

Combined Cow/Calf Feedlot Session

Dr. Gary Runyon, *presiding*

Heifer Spaying—Kimberly Rupp Method

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We have not spayed a lot of heifers in our practice. Flank spaying was being done in areas around us, around our practice, but our clients were a little reluctant. We would ask them to keep track of what was happening with the economics of it and the next year they would be a little reluctant to say. I don't think their performance was all that great. I don't think we were handling our implanting program quite properly. But spaying has been a common procedure in the western states for years. It started in Wyoming and it was a management program. When controlled weight studies were conducted, spayed non-implanted heifers failed to gain up with the intact non-implanted. Rupp and Kimberly, in reviewing a lot of the trials, reporting 22 of 27 in the early trials intact heifers average daily gain didn't keep up. Intacts had higher AGs than the spayed mates. Including grazing growing and finishing trials, the intact averaged 7.9% higher and this just follows the experience I was having at that time. Then in 15 trials comparing implanted spays and implanted intacts 13 of 15 showed better gain, average of 1.8 improvement, meant that they picked up the 7.9 plus the 1.8 gain. So implanted reporting to have quite a profound effect on the spayed.

Last spring my partner, Tim Wright, and myself structured a trial on spaying and implanting. We compared vaginal spays and intacts using none, once and twice implant with Ralgro. IMC was the only outfit that really seems interested in being involved in a spay trial. We've had what I have noticed is a problem in our bred cows. In certain areas we are coming up with a lot of apparent estrous in bred cows. It scares our cowboys. They think they have a tremendous open rate. When you palpate those cows they are showing apparent estrous at about 110-120 days bred. At the same time we are having our graft yearling heifers showing a lot of bagging and so forth. I presume that we have an amount of exogenous estrogen in the feed, especially on short grass. We wanted to look at that possibility. Dr. Don Hudson and a range management specialist in North Platte State are going to help us with this. When we really got to look at the literature, we found that there is very little known about this. So I think probably we will take a good look at this in the next several years. We feel that there is a possibility that some of our "buller" steers and some of these bagging heifers

with some disruption to the marketability of these animals, has something to do with an exogenous estrogen. I think we have been copping out by blaming implants for these type of things. But this was to be a portion of the study we are planning.

I am going to talk about quite a few numbers and I am not going to apologize for that. As practitioners I think we need a lot of numbers to initiate a new procedure with a client. We have one 800-head herd that was on trial that is continuing on a finishing study. The grass weights are done but not completely analyzed. There are a few things that we have observed. We have some 14-20 lbs. increased gains in spays over intacts and part of that was even in those compared without any implants. The Ralgro implant was even more profound on spays as intacts. Again this may have something to do with not only the low nutrition we get on late summer, but also this estrogenic influence. We did not increase the vaginal prolapse problem with Ralgro implants, and the second dose of implants on short range and poor nutrition levels was just not economically justifiable at all. I guess everyone else knew that, but we felt that should be part of the trial.

Now for our estimation of some of the advantages of the Kimberly-Rupp vaginal spaying procedure. But just to mention a few of the rationales that we and my clients in particular are using. There is less stress and we feel better gains with vaginal spaying than with flanking. There is less impact from inclement weather. Rain or snow, of course will cause a poor flank wound healing. If you fast these heifers and you go out and its raining or it snows during the night and they have snow on their backs, what are you going to do? Are you going to just hold off for another day and hope it gets better? Now they are going to be depending on what your fast time is. But if the weather turns worse you have had them off for longer than I think what we can justify. It takes less equipment, facilities, help, and we are doing this, of course, with one chute. When we flank spay we use two chutes, one to prep and one to do the surgery. Mud covered heifers that we have come up with for the last couple of years really cause us a problem to clip and prep. The sandhills cowboys got in a bunch of heifers, 500 head, from western Iowa. By the end of the second day these heifers had mud all over them. The

cowboy running them in had a whip and he was hitting these critters on top of the mud and he said, "I never figured when I cowboied in the sandhills of Nebraska I'd have to deal with these armadillos." You go to trying to prep some of those, and that particular place we were about five miles from electricity we just couldn't even flank spay them. I think there is less packer resistance. In our area we have a problem with, in particular, one packer that just doesn't even want to bid on the flank spays. He felt if he is selling hanging beef he had to have an unblemished carcass. We have seen an increased interest in spaying in Nebraska. To a great degree I think this is due to economics. We talk about a \$10 spread. We find up to a \$15 spread in maturing heifer calves in our area. And apparently from what I read \$5-7 is something that would be more realistic. Also this new vaginal spaying has had a lot of attention. We have a couple in our area that have done a fine job in getting around and offering the procedure and building a credibility for it, namely Dr. Johnson from Torrington and Dr. DeGraff from Burwell, NE. We talked to those people at length and felt that because of their counsel we could get started. My partner made a deal with the sale barn to spay a bunch of heifers for him. One and two a day. Tim fooled around with it for some little time and when he felt he was getting ready we started lining up some heifers and before long we were up to the point where we felt comfortable with getting 25 an hour. And then Dr. Kimberly gave a couple of presentations that I have attended. I think a few things to consider is to have the animal properly prepared. I don't know if a fellow that had been doing a lot of vaginal spaying came up with the same observations, but I find that if they aren't properly acclimated, feed adapted, and stable, properly immunized, we're going to come up with some problems, especially with IBR. I found that once vaccinated IBRs, especially if they were done under stress, did not have proper immunity and we came up with a lot of purulent debris in the vaginal wall. I also found this on twice vaccinated heifers with killed vaccine. So this year I intend to work a little harder at getting our IBR immunity up properly. We did lose one heifer that the owners said had a water belly. This was about 3 weeks after the surgery, and he said I have another one that looks just like it. We have another water belly. Well, they did have a lot of transudate in the abdominal cavity. In fact, it was so much that I trocharized one heifer and drained it, like a water belly all right. So we went out and looked at the bunch. They had a real severe outbreak of IBR going. Their eyes had a purulent discharge and everything. And in this bunch I did have a lot of purulent debris and should have stopped but we were able to save the other heifers. I also like to have them covered for clostridias before being spayed.

The size of the heifer that can be spayed vaginally varies with the surgeon. I think age is more a factor than weight. A big, growthy 450 lb. seems great to me, but usually you have a lot of those little short, chubby 350 lbs. also. In our trial work where we were actually weighing the heifers we were spaying them down to 300 lbs. My hand is not built quite as

good as my partner's hand and he has a long skinny hand and forearm and he can handle a smaller heifer than I can. We like to hold the heifers off feed and water for 24-36 hours from the day we start. By the time we finish they have been there from 34-46 hours, if we have a long ten-hour run. I would suggest you don't hold too many heifers off when you are starting. I think you should be very conservative if you have not vaginally spayed heifers. You will get to a fatigue level quite rapidly until you get comfortable with the procedure. The way we try to maintain some sensitivity for our hand, I take two OB sleeves and trim the thumb and the fingers off them and put a short latex glove over the top of that. That seems to work real well with me. I use a lot of OB lube to keep my arm in good shape.

I enter the rectum and clean the bowel. Be careful not to balloon it. I keep my hand in the rectum and have an assistant hand me the instrument. We have a garden sprayer with disinfectant in the water and the assistant will simply clean off the perineum and part the lips of the vulva. The instrument, as it came out, Terry suggested maybe it was a little sharp, we did dull it down and it seems like the more heifers we spay the sharper I like the instrument now. Have you ever seen one? A lot of you apparently haven't. You have an end on the inner chamber that has a closed end so that when it's closed the chamber is also closed so you always know where you are if you get to fumbling around. But once we have the bowel emptied I simply go in and place the cervix forward, position the instrument at about 1 o'clock over the cervix, lift my hand and the rectum away, expose the trochar, and make a quick punch through. Now I think this is the one thing I had a lot of trouble with when I started. I was not completely penetrating the peritoneum. Your instrument will slip retroperitoneally and when you position the ovary over the chamber it won't pop in properly and it's simply because you are not through the peritoneum. You'll have a good loose feel if you're through the peritoneum, as a rule. I think you can probably feel the chamber if you are through the peritoneum properly. You can feel the closed chamber readily through the rectal wall. I pick up an ovary, and I guess everybody does this differently, but I like to pick up the right ovary first, position it over the chamber, open it just slightly, and if everything is right, the ovary is the right size and everything, you position it over and it actually feels like it has suction and it will just pop right in. Then you loosen the pressure with your thumb over the ovary and close it just slightly and then I move it back and forth and make sure I don't have bowel in it. Then I lift my thumb away and cut the ovary. The inner chamber has an end that is open that should provide you enough room to position the ovary forward. Just simply push the ovary forward into the anterior part of the cutting chamber to give you room to put your second ovary in. We spay heifers a little late in our country. A lot of times they are real active—a lot of cycling and you'll have a lot of luteal tissue you won't be able to fit the ovary in without chopping it a couple of times. You get into a bunch every once in awhile that it seems like you can

get one ovary in chopping it up and you have to come out. You just don't have room for the second one with all that luteal tissue. It's real critical to have an assistant that can properly examine the material in the instrument and make sure you have both ovaries completely and to make sure you don't have a loop of intestine in there! This will happen periodically. I've had a couple of them now and we just simply flank them and anastomose the bowel and they come along fine. Then we use some long acting penicillin and, of course, we implant them.

I think we need to discuss a little bit about a proper identification of these. As far as the prolapses go, in the one big herd we had 18 prolapses. One was in a spay, no Ralgro, that was one of 200; one in a spay, once Ralgro, that was one of 200; one intact, no Ralgro; I don't know what that was, 1 of 67, and 15 of 600 that had had Synovex either before or after and after spaying. So we had a dramatic increase in prolapsing if they had had Synovex. I think some of the hardest heifers to spay that we have ever found were heifers that had been compudose implanted. Those ovaries were like small peas. We had a real bad time with that. In heifers from the eastern part of Nebraska and western Iowa, I was finding a salpingitis and it was unilateral or bilateral. The fallopian tube would be about half the diameter of a cigarette and it would almost feel gritty. In removing a piece of that with the ovary a couple of times it would snap when you'd put your thumbnail to it. In talking to one or two practitioners from eastern Nebraska that do a lot of dairy work, they also had that problem in some of the dairy cows and they would have to wait for ovulation to occur on the good side before they could get her bred.

A few problems include, the ovary won't enter the chamber, either the broad ligament or the peritoneum would be in the way, ovary too large for the chamber, extreme follicles, or corpus lutea. We snip that. I like to take a small piece of it first and it seems to fit in quite easy.

The second ovary won't fit in, you have too much tissue on your first, you have to retract and go back in. If I find one that I'm just not getting, I can't position the ovaries, I pick it up and not able to hold it, I think the more time you spend in these heifers the more chances you have of a little hemorrhage from the penetration area. The blood causes the tissue to be quite slippery. I just dump her out and bring her back in later. I don't like to stand there and grope around. Too small a pelvis, dump them. A lot of our clients decide not to even fool with them. They don't fit so they will put

them somewhere else or they will sell them. Intestinal tissue in the chamber—we want that assistant hustling and getting material out of the instrument right away. What we do is get some paper towels down and each set of ovaries is placed on that and they are opening the chamber over that towel and if there's some fecal material or something then we're going to have to examine it real close.

In cleaning the instrument we have two tall buckets, one for rough cleaning and the other for final cleaning. It is easier to have two instruments, one they are working on and one that is ready. But often times if we have a real sharp hustling assistant then we can go quite fast with one instrument. As they finish cleaning it, they open the chamber and fill the chamber with furacin solution. We like to restrain the animal in a squeeze chute. I like a little more squeeze pressure than my partner does. I don't like them jumping around or sitting down, of course. We like to open the side of the chute and I like to have the assistant on the right side so he can hand me the instrument from that side.

If we are getting in to real bad weather, you know what happens to the bowel, they get pretty dry boweled, and I think in a situation like that a little shorter fast has helped me. But this is an easy, rapid procedure once you get your crew organized and the heifers are the right size and condition and everything.

For cleaning that instrument, we just use the forceps, but open the instrument right over the paper towel so you see what's coming out.

We like to hold those heifers in a corral in front of us for about an hour or two but as soon as we would get a truckload, we were working these heifers for a guy down in the eastern part of the state. The guy that owns the grass didn't want intact heifers. He got the deal started. The fellow that we spayed the heifers for now has fed a lot of heifers and he is really tickled. He's never fed spayed heifers and he is extremely impressed with them and he says he has never seen heifers eat like these have. They are a little more active than most heifers. There is some riding occurring with spayed heifers and I think we need to caution that all riding isn't going to stop. They're going to do some riding and be more like steers than intact heifers.

Our loss has been very minimal. I think out of these trial heifers, we had close to 2,000 head total on the trial and we lost two heifers. One was one of those pussy vaginitis problems.