

And, he assists us in dodging potential quarantines. The importance of this can be seen in a problem that is now my pet peeve—scabies. As you all know, scabies is caused by a parasite which can be killed by spraying. The bug is no great problem. The real problem is the cure that we must use to eradicate the disease. If they (the government) find one animal in my feedlot that has this particular bug, they'll make me dip every animal in it twice within a 14-day period. I estimate the cost between a half-million and a million dollars.

The relationship we have with our veterinarian is really a mutual understanding. He has good, sound judgment on how to handle certain things and an economic viewpoint on handling cattle. For example, it is cheaper for us to let certain animals die than try to cure maybe 20,000 potential cases. A program to vaccinate every incoming animal for all the strange, exotic things we can think of would cost a lot of money. It is cheaper to let some animals die from these particular diseases than it is to pay for the vaccine and the resultant stress that

you put the cattle through when you give them that vaccine.

Part of our trust in the judgment of our veterinarian comes from our ability to communicate with each other and to understand what the other is saying. A lot of you can talk to someone and probably, if you talk in very many technical terms, he may or may not understand what you're saying. We've been fortunate in that when I ask some questions, the people we work with have been very kind about sitting down and explaining in detail how the process works. Because of this, we are able to evaluate information and, hopefully, do a little better job of feeding cattle than the next man.

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## Panel Discussion

**Dr. Roger Panciera, Chairman**  
*Department of Veterinary Pathology*  
*Oklahoma State University*

**Dr. Panciera:** We have heard from four people today and I think it is my role to stick some needles in people and get something going! We have heard from four vastly different people with quite different views. Dr. Young and Dr. Rinker are two veterinarians but both employed in the same industry but in a somewhat different position. One of the things that I have seen over the years is some deficiencies that exist in veterinarians as a result of their great training, veterinary colleges, and also because it seems to me that we become creatures of habit—we do our thing—we practice conventionally for awhile and it seems to me that the kind of endeavor has been discussed today requires a sort of retreading of attitudes and objectives and a basic thinking. I know that many of us think that we get so astute at our diagnostic and therapeutic measures that we can diagnose our cases from here to Dr. Fox back there but before we can reach Dr. Fox we already have our syringe loaded with the exact medicine and jab it into the next one. Many of us are from backgrounds that say we should work like heck every day and we have been brought up that way and, unless we are working physically, we think we are loafing! We regard thinking as a luxury. A lot of people get paid for doing nothing but thinking. They can sit in their chair all day long and get paid for thinking. Some of these attitudes are necessary

to engage in the endeavors that are the topic of the program this afternoon.

**Dr. Black, Idaho:** In Texas, who handles all the backgrounding of cattle. Do the same veterinarians that consult with feedlots have anything to do with the cattle before they get to the feedlots?

**Dr. Rinker:** Basically no. Most of our cattle are backgrounded through a sale barn. In our operations, very few cattle are actually backgrounded.

**Dr. Walker, Miami, Okla.:** What vaccines can you do without?

**Mr. McQuiddy:** We feel that we must vaccinate for red nose and black leg. I do not have the guts as yet to throw away the black leg vaccine! It does not cost much.

**Dr. Rinker:** I think we can put it into a nutshell. I do not feel that we have enough of a problem with any of these other diseases for which we have a vaccine that we can merit economically sticking into every individual. We can get along without them and make a pot of money. I would really like to insure all the cattle in the U.S. that are given any vaccine other than IBR. You give me the money it takes to vaccinate them and I will pay you for all the deaths that are caused by these diseases in the feedyard and I will be a millionaire within a year easily!

**Dr. Panciera:** I have been impressed that men operating feedlots are money men—they are not in love with cattle—they are in love with money and the object of the game is to make money. We heard from the Hoard's Dairyman this morning that tends to be the objective of most people in business and I think that is one of the veterinarian's hang ups. We are so interested in health that we lose sight of the buck and Mr. McQuiddy mentioned that it is cheaper to let some of them die than keep them from it. I think that is an attitude that some of us need to change.

**Dr. Walker:** Do you feel it necessary to do a necropsy on all dead animals?

**Dr. Rinker:** I will add just one thing to that question. Dr. Young did mention a while ago in his dissertation that on their record sheets they did have a diagnosis on everyone! Now I wonder how they got it?

**Dr. Young:** It is a tentative thing. I am not going to confirm every single one in the laboratory but when you start seeing something a little out of the ordinary then I think it is time to get a confirmation on at least a sampling of it. As Mr. McQuiddy mentioned, the majority of the cases are pneumonias and they quite obviously are pneumonic but more than anything else, you can learn something on your own on that necropsy procedure as far as other things that may be cropping up that may not be the exact cause of death. You may know the cow died from pneumonia but there might also be something else. This is worth your knowing.

**Dr. Dresbach, Ohio:** What is Dr. Young's attitude toward vaccination of the feedlot cattle?

**Dr. Young:** Again, as I mentioned earlier in my talk, I feel the conservative approach is the way to go. As far as the immunization program we use, it is IBR-Lepto. That is all we use. We have finally had the nerve to give up the black leg edema vaccine. The reason is that because of the size of the cattle we are feeding, we are just not seeing it. Here is the reason for doing the necropsies. If we were starting to see an increase in it, then we would start using the vaccine again but the IBR vaccine is a necessity. If we do not vaccinate all those cattle for IBR within 10 days then we have 100% IBR within the cattle! Leptospirosis vaccine is a cheap carrier and I think it prevents a few of our chronic "poor doers" and this stems back from 10 or 12 years ago when we did some work on chronic poor doing animals in the feedlots alone. We started using it and felt it was not too expensive and continue to use it.

**Dr. Carter, Geneva, Nebr.:** What measures for parasite control are applied as a blanket or in selected instances to cattle?

**Dr. Young:** On parasite control it is a debatable subject I think also as far as what you want to use on the worming program. I worm in

the feed on a selective basis. I have not gone to a blanket worming program because there are some cattle that will not warrant the use of worming even though there is some work that says it helps even though the cattle are not even "worming." As far as how we pick out which cattle we are going to worm, I suppose as much as I hate to admit it, it is by guesswork! I like to use the weight of the cattle, the origin of the cattle, what the cattle look like and, in some cases, I use a fecal count. I am lucky enough to have a laboratory right there on the feedlot where I can take a composite sample of a group of cattle and worm on that basis. Using all of them as a yardstick, it is helpful. As we look at our records and this is what I kept harping about a while ago, which cattle should we worm and not worm based on our profit and loss sheet. Just a very short time ago I went to the accountant and asked how much we were making on the cattle that we wormed and he said, "What if I tell you that we have not made a dime?" Those were the exact words he used. Now, I know there are some of these groups on which we get advantage from medication but strictly from an accountant's point of view, I doubt it. Certainly he would not recommend us going to a 100% worming program. Just briefly on our external parasite control, we dip everything that comes into the feedlot without exception, starting at the very reason that Mr. McQuiddy mentioned—scabies. This alone scares us to death! That one little bug in the lot could cost us too much money so we do not make any exceptions. About three years ago we had a group of cattle that came in and they were exposed to the mite and they were 60 days in the lot before the government found out where they went and there were about 300 of these steers. All had a good distinctive brand on the side so that we could identify them—they were mixed in with another 150 head of cattle so we brought them back and much to the government's consternation, we separated out the 150 head and did not work them. We did not want to run them through the chute. These were all wild and you can imagine how hard they were to handle and the government went over them with a fine-tooth comb—every one of those animals—and at that time of year we should have had some ticks of some sort on those cattle but they did not find any. It turned up even though they did not find anything. Three weeks later we put them back in the furthest pen in the feedlot which is about a 1½ mile drive. Just to be safe, we thought we should dip those cattle so we brought them back up and dipped them in corral. I think it did a pretty good job for us. I did not mention that we had two broken legs, broken nasal bones and they were very nice—they did offer to pay for the dipping!

**Dr. Rinker:** As for our control measures for internal parasites in our area, we do not worry

about them in the feed yard. We feel that we have a diet that is compatible with the parasite and I feel the parasite was initially put on earth to be symbiotic with the host so long as the host is getting adequate ration. We probably did review some poor literature and felt that very possibly we might get some helminth control with a "pour on" and we did some barnyard trials on this. We felt that we might, in some cases, get some effects. Since we were using the "pour on" anyway, we just assumed that it was a good deal to use it for maybe the control of some internal parasitism. Now, this is not a fact that I can state. We try to comply with warnings and so forth but, at the same time, we have not had a problem with ill health or problems in the yards as a result of using them.

**Question:** What size of economic unit do you have to be or can a particular unit afford to pay?

**Dr. Diven:** It depends on how much the consultant is charging; how bad off your situation is; and what your expansion plans are for the future. If you expect a consultant to return you 10 to 1 what he costs you—if he costs you 10 cents a head and can return you \$1.00 or so for 5,000 head you pay him \$500. This is the way I look at it. Right at the present time our standard fee for lots within our area is \$500 and we pay our own freight. Before starting out with anyone, we like to visit them, look at them, check over the situation quite thoroughly and if we are not going to be able to give them a return, then we do not work with them. We do have to have our \$500 because we can go down the road and work for someone else that will pay us that. We charge a flat fee per month for any size feedyard. The problem for us is the same. Actually, it would be easier for us to work with Bill here at the size of his feedyard than it would be to work with 6,000 or 7,000 feedyards because as he pointed out earlier in the management set-up, they have someone that is taking care of the cattle buyer and holding hands with the customer and one thing and another while he is busy with the consultant. I go to the smaller feedyard to spend the day and a cattle buyer comes in, we're interrupted and you spend an hour or so with him and then the client comes in, he has to spend some more time with him; he is more important than the consultant. By the end of the day I have not accomplished a thing and I have to go back again and that doubles my cost. My other costs such as ration formulation etc. are basically the same. You are going to feed so many rations regardless if you have 5,000 or 30,000 head of cattle. Those all remain the same so to me there is no difference in what I should charge one feedyard or another because of their size.

**Mr. McQuiddy:** I think you put it very well and I really do not have anything to add except it would depend upon the problem of the fee and

how much time that you spend there. If you were there once a month or five times a week it would make a lot of difference because it would take away from your other income.

**Dr. Young:** As far as you paying so many dollars a month, it would not make any difference to you if the consultant showed up once a month or once a year. If he convinced you that you were making 10 to 1, then why should you care. He makes more per hour but it would be harder to justify in the manager's mind that is, to spend so much money for so little time put in.

**Dr. Diven:** This winter we are having a terrible death loss problem and so the communication by the consultant he comes in and tells us how much better a job we're doing than everybody else, you know, so we think he's great.

**Dr. Spencer, Kansas:** What is the incidence of liver abscesses in Montford cattle?

**Dr. Young:** I will have to give you a little background here to answer that question because of the changes we have had recently in the regulations. When we were on a program of 20 milligrams DES, we were then also dropping aureomycin. The first 30 days in the feedlot they received 10 milligrams and 70 milligrams of antibiotic so during that period we were running about 45% liver condemnations compared to normal. Now we have dropped completely off the oral antibiotic and gone to 70-75, depending upon which antibiotic you are using and we are running about 15 to 25%.

**Question:** What percentage of carcass problem are we seeing from grubs, either using the corral ruelene or whatever to the resistance to grubicides?

**Dr. Young:** At the present time we are using both corral and ruelene as a dip and then we have used one "pour on." With the "pour on" we get real good results and very seldom have any problems. With the corral, over the last three or four years, we have seen progressively more of a problem to the degree that right now we have cattle going out of there that have been dipped in corral and I know beyond any doubt that they were dipped in the right concentration of corral because we are checking the concentration of corral on a daily basis to make sure they are charged right. We are on an 80 to 85% trim of one degree or another. The packing plant send me a daily sheet on each group of cattle as to the degree of medium, heavy and light trim. Some groups of cattle will have 20% heavy and maybe 40 or 50% medium to the point that you will have an 85% trim. With ruelene it is a little early to determine but we are seeing a better degree of control definitely. I have hopes we will get some more control there but the company is really putting the bug on us to do something about it and I am not sure what we are going to do but we have got to get a better control.

**Dr. Diven:** I would like to comment on the liver abscesses if I could. We do not feed antibiotics routinely. We do use them in the receiving program for a few days or weeks or use them when the veterinarians ask us to get them into the feed for a period of time but they are not fed routinely. We use the liver condemnation and seldom do we get it pinned down to a liver abscess but occasionally we will get reports back from the packers on what our liver condemnations are running and we use this as a measure of the capability of the nutritionist and management. We've gone into feedlot situations where low levels of antibiotics are being fed continuously and we see 30 to 50% condemnations. We have taken over the program and in one turn of the cattle, without this antibiotic, we have been able to drop this to 8% to 12%. It is an indicator, it is not necessarily our purpose in some of the program we have but in just talking to Bill and asking him if he had an idea of what his condemnations were—you do not commonly get this report back and I think that is too bad. You have to fight for it to get it but he pointed out that his condemnations increase in the cattle that will be coming out in the month of March. Now I would agree with this—those are the cattle that are on feed right now and these ice storms are hitting and the Texas panhandle, the eating habits of the cattle have changed considerably and it is our feeling that if anything comes up like frozen water troughs or the cattle running out of feed or a storm front is going to come through—this will change the eating habits of the cattle. Anything that would indicate that the cattle are going to load up we back off of that energy at least for one feeding. Perhaps it would be easier and cheaper to feed the antibiotic but I do not think so. Through management, I think we can control liver abscesses. From the research standpoint, if you want to clear a drug for liver abscesses I can get abscesses in your control cow, so that the FDA will clear you on that. Antibiotics are effective in controlling liver abscesses. We have seen inconsistency in promoting the liver abscess situation which comes from many things like the cattle running out of feed and trough freezing. How do you handle them and inconsistency in milling? You go through a feedlot and take a look and this ration in this tray is green with alfalfa hay and the next one has very little alfalfa in it. You know there is something screwy and you are jacking these cattle up and down all over the place. You are producing a change which contributes to liver abscesses. If you want to come in and set up an experiment where you are going to prove that an antibiotic will control or reduce the instance of liver abscesses, we will bring the cattle onto growing ration. We will get them so they are popping real good for 30 days. Then put in our treatment and the next day we put them on 90% well prepared grain ration. There will be trouble at

the time but we will feed them for 100-150 days. When we kill them we will see 50% abscesses in the control cattle and reduced levels in the treated cases. If I can induce it I honestly feel I can prevent it. We do not back off on the energy very long. We work a system basically with three rations and when you run into trouble like this, we ask that you back up one ration. Of course, you cannot back up further than the starting ration but that is generally fairly low energy and other than economics, even our starting ration will get cattle fat so that they will grade. Even in our starting ration the question is whether energy is limiting the consumption or whether bulk is limiting the consumption. So, even with our starting ration you would have cattle getting fat. You could not afford to live with it but the cattle will get fat and I am talking about one feeding. Bill can tell you by looking out through the window of his office more about barometric pressure and a storm coming through there than the local man on TV or at the airport. He knows that things are happening and that it is time to start thinking about a change. For one feeding, otherwise when cattle are empty and hungry, do not let them back to an 80 to an 85% steam flake grain ration. You are going to get in trouble. I cannot help but comment on that a little, Dick. Management as I mentioned earlier, is definitely a factor in any of these feedlot situations. The only thing that blows my theory on why liver abscesses would change is the man who is checking our bunks is the same one that has been doing it for 33 years. The guy that is in the mill has been doing it for 17 years and yet we see this fluctuation only on the changing of our antibiotic in the feed or not. Then to further confuse the issue, we put in another feedlot of 100,000 and the guy has been doing that now for four years and the guy that is in the mill has been there four years and the liver condemnations are running exactly the same as in the North Lot, 15 miles away. I think there is definitely a factor in your antibiotics that may or may not control that thing.

**Dr. Panciera:** One comment from me on this topic! I think that Colorado is where necrophorus originated and you know it is a super environment for necrophorus. A little further south the problem is not quite as bad!

**Dr. Church, Alberta:** What is the average comprehensive medical cost per head of cattle as viewed by two veterinarians and a feedlot manager?

**Dr. Young:** Are you talking about the therapeutic cost, preventative, cost of the whole thing (labor, the herd health program) on a per head basis? If so, in our situation of about 700 pound cattle, let me qualify that first because it is going to put a reflection certainly on the cost we are talking about. On this group summary that I

mentioned, we break this down so that on an individual group you have these costs. We break it down as far as vaccine costs, dipping costs, labor, overhead and therapeutic drugs. This will run on most of our cattle about \$1.25 per head including all costs and the labor includes mine and another one or two veterinarians—the whole labor involved with the health program and the overhead will include all equipment, trucks, hospital, offices, etc. involved with the herd health program. This is a total overall cost.

**Dr. McQuiddy:** Unfortunately, I am not able to answer your question accurately. We do not have the records. We will have this information by this time next year. We will get the costs of doctoring animals on an individual basis. When we turn the pen out, we get a summary which says “non-feed costs,” which includes insurance, working charges, medicine etc. but we do not include the operations of a veterinary crew or doctoring crew in that cost.

**Dr. Panciera:** It remains a secret!

**Dr. Spencer, Kansas:** What is the percent death loss of cattle?”

**Dr. Young:** I wish this year was a normal year! We would like to shoot for 1%. This is what we would like to consider normal in our size cattle (700 lbs.). With our size and everything, I do not think this is too bad. We are over that right now and I am not proud of the record this year! Our average feeding days on cattle is 135 to 140 days. We are taking them from about 700 to 1,250 lbs.

**Dr. Panciera:** Well, even if Dr. Spencer did not ask the question, I am going to ask it! What is an acceptable death loss in lighter cattle?

**Dr. Rinker:** I think anything under one-half percent would be acceptable (laughter). This year is a bad year in our area and, until this thing is over, I would not accumulate any figures on death loss but I can estimate them. In lighter cattle in a large operation, I would assume that we are looking at 5+ in that area, maybe 6! What are light cattle? We take care of even some that are 150-180 lbs. in that area, but we are talking of light cattle in about the 300-500 lb. range.

**Dr. Curtis, Guelph, Canada:** What is the status of *hemophilus somnus* septicemia in cattle?

**Dr. Panciera:** I can only begin to answer it. Several years ago we saw a lot of it and for two or three years, we saw very little of the encephalitic form. Last year and this year we have seen many. The ones that I have seen have been 100% but I get all the dead ones so I will pass the microphone to someone who sees populations.

**Dr. Young:** I think the most predictable thing about this disease is its unpredictability, but we do not see that much of it—it will come and go and we see maybe two or three in a pen, and then we do not see any for quite a little while. I think there are some factors of management here that may

precipitate the disease and do not pin me down because I do not know which ones yet.

**Dr. Rinker:** I think the question was what the current status was? In our experience in our area we are seeing a lot more of the encephalitic meningitis form in cattle that are in pasture than we have ever seen in the past. This would be in this area we do pasture winter wheat and we have even seen it on dry grass pasture—buffalo grass, at a much greater incidence that we have ever seen in the past. We also are seeing the brain form more frequently now that we have in the past two or three years. So, that is the current situation in our area and I have no idea what it will be next year.

**Question:** I would like to ask Dr. Panciera if he would just comment on what he thinks the septicemic form and its relationship to respiratory diseases might be in the feedlot.

**Dr. Panciera:** I am glad you asked me because I was going to do it anyway! Our knowledge of the disease seems to be in a quandry. The encephalitic form is very easily recognized and very easily confirmed. A few years ago we made allusions to other manifestations of the disease including a respiratory and an arthritic component. I am forced to say that I do not know if I know anything more about the offbeat forms of the disease today than I did then! We have seen many feedlot cattle, pasture cattle, wheat pasture cattle which have arthritis and from which we occasionally isolate *hemophilus somnus*, from which we grow *mycoplasma*, *pasteurella* occasionally, or other forms of bacteria that are a headache to identify and the whole deal is a mess! It is so difficult to define. Is this in fact a manifestation of *hemophilus* infection or is it not and I am confused.

**Dr. Mancheak:** If there were an effective *hemophilus somnus* bacterin on the market, would it be used in the large feedlots perhaps not year by year but in the years when you thought your incidence was up?

**Dr. Rinker:** Definitely, and I do not know how you select them but with the problems we are having this year, I think that the fact that we are having the encephalitic syndrome increase this year, I theorize that very probably some of our respiratory problems are in fact a result of *hemophilus* infection.

**Dr. Walker:** Does anyone have information on the effect of DES withdrawal?

**Dr. Panciera:** I need to tell you about some calves I looked at the other day that had salmonellosis. The owner was a furniture store man and he was giving these damn calves a bunch of “paragoric” and he ran out of paragoric and four days later 56 out of 62 calves were dead! Frankly, I could not tell if they died from salmonellosis or whether they had the DT’s or whatever you call that!

**Answer:** I think that with a good conscientious job of implanting as we had been doing in the past (we have always implanted and fed a combination), with 30 milligrams implant we were getting about 80% response from the implant anyway. In the feedlots where we have withdrawn, and where police activity was very intense, we did withdraw oral stilbestrol in some of our feedyards a year ago and I honestly do not know the measure—how do you know?—we did not set it up on a control situation but we did go out and police our implanting program considerably. We began 30 days after implant to withdraw an implant from four or five head out of a pen. Again at 60 and again at 90 looking for 1% disappearance per day. What is a double implanting program? Well, we come back 70, 80, 90 days later and implant them again. Would it be the same product or a different product? The same product. We cannot name certain kinds of implants. You have DES; we recommend 30 milligrams of DES and we have always even controlled our studies and I think those studies that are published we have a greater response from this when it is implanted properly and we are getting the proper absorption. Now, we have a lot of feedyards that use a custom working crew that we have difficulty in controlling and making them change. We offer them 10 or 15 cents per head more to slow down, change needles more frequently and do a better job but often it has not worked so in this situation we have gone to another product where you can be more careless and still get good absorption and a response. With some of the grass cattle we have implanted more of the Ralgro products which I think we are fortunate to have because the wheat is gone and they have been out of feed. With heifer cattle out of Mexico, we were using 30 milligrams of stilbestrol on all heifers of all sizes and getting along very well. This year, in our northern feedlots, buying new hay we started getting prolapses we could not live with. They feed only Mexican heifers there we have changed to Ralgro to stay away from that problem. We use DES with MGA as well. In alfalfa we are looking at one of the other estrogens. I do not know of any assays on Mexican alfalfa. Cholestoral has always been the most popular one in that part of the country and the alfalfa regions of Arizona and New Mexico.

**Question:** What particular estrogen is particularly outstanding in the Mexican alfalfa?

**Dr. Panciera:** I do not know. If you could grow enough of that alfalfa to sell to all the feedlots, they would not need DES, right?

**Dr. Bechtol:** What would you consider a regular visit?

**Mr. McQuiddy:** This is a sore subject with us! I would like to see them at least once a week. I would hope that he would come oftener so he could “look and nose around.” Probably I see him

once every two weeks and then we get to having a good visit and sit down about once a month and I think we are pretty well compensated during this period because you can only talk about so much stuff. You have talked about the subject in so many different directions and you are through with that subject and you are ready to go on to a different one. We have more than one yard but this one is 60,000 and I think the way we have it organized, once a week, should be sufficient.

**Dr. Dresbarg, Ohio:** Dr. Diven, how often do you visit your feedlot?

**Dr. Diven:** After everything is stabilized, usually once a month and generally the same time each month—the first week for this feedyard, the second week for others, etc. We work on a pretty even schedule. We are back and forth on the telephone all the time so that when something goes wrong, we are there and we could be there for several days. When things are leveled out, it basically means a day, generally, on our feedlots that require a night's stay anyway. We will try to arrive there in the evening and meet with the management people and spend the evening with them and then all the next day and then leave basically after dark the following day and we call that a one-day visit.

**Dr. Panciera:** Dr. Diven mentioned cable cutting and magnets not working too well, the water is frozen etc. Our speakers have impressed me with the observations they make. What are the neat things that Dr. Young, Rinker and Diven have seen in their travels? Heaters are something that we are getting away from. We are going to the free flow system just to get away from this electrocution thing. Another one is what we call a “slab dweller” and this is something that you have got to educate your checkers on. This time of the year is the prime time for this animal! He gets up on the feed slab and eats and looks fairly full, but rather than get his feet wet and everything else wet getting over the water tank, he will stay on that feed slab and you cannot push or pull him off. It takes a horse to jerk him off that feed slab because he will not go off and he will starve to death for lack of water and if you do not educate your people on this type of animal you will be missing badly on this. I am not going to spend too much time on the ones we have missed.

**Dr. Rinker:** My boss is here and I hate to say anything! (voice—“But he will anyway!”) Now that you mentioned it, I think that one of the things that has been observed in my experience here is driving into a feedyard and I always like to make my passes through the alleys or at least some of them so I will not be influenced by someone else's opinion and that I will have my own before I talk with anyone and, in this size lot, I think you have to utilize people as your eyes and ears and nose, etc. Also, communications are important. In

this particular case in going through the dry valley, there were a lot of loose tools with what we call snow cap white on top and the cattle were just not as aggressive and possibly some of them were weaving just a bit posteriorly. Then I checked with the cowboys to see if they saw the same thing. They had seen that plus another thing or two and then go to the mill and see what they had done to the ration that induced this, because we then assumed we had an acidotic condition. They had done nothing. Everything was the same as it was supposed to be. As we checked further, the moisture of the flake was too high and it was higher than what we had been running in the past, yet the pressure and the water was the same plus the pressure in the steam cabinet, and the capacity was still being kicked. Finally we went to the storage bin and checked the moisture on some of the whole grain. When it was supposed to be running below 14% it was in fact running 19% so actually we were putting a lot more moisture into the steam cabinet or into the grain through the steam cabinets and, in fact, producing an acidosis in most of the cattle in the yard. This cost them a lot. First, they were supposed to be buying 14% moisture milo and they were paying for 19%; so, they were paying for 5% moisture plus the ill health that was induced in the yard.

**Dr. Diven:** I think that a consultant is basically a paid critic. He is a friend to the feedyard, or I consider that the consultant is a friend to the feedyard—whereas potentially the customer is unfriendly to the feedyard. He may get mad and pull his cattle and leave you, so we spend a lot of time looking on anything that would affect customer relationships for example. We call the feedyards quite often and note how the girls answer the telephone. However, we do visit the office and judge how we are received—if we are offered a place to sit down—if we are asked, “What is your business?”—or what do we want and this type of thing. The general appearance—if it would have anything to do with cattle performance or not. Grass clipping, the way the lanes are cleaned and clipped and the lawn trash—beer and coke cans etc. I think it is important for good customer relationship. I am a firm believer that before anyone is going to find out whether or not you are any good or not, you will have to look good. Some of the unique things and common things are: the only time I ran into this I found a returned condensate line from the steam cabinet back to the boiler that was welded in solid and we could have had a nasty explosion from that one but we lucked out. A very common one we see is the drive alley and where the feed trucks go—the bumps and holes and the relationship of this to the number of load cells that have to be replaced on the trucks. We could go on and on—we are the super critic.

**Dr. Henshall, Michigan:** What is the correct

way to implant cattle with stilbestrol?

**Dr. Diven:** There is a presentation that is quite easy to get hold of by Dr. Bill Teter, formerly with Commercial Solvents. They have excellent photographs on how they implant and this is the guide we use. Dr. Teter does point out the importance of a sharp needle. That is one thing that we run into quite often. Somebody is out there working 100 head of cattle and has only one gun and one needle. The third animal throws it against the chute and you are in trouble. We insist that they have a bundle of sharp needles. You scratch the cartilage and you are going to wall it off. You hit a vein and it is going to dissolve. You implant it further than where you can palpate it or return it and you never know what you have! We have gone through this in very cold winters in this part of the country and still had that implant far enough from the base of the ear that we could still palpate against the cartilage. I think this is basically what Dr. Teter demonstrates and he give you an area which is good to implant and suggesting that you move it in or out according to the season of the year.

**Dr. Carter, Nebraska:** What kind of urea levels do you use or can be tolerated in your ration?

**Dr. Diven:** Basically, where we have a minimal number of environmental problems, good management, well processed and mixed feed. We commonly supply all the supplemental protein from urea. We have not been so successful with that on, let us say, east of the Rocky Mountains because that is a different environment. We do minimize it somewhat, but I agree with you that protein is getting high and scarce. Cottonseed meal is high in our part of the country now but it does not make any difference—you could not buy it anyway. Meat and bone meal went up \$30 in Oklahoma City in one month (last month). We are running into these problems. Urea is going up. The export program is tremendous for the urea manufacturers this year and this is getting pretty steep but let us assume that we can get urea at a fairly reasonable price. I think that this coming year, if this situation continues to hold where we least cost our rations on a gain basis, that is, we formulate for a least possible cost gain, we will *reduce* gain—take a lesser gain in order to keep that least cost and we may just go all urea and no natural protein whatsoever and that is going to be something different in terms of performance but it will still be least cost of gain. As long as we have high energy rations and we are keeping the pH of the ruin on the acid side, I do not anticipate any toxicity at all. I can sure see where there would be some reduced performance—a small amount— but we have never had a toxicity problem with urea. On cattle weighing 500 lbs. or less, where we are going to look at roughly 4% supplemental protein (additional protein) assuming that our natural

ingredients are providing us with 10 to 11, we might start these cattle out with 1/4 to 1/2 lb. per day. I really could not say. I think, on the other hand, that we are probably overfeeding protein anyway.

**Dr. McGinity, Missouri:** Would you use all urea as a protein source in a starter ration?

**Dr. Diven:** Yes, we might have to and take a look at our starting program increasing the energy so that we will be certain to get our pH down low enough. This causes of course difficulties with consumption. The problem that you are talking about is with silage base rations. We have alfalfa base rations and I do not think there is any

problem—you still have a need for so little supplemental protein with a high roughage ration that here there is no problem but with a silage base ration there is a definite problem. Yes, you might have to and if you cannot get it, you will have to do something. The problem on limiting gain or performance in terms of gain costs and I think every nutritionist has his magic formula is that let us say we should not try to feed more than 2% non-protein nitrogen in any given ration. If you try to stick to that and cannot get soybean meal or meat and bone meal, then you will feed less than the required amount of protein and you will reduce performance. Maybe that's a better way to say it.