

REPORT OF THE COMMITTEE ON SHEEP AND GOATS

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Vice Chair: Donald P. Knowles, Jr, Pullman, WA

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The Committee met from 8:00 a.m. to 12:00 p.m. on Wednesday, October 24, 2007 at John Ascuaga's Nugget Hotel, Reno, Nevada. Attendance varied throughout the meeting; from 30 to 60 attendees, with 56 signing the attendance sheets collected at the end of the meeting. Wolf and Knowles presided and conducted the meeting.

Jeffrey Nelson, presented *Brucella ovis* testing progress, issues and plan. National Veterinary Services Laboratories (NVSL) continues to make progress on refining the *B. ovis* enzyme linked immuno sorbent assay (ELISA). They plan to circulate a new protocol and set up an inter laboratory comparison beginning February 2008. NVSL is also seeking additional serum samples from culture positive animals as well as from indeterminate samples.

Jim Logan presented *Brucella ovis* on-going testing issues. Information on how they have handled indeterminate samples of as these continue to be a low level occurrence.

Sharon Hietala discussed *Corynebacterium pseudotuberculosis* antibody detection using the synergistic hemolysin inhibition (SHI) test. Caseous lymphadenitis (CL) due to the bacterium *Corynebacterium pseudotuberculosis* is a life-long disease associated primarily with recurring external abscesses involving the skin and regional lymph nodes. Internal abscesses due to spread of the infection via blood or the lymphatic system result in ill thrift, weight loss, and wasting that may be clinically indistinguishable from unrelated diseases in a herd or flock, such as Scrapie or Johne's disease. The synergistic hemolysin inhibition (SHI) test is an assay used to detect antibody in sheep and goats exposed to *C. pseudotuberculosis*. The test is designed to detect antibody to exotoxins, including phospholipase D, produced by the replicating bacterium. Typically, an antibody response to *C. pseudotuberculosis* is detectable with 14 to 21 days of exposure, and persists for several months after active abscesses have resolved. Once infected, it is believed that an animal never completely eliminates the bacterium from walled-off abscess or regional lymph nodes, and the animal remains at very high risk for recurrence of external and/or internal abscesses. Antibody responses due to vaccination typically are of shorter duration than titers produced by natural infection, however the SHI test is not able to distinguish vaccine-induced antibody from those produced by natural infection. The SHI test can be effectively used for pre-purchase screening, in herd health and management programs, and for differential diagnosis of CL. At a titer cut-off of 1:8, the SHI test has a reported sensitivity of 95 percent (ability to detect true positives) and a specificity of 98 percent (ability to identify animals that are true negatives for CL). At a titer cut-off of 1:256 or greater the SHI assay has a 95 percent correlation with the presence of internal abscesses due to *C. pseudotuberculosis*.

The role of *Mycoplasma ovipneumoniae* in respiratory disease of bighorn sheep (*Ovis canadensis*) was presented by Thomas Besser and Don Knowles. Utilizing 16S clone library analysis, conventional bacteriology, polymerase chain reaction (PCR), DNA sequencing and serology a hypothesis was tested that primary infection with one or more currently unidentified agents precede *Mannheimia* or *Pasteurella* spp. infections associated with bronchopneumonia in bighorn sheep. Data from testing this hypothesis demonstrated that *Mycoplasma ovipneumoniae* was a major component of the bacterial flora of pneumonic lungs from bighorn sheep lambs.

Lynn Herrmann-Hoesing, Stephen White and Don Knowles presented Host Genetics and Control of Ovine Progressive Pneumonia Virus. Utilizing real time PCR to measure levels of virus in blood cells of sheep infected with ovine progressive pneumonia virus, the hypothesis that virus load correlates with certain Major Histocompatibility Complex (MHC) class II alleles was tested. Peripheral proviral load as measured by real time PCR was shown to be a good predictor of pathology, *Ovar-DRB1*1101* may be a good predictor in Polypay sheep that will develop detectable proviral loads and Polypay sheep may have another genetic marker of OPPV disease that is linked to *Ovar-DRB1*.

Katherine Marshall presented the National Animal Health Monitoring System (NAHMS) Goat Study 2009.

NAHMS is currently in the needs assessment phase of the national goat study which will take place in 2009. In this phase, NAHMS seeks input from veterinarians, researchers, goat producers and others representing the goat industry as to the important issues currently facing the industry. This input can be provided via Survey Monkey by visiting the web site: <http://www.cvmbs.colostate.edu/aphi/index.html>. It will be accepted until the end of January 2008. Objectives developed based on this input will be finalized for the NAHMS Goat 2009 study by summer 2008. USDA will work with it.

Committee business included six Resolutions that were presented, passed and referred to the Committee on Nominations and Resolutions.

The Committee discussed selection of members for the Subcommittee on Big Horn Pneumonia. The Committee suggested that the Chair and Vice Chair of the Committee on Wildlife Diseases and Sheep and Goats work collaboratively to identify and select Subcommittee members. Subcommittee members should be selected within the month and the subcommittee should have the freedom to select non-voting specialty resource members.