

Panel Discussion

Wednesday, December 14
Cow-Calf Session Panel Discussion
Dr. Tom McDaniel, Moderator

Q. Does it make any difference which implant you use?

A. In this Colby trial we used Stillbesterol, Ralgro and Sinovex and they were virtually dead even. This comment has come up at some of the other sessions, the feedlot session yesterday afternoon, for example. It is a debatable item in many respects. I would agree with one of the gentlemen that said that Stillbesterol will virtually give as good a response in many respects as any of them. It is the cheapest one at this point. I am sure that is entering into the decision of a pretty high percentage, probably. We are probably finding, in our state at least, because of the clearance aspect of it, that Ralgro is easily the product of choice in a lot of our grazing cattle as well as definitely our cow-calf producers. If you would look at the research, though, that is out on experimental cattle in a feedlot environment, I truly think that you are going to be hard-pressed to show much difference between the three products. You are going to find one trial that shows one to really have an advantage, but you go to another state or another place within that same state and find something else. So each has its own advantages. We still are virtually faced with three products and the choice is yours to make, because the data is pretty well in and you should be your own judge.

Q. You have got a dry lot situation on cows at Kansas State. Have you done anything with the maintenance on Rumensin or is it even going to be economically feasible to feed this to this maintenance type animal?

A. Well, we have not on a scientific basis. There has been quite a bit of work done at some other places with Rumensin in cows. But on a maintenance type program, especially with low quality forages and the types of programs that a lot of people are probably trying to use with their cow herds, it probably has the least role to play in that program as any of them. I personally cannot get all that excited about it. The results have been very variable with Rumensin in cows. I think part of it is the quality of the material and the fact that certain stages of the year you do not have to feed them very much anyway.

Q. I would like to get some information from Dr. Nicoletti. This will be very pertinent to any of you who have clients who are exporting cattle to Florida, either directly or indirectly. Would you go over briefly the date and the requirements on calfhood vaccination that Florida has for the future?

A. I believe starting July 1, 1979, it may be January 1, 1979, there will be a requirement that animals coming in to Florida be calf-vaccinated. There is already a requirement that animals raised in Florida going into dairy herds be vaccinated.

From the floor: Well, it's July, 1979, that means if you are exporting cattle to Florida or any of your clients are, now is the time to start calfhood-vaccinating them because as of then they will be denied entry into Florida.

Q. Are calfhood-vaccinated calves bringing a premium at slaughter now? The reason I asked this is because some of the traders in my area have made propositions to us veterinarians to tag and tattoo 2-year-old heifers so they can run them down to Florida and get a little extra money. I just wondered if the Florida people can tell a new tag on a 2-year-old heifer?

A. I do not know at this point if in fact vaccinates coming into Florida are at a premium. At one time they were. We were also told a lot of producers down there who bought replacements out of the state were having to pay as much as \$50 extra for animals coming into Florida. Certainly this was a problem in the past. There is no question, and I anticipate it is going to be a further problem in the future. Because I do not know of our source areas really accelerating the use of calf vaccination in anticipation of the Florida requirement. So I think there is no question this is going to be a serious problem.

Q. Do you stagger the level of feed additive?

A. In a feedlot situation? With mainly forage? Well, I hate to hedge again, but there will be some that will just take off and we will never notice the difference. There will be some others that will probably take a week to ten days. There would be no reason to take more than a week, in my opinion. In fact, if you are going to feed the cattle on feedlot type of rations for more than 120 days, quite frankly you might as well put them on one level and go with it and not fool around with the adaptation part of it, if it confuses your mixing program. If it is easy to do, to put in at staggered levels, well do it. But in most of our feedlot situations the staggered levels are a problem so they usually prefer to just slap them on the 300 mg per head per day or 30 gms per ton and leave it that way.

Q. What is the reason for staggering the level?

A. No, the adaptation period is to help the salesmen not having to explain why the cattle quit eating, almost for a few days, which will happen in some instances at the high level. Because you can get from 15 to 20% reduction in feed intake instead of 10% reduction in feed intake. So if you do not want to see that big depression in gain you start them out gradually. But if you do not mind getting a little bit concerned when they really back off feed for a day or two, well then you do not have to do that adaptation part. So it is a psychological type thing more than really the advantage to the animal.

Q. I wonder if Dr. Nicoletti would comment on vaccinating beef herds?

A. We have vaccinated in Florida to-date approximately half a dozen beef herds of various sizes. Some of these have been quite large. The results to-date have been very encouraging, when the post-vaccination tests have been compared to pre-vaccination test results in terms of number of animals removed. Our basic procedure in this is to vaccinate and wait approximately four or five months or so for the re-test. Do the card test in the field and then on those animals that react to the card test in the field, the serum comes to our laboratory for complement fixation tests, which we are using principally as the diagnostic test. Again, compared to pre-vaccination results, the results have been quite dramatic in the numbers of animals that have had to be removed from those herds.

Q. Which of the vaccinations were you using on these beef herds?

A. The same as in dairy. Using the reduced dosage, 1/25 of the calf dosage.

Q. What about anaplasmosis vaccination?

A. Well, of course this vaccine is supposed to be used in the non-vector season in the wintertime. But many of our herd owners are anxious to get their vaccination programs started during an outbreak. And probably more of this vaccine has been used initially in the face of an outbreak. The procedure there has been to inject a dose of anaplaz and also 1 to 1-1/2 gms of tetracycline of some form intramuscularly to confer a 30-day immunity. Then, most herd owners would come back approximately a month later and give the second dose of anaplaz and sometimes a second injection of tetracycline. Then protection is pretty well complete 2 weeks after that second injection. For instance, if this was given in the fall or, say, the late summer, in August and September, 1977, our recommendation has been that it would not be necessary to give the next booster dose until a year from the following winter which would be the winter of 1978-79.

Q. What is the procedure or medical treatment for pinkeye?

A. Use whatever you like. We have a tendency to use 1 cc of benzathine penicillin, and it does not make much difference whose product it is, and 1 cc of a pen-strep corticosteroid product such as Biotef or azymicin. I have used straight benzathine penicillin. I have used penicillin streptomycin. I have used nothing but the

penicillin streptomycin corticosteroid products. There is some question in my mind about using corticosteroid on the eye problem. I think in general that you could probably get along just as well without it and you may do even better when you look at the suppression effects that you get on healing with corticosteroids.

Q. What is the advantage of suturing the third eyelid instead of the two external eyelids?

A. My observation has been that you get a little bit better coverage of the cornea. You have a more uniform distribution of the moisture of the eye and you have less dirt collection next to the cornea. My experience with suturing the eyelids is that you have a lot of dirt that collects between them and that gets right on the cornea. It is not contraindicated to go ahead and suture the eyelids after you have sutured the third eyelid. That has been done too.

Comment: I would like to make a comment along that line. I have used Dr. Brown's technique quite a bit. Prior to that time I was trying to suture these eyelids, and I had a hard time keeping the stitches in long enough. The reason I thought I was having trouble was that they continually tried to open their eye and put a lot of pressure on my sutures.

Q. Dr. Nicoletti. In Canada we are in the process of doing away with all vaccination. There seems to be a move of that nature. As an intermediate step they are now moving towards vaccination of animals at 2, 3 and 4 months only prior to this total removal of the vaccine. Would you comment upon the persistence of the titers in the tube agglutination test relative to vaccinating calves in the 4-8 month and adult animal?

A. Well, there certainly is a relationship between the age of the calf at the time of the administration of the vaccine and the persistence of titers. I think anyone who has done work in this area agrees that the younger the animal at the time of administration, the less the problem of persistence of titers. There seems to be no difference in immunity in those studies that have been done comparing the 2, 4, 6, and 8 months age of administration. A limited amount of work done with administration of vaccine less than 2 months of age suggests that probably the calf develops immunological competency to Strain 19 antigen somewhere between the first and second month of life. Giving the vaccine less than two months of age does not seem to provide protection. From the same point of adult vaccinations concerned. Certainly if you are to use the tube agglutination test and if you are to use the standard dosage, you are in deep trouble. Our work suggests, and I can confirm as I mentioned earlier by those who have done other work, that the reduced dosage provides just as good an immunity as the much larger dosage. The tube agglutination test, at least in our hands, we believe does not give us the same beneficial effects of diagnosis as the other tests. We are particularly delighted with the results of the complement fixation test.

Q. How does Rumensin work?

A. The basic mode of action is that most of it does stay in the rumen and it is mainly involved with the altering of the volatile fatty acids that are produced during the fermentation process. It can readily be found in the manure. In fact, it goes pretty well straight through the animal. I mean, what time it is in there, it is reacting. There is some concern in scientific circles as to how it works. It gets a little bit involved. It is really doing more things than what they probably thought originally. They said it was changing the acetate to propionate ratios. Propionate is a much more efficient form of energy than acetate. But that is only one part of it. There was a rumen metabolism conference in Chicago over the Thanksgiving break and there was an excellent presentation there. They said that because they are eating less feed the rate of passage is slower through the rumen, which is sure enough right. That accounts for probably 3-4% of the improvement in feed efficiency right there. We also know from some *in vitro* work that we have done at K-State and some other people have been working with in terms of methane production, that the use of Rumensin reduces the amount of methane that is produced. Well, anytime you cut down on methane you are making the animal more efficient. So we probably have three modes of action here, most of which are happening virtually in the rumen, as opposed to post-ruminal or bloodstream.

Q. Has it been found in the milk?

A. I probably should not answer. I think the only real major con-

cern in terms of the milk aspect of it is just what it is doing to the butterfat. As long as butterfat is used as a measure of selling the end product, Rumensin probably is not going to have much of a role to play. But it does work in dairy cattle. I am reasonably confident that there is no problem in terms of passing it on through into the milk. Our dairy people are pretty excited about it because it increases milk protein. And so if we ever started selling milk on a milk protein basis instead of a butterfat basis, the product would probably be very beneficial.

Comment: I would like to make one comment on Rumensin from an experience we had at Georgia with the use of Rumensin in a mixing error in a plant that mixed Rumensin as a coccidiostat for chickens. Somehow this inadvertently got into some horse feed at a very high level. Rumensin is quite toxic and has a low LD50 in horses. You should not have horses grazing in the same pasture with cattle being fed Rumensin. It will kill them with a myocardial degeneration.

Q. What is the treatment?

A. Just no specific treatment, only symptomatic. Keep their fluid balance up. Gruels in the feed and watch them die.

Q. What level of morbidity and mortality would you use as a criterion for initiating anaplas vaccine?

A. That would depend on the ability of the herd owner to manage the herd. In a dairy herd, of course, there is a lot more capability. I do not know what kind of terrain you have in your part of the world, but we have some areas in our country that the cattle get turned out in the spring and sometimes they are not seen for weeks at a time. That is really a tough question to answer, and almost impossible without being on the spot. It comes down to the desires of the herd owner. I would say, by and large, in a herd of commercial cattle that are on ordinary pasture in our part of the country, I recommend going ahead and vaccinating them.

Comment: In the practice area in west Kentucky where I was, the incidence of anaplasmosis was quite high. You must remember the use of anaplasmosis vaccine is a calculated risk. I think you should take extra special time to explain to the cattle owner in detail that neonatal isoerythrolysis is a definite possibility and just about a predictable one in the area I was in. It may have been the bloodlines of the cattle or some other reason, but we had a much higher herd incidence than Dr. Winsor described in the 1-2% incidence. And, it might sound simple when you start having it to remove the calves from the cows and milk them out for three days. However, it is not that simple. I have a registered Angus herd that had a high incidence of anaplasmosis previous to the vaccination. The big type of cattle, wild as march hares, that like to kill veterinarians and owners too. You have to stay up all night with those calves because if a calf is born during the night and he gets one big dose of colostrum, he is just about a dead calf. So you have to stay up with them all night, muzzle the calves, milk that kicking, wild Angus out for three days. And even though you do your best to explain to the owner that this is a possibility and it is a calculated risk, after he has whipped 20 or 30 calves and it is calving season of 20-day period, he does not smile at you when he sees you on the street, because he is too beat up and worn out. But remember this is a calculated risk. It is a valuable tool for us in anaplasmosis treatment. I also suggested and I think Fort Dodge does, if possible to vaccinate open cows. That means that their immunity 9 or more months hence would possibly be at the lowest level and maybe reduce your chances of NI at that time. The most serious incidences of NI is within the first month after vaccination in the calves born at that time. And then it decreases as time goes by. But that is a suggestion, and in Georgia where we do not have much anaplas in the area I am in, it is one of my recommendations to my students. Vaccinate them when they are open.

Q. Is a good fence an effective barrier?

A. As far as dairies go. Yes, a good fence is a good barrier except that if there is a lot of brush that is used by the cattle as a loafing area or a shady area in that fence row, if they are loafing on both sides and they are right adjacent to one another and there is plenty of shade in between two herds of cattle. As far as insect vectors go, especially the horse fly, you might as well think of those two herds as one herd, because for all practical purposes they will be.

Q. How do you handle an advanced case of pinkeye?

A. I assume that you are referring to the calf that has increased

ocular pressure and the eyeball is protruding between the eyelids. There are various ways of handling that. I think, of course, the most esthetic way to do it is to do an enucleation, like you do for a cancer eye. However, there are a lot of those calves that we do not treat that way. In many of them I simply amputate the anterior part of the eyeball, just posterior to the limbus. If you remove that part of the eyeball, usually you will have enough scar tissue form that you have nothing but a globe that is about the size of your thumb and it shrinks back into the eyeball and it is not too unsightly. It does not collect dirt and is not a fly problem. That is what we generally do on stocker calves and feedlot type cattle. Enucleation, I suppose, would be the most esthetic thing to do.

Q. How do you control the bleeding?

A. Usually I do not. They will hemorrhage a little bit for a little while. If they do, you should, but generally if you just have the nerve to go ahead it will not bleed enough to be much of a problem. In 30 minutes the hemorrhage is over with and as soon as the clot forms it will stay there a little while, loosen up and fall out and in a couple of days you have pretty much an empty socket.

Comment: I might add that a good way to amputate is with a pair of hand pruning shears. I also use hand pruning shears for cutting the bottom of the scrotum off on castrating a calf. The reason I use hand pruning shears is, with a blade I was always sticking it in my arm or the calf would kick and it would jump up and fall. It was a dangerous weapon in my hands.

Comment: With those pop-eyes I just like to promise the herd owner that he will not have pinkeye in that eye anymore.

Q. Is there a difference in the amount of calf problems you have with anaplaz?

A. There have been so few herds that we have had that were effected with NI that to quote percentages is pretty tough. But we have seen it in some—well, I will just classify Limousin and Charolais, I will just say the exotic breeds. That is where you will find most of it. Then we had one herd of Angus cows. The other day I saw this in one Hereford calf. It is rare in Hereford cattle; not quite so rare in the Angus; and then the foreign breeds, exotic breeds are where we see most of it. It can be seen in all breeds, in-

cluding crossbreeds.

Q. Do you recommend continuing to vaccinate?

A. No. We do not recommend that they continue to vaccinate. The problem is erratic. What we recommend is that they change bulls. You see, before this can occur, it is my understanding that a genetic incompatibility has to exist in this calf to start with. That has to exist before this poor antigenic relationship can occur. Therefore, we recommend changing the bull. Of course most of the time in cows where this has occurred, this cow is culled anyway and therefore we do not really get a chance to follow up and see what actually happened. In the cases that I have had the opportunity to follow up on, this change in the sire has been effective.

Q. In the last few years with cattle in the feedlot we have used a Rumensin premix with a salt base. In regard to replacement heifers, could we bump that up with a little bit of soybean oil meal and use it on replacement heifers on pasture without getting into any trouble, except with the FDA people?

A. Well, really, all I can truthfully say in regards to the replacement heifer is our experience with polled Hereford heifers and a high percent of them went back into our herd because they were registered animals and we sure did not see any detrimental effects. If we saw anything at all it was the fact that they gained a little faster, they reached sexual maturity a little quicker and they bred a little quicker and some things like that. So, I would not anticipate that you would see any problems. Now, it may be too early to say.

Q. I am talking about just mixing this premix half and half with bean meal and dumping it in the mineral feeder.

A. And dumping it in a mineral feeder? Well, then, all you would have to do is to monitor the consumption. They might eat too much of it from the standpoint of economics, but they probably could use the additional protein, which is what you are getting at, I guess, unless I am misinterpreting.

Q. Is there enough salt in this that consumption is not going to be up too high?

A. If it is strictly a salt-limiting type of thing, yes. I do not see any problem at all.

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