

Panel Discussion

Wednesday, December 14
Feedlot Session

Dr. Duane Flack, Moderator

Moderator Comments: I think we have had two or three very interesting days of discussion with some very talented, knowledgeable people, with whom it is certainly a privilege to associate, trying to think that you are all part of the same club. The comment was made this morning by some people relative to the number attending this meeting on feedlot practice, as opposed to our colleagues next door in the dairy practice. This might lead one to think that the health of the feedlot practice has not been too good lately. I think this probably has some bearing. The Midwest-Iowa, Illinois, Indiana, Minnesota, Michigan-corn-belt farmer-feeder certainly has dwindled in numbers over the period of the last three to five years. Likewise has the number of cattle involved in the high plains or great plains, Southwest, "large" feeding industry. But that is a cycle that has been actually predictable. It certainly has been repeatable and unfortunately will probably repeat itself again. But, yet, that has not changed the basic fact that we are producing a very desirable, high-demand product in the form of our animal protein, food for humans, beef. And as the industry changes and goes through the cycles, and we change with it in production technique and technology, the veterinarian finds himself certainly a very integral part of that change, a very definite part of the team and I think is going to see his role change right along with it as long as he changes, as long as he becomes part of that process. Certainly there is an expanding and a growing and a challenging field for all of us. We have seen this outlined during the last three days. We have heard very interesting speakers. We certainly have had an interesting scope presented to us this morning. We started off, if I may remind you just a little bit, from Dr. Self, talking in terms of the comparisons of facilities available to the Midwestern farmers. We have heard a lot about confinement feeding, slatted-floor barns, environmental control. We are going to hear more from the EPA people. I enjoyed the comment yesterday that that was "ape" spelled backwards. We certainly have had some interesting comments this morning from Dr. Eness relative to the facilities. Dr. Oliphant in his Kansas practice outlined for you some of his thoughts and feelings about the manner in which he as a professional practitioner has been able to integrate himself into the operational style and practice of his clients and develop that relationship through education and communication and association with their problems. Certainly Dr. Brandt has just concluded with an outline aimed at the necessity for us as practitioners to become more knowledgeable in the processing of feeds, the handling of feeds and the control of those feeds and feed additives which we are going to hear a lot more about. I think we have had an interesting scope. I certainly enjoyed the discussions myself and I am sure that there have probably been some thoughts and questions brought to the minds of all of us. We are kind of spread out, it makes it a little hard to really conduct. If anyone wants to move up, I would suggest you do so. At the same time, I think because of time we will not try to break to do that. We do want to get out of here on time. If I could ask for questions, any of you who would like to direct specific questions to any of our speakers, we will see what we can do in fielding and discussing how these various topics might apply to your practices in your area.

Q. There were comments made relative to adequate space when you were going to sheltered or housing type facilities for protection. What is adequate space, or maybe turn it around and say what is inadequate?

A. Dr. Self. Adequate space in total confinement is something, in my opinion, in excess of 16 sq. ft. and not necessarily any more than 21 sq. ft. Personally, I like the 18 to 20 sq. ft. requirements about as well as any. You have enough cattle traffic to work the manure through and still you do not have them crowded to the point that whenever they get bigger and heavier and ready to go to market they are lying down in front of the bunk and keeping the others away from eating. Now, as far as a shed is concerned for an open feedlot, you are still talking in the 18 to 20 sq. ft. per head

category. Now, I might get into an area related to that that we did not talk about this morning. A shed of any kind, whether it is in a confinement building or whether it is a shed with an open lot, one of the real critical things there is ventilation. I know that when we first put up buildings that had a 14 to 16 in. gap at the gable, a gable building, and leaving the top open 14 to 16 in. wide, people really thought we had fallen out of our tree. But actually you do not have snow problems coming in there as long as the building is full of cattle. The heat is generated, the air is moving up, you have virtually little moisture coming in. And if you do, it is in the center of the building and it still provides for that warm, moisture-laden air to move out rather than be trapped in the gable portion of the building to the extent that it has to come down and then out at the eaves. So ventilation is extremely important, and there is a big difference between proper ventilation and draft. That is what I was referring to this morning, this alley that goes down through these confinement buildings on one side, that is a good mixing chamber for the air and it keeps the cattle far enough away from where the fresh air is coming in to keep them out of the draft. So, ventilation and drafts are two different things. Ventilation is an adequate, very essential part of shelter and in my opinion, it is as important as the square footage that you have.

A. Dr. Eness. I do not think I would want to disagree any with Dr. Self on this. In the two buildings I showed, the slatted-floor building is probably pretty typical and this will provide 17 sq. ft. per animal. In the flume-floor building, there are 80 animals per pen capacity and these provide 16 sq. ft. per head. This thing I mentioned about inadequate space in an open shed. You get down much below that, the cattle are not going to use it all the time. But when they do need it, when you have precipitation or adverse weather and you start trying to crowd cattle into facilities where you have only got 10 sq. ft. per animal, even though they are not confined in that area, this is where you start running into some severe respiratory problems.

Moderator: May I reiterate and make sure that I understand you both correctly. You are saying that you need some place in the 17 to 20 sq. ft. per animal range, regardless of whether this is full-time confinement or just merely protection space and they have the ability to come in or go out. Adequate ventilation probably is as important as the footage itself.

Q. How much water tank space and how much feed-bunk space are you allowing in these types of environments?

A. In the confinement buildings, generally we have approximately 40 linear ft. of bunk space. This would be for the 80 head of cattle, so you are only providing less than half a linear foot per animal in the confinement units. This creates a real problem. Facilities can create problems. I think we want to be quite careful on these animals coming in. One of the problems that I have heard in speaking with the people from the condominium yard—these animals that are coming in and they do not have any receiving pens where the animals come in and they go right to their home and that is where they stay—one of the problems that they have is that they did not provide any facilities for feeding any hay to these animals. The animals are brought in and they are started on silage and some of the problems they have seen is these animals coming in, especially after a long haul. Animals are like people, I guess, when they get real hungry and tired, some of us would rather sleep and some of us would rather eat. Some of these cattle come in in a pecking order. Cattle will come in hungry and the bunk is filled. Even though there is a limited amount fed per animal, say 15 lbs. of silage grain mixed per animal and is quite heavy in silage to begin with, some of these cattle have come in and where there is only 36 ft., less than 1/2 sq. ft. per head, only about a fourth of the animals can eat at one time. Some of these animals are coming in and loading up very heavily, the ones at the top of the pecking order. We are running into some pretty severe acidosis problems. They do not have the facility there yet for mixing in chopped hay. They are probably go-

ing to have to do this. You cannot feed long-stem hay with these flume systems. It used to be simple. We would put some sides on the bottom of the bunk, fill the bunk with hay. The animals would fill up with hay before. When you cannot feed this, when you do not have receiving yards, cannot feed the long-stemmed hay and do not have the facilities yet to feed the chopped hay, people get in trouble in a hurry.

A. Dr. Self. I would just like to say amen to what Dr. Eness said. One of the important things as I review these confinement facilities is perhaps even more important with calves, if they go in. It is not my feeling that calves should be used extensively in confinement feeding. The reason I say that is, you have some compensatory gains. If you have calves and they are going to be around for quite awhile, then you would have an opportunity to recoup some setbacks that they may get due to weather. Whereas you have cattle that are in the last 30-60 days prior to going to slaughter and you get a setback in those out in an open lot, you do not have a chance to recoup or get compensatory gain. But bringing either calves or yearlings in, I think it is extremely important to get these people to get the cattle in some pens where they can become what I call climatized before they are put into this restrictive environment of confinement. To dump them into that confinement feeding immediately and let some of them get more than they need and some of them less than they need is one of the real sources of problems, as far as total performance in that facility is concerned. One of the advantages of confinement feeding is that you can predict with a greater degree of accuracy when these cattle are going to be finished. In other words, the gains are more uniform in confinement feeding than they are in outside lots. I think you saw that in one of the charts that I used, that in adverse circumstances the performance went way down, particularly during the severe winter weather. So the gains are a little more predictable, and therefore arrangements for replacements can be made a little better on schedule than where you have cattle in outside lots. But they should be brought into some type of facility where they can be climatized before they go into confinement. By "climatized" what I am talking about is getting them on feed, getting them full, not necessarily on a full feed of grain, but getting them on a full feed of something, whether it is hay or silage or whether it is a combination of those with grain. But get them going before you push them into that confinement facility.

A. Now about water. We like to see the automatic waterer rather than the tank water, at least I do personally. I do not know what Dr. Eness's feeling is on that. But it seems to me that you have an opportunity to do a better job of keeping those things clean, go through them with a brush every day and keep the residue out of them. Plus the fact that with a severe low temperature we need to keep them as open as possible and we can do that with the insulated small automatic waterer. Of course, it depends on the size of those that you get, but 25-30 head per waterer is somewhere in the ball park and this is not asking too much of a waterer when they only spend from 12 to 15 minutes a day drinking.

Q. You made some references to the 8-10 gallons average consumption of water per head. Has this been measured and documented or is this a calculated type of figure? I have heard the same figure from a lot of sources, but have never heard anybody that really said they measured.

A. Every lot that you saw in that first picture I showed of facilities, each lot has a separate line to it. Each line has a meter on it, and we have metered this for about 15 years.

Q. What would be the approximate water content of the ration the cattle were on at the same time?

A. Well, this does not seem to have as big a bearing as you might think. On the high-moisture grain the water content of the grain was an average of about 25% moisture and, of course, the silage would run about 60-65% moisture most of the time. Now, this does cut down a little bit on water consumption. Now, the figure of 8-10 gallons is summer. In the wintertime it averages about 5.5 gallons. That 5 or 5.5 gallons they spend just about as much time drinking as they do the 8 or 10 gallon during the summer. We assume it is because the water is colder and they do not take it on in as big a quantity in a short period of time as they do in the summer. Cattle in the summer, without shelter, will consume from 1.5 to 2 gallons per head per day more than cattle that have access to shelter.

Comment: In areas that are going to become more and more closely regulated relative to water utilization, augmentation, river damage and so forth—which is certainly not the case in the Midwest, but it will be in the Far West and in the Southwest—the water consumption figures will become more and more technically referred to.

While we are talking about the EPA, not trying to dominate the question before we get away from that and its relationship, there was one small comment made relative to the lack of odor problem over one of the pit barns.

Would Dr. Self or Dr. Eness, either one, or one of you other people who have had some experience in this area, make a few comments relative to the environmental air pollution odor, specifically, problems of management relative to manure pits, lagoons and this type of thing in confinement feeding? If we are going to go to confinement feeding, I know in our area, this would be one of the first questions the environmental people would raise. What kind of a problem would we have? Some of the municipalities in our area have had some terrific odor problems with biological lagoons.

Comments: Well, I might make a few comments in that regard. As far as a deep pit is concerned, you really do not have much of an odor problem there until you stir it up and start pumping it out and then you had better have some understanding neighbors because it is really something. As far as the oxidation ditch is concerned, that provides virtually no offensive odors, not even as bad as just an open lot. The oxidation wheel creating the aerobic conditions does an excellent job of controlling odor. As far as the flush flume is concerned, used in conjunction with a lagoon—and the lagoon that we have been working with is an anaerobic one, at least it is called an anaerobic one—the thing tends to stratify so that you have different stratas of material and it is my feeling that the lower level is the one that is anaerobic and you have an aerobic one in the top and probably a mixture of anaerobic and aerobic in the central zone. What we have done there is set up an irrigation system with a big gun type of thing, and have used that as a means of removing the liquid portion and some of the solids from this lagoon and this in itself is a way of disposing that is virtually odorless. We have driven down the road beside the field, even the spray from the big gun when it was operating would be drifting into the road, and the odor there is certainly acceptable. Now, unless we get someone drawing up things that does not even know what manure smells like, setting up specific recommendations on footage and distance removed, then I do not think we have any problem unless someone happens to be right on the edge of a town. If there is any distance at all, in the Midwest I do not think we have any problem of disposing of this manure by irrigation. Of course, there are newer systems coming in where you plow it right into the soil, inject it, just like you do anhydrous ammonia. And then if you put this out from the deep pit with a tank on the surface, you have really an odor for awhile, but if you get right behind that with a disk and put it under, it is just a matter of a couple or three hours and then you have that odor taken care of.

Comments: Dr. Eness. In comparing the open feedlot, especially some of these where they do not have much concrete and in wet times of the year, probably the big difference is the people who are living around might be objecting to the odor from a feedlot. Those people who happen to live across from, or in the immediate vicinity of an open dirt type lot, are exposed to it all the time and you kind of become a little bit immune to it. I think as far as the actual odor, the odor from the deep pit system, there is no objectionable odor in there except during these periods when they are removing this. It is extremely objectionable at this time. I think there is probably less objection to this since it is not an on-going problem. It is just in those times when they are stirring these up. Lagoons have some severe odor problems at certain times. Overall, there is probably about as much objection to the odors from feeders in the open lots as there are in the other systems. I think the thing that we probably have to be worrying about as far as the EPA, is run-off more than odor. I think that this is much more easily controlled. Stream pollution and this type of thing is certainly going to be easier to control in any of the confinement type units than it is in the open feedlots.

Comment: I just might make one other comment in that regard. Someone referred to this earlier. A confinement facility, the cattle

in a confinement facility certainly are less visible as people drive down the road than they are in an open feedyard. So the power of suggestion is there. If they see these cattle and see mud and manure and so on, they expect to smell something. Whereas if they are out of sight it does not seem that they worry so much about it.

Q. The question is relative to feet and leg arthritic-type problems and their experience on these in the confinement facilities and the comparison between the types.

A. I can only comment relative to the yearling cattle and then to yearling cattle that are on these facilities a shorter period of time. I grant you that they are heavier. But as far as feet and leg problems are concerned I do not think we see any more and perhaps not as many feet and leg problems in our confinement facilities as we do in our open lot. Now, you would think on these sloping floors that you would get splits and things of that nature. They do not provide as good a footing as you would like. Nevertheless we do seem to have a minimum of those. In this new type of flushing thing that we had, I showed you the core through the concrete, we have had a few of those that were only an inch thick at the edge of that crack, and they do break off once in awhile and we have had those break off and cattle hang their feet in them, which is not a fault of the design or the structure, it is just the falability of the material. And we have had to remove three or four animals over a period of four or five years from that standpoint. I am speaking primarily from the facility that we have been using for research purposes. Dr. Eness is in a better position from a practitioner standpoint to comment on what he has seen in our area than I am.

A. Dr. Eness: Well, first of all, my initial impression was that there would be a lot of problems. I guess this was partly based on contact with a confinement slatted-floor unit that did have a lot of problems. I thought this was an indication of things to come, well, confinement yards were going to be self-limiting just on this basis alone. However, since then the few yards that I have worked with, again we are probably seeing more yearlings going in now. This first yard did have a lot of calves, was feeding calves, going in with calves, and I think again it was a matter of the time that they were on this type of footing. But with the confinement buildings that I have had exposure to, I anticipated problems, I thought we were going to see a lot of problems. We do see a few broken hooves and fractured claws. But I do not think the overall incidence of problems is nearly as great as I thought it would be. As to the split thing on these flume floors where you have this slope, I too thought that these cows were going to get down. All of us in general practice have seen this in cattle in corn fields. Get down just between two rows of corn stalks, get on their side and not able to get up. I thought that this little valley between the two peaks would be a good place for many cattle to get down and not be able to get up. But, speaking with the people working in this yard, they have had very few problems. Really, going through there last week there were about 2500 cattle in this building and they do have one pen where they put these problem animals where they are not having to compete with the others. There were a total of about six animals in there and there were two of these with arthritic problems, leg problems. According to management there, this is about all they will usually see at one time in the building. I think that the thing in these places is if they are going to keep these cattle until they can get them marketed, they probably do need some outside facility to get those cattle that start having problems out. Make some provision for pulling these out of the pens and getting them off these floors. I think this is the factor when an animal develops problems, arthritic, traumatic problems, they are not going to recover very rapidly and maybe not at all if they are required to stay in.

Q. Regarding the supply of drugs for the feedlots in Dr. Oliphant's feedlots where the drugs are drop shipped from the

manufacturer or the dealer-distributor to the feedlots, what type of inventory demand does Dr. Oliphant find imposed upon himself?

A. I think the drop-ship route should be utilized as much as possible. I use it maybe on 1/3 of the things we will drop ship in. Especially the heavy items like Omnizole paste and dip-vat chemicals and this type of thing. You can get out of handling all those and have them drop shipped. Sure, if you have to hand carry them you are going to have to have more markup. As far as inventory, that all depends on your volume. At my clinic we probably have an \$80,000 inventory but we also turn maybe that many dollars worth in a month too. So probably a one- to two-month inventory.

Q. Did Dr. Oliphant find the technique of administration of implants causing a problem as far as the buller syndrome is concerned?

A. The implant definitely can cause bullers, I think, especially in the synovex and stillbesterol implants, synovex F especially. If you crush those implants, improperly implant them or get them down too close where they absorb too fast, we do find a higher incidence of bullers and also, on the synovex H, with crushing or improper implanting, get more vaginal prolapses. Another thing I have observed and I do not know the answer, but on this vaginal prolapse problem, about 60 days after they are implanted with synovex H, I find more vaginal prolapses. I watch this very closely. Every time I get one I will go back and check and see how long they have been in the yard. A lot of times it is along the 50-80 day range. I do not know whether this synovex H is wearing off about that time, which it is supposed to, or whether the lack of influence of these hormones and the imbalance cause the prolapse or what. It would be interesting to know.

A. Does it increase in the confinement barn as compared to what you are used to seeing in the open-air feedlots?

A. I would just say I do not feel I have seen any. Speaking with the people in the yard, this has not been any greater problem in the confinement barn.

A. We have never seen a buller in confinement. Now that does not mean they do not occur, but in our facilities or any of the people I have been associated with, I have never really seen a buller in confinement. I do not know what conclusion you can draw from that. We do have a few in the open yard. But in confinement we just have not seen one.

Comment: Well, one conclusion you can draw, you are making a liar out of me because I have always had to put this off to a sociological problem as much as a physical problem. I know we see in the open air in our area, very definitely as we crowd pens more, we will see an increase. But that might not be carrying clear through. When they get in that high thin air, it makes lovers out of them. I was going to make a comment along that line, but I think I will let that one go.

Comment: I have one confinement lot that recycles manure and feeds it. As far as the buller incidence there compared to the lots that I have that are not confinement, the incidence is much lower in the confinement lot. But we do see bullers occasionally. We do see sore feet and that is related to management where I found it. It was because they were not feeding often enough and keeping their bunk management up right and they have less bunk space than they do in the outside feedlots. Many times they would get up there. I have watched them. They were just wearing holes in the bottom of their feet. They were digging to get to the bunk whenever the feed truck came by and they were actually bleeding from the bottom of the soles and getting sore. As soon as we got the feed-bunk management straightened out, the sore feet straightened out.

Comment: Maybe it will be out of line, but I was going to say something about that feeding recycled manure cutting down the buller syndrome—maybe they are too weak.