



May 2000

Beef Roundup

Hardwoods Management on Private Property: Information on Proposed Legal Issues, the Impacts on Landowners and Recruitment of Oaks

*Sponsored by Tulare County Cattlemen's Association and
University of California Cooperative Extension*

Thursday, June 1, 2000 • 6:00 PM

Lamp Liter Inn • 3300 W. Mineral King, Visalia, California

Dinner - Sponsored by TCCA

Speakers:

Rick Standiford, UCCE Specialist, UC Berkeley

Ralph Phillips, Livestock and Natural Resources Advisor, Kern & Tulare Counties

Mike Chrisman, Chair, California Fish and Game Commission

The dinner is hosted for TCCA members and their guests. There is a charge of \$15.00 per person for nonmembers (pay at the door). **Please make your reservation by May 25th.** Members should call Visalia Livestock Auction, 625-9615, for reservations, and nonmembers should call UCCE Tulare County, 733-6363, for reservations.

Giardia

*By Dr. Rob Atwill, U.C. Davis Veterinary
Medicine Extension*

We will be hearing more about the Clean Water Act and, in particular, the waterborne pathogen issue. The pathogen issue is not extremely clear. The Act talks about protozoa such as *Cryptosporidium* and *Giardia* and bacteria such as Coliform and Salmonella. Not all of the species of organisms are pathogenic. The presence of these organisms would indicate there is a possibility of fecal contamination of water, not that human pathogens are necessarily present. It will be helpful if the public has some understanding about the pathogen issue. This discussion will be limited to *Giardia*.

Giardia is a protozoa that can cause diarrhea of varying severity and stomach cramps and weight loss under extreme infections in humans. In this area of California, *Giardia* infections have been reported to occur during camping trips in the mountains or after drinking improperly purified water. The mode of transmission is fecal-oral, or eating fecal contaminated food or drinking contaminated water. The organism occurs worldwide in man, domestic animals and many species of wildlife. There is some evidence that cross-infection may occur between man and dogs, but the extent to which *Giardia* from other animals may infect humans is still unclear. In fact, there is only one known experimental infection of man with *Giardia* from another species of animal.

There is considerable concern that cattle are the cause of *Giardia* infection of mountain streams in the Sierras. Yet, there is little or no evidence that cattle are the cause of *Giardia* infection of humans. A medical doctor from the National Institute of Health made an observation, that the incidence of *Giardiasis* in veterinarians and people handling cattle appears to be no higher than the rest of the population. Veterinarians and other people who handle cattle are likely to be exposed to fecal-oral pathogens when they work cattle, so if *Giardia* from cattle were infectious for humans, why do we not see human infection. This observation would suggest that cattle are not a likely source of infection in humans.

In conclusion, these observations would strongly suggest that *Giardia* infection in humans is probably a source other than cattle. Some experts have suggested that poor hygienic practices by backpackers and others using the high Sierras could be the significant source of human *Giardiasis*. Poor hygiene practices would include improper washing of hands, improper human waste disposal and drinking improperly purified water. In addition, municipal waste disposal systems located in small communities or in public facilities, could also be serving as a source of *Giardia*. It may be that a little common sense regarding how we prepare our food, purify our water, and dispose of our own waste will go a long way to protect us while we are in the Sierras.

Cattle Disease Research Projects

By John Maas, DVM, MS,
Extension Veterinarian, School of
Veterinary Medicine, UC Davis

In California, we have a number of cattle disease problems that we deal with daily and are written about on a fairly routine basis. This short list of high priority conditions compiled by the Cattle Health Committee of CCA includes Foothill Abortion (Epizootic Bovine Abortion; EBA), Trichomoniasis, Pinkeye, Anaplasmosis, mineral deficiencies (copper

and selenium), and Johne's Disease. This month, I will devote the column to a brief review of current research efforts in the School of Veterinary Medicine to attack these problems.

Pinkeye. This bacterial disease can cause devastating losses to livestock and can certainly ruin the summer for producers. It is caused by the *Moraxella bovis* organism and is complicated by the facts that there are many strains of this bacteria and that traditional killed vaccines do not protect against all strains. Research at UC Davis has focused on the way the bacteria causes damage to the eyes of cattle. From this understanding, work to develop new vaccines that will protect against the many different strains has been initiated. These efforts have focused on making a vaccine against the common toxin that causes the damage to the eye. The preliminary results look very encouraging and may result in new, more effective products in the near future.

Foothill Abortion. Several research projects on this disease are currently underway. The effort to identify and grow the organism that causes Foothill Abortion is central to coming up with a practical solution. Researchers in the basic sciences and in the diagnostic laboratory are narrowing the list of possible suspects. Additionally, others are investigating the possible role of deer in the Foothill Abortion problem. They are working to see if this agent causes abortion in deer. Also, they are examining the geographic range of ticks that carry the EBA agent and if these ticks are possibly spreading throughout the West.

Trichomoniasis. Research on this important disease is proceeding on three fronts. One is to understand how the Trichomoniasis organism actually causes the death of the fetus. The second is to develop laboratory tests done on serum or blood of cows to determine if infection has occurred in the herd. This would be a test method in addition to the routine testing of bulls. The third area of inquiry relates to Trichomoniasis organisms found in virgin bulls. There have been a number of observations over the past few years in California, in which virgin bulls have been positive on routine culture for Trichomoniasis.

The long and short of the research efforts are: young, virgin bulls can be falsely positive on the routine culture test and additional tests are available at the diagnostic laboratory to verify the status of these bulls. These tools are now available to you and your veterinarian.

Bluetongue. This is a viral disease that rarely causes disease in California cattle; however, it can cause severe illness in sheep. The virus is widespread in California cattle, deer, and insect reservoirs. The economic losses occur when California producers try to send bulls, heifers, or semen to other countries that do not have Bluetongue. Research at UC Davis is currently answering some of the questions that will allow our producers to sell their genetic stock without the risk of transmitting the Bluetongue virus.

Leptospirosis. For many years, we have recognized that Leptospirosis vaccines need frequent boosters (yearly for most ranches) to be effective. Current research at UC Davis is aimed at making more effective vaccines for the strains that affect cattle most often.

Several other diseases are currently receiving attention at UC Davis. *Neospora* abortions are mainly a problem in dairy herds, but do occur in beef cattle and practical methods of controlling this problem have been developed in the recent past. Control programs for Johne's Disease in cattle are also being developed. Environmental concerns associated with *Cryptosporidium* (a parasite of the gut in cattle and all other mammals) and environmental concerns related to selenium supplemented to cattle have been greatly reduced or resolved due to research efforts at UC Davis. The fact that cattle research is focused on the real problems of California producers is due to the close, coordinated efforts of the Cattlemen's Association and the school.

Bovine Tuberculosis

What is bovine tuberculosis? It is an infection in cattle caused by *Mycobacterium bovis*. This

bacterial agent is closely related to *Mycobacterium tuberculosis*, and both agents can cause tuberculosis in humans. The agent of bovine tuberculosis (TB) can infect many other mammalian species in addition to cattle and man. The infection in cattle mainly affects the respiratory system and can be easily spread by a number of methods.

What is the current status of bovine TB? There has been an ongoing eradication program for bovine TB in the U.S. for many years and currently all states are free of bovine TB except certain zones within Texas and Michigan. The discovery of TB in wildlife in Michigan has been a major setback for the TB eradication program.

Where is the infection in Michigan? For the most part, bovine TB has been found in the northeastern portion of the Lower Peninsula of Michigan. As far back as 1975, a wild white-tailed deer from Alcona County was found to be infected with bovine TB. Since 1995, about 35,000 deer in Michigan have been tested for TB and 281 have been confirmed positive. Bovine TB has also been found in coyotes, raccoons, a black bear, a red fox, and a bobcat. Most recently, deer infected with bovine TB have been found outside the known infected area.

What is Michigan doing? The Michigan Department of Agriculture (MDA) has been testing all livestock in the area where TB had been identified in deer. They have tested more than 50,000 cattle and goats on about 1,100 farms. Four beef herds and one captive deer herd that were positive have been depopulated. A dairy herd has just been confirmed positive and another beef herd is awaiting final results. The area affected with bovine TB has been quarantined. Surveillance by the MDA and other agencies such as the USDA continues in livestock, white-tailed deer, and other wildlife in Michigan.

What is California doing? The USDA declared California free of bovine TB in October 1999 (no evidence of TB during the previous 5 years). The California Department of Food and Agriculture (CDFA) has been very concerned about the bovine

TB in Michigan since 1995 when the disease was found to be endemic in wild white-tailed deer. Because infected wildlife may have exposed livestock to TB outside the quarantine area in Michigan, CDFA is tracing all breeding cattle imported into California from Michigan over the last two years and is testing these animals for bovine TB. CDFA will require future shipments of cattle, bison, goats, and captive deer species from Michigan to be from herds tested negative for bovine TB. Imported animals will also require a negative TB test within 30 days before their arrival in California and will be re-tested within 60-120 days after arrival (90-120 days for captive deer species). This plan will help protect California livestock from the introduction of bovine TB. For additional information you can call the California Cattlemen's Association headquarters (916-444-0845) or the Animal Health Branch of the CDFA (916-654-1447).

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Sleeping Sickness Alert

After a mild winter, Louisiana already has reported its first case of Eastern Equine Encephalitis (EEE), or “sleeping sickness” in a six-year-old unvaccinated Shetland pony in Vernon Parish, adjacent to Texas’ Newton County. “We recommend that owners have their equine vaccinated against this mosquito-borne disease, if they live east of Interstate 35, or if they plan to travel to the area with their animals,” said Dr. Terry Beals, Texas’ state veterinarian and executive director of the Texas Animal Health Commission (TAHC), the state’s livestock health regulatory agency. “Veterinarians in Texas should report any

cases to the TAHC or to the Texas Department of Health, so the incidence of the disease can be tracked.”

Dr. Joe Garrett, a veterinary epidemiologist with the Zoonosis Control Division of the Texas Department of Health, said encephalitis cases in equine signal public health authorities that infected mosquitoes are or have been in the vicinity. Although no cases have been reported in Texas in 20 years, humans also can contract the virus from infected mosquitoes. He advised that ordinary precautions be taken, such as controlling pests and wearing mosquito repellent. Symptoms of the infection in humans include fever, headache, vomiting, lethargy, neck stiffness, convulsions and coma.

Equine affected by “sleeping sickness” or encephalitis develop central nervous system disorders, such as an irregular gait and circling, grinding of the teeth, drowsiness, and an inability to swallow. Affected animals may have paralysis of the limbs and be unable to rise. The TAHC and public health officials advise owners to have symptomatic animals tested, because the signs for rabies and “sleeping sickness” often mimic each other, and appropriate preventive measures must be taken, if an owner is exposed to rabies. In addition to horses, donkeys and mules, many species of birds, such as emus, ostriches and rheas also are susceptible to the “sleeping sickness” virus.

Dr. Beals said private veterinary practitioners can administer a vaccine to equine that will provide protection against the Eastern and Western strains of equine encephalitis. A “three-way” vaccine also will protect against the Venezuelan strain (VEE), which is considered to be a foreign animal disease and is recommended for equine residing or traveling in South Texas. In 1996, several cases of VEE were diagnosed in Southwestern Mexico, and a widespread vaccination campaign curbed the outbreak. The VEE vaccine will cause a “false-positive” test result, so it should not be used on animals that must be tested prior to international travel.

To protect animals and humans from mosquitoes, Dr. Garrett suggested keeping window screens in good

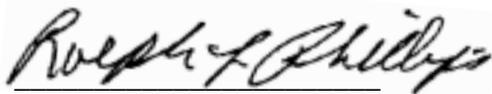
condition and urged outdoor enthusiasts to wear mosquito repellent. Outdoor containers, such as flowerpots and rain gutters, should be drained to prevent a “breeding ground” for mosquitoes, he said, and water in birdbaths should be changed frequently.

Source:

Bill Kvasnicka

Extension Veterinarian

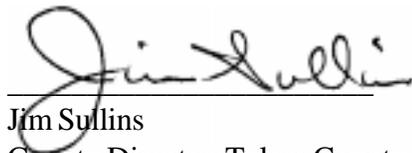
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