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## Panel Discussion

*Question:* In the dairy herds where you were following did you happen to be able to trace any of, or relate the infection rate all back to the bulls that were bred, by analysis of the bull numbers, Number 1 and number 2, do you use tetracycline oil based product which we can't get in the states, does anybody work with PP Iodine or do you know of any other type of control agent, whether it is antibiotic or antibacterial?

*Answer:* I understood the first question you are wondering if we could relate it to particular bulls initially, is that it? Right back at the start when we still had not determined what we were dealing with, I had a handful of bulls that I knew what was going to happen when they were used. I did not know why but you could relate it to a specific unit sires at one time or natural services. As for the second part of the question, we have, as I indicated, tried to avoid everything possible even before we realized what we were dealing with, and found them not very effective. As far as other tetracycline preparations that might be available to you people, I think our assessment of them was they were somewhat effective but probably not as effective as the one we were using, so I am not sure just how you people can handle that.

Used locally I think that if you use strong enough solutions to burn if off but as far as infusions, no they were not effective. We did not find them to be effective as post infusions. Typically the preparation that I mentioned is very mild to the mucosal surface and does a real nice job and clinically my impression is that the other products do not do nearly as well, but I am not sure what the answer to your dilemma is. It was the first product that I was using which is the oil based tetracycline the same as what I was post-infusing with. We just put a little bit on the cotton swab instead of infusing it. Initially we tried things like this also, but it was going through our herds in a very severe form, then, because it was their first exposure after we determined what was going on in the first few herds, and we found that if we infuse the cow or swabbed her or anything like that, we cleared it up in three or four days. And so she is two weeks or so away from her next heat cycle that he wishes to breed her and by then she is reinfected and we did not gain anything. We withheld milk and so on. So this is why I have stressed a post-infusion in my initial presentation. Now we are double riding this sort of thing and not doing very much post-infusion and I think this is probably the way you people can handle this that do not have some such product readily available. It is a more logical route, it just took us a while to work around it, because that is what we are doing now. We are not treating very often at all, we are trying to eliminate the contamination.

*Question:* What are you using as a swab and for transport medium in that you culture from the prepuce and what are your rod sizes and are you using the double rodding?

*Answer:* I will handle the second question and let Dr. Doig answer the first one. We are just using a conventional inseminating rod that has a larger diameter, larger inside bore and most of our straws are the half cc size, half ml size and there is an insemination rod that fits I think a universal gun that has a larger inside diameter than the regular infusion inseminating pipette. The technicians cut the tapered end off and insert that. Now I would hope

that some time in the future somebody will come up with a commercial unit that is more suitable and in our embryo transfer field we do something simpler than that and I find easier. It is time-consuming for the people who make it up for me and that is we use the drinking straw and cover it with one layer of foil and attach a string to it and individually package them and autoclave them. The end is covered that way and you do not have to worry about carrying any contamination in on the very end of the rod the way when they are inseminating with the cut off rods. But it is not practical on a large scale as you can appreciate. It takes time to make these up. But hopefully some company will get on the road and make one for us.

The other one was about culturing bulls. Well as we showed, the transport media culturette, do not send in a dry swab. Preferably if you are going to bother taking this swab, take the time to have somebody drive it to the laboratory. We know from bitter experience that you are wasting your time by sending it in the mail.

*Question:* Was there a mastitis problem in any of these infected herds with this organism?

*Answer:* Ureaplasma experimentally is one of the ways they test pathogenicity with regards to mastitis, but no. We have not associated mastitis with this syndrome.

*Question:* I believe you mentioned that the disease is seen in dogs. How is the lesion observed in the male dog and is that possibly one of the means of transmission in the dairy barn?

*Answer:* The dog in the barn is purely a mechanical transmitter from his tongue to another cow. The dog does not get infected. Ureaplasma in the dog as a cause of infertility does not produce a granular vulvitis but it will produce a penoposthitis. But the only way we can demonstrate infertility with ureaplasmic dogs is culture. There are no clinical signs other than purulent discharges but the farm dog should not be infected with the bovine ureaplasma. He merely mechanically transmits it as we could do with scoping if not clean.

*Question:* Dr. Doig, are you seeing this condition in virgin heifers, say 10-month heifers that have never been serviced?

*Answer:* Yes, once it gets rolling in the barn the disease will appear at about 4 months of age in the other end of the barn. It is seen as early as a month of age once it gets in the barn. In humans it is interesting that newborn infants will be cultured positive at birth then culture negative but culture positive at puberty. Where it has been in the interim I have no idea. So then I think it probably has spread by aerosol. Interestingly, in the 1920's it was stated in a very extensive monograph on granulovulvitis that this was transmitted in nonpasteurized milk. Leave that for what it is, but it certainly will appear in heifers the other end of the barn.

*Question:* I found that after a double riding program has been started in a barn, it may still take 5 to 6 breedings to get that cow in calf. Now if it is eliminated from the uterus, is it being reintroduced by the semen?

*Answer:* Well it may not be totally eliminated from the uterus, we have said if it is in the uterus, somebody put it there. That is probably true in the

cow 60 days plus away from calving. In the postpartum cow, if it is there I think just by gravity and the effect of the placenta I think it can infect the cow, just by gravity and run into the uterus. Now we see herds where we do that, where we have double rodded their breeding after they look clean and I have done biopsies and flushes on some of these cows and cows that are clean on scope are littered with pus cells deep in the endometrium. So you may in some cases have not given them enough time. They need maybe 3 to 4 to 5 cycles. I think we are too quick maybe to get back in and get these cows bred. Give her one good heat breeder. We should maybe give some of these cows 3 or 4 heats. You will make a difference on individual cows, repeat breeder cows by washing or flushing the uterus.

*Question:* I have seen in the past in some herds that they spray some

antimicrobial preparation prior to collecting. Have you seen any difference among the studs, or does this practice have any value?

*Answer:* Yes, some studs have different collection procedures, but we know studs that are even taking very good steps at trying to control contamination that are still getting quite a number of positive samples. So I think anything you can do to try and reduce the flora in the prepuce or on the penile shaft is of value. You may reduce numbers but certainly they have not been eliminated.

*Moderator:* Paul and Alton, you can tell by the lack of departure by the audience that your topic was of great interest and I am sure most enlightening to many of our friends here this morning.

