

## UCD VET VIEWS

CALIFORNIA CATTLEMAN, MARCH 2000

**CATTLE DISEASE RESEARCH PROJECTS**

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.

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