depressed with ruffled feathers and death.



Gross images of Necrotic Enteritis caused by *Clostridium perfringens* in turkeys. Images provided by HL Shivaprasad.

There can be rapid increase of mortality in the flock. Lesions include mild to severe distension of mostly the mid-gut with necrotic mucosa and fibrin exudate. Diagnosis is made based on gross and microscopic pathology and isolation of *C. perfringens* and demonstration of toxins. Cases of NE received in the central valley laboratories increased by 100% to 200% in the last five years compared to 10 years ago. It is probable that predisposing factors are contributing to the increased incidences of NE. But it is more likely to be related to the significant reduction in the use of antimicrobials or none at all for raising meat-type of birds.

Getting Ready to Hatch ...

UC Davis will be hosting a Backyard Poultry Symposium on Sunday September 21st Topics include resources, disease prevention, nutrition and chicken behavior. For more information please visit: http://www.vetmed.ucdavis.edu/ce/animal_owners/backyard_poultry.cfm

UC Davis will be hosting a Winter Conference February 7th and 8th that will include continuing education for small animal vets interested in backyard poultry. For more information please visit: <http://www.vetmed.ucdavis.edu/ce/>

A Cooperative Approach to Animal Disease Response Activities: Analytical Hierarchy Process and vvIBDV in California Poultry

by Dr. Maurice Pitesky UCCE

Very virulent infectious bursal disease virus (vvIBDV) was first detected in the United States at the end of 2008. Since its detection, Federal and State animal health officials, the poultry industry and the research/academic community have been involved in the response. By June 2011, much still remained unknown regarding the basic epidemiology and ecology of vvIBD in California. The lack of available resources limited the ability to pursue all the proposed activities,. The Analytic Hierarchy Process (AHP) is a practical decision making approach because it is able to incorporate qualitative information (in the form of judgments) with available quantitative information. This is especially useful when there is very limited quantitative information, such as in the situation with vvIBD in California. A commercial package that allows ready use of the AHP model was utilized for prioritizing activities. Using the AHP, based on stakeholder input from 17 potential activities, three priority activities; determination of risk factors for re-emergence or re-introduction at affected premises, development of a laboratory diagnostic test to screen for segment B of the vvIBDV genome and surveillance of other potential reservoirs (mealworms, rodents, beetles) were identified.

The use of a tool such as the AHP enables the development of a transparent, repeatable and flexible decision process, which can be useful in certain animal health response situations including the re-emergence of a previously eliminated disease or the introduction of a foreign animal disease. The process should be considered in future outbreaks of diseases that are novel and or politically volatile with respect to potential responses. A paper has been submitted to the journal Preventative Veterinary Medicine outlining the results of utilizing AHPs for vvIBDV response.

**POULTRY PONDERING
PONTIFICATIONS (word teaser)**
What is $\frac{3}{7}$ chicken, $\frac{2}{3}$ cat and $\frac{1}{2}$ goat???



Answer to last quarter's trivia: Alektorophobia is the technical term for fear of chickens

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