

COMMITTEE ON INFECTIOUS DISEASES OF CATTLE, BISON, AND CAMELIDS

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The Committee met on October 2, 2011 at the Adam's Mark Hotel in Buffalo, New York, from 12:30 pm to 5:30 pm. There were 15 members and 29 guests present. Dr. Evermann welcomed the committee members, guests, and speakers and extended thanks for their attendance. An announcement was made about the 5th BVDV Symposia November 17 and 18, 2011 in San Diego. Dr. Evermann encouraged attendees to attend the symposium.

MEMORIAL TRIBUTE TO BOB FROST, LONG-TIME LLAMA OWNER AND PAST PRESIDENT OF USAHA

Karen Conyngham, International Llama Registry(ILA) representative to the US Animal Health Association (USAHA) Board of Directors and Dr. Murray E. Fowler.

It is with great sadness that I report the death of Bob Frost after a courageous battle with cancer. Bob passed away at his home in Lincoln, California on August 15, 2011, with his loving wife Bonnie and his son Austin at his side

Bob's interest in camelid medicine and animal health relations with governmental agencies dates back to 1979 when he began his llama herd. He worked closely with the school of veterinary medicine at UC Davis on llama medical research projects, especially with Dr. Murray Fowler. Bob offered his herd to the camelid medicine club at Davis for semi-annual herd health checks and often opened his California ranch as a venue for the Alpaca & Llama Show Assoc. (ALSA) to host judge and owner training clinics which taught the correct evaluation of unique camelid conformation and behavior.

Bob had the only closed llama herd in the US dating from 1991 to the present. All llamas that died on his property were taken to Davis for full necropsy. It was his intention that his herd could be used for any studies needed on Bovine tuberculosis, West Nile Virus or Chronic Wasting Disease.

His wildlife and livestock endeavors brought Bob to the United States Animal Health Association (USAHA) in 1989. In August of 1990, the Canadian government closed the border to the importation of U.S. camelids due to the lack of a validated live animal test for *Mycobacterium bovis*. This issue became a concern after outbreaks of TB occurred in farmed deer and elk and Canadian officials suspected llamas and alpacas were also causing TB outbreaks. Bob became deeply involved in the TB issue through his Intl. Llama Association (ILA) and USAHA connections, working to demonstrate to provincial and state regulatory officials that llamas/alpacas were not carriers of TB and did not pose a TB threat to livestock or wildlife. Through Bob's efforts working with ILA and USAHA, the Canadian and U.S. governments spent over \$500,000 on camelid TB diagnostic research. The Canadian border finally reopened to camelids in 1997.

One of the most important camelid papers presented at USAHA, "Prevalence of Selected Diseases of Llamas and Alpacas" authored by Dr. Murray E. Fowler and Bob Frost, was issued at the 1999 USAHA annual meeting. This paper is still used as a reference document by state and federal agencies.

Bob was elected 3rd VP of USAHA in 1999 and also represented the ILA on the USAHA Board from 1999-2004. He served as USAHA President in 2003, the only llama owner ever to hold this position. He worked tirelessly in support of the development of the National Animal Health Laboratory Network

(NAHLN) and the Ames Master Plan to modernize the three federal reference animal health laboratories in Ames, IA.

For several years Bob co-chaired the USAHA Committee on Diagnostic Laboratory and Veterinary Workforce Development – a committee which he established – with Dr. Bennie Osburn. He was also responsible for creating the USAHA Committee on International Standards which focuses on improving global animal health and security and includes members from many countries. He served on the Secretary of Agriculture's National Wildlife Services Advisory Committee.

Bob's many contributions to the camelid community and to USAHA will not be forgotten.

Update from BVDV Subcommittee

Dr. Evermann read the report from the Bovine Virus Diarrhea Virus (BVDV) Subcommittee submitted by Dr. Julia Ridpath. The report included an update on the location of NADC, NVSL, AND CVB on the same campus at Ames, IA. The new laboratory includes state of the art facilities for BL2 and BL3 containment barns. The priority of the bovine research will be respiratory diseases and will look at elements of genetic resistance to disease.

Fetal Bovine Sera

Dr. Donna Gatewood, USDA/APHIS/VS/CVB PEL, Ames, IA

Dr. Gatewood described the Center for Biologics (CVB) requirements for ingredients of animal origin, which includes fetal bovine serum (FBS). 9 CFR testing requirements include tests for bacteria and fungi, mycoplasma, cytopathic/hemadsorbing agents and extraneous viruses by fluorescent antibody technique (FA). More specifically, ingredients of bovine origin must be tested for the following by FA: Bovine Virus Diarrhea Virus, Rabies virus, Reovirus, Bovine Adenovirus, Bovine parvovirus, and Bovine respiratory syncytial virus.

Dr. Gatewood discussed the scope of CVB'S authority with regard to FBS, and pointed out gaps which could allow for the introduction of contaminants that might go undetected. Many vaccine manufacturers rely on Certificates of Analysis from FBS suppliers, most of who state that their FBS is tested in accordance with 9CFR. CVB's expectation is that manufacturers conduct vendor audits, but there are no regulations requiring this. Further, CVB does not have the authority to conduct audits on suppliers of raw materials, so they are not able to verify that testing is being conducted correctly. The CVB does not have authority over the importation or labeling of FBS.

There was a discussion by the committee of the risk assessment for use of FBS in the production of veterinary biologics. There were three concerns. They are 1) potential for imported FBS being re-labeled as "made in the U.S." 2) blending of U. S.–sourced FBS with imported FBS, then labeled as "made in the U.S.", 3) lack of monitoring of FBS source herds either U.S. or imported. The committee decided to establish a subcommittee to prepare a draft resolution asking APHIS to identify the sensitivity of the assays used in approval of FBS for use in U.S. biologics. This would also include more stringent requirements for detecting BVDV and new related pestiviruses. The subcommittee is to present the resolution for the committee's consideration at the 2012 USAHA meeting.

Rift Valley Fever Review and Update on Veterinary and Wildlife Surveillance in Kenya

Dr. William Wilson, ARS/USDA Manhattan, KS

The presentation gave a thorough overview of Rift Valley Fever (RVF), its Multi Host Range (including cattle, camels/alpacas, and other small ruminants), its epidemiology, geographic distribution, the potential U.S. mosquito vectors, vaccine availability, and its zoonotic potential. He reviewed Diagnostic tests available including Antigen capture ELISA, serology, and PCR. He is working on a field deployable and a high throughput PCR assay for RVF.

Anaplasmosis and Babesiosis review

Dr. Massaro Ueti, ARS/USDA, Pullman, WA

The presentation reviewed these tick borne agents concentrating on different strains of pathogens and their replication in ticks. Dr Ueti reported that Bovine babesiosis and anaplasmosis causes losses greater than \$800 million per year in Latin America. And bovine anaplasmosis causes losses greater than \$300 million per year in the U.S.

The focus is to prepare an effective vaccine for each of the respective diseases.

Parasitic infections of alpacas and llamas

Dr. Patrick Long, Camelid health care services, Corvallis, OR

The presentation reviewed two key parasites of llamas and alpacas. Dr. Long presented the history, clinical disease, epidemiology, diagnosis and treatment of *Eimeria macusaniensis* (E.Mac). He then presented the history of *Mycoplasma hemolamae*, clinical presentations, its epidemiology, diagnosis, and treatment. Dr. He explained that chronic, asymptomatic carriers are present in both of these diseases. Dr. Long also gave a report on the diagnosis of Granulocytic Ehrlichiosis in camelids in the U.S.

Piroplasmosis review

Dr. Andy Schwartz, Epidemiologist, TAHC, Austin, TX

The investigation of south Texas index case of Equine Piroplasmosis (EP), initiated in October 2009, was completed over one year ago. No additional related cases have been disclosed since, helping to confirm that the investigation and tracing of exposed horses was thorough and effective. Affected horses not euthanized are being held under quarantine. Use of these animals is allowed on the quarantine premises only. Treatment studies are ongoing, using the ARS recommended protocol. Results of the treatment are very promising.

From October 2009 through June 2011, over 30,000 Texas horses were tested for EP. Most of these tests were for movement interstate or to events. The test positive prevalence in these horses is approximately .25%, excluding testing associated with the index ranch investigation. The national test prevalence during this same time period was approximately .13%, based on information provided in the National EP Situation Report.

In Texas, EP affected horses fall into three categories: Index case associated, international imports on the CF test, and Quarter Horse racehorses. Almost all cases disclosed in Texas over the past year were in the QH racehorse population. Disease spread among this population is thought to be iatrogenic.

To address the QH racehorse situation, the Texas Animal Health Commission (TAHC) passed rules earlier this year requiring a 12 month EP test to enter racetracks, and requiring all EP tests be done on a TAHC test record.

A resolution was passed at the USAHA 2010 Annual Meeting requesting information on horses imported into the US during 1995 – 2005, on the CF test. Records show approximately 9000 horses entered Texas during this time. Efforts are underway to contact owners of these horses imported in 2005, offering a test at no cost. Results of this effort will be used to gauge additional tracing and contacts.

Cattle Fever Tick report from Texas.

Dr. Dee Ellis, State Veterinarian, TX

USDA/TAHC cooperative fever tick eradication activities for 2011 were reviewed. There are currently 109 infested premises under quarantine. 76 of those are in the permanent quarantine zone and 33 in the “free” area of south Texas. Although infested premises are still at high levels, over the last two years the infested premises have been pushed from primarily in the free area, to now located primarily in quarantine area. At the beginning of 2011 there were 3 temporary “blanket” quarantine zones in the free area of Texas. Two of those three zones have been completely released, and the third zone has been downsized. This is an indication of the success of the program in recent years.

Wildlife infestations continue to pose unique problems for the program, especially on premises vacated of cattle. Flooding of the Rio Grande in 2010 pushed deer from historic habitats in close proximity of the Rio Grande river – farther into the mainland including parts of the free area. Special emphasis has been placed on surveillance of deer, treatment of deer, and better oversight/epidemiology of all infested premises to determine reasons for infestation and thus which corrective actions are appropriate. TAHC and USDA/VS continue to partner with USDA/ARS to research possible tools for future use including tick vaccines and self-treatment products such as Ivermectin laden molasses blocks.

Committee Business

There were no resolutions or business items brought before the Committee.