Practice Methods and Techniques

James J. Jarrett, *D.V.M., presiding*

Dr. Jarrett: Welcome to the first session of the Twelfth Annual Conference of Bovine Practitioners. First, I would like to welcome our colleagues from Mexico. We do have simultaneous translation. I am sorry we cannot translate Georgian! Speakers are asked to speak slowly.

Rumen Sampling Techniques:
Darby J. Moeller, *D.V.M.*
Fort Collins, Colorado

Thank you very much. I work for Merck, Sharp, and Dome Research Laboratories and the last few years we have been evaluating a new antibiotic to prevent lactic acidosis in feedlot cattle. In doing so we pulled several thousand rumen samples and after finding it very difficult to do we found some methods to make this quite simple and I thought you might be interested in this technique - you might be interested in using it to monitor what is actually going on in the rumen and see if it has any relationship to any other diseases in the animal. We used a calf which we had made sick with lactic acidosis by holding off feed for 24 hours and then putting back on feed on a 85% concentrate ration. In the past we simply used a large tube using a foick speculum and sliding the large tube down into the rumen. We would agitate the tube or we would not agitate the tube and it really was quite difficult. The results were variable as far as getting a rumen sample. If it takes very long to get a rumen sample you are going to get a lot of saliva which will dramatically change the pH in the rumen. We were looking not only for pH but we were sending these samples in for lactic acid and VFA tests. So we had to strain these samples through cheese cloth and got to be quite a task. The first calf had a pH of 4.1 and it died about two hours later. The technique that we finally devised is equipment, except for the rumen strainer, that probably all of you have. On the end of the tube there is a little piece of black tape with a rumen strainer attached. This is available from Precision Instruments, Lincoln, Nebraska. All you do is slide the little rumen strainer into a plastic tube that fits and then slide the plastic tube into a bigger tube. And this you can get by going to a hardware store and working with the tubes until you get ones the right size. Then you insert it through to frick speculum and attach the one end to the bottom end of an equine stomach pump. It will fit perfectly - you slide the tube down into the rumen. It takes about three or four pumps and you will get a nice clear sample into the tube. This made all the difference in the world to us because we were running pHs on these samples and then freezing them immediately and then sending them in for VFAs and lactic acid tests. But it is a real easy technique to use. The pH meter which we used to use is expensive and I am sure not many of you would want to invest money in it. The Corning Model III, a couple of years ago cost $150 - I don't know what it costs now. The only bad thing about it is that the probe breaks very easily so you really need to order an extra probe because someone will end up breaking one! I thought you might be interested in this because it is one way of monitoring the rumen. The pH tells you a lot about the rumen because as the pH goes down, the lactic acid levels go up. We have found that any animal with a rumen pH below 5.5 pH was getting sick, 5.0 they would have a severe diarrhea, and a 4.1 - that is the lowest level I have had an animal live! But, it just may be a useful tool to use in finding out what is going on in the rumen.

Differential Diagnosis of CNS Problems
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Manhattan, Kansas

Many of you were present today at our seminar when we talked about BVD in cattle. We spent the entire day talking about the problems of BVD and the losses that were incurred from it. I am sure you will recognize that we never did mention the severe losses from CNS - Central Nervous System Disorders. Well, that is the topic we will cover now the differential diagnosis of central nervous system disorders in cattle. Although we do not consider these conditions to cause large losses, they certainly can. I would like to review this with you just shortly to show you what can happen. First of all a case in southwestern Kansas - 548 calves with respiratory problems; not too bad of a problem -30 dead! I am not trying to tell you that CNS is a number one cattle disease, but I am sure that all of you at the seminar must feel that BVD must be very close and when we go to the seminars tomorrow, we will find that respiratory disorders must be number one. I am just saying that this can be a very serious situation and we are going to look at a few of the problems. I will list my top ten and go through them briefly with just a comment or two about each one and how I feel we can do a better job of diagnosing them. (1) We need a better history, a very good history. (2) We need to do a good necropsy, (3) we need to submit the proper tissue for examination to a laboratory. We see *polioencephalomalacia* most often; it is acute, the animals are usually blind, they isolate themselves once they go into these CNS type symptoms such as tremors