

## Beef CHAMPS

Beef Cattle Health and Management Production Strategies

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### Foot Rot Can Affect Gain

JEREMY POWELL, DVM

Jeremy Powell, DVM  
Assistant Professor -  
Veterinarian

Brett Barham, Ph.D.  
Assistant Professor -  
Breeding and Genetics

Rain has been abundant in most parts of Arkansas throughout the past few months. Along with the moist conditions, some producers have been dealing with an increasing number of cattle infected with foot rot. Foot rot is a common cause of lameness in cattle, but the prevalence of this disease often increases with moist weather and wet pasture conditions. Foot rot can be

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directly related to poor performance and decreased gains in cattle. A sore-footed and limping animal obviously cannot graze efficiently. One research study showed that gain on grazing steers affected by foot rot was decreased by 0.46 lbs/day compared to steers that were not affected.<sup>1</sup> Feedlot studies have also shown similar performance loss, with one report indicating that gain decreased by 45% on steers affected by foot rot.<sup>2</sup> Not only is foot rot economically important due to decreased performance, but treatment expense must also be considered.

Foot rot is primarily caused by infectious bacteria called *Fusobacterium necrophorum*. This pathogen is commonly found in the intestinal tract of cattle, and in the soil. It has been shown to survive in the soil for up to 10 months. For infection to occur, there must be a compromise to the integrity

of the hoof. Moist or muddy conditions allow for the hoof and surrounding skin to soften, and then any abrasion by rocks, forage stubble, nails or wire could allow entry of the bacteria, resulting in infection. Incubation for this disease is approximately 5 to 7 days.

Foot rot can occur in cattle of all ages, and although it is a common cause of lameness in cattle, it is often-times over diagnosed. Foot rot is estimated to cause approximately 25% of the total lameness cases in beef cattle. Therefore, not every limping cow has foot rot. Remember to examine the foot carefully to determine the cause of lameness before treatment is rendered. Clinical signs of foot rot include a sudden onset of lameness with the affected animal limping on one or more limbs. This disease can be so painful that it may limit the animal to only touching the

toe to the ground when trying to walk. As shown in the picture, swelling and redness is noticeable between the toes and around the hairline of the hoof. The skin between the

toes usually cracks open and a necrotic, foul-smelling discharge may be present. Aggressive and early treatment is indicated. If the disease is allowed to worsen, deeper structures within the hoof can become affected, leading to a poor prognosis for successful recovery.



Figure 1. Example of foot rot.\*

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Treatment should include both topical and systemic therapy. Treatment with a topical disinfectant can be applied directly to the hoof after the hoof has been cleaned. A systemic antibiotic injection should be administered and is typically successful therapy if provided early in the infection. Oxytetracycline (Liquamycin LA 200™, Bio-Mycin 200™, Duramycin 72-200™) is commonly recommended and should be administered at a dosage of 4.5cc/100 pounds of body weight for foot rot. Your veterinarian may also prescribe alternative antibiotics (Excenel™ or Nuflor™) if needed. Anytime antibiotic therapy is provided, the proper slaughter withdrawal period

should be noted in case the animal must be salvaged.

Beyond treating the affected animal, attention may need to be given to the environment. If muddy conditions exist in the pasture, especially around hay rings, loafing sheds or mineral bunks, then scraping the muddy area or moving the bunk/feeder may need to be considered. Treated cattle may need to be kept in a clean, dry pen during recovery.

Vaccines are also available for foot rot prevention. Volar™ (Intervet) and Fusogard™ (Novartis) are vaccines that help prevent cases of foot rot in your herd. Prevention may also focus

on eliminating the environmental factors that predispose cattle to this disease. For more information about diseases affecting cattle, visit your county Extension office.

## References

- 1 Brazle, F.K. 1993. Research Report. Agriculture Experiment Station. Kansas State University, Manhattan, Kansas.
  - 2 Bartle and Preston. 1991. Agriculture Science Technical Report. Texas Tech University, Lubbock, Texas.
- \* Picture provided by Dee Griffin, DVM. University of Nebraska, Great Plains Veterinary Education Center.

# Body Condition Scoring for the Spring Calving Season

BRYAN KUTZ , LIVESTOCK EXTENSION SPECIALIST

As the spring calving season begins, efficiency comes to mind. Stress at calving, ample lactation and reproductive performance are key factors that can affect cow herd efficiency and ultimately affect your bottom line. Body condition scoring at calving is an evaluation tool that can be utilized by farmers and ranchers to assess the level of fat reserves of cows.

The processes of fetal development, delivering a calf, milk production and repair of the reproductive tract are all stresses that require utilization of large quantities of energy to enable cows to be rebred within 85 days. Along with these stresses, the environmental stresses of spring-calving cows may require even more energy intake. This source of

energy needs to come from excess fat reserves in the cow before calving.

*Cows need to be at a condition where extra energy reserves can be used to help overcome the stress at calving and aid in reproductive tract repair.*

It is much easier to increase condition in cows before rather than after they calve. High nutrition after calving is directed first toward milk production. Cows need to be at a condition where extra energy reserves

## Description of body condition scores

Condition	BCS	Description
Thin	1	Severely emaciated. All ribs and bone structure easily visible and physically weak,
	2	Emaciated, similar to 1 above but not weakened. Little visible muscle tissue,
	3	Very thin, no fat on ribs or brisket, and some muscle still visible. Backbone easily visible.
Borderline	4	Thin, with ribs easily visible but shoulders and hindquarters still showing fair muscling. Backbone visible,
Optimum	5	Moderate to thin. Last two or three ribs can be seen. Little evidence of fat in brisket, over ribs or around tailhead,
	6	Good smooth appearance throughout. Some fat deposition in brisket and over tailhead. Ribs covered and back appears rounded.
	7	Very good flesh, brisket full, tailhead shows pockets of fat, and back appears square due to fat. Ribs very smooth.
Fat	8	Obese, back very square, brisket distended, heavy fat pockets around tailhead, and cow has square appearance due to excessive fat. Neck thick and short.
	9	Rarely seen. Very obese. Description of 8 taken to greater extremes. Heavy deposition of udder fat.



can be used to help overcome the stress at calving and aid in reproductive tract repair. Feeding cows to gain condition after calving leads to increased milk production and has little effect on increasing body condition.

Studies have shown that cows in good to moderate (5-7 BCS) condition will tend to have a calving-to-first-estrus interval that could be up to 30 days shorter than those in thin condition (1-4) at calving. Animals with a low BCS will tend to become far too thin, which results in a low conception rate and an uneconomically long calving-to-breeding interval. At the same time, cows that become excessively fat also have production

problems. These cows will likely have more incidence of dystocia and milk production problems because of the additional fat deposits.

The idea of Body Condition Scoring (BCS) is to obtain a simple and reliable measure of the level of fat reserves that will be helpful as the cow progresses through gestation, parturition and rebreeding. When used correctly, this information can help make management decisions, such as culling or decisions about different feed regimens and how to utilize available forage resources. These decisions all play a big role in making your cow herd efficient and profitable.

## Finding the Right Bull – A Step-by-Step Guide

BRETT BARHAM

I know many producers spend many hours in the process of purchasing a bull. It's a big decision – one that can impact your herd for many years beyond the expected usefulness of the bull due to his daughters remaining in production. It pays to do some homework on determining what kind of bull you need prior to purchase. Here are some steps to help guide you through the process:

- 1. Identify Herd Goals** – Herd goals serve as the foundation for sire selection and provide guidance as to traits with the most economic importance. Defining the production and marketing system, along with management strategies and environment, are key factors that warrant consideration:
  - Will the bull be used on heifers, mature cows or both?
  - Will replacement females be retained in the herd?
  - How will the calf crop be marketed (at weaning? retained ownership? sell females?)
  - What are the labor and management resources available?
  - What are the feed resources and environmental conditions of the operation?
  - How will this sire contribute to the overall breeding system plan?
- 2. Assess Herd Strengths and Weaknesses** – Fundamental records are key to identifying strengths and weaknesses. Basic performance parameters such as calving percentage, weaning percentage, weaning weights, sale weights, carcass

merit, feed usage, etc., are necessary to serve as the basis for assessing areas of strength and those needing attention.

*It pays to do some homework on determining what kind of bull you need prior to purchase. Concentrate on those factors which stand to have the largest impact on profitability.*

- 3. Establish Selection Priorities** – Concentrate on those factors which stand to have the largest impact on profitability. Remember that income is derived from performance (sale weight, percent calf crop weaned, carcass merit, etc.). Performance is a function of both genetics and environment/management. Superior genetics can be negated by poor management, which emphasizes the importance of separating the impact of management (nutrition, health program) from that of genetics when specific priorities for the herd are established. Considering both the genetic and management influences on various traits is important. Focus on a handful of priority traits rather than attempting to change many traits simultaneously. Establishing the few traits to focus on is the key factor.
- 4. Utilize Selection Tools** – Once selection priorities have been established through close examination of herd goals and current status, a number of

useful tools are at the disposal of beef producers to assist in making genetic improvement. Genetic differences across breeds have been well established, and utilization of different breeds in a complementary fashion through structured crossbreeding plans provides the opportunity for improvement in multiple traits.

Most importantly, heterosis attained through crossbreeding has been shown to have significant favorable impact on traits such as reproductive efficiency and cow longevity which are critical for herd profitability. The limited ability to select for reproductive traits in the form of EPDs further emphasizes the importance of capturing the value of heterosis.

EPDs are available for many traits of economic importance. The introduction of economic indexes, which combine several related traits and their economic values into one EPD, are available to assist with simultaneous improvement in multiple traits which impact areas such as carcass merit and post-weaning profit. Again, with the large number of EPD tools available, the critical step is to determine the EPDs which are most important and establish benchmarks relative to each.

5. **Establish Benchmarks** – Several tools can be used to help determine EPD specifications. EPD values for current and past sires can be used as benchmarks. With these benchmarks, EPD specifications can be set to reflect the desired increase or moderation in performance for a particular trait. As an example, establishing a benchmark for milk EPD can be determined through the relationship between previous sires' genetics for milk and the performance of his daughters in the herd.
6. **Find Source** – With the above defined, we can now begin to look at individual bulls. There are many sources of bulls that warrant consideration – production sales, test stations and private treaty sales. Of critical importance is that the bull be from a reputable source which will stand behind its product. It may be necessary to look at several sources in order to find the correct bull.
7. **Do Your Homework** – The first step to doing so is to evaluate the sale catalog, performance pedigree and data. By examination of the bull's

performance record, determine which bulls meet the EPD and other specifications that have been established (and, likewise, eliminate those that do not meet the specifications). Be prepared to make trade-offs, as the perfect record may not be attainable. Do not be surprised or alarmed when the bulls you have highlighted appear scattered throughout the sale order. Remember to stick to the selection criteria and qualifications/specifications that have been established. All this can and should be accomplished prior to departing for any sale.

8. **Have a Look** – Once the list has been narrowed to only bulls which meet the criteria, these bulls can be further evaluated and the selection refined. Having a list of suitable bulls prior to arrival at the auction or farm will not only save time but also assist in making sure the right bull for the situation is purchased. Upon narrowing the potential candidates on paper, the bulls can be evaluated for suitability of phenotypic traits and the potential candidate list shortened even further. Not all relevant traits have EPDs (examples include disposition, foot soundness, fleshing ability, etc.) and, therefore, must be evaluated visually.
9. **Make a Sound Investment** – For many cow/calf producers, purchasing a new bull is a relatively infrequent occurrence. This emphasizes the importance of selecting the right bull, particularly in single-sire herds. The value of the right bull cannot be overestimated. Investments in good genetics will pay dividends, both short- and long-term, through the influence the bull has on each calf crop as well as his daughters that are retained in the herd.
10. **Manage the New Bull Properly** – Of equal importance is the care and management of the newly acquired bull. Proper management and nutrition are essential for the bull to perform satisfactorily during the breeding season. With most new herd sires purchased as yearling bulls, management prior to, during and after the first breeding season is particularly important. Plan ahead by acquiring a new yearling bull at least 60 to 90 days prior to the breeding season so ample time is available to allow for adjustment to a new environment, commingling with other bulls and getting the bull in proper breeding body condition.



Jeremy Powell, DVM  
Assistant Professor - Veterinarian



Brett Barham, Ph.D.  
Assistant Professor - Breeding and Genetics

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