the initial treatment of severely sick cattle. Repeat treatment of severely sick cattle and all treatment of moderately sick cattle should be with boluses. Do not sell or slaughter for 10 days after the last treatment with sulfamethazine.

III. Procaine Penicillin G

Use 10 cc/100 lbs. (30,000 units/lb.) or 20 cc/100 lbs. (60,000 units/lb.) injected subcutaneously. There is no limit on the volume used per injection site. Do not sell or slaughter for 20 days after the last treatment with penicillin.

IV. Gallimycin (erythromycin)

Use 10 cc/100 lb. (20 mg/lb.) in treating respiratory disease in

Panel Discussion

Question-Dr. Jim Turboc from Deckerville, Michigan. Dr. Hjerpe, I don't know if I missed it or it wasn't given, tell me the route and the form of the sulfamethazine that you were using.

Answer–I probably didn't mention it. It is almost all given by oral route and we use the boluses.

Question-Dr. Herb Talc from Mechanicsburg, Ohio. Dr. Hjerpe, I have another question. I wonder if you've ever tried any combinations such as sulfas and tetracyclines in the first treatment or if you just strictly stick with one drug?

Answer-I think that combinations can be effectively used. I don't thank that a combination is any more effective than either drug used alone if the organism is sensitive to both of the antimicrobics used in combination. The advantage of the combination is in the fact that, let's say you are treating 10 animals and you treat them with a combination of sulfamethazine and oxytetracycline. We would expect only nine out of the 10 to respond to sulfamethazine, but the chances are that in the individual in which the infection is resistant to sulfamethazine, it is probably going to be sensitive to oxytet. By using both you get a response in all 10 animals. The only reason we have not used it this way is an attempt to minimize cost of treatment, and we feel we can get virutally the same results in terms of culling rates and death loss by treating the way we do as we would if we started using combinations. Initially we did use lots of combinations before we got into our record system. Before we were treating with records, we almost never treated except with combinations. But, when you consider this one fairly small feedlot by California standards the cost of medicine is \$150,000 per year, and 23% of all the yearling cattle that pass through this feedlot get sick at least once and 53% of all the calves get sick at least once, that I probably saved this company two to three times what they pay the school in terms of reduced costs of treatment by using these things one at a time.

Question-Dr. Don Williams, Oklahoma. Dr. Hjerpe, do you see any evidence of so-called drug fever from any of the antibiotics?

Answer-I think we occasionally do. I presume what you are talking about is an animal running a fever

new cattle. Use 5 cc/200 lb. (5 mg/lb.) in treating respiratory disease in cattle that have been in the feedlot for 90 days or more, and in treating cellulitis and sheath infections. Inject deep into the muscles of the rump or thigh. Use no more than 10 cc per injection site when treating with Gallimycin. Do not sell or slaughter for 20 days after the last treatment with Gallimycin.

V. Tylan 200 (tylosin)

Use 10 cc/100 lb. (20 mg/lb.) injected into the muscles of the neck. Use no more than 10 cc per injection site. **Do not sell or slaughter for 20 days after the last treatment with Tylan 200.**

Dr. A. A. Ardans Dr. B. I. Osburn Dr. C. A. Hjerpe

when you cannot acutally determine where the infection is localized, then when you stop the treatment, the fever goes away. We do see some of that type of thing. I try to minimize this. I'm in this feedlot four times a week, and I am in the sick pens every time and I am looking at the cattle and taking notes on them. If I see animals that look normal I write the ear tag number down and I check their treatment record to find out why they are treating them. If we are going on excessively on those animals, we will pull them off treatment, or we will examine them and try to find out why they are sick. If we can't find a reason for them to be sick, we will pull them off treatment. I think it takes a veterinarian, working with a feedlot, to make this system work. I think it is too complicated for them to really use them effectively. There are too many questions that come up that have to have solutions for this to be just something that any large feedlot can take over without supervision and make it really do anything for them.

Question-Do you know of any of the antibiotics that are particularly capable of causing hyperthemia?

Answer-I'm going to have to pass on that. I say that I believe we see this at times, but I can't really say. Somebody else might have a better idea than I have. I think maybe I should comment on our withdrawal periods. We use a withdrawal period of 10 days for sulfa which is the recommended withdrawal period; 20 days for oxytetracycline which is the recommended period; and on all the others we use 20 days. With penicillin, five days is the recommended period. With Tylan the recommended period is eight and we're using 20 with erythromycin (the recommended period is 14 but we are using 20). The FDA knows what we are doing because they have been running around the country for two years telling everybody about it. They are checking our cattle and they are not finding residues. I think the biggest problem with residues in the animal is not identified. They don't know when it was treated. It gets sent to a sale and ends up being boned out when you thought it was going back out on pasture where no withdrawal period at all was observed. I don't feel that I am contributing to a residue problem. In fact I think we probably have less of that problem than the average yard because we have a rigid system of withholding cattle from channels of commerce after treatment. We stick to it. If I find out that the manager is not sticking to it, I call the FDA and tell them what he has done. Fortunately, I work with the owner and not the manager, and they know if I find out that they violated the law I'm going to squeal. As a result, they are very conscientious in most cases about observing this.



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Thanks for stopping by our exhibit in Atlanta.

We look forward to seeing you again in San Francisco in December.