the sale barn you are not going to see it or it has already come out. The type of suture we put in depends on the season and the fly problem. Normally, we just put in two simple interrupted sutures and let them out. That will leave a little bit of a gap which doesn't seem to be any problem. If the flies are beginning to bother us a little bit, we will make somewhat of a cruciate suture. So you've got an X over the top of your incision and that seals it pretty well and the fly problem isn't as great. If you do not starve these heifers for 24 to 36 hours, that is both feed and water, you are going to have some problems with the rumen trying to pop up into your face or possibly as you make your incision with your fresh blade the heifer jumps and you incise into the rumen or possibly even catch an intestine with your scissors. One more thing that I didn't mention is that the person that is doing the surgery, between times when he is not doing surgery, is back at the table with his arm and his hand, the left one that is doing the manipulating inside the abdomen, soaking in a bucket of water. We use Novalsan plus one of these things that your wives use to soften the water in the dishwater. It makes it a little slicker plus a lubricating antiseptic type solution. If you keep lubed up it really helps and it eases the pain on the skin and the fingers. From where we go to a bucket that has cotton balls soaked in tamed iodine. I like the scrub tamed iodine rather than the solution because of the lubricating quality. I don't think what you use matters other than the lubricating quality is nice. You reach in, grab a cotton ball with tamed iodine, wipe where we are going to make the incision a couple of times and throw it away. You never go from the heifer back to the buckets with anything but the actual instruments that we are using on her.

Wooden Shoes for Cattle

John B. Herrick, *D.V.M.*
Ames, Iowa

Veterinarians are frequently confronted with the cow or bull with necrotic pododermatitis or any form of necrotizing infection of the tissues within and surrounding the hoof caused by infective organisms penetrating through surface injuries. In many cases only one claw is involved, determined after a thorough cleaning and trimming of the hoof. When the infected claw is identified and a supportative arthritis is present, the infected claw may be amputated. If the claw continues to bear weight, recovery is slow or the infection may extend into the phalanx.

A practice that has been successful in many cases is to provide a means by which the weight is taken off the infected claw. The other claw is thoroughly cleaned and the sole is rasped until all debris is removed and the contact portion is level. An electric sander makes the task easier and faster. A piece of hardwood shaped like the claw, approximately 1/2-inch thick, is then placed on the hoof cemented with acrylic. This takes the weight off the infected claw and related articular areas, permitting rapid healing.

The wooden shoe can be left on until removed by use. In most cases, with normal wear, the affected claw will be able to bear weight by the time the wooden shoe is worn down.

Testosterone Treatment in Cattle for Use in Estrus Detection

Estrus detection is one of the important phases in obtaining maximum reproductive efficiency when artificial insemination is used in a beef or dairy herd. Various devices have been used to "mark" the animal in estrus and many different surgical procedures have been devised to create teaser bulls so that they maintained their aggressiveness and libido but could not copulate with the female. These surgical procedures were time-consuming and some techniques required surgical skill. Consequently, another method to create a teaser animal was needed that would be quicker and less costly.

The need was to induce mounting behavior in females or steers. The best candidates are agile dairy steers or heifers weighing from 600 to 700 pounds. Older cows weighing around 1,000 to 1,400 pounds also have been used. Testosterone propionate in oil is used, injecting subcutaneously 500 mg in five different sites and repeating the dosage and procedure in 5 days. A booster injection of 500 mg is given 15 days later. Each animal is equipped with a chin marker.

Thirty steers, 20 heifers and 10 cows have been so treated and their mounting behavior observed. The steers out-performed the heifers and the heifers out-performed the older cows. The older cows had trouble mounting and fatigued easily.

Twenty-five of the 30 steers responded with 6 needing a booster injection within the 28-day period observed. Fifteen of the heifers responded and 9 of the 10 cows responded and needed no booster injection.

The above technique using testosterone propionate gave satisfactory results when compared to the use of testosterone enanthate and required less injections during the breeding season.

Drainage of Ovarian Cysts via the Vaginal Wall

Frequently ovarian cysts are palpated that possess such thick walls that rupture by digital pressure per rectum provides trauma to the ovary proper, resulting in adhesions. Clinical evidence also reveals that removal of the ovarian fluid (possibly relief from internal pressure) facilitates restoration of the estrous cycle.

A 12-gauge 1-1/2 to 2-inch needle, cupped in the hand, is introduced into the vaginal vault. The other hand in the rectum positions the ovary near the vaginal wall. The needle is then introduced through the vaginal wall into the ovarian cysts providing complete drainage.

If the cyst is of the follicular type, appropriate hormone therapy is indicated along with the drainage of the cyst.

Nitroglycerin for Milk Fever Cases

Warren Wilson, *D.V.M.*
Plain, Wisconsin

I am an estrus observer from Wisconsin. A true estrus observer from Wisconsin. I have to do a little boasting since I'm up here because we just had twins about six weeks ago and so my wife and I are really enjoying the trip. So that's also reason for coming out here. About a year ago I was in the office of our local M.D. in town and we were discussing some problems that we had in common. Earlier that morning I had had the misfortune of losing a cow to milk fever. As I look back I thought I was not administering the calcium too fast, but maybe I was. Anyway we discussed this problem and Dr. Galarnek said, "You know, Warren, how much nitroglycerin do you use in those cows?" And I said, "We don't use any nitroglycerin in the cows." Or at least I'm not familiar with it. He said, "You know you ought to try it on your next patient." So what do you think I should try. Well he said, "If a little bit is good, a lot is better." I did a little research on this subject. I called Dr. Richard Adams from Texas and we discussed the problem somewhat and he told me that to his knowledge there was really no research done on this problem and so I started out on my own. I went to the pharmacist and we discussed the problem a little bit and he said, "Why don't you take 15-20 nitrostats which are 0.4 mg USP nitroglycerin tablets and insert them in the cow's mouth. And I said, well, how about if you put them in the vagina since that is a mucosal surface and he said to go ahead. So then I was off and running, I was all psyched up. My partner thought I was crazy, but the next time I had a cow that was down and comatosed, had milk fever and had been laying in the gutter all night, I thought for sure I was going to kill her but immediately I started the IV with a slow calcium drip and with close cardiac monitoring I administered 15-20 tablets in the vagina of this cow and the results are hard to believe. You almost have to do it yourself, but it will do several things. No. 1, it will stimulate respiration and it will increase the heart rate and cause a real pounding of the heart rate, but the cow will appear more alert. Now in the research that I have done on nitroglycerin, it is not toxic *per se* at that dosage level. I have found no indications of the dosage in the bovine animal, but I'm just going on some literature. They did an experiment in Michigan whereby they used what was called a cross-clamping technique where they clamped the arteries of some surgery dogs and they found out that when they gave nitroglycerin continuously IV they had better profusion times, they had better cardiac oxygen demand ratios and they had a better livability of their patients. They