

worked at had TB?" That wasn't a very rewarding experience to me realizing that I had tested this herd previously and not found any TB and this fellow had TB because he had been exposed to this herd. There were new additions to this herd during that 3 year period. It is possible that TB could have grown in that period. It is hard to say, but as a result of that herd I am certainly more alert when I TB test.

The second herd was a much larger herd. They were milking 1400 Guernseys and 500 Jerseys. On the initial caudal fold test that we did in February, 1980 there were five reactors in the Guernsey herd of 1400 cows and all had lesions. They waited until May to come out and do the cervical test because there was some movement in Congress to raise the indemnity by a significant amount, about a 2-fold margin, and when they came out and tested them in May, they tested 3800 animals on the whole dairy. Of those 3800 animals, 1302 reacted to the cervical test. Of those 1302 animals, 35 of them had extensive lesions, 31 were home raised and 4 were from other sources. The Guernsey herd was primarily a registered herd and had brought in animals over the years from several different states. This herd has been tested 3 or 4 years previously and had had two reactors which were negative to the comparative cervical test. In tracing these 4 from other states, it involved 18 different states. They never did trace the source of the TB. Just to give you a rough idea, it cost taxpayers 1.7 million dollars in federal indemnity and 168,000 in state indemnity. It cost them 21,000 dollars just in disinfectant alone to clean up the dairy and they really cleaned up that dairy unbelievably. They dug all the dirt out around all the posts and took all the wood out of the dairy and replaced it with new wood and had to leave it empty for 90 days. They are now milking about 1400 Holsteins on that facility and have been for about 3 years without any problems.

The reactions on these cows in this Guernsey dairy were very small. Just a P1 or P2. They were not like the previous herd. We have been taught to call these reactors to the caudal

fold test deviators. The deviators can be a little bit larger, but the only way you can really pick these up is to look at every cow, pick up the tail and palpate them.

Shortly after that, the federal veterinarians went down through to see what kind of percentage different veterinarians were getting for deviators on their tests. The regulatory veterinarians had an incidence of deviators of 5%. The practitioners ranged in Arizona from a high of 2% to a low of 0%. I went back for the veterinarians in our practice and looked at the TB tests for this year and our average was 2½% with a range from 0-8%, so there can be quite a bit of variation from herd to herd. We have two herds that are tested every year and have never had a reaction to a TB test...small herds. The beauty of this system is that you can report these deviators and they take the monkey off your back by having a federal veterinarian or an approved state veterinarian do the comparative cervical test. The comparative cervical test is done by shaving two spots on the neck and injecting one site with mammalian TB and one site with avian TB. They measure with calipers the size of the skin thickness when they give the injection, come back 72 hours later and measure the size of the lesion at that time and then plot it out on a graph which has three areas. There is a negative area, a suspect area, and reactor area. It's not a 100% test but it is relatively close to 100%. If you get into the reactor area, a majority of the time you are going to find lesions. We have had some cows in the suspect and reactor area that did not have lesions and retested those herds on a yearly basis and not found any TB.

In this second herd of Guernseys and Jerseys, the reactors in that herd were right off the graph. They were really large. The point, I think, we should learn from this is that when we TB test cows it is important to do a good job, because if we miss it there is a danger to humans in contracting TB and there is a danger financially to anybody who receives that animal or to that particular dairy that we are testing for TB.

Use of a Letter Opener for Uterine Incision During Caesarean Section

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I think I practice in an area that is about as different from eastern Kentucky as it could possibly be! I practice in Southern California; We are about 40 miles east of Los Angeles and we practice in a very interesting area that is kind of a dairy enclave on the edge of a metropolitan area. It's about 80 square miles. We are about half an hour from Disneyland so we get a lot of visitors, and we are actually on the edge of an urbanized area between the urban sprawl of Los Angeles and the cities of Riverside and San Bernadino...an area that is rapidly filling in with houses and

shopping centers.

We have about 400 dairies. There are about 20 dairy veterinarians in the area with about a quarter of a million cows with an average production in the neighborhood of 16,000 pounds. There is an average of 600 cows per dairy in an area of 80 square miles, so it is one dairy right next to another.

These are large dry-lot dairies. They are dry when it is dry and in the winter time they are muddy. When their corrals are well sloped there is not too much problem with the cows.

They are not comfortable, but at least they can walk. In the older dairies with flat corrals they have a tremendous stress from mud. We do have shades. The other stressful period of the year is the summer when it gets quite hot and we also have significant health problems because of the smog, both in cows and calves. Those of you who haven't experienced smog, it's not just an aesthetic thing, you feel it in your lungs and so do the cows. We do most of our work and so do the dairymen on the cows outdoors. They are locked up in stanchions in the morning at the time when the grain is fed outside. A young man will then go and do the heat detecting by tail chalking and inseminate the cows outside. We also do our herd checks outside. We do hardly any checking through the barn.

The land is too expensive and people do not farm as a rule. There are very few farmers. Feed is based on excellent quality alfalfa hay that is grown on irrigated land in the desert and that is what makes our production high, I believe, mainly the very good forage that we have.

The milking facilities are large and generally automated. Double tens and double twelves seem to be the most efficient barns and the ones that most people build. Larger barns really don't seem to save that much time. In an automated double ten there will often be one man with detachers. One without detachers needs two men. They will milk somewhere between 80 and 100 cows an hour. I wish I could say that most of them calve in nice clean calving areas. Unfortunately these are really the exception. There are a few progressive people who have built them and a few going in, although with the present economic situation I think this program is going to come to a screeching halt. Most cows calve in the corral...that's the traditional way that most people calve cows. There is quite a bit of fecal contamination. The bedding is dry in the summertime and probably the bacteria count isn't too high because of the effect of the sun. But there is significant contamination, and when the dairymen intervene at a calving they rarely take any precautions as far as cleaning up the back of the cow or washing their arm and I think that has significance for the rest of my talk.

Our practice is a herd health type practice. Most of our work is by appointment. We do have our share of emergencies and surgeries but about half of our income comes from reproductive work which we do outside.

Our usual approach to difficult calving is fetotomy, but we do a certain number of C-sections. Very few compared to many practices. The reason why we don't do very many is that in probably 80% of the calvings the calf is already dead. Quite often it has been dead for over a day! In half of them there is at least some odor although not necessarily emphysema. Under those conditions with a dead calf, as you know the prognosis for a C-section is relatively poor. Secondly the C-sections are successful if the calf is alive and the situation is fresh. In other words, someone hasn't been in there already too much. But in our case the dairymen do not farm. They are specialized in working with cattle. Many of them are pretty good obstetricians and we can be pretty sure

that before we get to the cow someone else has worked on her for at least an hour with significant trauma to the uterus and weakening of the calf and contamination. Economics is another factor. One reason why dairymen in our area accept these conditions is that the calves are only worth about \$30. Right now heifers and bulls are about the same. A cow on the other hand, it is difficult to say because nobody can sell any, but it's perhaps 12-\$1400 per cow. So if the interests of the cow are weighed against those of the calf the cow is going to come out way ahead unless it is a valuable calf. We do have probably more complications when we do attempt cesareans than many practices. I realize there are practices that do hundreds a year without any problem, but in our practice the results are not particularly good and we do have better luck with fetotomies both because they are faster and just because the outcome seems to be better. However, there are situations when we are forced to do cesareans. One that I mentioned is a situation when you have a valuable calf and a cow that is nothing in particular, a recipient cow, and certainly if there is any risk of distress to this valuable calf, a caesarean is the method of choice. In a cow with a dropped sacrum you really have no other choice because you can't do anything else and I feel on some cows where you have a very small pelvis or a deformed pelvis with very little room in it or a very large calf in some proportion between these two, a caesarean then becomes easier than a fetotomy because if you don't have much room it is very difficult to get the wire placed where you want it to get good cuts. As you know, bad cuts are like no cuts. On the other hand I've had to work on calves that were so big that the leg was longer than my fetotome and I just couldn't get the fetotome placed where I wanted it all because of the size of the calf. So in those cases I have gone on with a fetotomy and wished I had done a caesarean! I think in some cases you have fetal monsters where there is really no other way to get them out. The one that I remember is one where I had a shistosomus twin to a calf and it was a large, round hairy ball. There was no way to cut it, no way to pull it and I did a caesarean.

We had a dropped sacrum cow. She had had two caesareans. After the first one we told him not to breed her back. But the breeder told him if you bred her to an Angus everything would be OK. So she had another caesarean and now I think she's finally gone to beef! I could not even get my hand through the pelvis. There is so little room there.

If you read the surgery books they all tell you to exteriorize the uterus before you make the incision, but on these Holstein cows you are dealing with probably close to 200 lbs. of material there...the calf which is 100, the fetal fluids, the placenta and the uterus itself. I prefer to go in on the left side, regardless of what side the calf is on and so I don't have to fight the intestines. Sometimes you can bring a foot up but sometimes I find myself completely stymied. I can't move the calf. So that leaves you making the incision inside which is less than ideal but at least sometimes it is all you can do. So that gives me the second problem which is to make a blind incision in the abdomen and this causes some anxiety if you



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do it with a scalpel blade because you might cut something else or you might cut yourself or you might cut the calf. One solution to this problem was shown to me in France about a year ago. This is a very different practice situation...more like New Zealand dairies with a lot of pasture.

They do a lot of caesareans there because their calves are worth about \$300, or they were then at that exchange rate, when they hit the ground. The value of the calf is high because they have an active veal industry. This doctor showed me this practice tip that I am to share with you.

You may be wondering how you use a letter opener to get out of this problem. It's a plastic letter opener which is made in Germany. It has a very sharp metal razor-type blade embedded in it. The way you use it is, you probe the point through the uterus and then you just zip the incision open. The advantages that I have already alluded to are that you have a shielded blade. It is safe for the cow, it is safer for the surgeon and for the calf. Some people I've spoken to use scissors for this purpose. I've used scissors myself. But my problem is sometimes I want to cut toward me, which is

difficult and I just find them awkward to handle inside the uterus. With this opener you can pretty much put the incision wherever you want it and just zip it open in no time at all. There is much less fumbling around. You can make it as long as you want so you don't have problems with tearing which is another problem I run into. I'd get the incision to a certain point and chicken out and then I'd have a tear. In this case you can really make the incision as long as you like.

In thinking about what I'm doing, if the fetal membranes or the sac hasn't broken, you'd probably be better off to drain that vaginally before you make the incision. So the only complication is that this device is not autoclavable as far as I know. I haven't tried but I think it would melt. The only problem we've ever had is one of my associates broke the point off and had to retrieve it. It's not indestructable, but it works.

The problem that I faced was I could not find any of these in this country so I ordered some from France. I was unable to find any device like this that was sold by anyone in the stationery business.

Use of Plastic Buttons for Repair of Vaginal Prolapse in the Cow

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There have been quite a number of different methods for repairing vaginal prolapse in the cow and a lot of the difficulties are in that cow that is going to calve. I was taught in school by Dr. Lewis Moe who was an instructor at that time to use overcoat buttons. But overcoat buttons are difficult to find any more, and since plastic came out I have been cutting out plastic serum bottles or plastic buttons. I have been using an old spay needle. It has Sharp & Smith stamped on it. There is one button that is available commercially. It is a Johnson button that has a pin to insert and stick out through the pelvis to anchor the vagina in place. But plastic is readily available and I just cut them in different sizes, whatever the serum bottle or plastic button, thread this on to the needle. After cleaning the vagina, put it back and take your fist and go in against the cervix and push it in as far as you can and then feel on the outside where you are going...with your finger...and then push the needle through and pull the thread out and the needle. Place the small button, then on top of it, and then pull it on and tie it. To do it on both sides will anchor the vagina back in place and the cow quits straining. If the cow hasn't calved she will be able to go ahead and have the calf. The calf will slide right over these buttons and you don't have to worry. Whereas if

you put a bootlace in there, somebody has to take that out. It has always worked very well for me and is very economical. Everybody has a plastic button; there is no problem to find material for it. No. 8 vetafil works very well. Before vetafil came along we used umbilical tape. It does all right. I've looked back in some areas to try and find if the plastic button was mentioned in the obstetrical book that we used in school and couldn't find it there. In 1967 there were 2 or 3 articles in a journal and one of them was on the use of gauze in the same manner and there was another one I believe that had some buttons of some type. This was in the *AVMA Journal* in the year 1967. It is simple and easy to do. About the only precaution that needs to be taken is you locate the artery along the side of the wall of the vagina. You can't see it. It is possible to put it on one side and you go back the other side without going back in to the rectum to check things, you can go through the rectum. I didn't think that was a problem, but I did that a couple of months ago. It caused no problem to the cow but I did it twice on a Holstein. I have done it mostly in Brahman-cross cattle where it has happened most. The Polled Hereford used to be the cow that was most frequently seen with the prolapsed vagina.