

OFF THE HOOF

Kentucky Beef Newsletter – March 2007

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Timely Tips

Dr. Roy Burris, UK Beef Specialist

It bothers me that we leave ourselves open to spreading diseases within our herd by re-using unsterile equipment. How much money do you save when you use one needle on your entire herd when vaccinating or bleeding? Using a new disposable needle every time may only cost about 8 cents per animal but not changing could cause a disease outbreak throughout your herd.

I believe that we should change or disinfect needles between every animal. Now you're sure I've gone crazy but let me explain. I think we have to focus on "biosecurity" in our own herds and this is one of the first steps. I find it comforting that a nurse or doctor uses a new needle every time that I get a flu shot. I wouldn't think about trying to save a dime by asking them to use an old one. Would you? That would definitely be "pennywise and pound-foolish". We ought to do the same for our breeding stock.

I used to think that changing needles on every 5 or so animals was sufficient, but I've changed my mind. I believe that every needle or instrument that comes in contact with blood should be disinfected or discarded between every animal in the breeding herd – unless you know for sure that every one is tested free of all viruses – like BVD, BLV, etc. This is definitely more "trouble" but, in my opinion, it is needed.

We're starting the spring calving season in Kentucky so this would be a good time to get off to a good start. Disinfect the tattoo outfit between calves. Use ear tags that do not allow the tagging needle to come in contact with the calf i.e., use an applicator with a blunt "pin" so that the male stud portion of a two-piece tag is close-ended. Needles on hypodermic syringes should be removed after every injection. Also, isolate and get a negative test on all new animals before letting them join the herd. Now, I know these things take time and require a change in all of our thinking, but I believe this is necessary to be sure that you aren't spreading viral disease organisms throughout your herd.

Animals that appear to be "chronically" sick or poor doers should also be removed from the herd. Beef herds which are proven disease-free could have a tremendous marketing advantage in the future. Work closely with your veterinarian(s) before starting a herd testing program, though. They can explain the ramifications of such an effort.

The spring calving season is in full swing now, so here are some management tips for March:

Spring-Calving Cows

- Check cows at least twice daily and first-calf heifers more frequently than that. Be ready to assist those not making progress after 1 to 2 hours of hard labor. Chilled calves should be dried and warmed as soon as possible.

- See that each calf gets colostrum within an hour of birth, or administer colostrum (or a commercial colostrum replacement) with an esophageal feeder.
- Disinfect naval cords of newborn calves soon after birth, especially if they are born in confinement. Don't leave cows and calves in tight quarters for more than 1 or 2 days because it may lead to scours or respiratory problems. Calves will stay healthier outside as long as they have a windbreak and a dry place to lie down. Maybe an open shed where they can get out of a cold rain.
- Calving areas should be as clean and as free of mud as possible. Pastures which have good sod and are close to facilities work best.
- Identify calves with ear tags and/or tattoos while calves are young and easy to handle and record birthdate and Dam ID. Commercial male calves should be castrated and implanted as soon as possible. Registered calves should be weighed in the first 24 hours.
- Separate cows that have calved and increase their feed. Energy supplementation to cows receiving hay can be beneficial in preparing them for rebreeding. Supplement mature cows with about 3-4 pounds of an energy supplement (like grain) and twice that amount for first-calf heifers. Don't let cows lose condition! They must be in good condition to conceive early in the upcoming breeding season.
- Watch for calf scours! If scours become a problem, move cows which have not calved to a clean pasture. Be prepared to give fluids to scouring calves that become dehydrated. Consult your veterinarian for advice and send fecal samples to diagnostic lab to determine which drug therapy will be most effective. Try to avoid feeding hay in excessively muddy areas to avoid contamination of the dams' udders.
- Vaccinate calves for clostridial diseases (Blackleg, Malignant Edema) as soon as possible. You might choose to do this at the prebreeding working in late April or early May.
- Continue grass tetany prevention. Be sure that the mineral mix contains magnesium and that cows consume adequate amounts. You can feed the UK Beef IRM High Magnesium mineral. If you have had grass tetany, you can force-feed magnesium. This can be accomplished by mixing magnesium oxide (2 oz./hd/day) into the grain that you begin feeding at calving.
- Finalize plans for your breeding program. Purchase new bulls at least 30 days before the breeding season – demand performance records and check health history including immunizations. Use visual evaluation and expected progeny differences (EPD's) to select a bull that fits your program. Order semen now, if using artificial insemination.
- Obtain yearling measurements on bulls and heifers this month (weight, height, pelvic area, scrotal circumference, ultrasound data, etc.) if needed for special sales. Heifers should reach their target weight (65% of mature weight) by the breeding season.
- Prepare bulls for the breeding season. Increase feed if necessary to have bulls in adequate condition for breeding.

Fall-Calving Cows

- Bull should be away from the cows now!
- Creep feed calves with grain, by-products or high quality forage. Calves will not make satisfactory gains on the dam's milk alone after about 4 mos. of age – since there isn't much pasture in March, fall calves need supplemental nutrition. Consider creep grazing on wheat pasture, if available. Calves can also be early-weaned.
- Calves intended for feeders should be implanted.
- Pregnancy check cows.

General

- Renovation and fertilization of pastures should be completed.
- If you have a dry, sunny day, use chain-link harrow to spread manure in areas where cattle have overwintered. This may be done in conjunction with renovation.
- Watch for lice and treat if needed.
- Repair fences, equipment and handling facilities. Plan new working facilities, if needed. Ask about county funds for cost-share in beef facilities.
- Start thistle control. They can be a severe problem in Kentucky pastures. Chemical control must be done early to be effective.

Managing Retained Placenta

Dr. Bethany Lovaas, University of Minnesota Beef Team

With the spring calving season in full swing, it is important not to ignore the cow. Usually, the calf is our primary concern, because, for most cow/calf producers, calf sales in the fall determine the success of the previous year. However, post-partum cow health is very important for the successful future reproductive potential for the cow, and subsequent calvings.

Cows usually expel their afterbirth, or placenta, 3-8 hours after calving. If the placenta has not been expelled after 12 hours, it is considered to be "retained". Incidence of retained placenta is about 10 percent in dairy herds and 3 percent in beef herds.

Anything that complicates delivery of the calf will increase the likelihood that a cow will have a retained placenta (RP). Dystocia (calving difficulty) due to fetal-dam disparity (overly large calf) or malpresentation, twins, abortion (after 5 months of gestation), and short or long gestation are all reported causes of RP's. Poor cow body condition (too fat or too thin) and nutritional deficiencies/imbbalances (selenium and calcium) can also result in an increased incidence of retained placentas.

The specific cause of RPs may be extremely enigmatic. If a single cow in the herd calves early (or late) and/or has problems at calving, the likely cause of the RP is readily apparent. However, if you are seeing a greater number of RPs in your herd, you may need to do some investigating. Often, the only clinical sign of a whole herd hypocalcemia (low blood calcium) in beef cows is an increase in RPs at calving. However, if you live in an area that is selenium deficient, that may be the culprit in a herd RP problem. Therefore, it is very important to have a good handle on your herd nutrition program, which should include forage analysis and a good mineral program.

Expulsion of the placenta is accomplished by separation of the placenta (cotyledons) from the uterus (caruncles). This process usually begins in the last months of gestation, and is accelerated at parturition, after the calf is born, and the umbilical vessels are ruptured. Rupture of the umbilical vessels, as well as involution (shrinking) of the uterus changes the size and shape of the uterine caruncles, and the strong contractions that occur as part of normal uterine involution result in "cleaning" or expulsion of the placenta.

There are many reported treatments for RPs, ranging from manual separation to intrauterine antibiotics to benign neglect. How a cow is treated depends on the suspected cause of the RP and the condition the cow is in.

About a quarter of the cows that have an RP will get sick (fever, off-feed, depression). These cows require some sort of therapeutic intervention. Usually this will involve systemic antibiotics, intrauterine antibiotics, or both, plus the potential addition of flunixin meglumine (Banamine®, Flunixin®) to decrease the fever and limit other toxic effects of the bacterial infection. If a cow is treated with flunixin meglumine, she should also receive oxytocin 3-4 times a day. Flunixin meglumine will cause relaxation of the uterus, which will increase involution time, and it will take longer for that cow to regain her health and fertility. Oxytocin will reverse the uterine effects, without interfering with the other beneficial effects of the flunixin meglumine. If the cow is extremely ill, it may be prudent to also institute some form of fluid therapy as well (oral or IV).

Manual separation of the placenta from the uterus as a treatment is falling out of favor. Often times, in cases of an RP of a few days duration, the uterus will become inflamed and a bit fragile. By pulling on the placenta, there is as good a chance that the uterus will be damaged in some way as getting the placenta pulled out of the cow.

In most cases, if the placenta is left alone, the resulting metritis (uterine infection) will be no more severe, and the future fertility of the cow not be compromised any more than if manual removal was attempted. The jury is out on whether intrauterine antibiotics are an effective therapy. They indeed decrease the bacterial numbers in the uterus; however, it is precisely those bacteria that are going to help the cow expel the placenta. Systemic antibiotics, however, are always indicated in cases of RPs when the cow is clinically ill. Penicillin is usually very effective and inexpensive. As when using any antibiotic therapy, be sure to follow Beef Quality Assurance practices and observe withdrawal date

Impact of Cow Size on Nutrient Needs

Dr. Rick Rasby, Professor of Animal Science, Animal Science, University of Nebraska – Lincoln

Nutrient needs for cows of different body weights are not the same. Cows that weigh 1,300 pounds have a greater nutrient (pounds of protein, pounds of energy (TDN), ounces of mineral, etc) requirement compared to cows that weigh 1,000 pounds. If a 1,000 pound cow and a 1,300 pound cow are grazing the same forage resource, the 1,300 pound cow will need to consume more of that forage to meet her requirements. Maintenance feed intake is proportional to metabolic body weight which is described as body weight to the 3/4 power (body wt.^{3/4}). Metabolic body weight isn't just weight of the animal but also describes the surface area of the animal. Heavier cows eat more feed to meet their requirements. The question is: how much more do heavier cows eat?? Data suggests that for each 10% increase in body weight, there is not a 10% increase in maintenance feed intake. The data suggests about a 7% increase in feed intake for each 10% increase in live weight. A 1,300 pound cow is will consume 22% more feed than the 1,000 pound female although there is a 30% difference in body weight.

Re-warming Methods for Cold-stressed Newborn Calves

Dr. Glenn Selk, Beef Extension Specialist, Oklahoma State University

Recently an Oklahoma rancher called to tell of the success he had noticed in using a warm water bath to revive new born calves that had been severely cold stressed. A quick check of the scientific data on that subject bears out his observation. Canadian animal scientists compared methods of reviving hypothermic or cold stressed baby calves. Heat production and rectal temperature were measured in 19 newborn calves during hypothermia (cold stress) and recovery when four different means of assistance were provided. Hypothermia of 86° F rectal temperature was induced by immersion in cold water. Calves were rewarmed in a 68 to 77° F air environment where thermal assistance was provided by added thermal insulation or by

supplemental heat from infrared lamps. Other calves were rewarmed by immersion in warm water (100°F), with or without a 40cc drench of 20% ethanol in water. Normal rectal temperatures before cold stress were 103 °F. The time required to regain normal body temperature from a rectal temperature of 86°F was longer for calves with added insulation and those exposed to heat lamps than for the calves in the warm water and warm water plus ethanol treatments (90 and 92 vs 59 and 63, respectively). During recovery, the calves rewarmed with the added insulation and heat lamps produced more heat metabolically than the calves rewarmed in warm water. Total heat production during recovery was nearly twice as great for the calves with added insulation, exposed to the heat lamps than for calves in warm water and in warm water plus an oral drench of ethanol, respectively. By immersion of hypothermic calves in warm (100 °F) water, normal body temperature was regained most rapidly and with minimal metabolic effort; no advantage was evident from oral administration of ethanol. When immersing these baby calves, do not forget to support the head above the water to avoid drowning the calf that you are trying to save.

Source: Robinson and Young. Univ. of Alberta. J. Anim. Sci., 1988.