

Large Animal Newsletter

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Calving Season 2007

At the time this article was written we have received 75 calving calls at both our Benkelman, and Wray clinics. Looking at previous data we should be about 88% done with the calving season.

For the last 7 years, the staff at Twin Forks Clinic has collected data on the calving calls that we have received. The data that we collect includes... owner, birth date, cow age, calf sex, calf vigor score, dystocia score, colostrum score, total IgG supplied and additional treatments.

Dystocia Score

Calving Calls were ranked by dystocia (calving difficulty) scores. These dystocia scores are as follows...

1. Unassisted
2. Easy Pull
3. Hard Pull
4. C-Section
5. Malpresentation

About 31% of the calving calls were the result of mal-presentation. These malpresentations were evenly distributed between breech, backward, head back, and leg back presentations.

Another 31% of the calving calls that came in were considered easy pulls. Several of these were the result of malpresentations that the veterinarian was able to reposition and then pull. Several of the "easy" pulls were the result of cows that would not dilate vaginally or cervically.

We had a lower percentage of births delivered this year via c-section (19% vs. 28%). This basically translates into fewer heifers with big calves. We had about the same percentage of "Hard Pulls" at 18%.

Calf Vigor

Calf vigor score was used to describe calf health and aggressiveness after birth. A calf vigor score of 1 is a good indicator that assistance was given in a timely manner. Calf vigor scores and occurrences are as follows...

- | | |
|---------------------------|------------|
| 1. Looking Good | 34% |
| 2. Big Head/Vigor+ | 4% |
| 3. Slow | 10% |
| 4. Needs Treatment | 4% |
| 5. Dead | 47% |

This is our worst year since we've started keeping data in terms of the percentage of dead calves at birth here. Our average percentage of dead calves at arrival is about 25%. One of the main contributors to the high death loss is that the calves were weak when they arrived. Cow nutrition in the third trimester was

affected when snow and ice covered the cornstalks that these cows were grazing earlier in the year.

Of the remaining calving calls, about 34% of the calves looked good at arrival, meaning that they received assistance in a timely manner. About 18% of the calving calls that came in had calf vigor scores of 2, 3 or 4. This suggests that they needed to come in for assistance earlier.

Calf Sex

Of the calving calls that came to the clinic, about 68% of them were bull calves, which is the average for the last 7 years.

We noticed a few differences between the sexes, for instance the bull calves weighed more at birth than the heifers (93 pounds vs. 77 pounds). Bull calves were 3 times more likely to result in a c-section (30% vs. 10%).

Birth Weight

Birth weight was measured with a CalfScale™ hoof tape. Research has shown these tapes to have about a .85 correlation with the weights that were taken with a scale. The hoof tape measures the circumference of the hoof in centimeters and correlates that measurement with an estimated birth weight. We have found these tapes to be fairly accurate except in the cases of longer bodied calves.

Birth weights averaged 88 pounds with a range of 67 to 110 pounds. As mentioned earlier in this article, bull weights averaged about 16 pounds heavier than the heifers.

Calves that weighed more than 92 pounds were 3 to 4 times more likely to result in a c-section. However, differences in calf vigor and calf survivability were small.

Cow Age

About 63.5% of the calls that came in were from 1st calf heifers. About 8% came from 2nd calf cows, 17.5% were from middle-aged cows and the remaining 11% came from older cows.

Colostrum Score

For the last several years the staff has measured colostrum score with the use of a colostrumeter. A colostrumeter measures the specific gravity of the colostrum, giving us an idea of the density of immunoglobulins (IgGs) and other solids in the colostrum. The higher the colostrum score, the better the colostrum quality.

Colostrum scores give us a rough idea of IgGs contained per quart of colostrum. For instance, a colostrum score of 100 means that there are 100 grams of IgGs per quart. Our goal is to provide the calf with 200 grams of IgGs before 24 hours of age. For example, if a cow had a colostrum score of 100, her calf would need 2quarts of colostrum within the first 24 hours to provide adequate passive transfer. Measuring colostrum scores also give us a good idea whether or not we need to supplement the calf with a colostrum replacer like Lifeline, or Nursemate.

Colostrum scores ranged from 10 to 140 with an average of 79. On average, the calf would have to consume about three quarts of colostrum for adequate passive transfer. The first calf heifers had the highest colostrum scores on average while the cows older than 10 years had the lowest

Class	Average Colostrum Score
1 st Calf Heifers	83
2 nd Calf Heifers	80
Mature Cows	72
Older Cows	68

There are several factors that affect passive transfer. These include cow age, cow nutrition, cow health and vaccination history, and udder confirmation.

When we assist live calves at Twin Forks Clinic, we tube feed them their first feeding of colostrum. On the average the calves received about 73 grams of IgG from their mothers colostrum before they left the clinic. That is about a third of what they need in the first 24 hrs. When colostrum scores or quantity of colostrum was low, the calf was supplemented with Lifeline, or Nursemate.

For the most part, this calving season was tougher than normal, no thanks to Mother Nature. There were several calving calls early. There were reports of weak calves, more problems with scours, and higher rates of calf deaths. We certainly hope that spring and summer finds everybody with adequate moisture and grass!

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic

Economics of Breeding Soundness Exams

Many factors affect the longevity and reproductive performance of bulls, so it's important they are well prepared before turnout. Approximately 1 in 10 bulls is sub-fertile, due to either lack of libido, physical defects or poor quality semen. A breeding soundness exam will help identify the latter of the two problems through a physical exam and sperm morphology tests.

Reproductive performance is the single most important trait in cowherds. A key component of herd reproductive performance is bull breeding soundness. Breeding soundness exams have been shown to offer a potential return on investment to producers of at least \$17 for each \$1 invested.

Some of the improved profitability can be realized through increasing weaning weights due to more calves being born earlier in the season, and reducing bull numbers while enhancing fertility rates. Research has shown that bulls passing a breeding soundness exam have an estimated fertility advantage of at least 6% compared with untested bulls.

Traditional recommendations for bull to female ratios of 1:20 or 1:30 may underestimate the abilities of competent bulls. Utilizing breeding soundness exams, along with good management techniques, have shown that bull to cow ratios of 1:40 or even higher can yield satisfactory results.

Breeding soundness exams are recommended for every herd bull on an annual basis 4-6 weeks prior to breeding season. This allows time to find replacement bulls, to quarantine the bulls for 30 days and to vaccinate and perform recommended testing procedures prior to herd introductions.

Glenn Rogers, DVM, MS, DABVP, Pfizer Animal Health Veterinarian Operations

Cold Weather Effects on Bull Fertility

Generally, bulls go through winter with minimal problems related to cold or nutritional stress. But this year with the severe cold and extended wind chills that this winter has brought, the possibility for frostbite and reduced bull body condition has become apparent.

We have already fertility checked several bulls here at Twin Forks Clinic. We have seen more bulls with a body condition score less than 5 than normal. We have also seen a significant amount of frostbite damage; some of the damage was on the very bottom of the scrotum and was not visible until examination in the chute.

Scrotal frostbite can affect fertility in bulls. An older study conducted in the north central U.S. following two severe winters in 1949 and 1964 demonstrated the increased risk of testicular damage following moderate to severe frostbite. Older bulls with a more pendulous scrotum seemed to be more at risk to severe cold stress and had more evidence frostbite damage on the skin of the scrotum. Of 6,389 bulls examined in the study after the 1964 blizzard, 14.2 percent had frostbite lesions. The damage to spermatogenic function was related to severity of the frostbite noted on examination. Semen quality improved with time in some affected bulls, but those that developed testicular adhesions often had permanent damage

Relationship Between Severity of Frostbite and Morphologic Character of Sperm Cells*

Severity	Very Good (%)	Good (%)	Fair (%)	Poor (%)
Mild	21	45	17	17
Moderate	20	29	14	37
Severe	12	0	0	88

*Dr. L.E. Newman, Glasgow, Mont.

If your bulls have not underwent a breeding soundness exam, please do so, there may be more damage done this winter than you realize.

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic

Scouring Calf Therapy

Goals of at home therapy:

Save the life of a calf by restoring normal hydration while treating infectious causes if present. Diarrhea is nature's way of ridding the body of toxins and harmful substances.

Suggested antibiotic therapies:

- 1.) Excenel: Give 2cc per 100 pounds body weight by subcutaneous injection once daily

for 3-5days. (Good choice in severe cases.)

- 2.) Trimethoprim/sulfamethoxazole: Give 1 tab orally per 80 pounds body weight once daily for 3-5 days. (**Antibiotics are to be used individually not in combination therapy.**)

- ❖ If lack of response is seen, consult with your veterinarian.
- ❖ Nuflor is not advised for scouring calves due to the killing of the normal bacterial populations of the digestive system in calves.
- ❖ Baytril and A180 are **illegal** for use in the treatment of scouring calves.
- ❖ Please remember that most causes of scouring are neither bacterial in nature nor responsive to antibiotic therapy.
- ❖ Antibiotic therapy is **not** more important than supportive care (i.e. oral fluids, warm environment, nursing care).

Oral rehydrating solutions:

If calves are scouring, then consider the fluid needs of the calf to be at least doubled. If four quarts per day were considered adequate then at least eight quarts would be needed to maintain hydration. The number of feedings per day needs to be increased, as a small calf's abomasum can hold no more than two quarts per feeding. The following is our recommendation for feedings.

- ❖ Maintain the normal amount of milk being fed at twice daily intervals.
 - Two quarts (one bottle) of milk or milk replacer fed in the morning and evening.
- ❖ Supplement with oral electrolyte solutions.
 - Two quarts (as needed) of Bluelite C or Hydra-Lyte should be given twice daily

with times divided
with other feedings.

- ❖ Minimum of 4 feeding per day.
- ❖ Research has shown that the addition of psyllium to oral electrolyte solutions actually produced a transient decrease in glucose absorption and is not recommended in oral electrolyte solutions. Therefore, products such as Deliver should be avoided.

Note: If calves become progressively more dehydrated, more weak, more depressed, or if the calf is unable to stand on it's own then it is time to seek veterinary assistance as intravenous fluid therapy is often indicated.

Twin Forks Clinic

Plan Now For Breeding Season

Breeding and A.I. season will soon be upon us. Now is the time to cover the final details if you haven't already. Most pre breeding vaccinations like Bovishield Gold FP VL5, or Vista 5 VL5 need to be given 45-60 days prior to breeding, so if you haven't given them already you need to do so now.

**Twin Forks Clinic
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Also if you plan to use synchronization for A.I. or natural breeding, you need to plan ahead. We have the "Estrus Sync" computer program from the Iowa Beef Center. This program allows the user to enter the date that they want to start breeding, and the class of cattle that you are working with. It then offers several different synchronization options that work well for you situation. Depending on how detailed you want to get, we can print you a detailed synchronization calendar and economic analysis for artificial insemination.

We carry a full line of synchronization products, but since these products are "seasonal", we try to keep inventories tight. Thus, it would be a good idea to let us know what synchronization drugs you will need ahead of time so we can make sure that we have them on hand for you when you need them.

Now would also be a good time to check your equipment to make sure it is in good working order. Make sure your refrigerator is in good shape and that it is not losing nitrogen at a faster rate than expected. Expected nitrogen evaporation rates are available from the manufacturer of your refrigerator.

Also, check to make sure that your thaw unit is in good working order. It may be a good idea to check the water temperature with an accurate mercury thermometer to make sure that proper water temperature is being maintained.

Also remember to take inventory of the small things like A.I. sheaths, lube, Novalube for CIDR insertion. We also have a couple A.I. syringes for sale if you need them.

We have several years experience with A.I. and can provide arm service and semen handling if necessary. So if you need help planning your breeding season please give us a call!!

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic

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