

stress sanitation. If you will notice, most of what I have presented is management. I think this is probably the key to helping these dairymen keep these calves alive. Everybody wants that magic shot and I myself a few times would have liked to have had some of it! If I could find any of that PGU serum I would give quite a lot for it. In case some of you fellows are looking for it that is called "Please Get Up"! I can use a lot of that some days.

We can cause enteritis in our calves by not washing the milk bottles, by not washing the mixer, and not keeping the nipples clean. Whenever we have an enteritis outbreak, when we start seeing some scouring in the calves, I do not go to the calves or get the drugs out. I go to the ladies and start checking the bottles and the milk mixers; I start looking and there is usually a foul-up somewhere in our sanitation program.

We still have problems with the respiratory system. We have tried various programs. We have used Nasalgen^R for several years. We have tried not using Nasalgen. At the present time we are not using it. We are using straight IBR vaccine. We hit the calves when they come in on day one; at four weeks; eight weeks; again at 12 weeks and at four months. So, we hyperimmunize these calves five times with IBR vaccine. Since we do not know at what age these calves will become susceptible, we vaccinate five times. We have had some bad results with the pasteurilla bacterins. The baby calf you start injecting things into will tell you in a hurry if you are going to have problems. If you will check the temperature of these baby calves after injecting them, they will tell you quite a story. With those big yearling calves you can get by with about anything.

Panel Discussion

Dr. William Stouder, *Chairman*
4040 Biscayne Street
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Question: When do you castrate?

Dr. Bryant: We do not castrate the calves. We have been having problems with hemorrhaging, so we pinch the cord. Thus, we get added action out of the testicles, helping on the growth rate.

Question: Have you finished out any bulls?

Dr. Bryant: We have finished out several pens of cattle on a field trial basis as bulls. Their rate of gain was excellent, feed conversion excellent, but we had trouble selling the product!

Question: How do you handle mineral supplementation for fast growing cattle?

Dr. Bryant: Actually, I do not think we handle our minerals too much different to what the NRC recommends. We are using some meat and bone scraps as one of our mineral sources along with Di-Cal and trace elements. Probably the only place we are doing anything different on trace elements would be on the ferric sulphate which we are adding extra to the milk. We like to get a higher level of iron into these calves.

Question: How do you sterilize the bottles?

Dr. Bryant: We use a chemical sterilization. Iodine is one of our sources.

Question: How do you determine if a calf needs treatment. Do you get reports from the person who feeds them that they did not eat?

Dr. Bryant: No. We walk every calf barn and check every calf twice a day. If the calf is slow taking his milk, the ladies put a red ring up on his

crate. When the treaters come by, they will know that that calf was slow taking its bottle and they will look him over carefully. We do not treat every calf that is slow, but if there is any question, then we start the three-day treatment.

Question: You mentioned intranasal experimentation. What were your results?

Dr. Kahrs: Our experiments are still under way. About all we had time to do was an epidemiologic study of salmonellosis. We have to do serology to determine the immunologic status of the calves at the time of vaccination. There is always a tendency when you give a vaccine to blame subsequent events. We had four rooms. Among two of the groups we had larger death rates among vaccinated calves and in the other two groups we have had lower death rates among vaccinated calves. It looks like the vaccine is not doing any harm or much good!

Question: What effect might the gammaglobulin test have on test design?

Dr. Thomas: It is an unusual feeling to run a test on a calf and then point out that it is going to die. But what seems more unusual is that I have set up tests before we started on this testing procedure, and many times the calves that were going to die were in the controls. So we would test our product and it would look fine because the controls would die. Many times it was just because they could have been agammaglobulinemic. One of the things that

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we would suggest for this test procedure is that the day-old calves should be tested for agammaglobulemic or hypogammaglobulemic because there will be quite a difference in the test results.

Question: What about soured colostrum?

Dr. Thomas: We would say do not use soured colostrum. Some people have used it and had good results. In the microbiology of milk, unless it's controlled, you can have most everything growing. If the pH happens to drop quickly, we appear to be in good shape, but if there are salmonella present and there are!—they get started and so do Proteus or E. coli and many others. We can have a real problem. You may go along for quite a few tests, and everything will be just fine, and I think that is probably true and most of the time it would be all right—but that once in awhile is a real tiger! We took the same approach using serum instead of gammaglobulin. What we wanted to do was use whole blood whenever we had a calf that was agammaglobulemic or hypoglobulemic to keep him alive for the first two weeks, with blood transfusions and fluids. We would take blood from the dairy cows, sometimes even on the same premises, and as we were doing this, we had the feeling that, one day, we would be taking blood from a cow that had a disease problem but not displaying symptoms, so, we would be giving all the calves the same problems! I won't say what finally hit us but we reached a point where the blood did not work. We were using 50 to 80 cc and

then we changed to one liter. When we took the mathematical balance we happened to think that 50 or 80 cc would not really supply much of anything. So we felt that the absolute minimum was somewhere around a liter. There is a danger in using it as with soured colostrum because you really do not know what you have. With gammaglobulin, it is a sterile product and there is much more control over it.

Question: You say that globulin is absorbed for only 24 hours after birth. How do you reconcile this with those that claim that maternal antibodies are present in the calf's circulation at four to eight months?

Dr. Thomas: Those antibodies were absorbed early. This passive immunity is a quantitative factor. If we have 100 units of antibody for a given virus, whenever the 100 units are used up, that is all. If it is not used up, it will continue to circulate in the calf's system.

Question: How low does the pH have to be in the soured colostrum before you get definite suppression of those bacteria?

Dr. Thomas: We know that certain types of bacteria can grow in a pH area of 8.0. Normally, this fermentation will drop down to a pH of 4.0, somewhere below 5.0 certainly. I would not hazard a guess on how safe we would be just counting on pH itself. There are organisms that can grow at very low pH.