

# Large Animal Newsletter

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### Managing Body Condition Scores

For many producers, managing body condition scores (BCS) of their cow herd is not the most important consideration on their minds right now. But when you think about it, body condition of the cow has quite an impact on the total production of the herd.

Here is a short list of the things that body condition influences...

- **Pregnancy Rate**
- **Milk Production/Quality**
- **Calf’s Growth Rate (WDA)**
- **Calf’s Weaning Weight**
- **Calving interval**
- **Post Partum interval**
- **Calving ease**
- **Calf Immunity (Colostrum Quality)**

At Twin Forks Clinic we recommend that cows have a condition score of 5 to 5.5 at calving time while replacement heifers have a condition score of 5.5 to 6 at calving. This range seems to get the best results physically and economically. As displayed in the previous list, BCS

has a major impact on the cow’s production and reproduction.

A study at Louisiana State University showed that heifers with a condition score of 4 were about twice as likely to require assistance at calving as heifers with a BCS of 5.<sup>1</sup>

#### Calving Difficulty and Initial Condition Score

Initial BCS	Calf Birth Weight	Assistance At Calving
4	71.6 lbs	22.2%
5	74.7 lbs	12.6%
6	75.5 lbs	13.8%
7	74.1 lbs	15.7%

The condition score 5 heifers were able to handle bigger calves on average with less assistance. It should also be noted that as the heifers condition score increased beyond BCS 6, the percentage of heifers that needed assistance increased also.

Another study from Colorado State looked at the differences in BCS in replacement heifers and the quality of their colostrum. This is important because a newborn calf acquires passive immunity by ingesting immunoglobulins present in the colostrum. Colostrum quality was measured by determining the concentration of IgG and IgM (immunoglobulins) in the colostrum.

#### 1<sup>st</sup> Calf Heifer Condition and Calf Immunity<sup>2</sup>

	BCS 3	BCS 4	BCS 5	BCS 6
IgG mg/dl	1998	2178	2309	2348
IgM mg/dl	145.9	157.2	193.1	304.1

As you can see, heifers with a condition score of 5 or 6 had substantially better quality colostrum than heifers with a condition score of 3 or 4. Granted, there are many other factors that affect colostrum quality, but condition score and plane of nutrition at calving appear to be very important.

It is very important to have cows and heifers in proper condition at calving time. It is also very important to have cattle on a positive plane of nutrition prior to calving. In a study by Corah, et. al at the University of Wyoming, cows with a C.S. of 5 on an adequate plane of nutrition prior to calving, greatly outperformed cows on a low energy diet.

### Effect of Nutrition and Cow Body Condition Prior to Calving

	High Energy Levels	Low Energy Levels
Cow Wt. Loss	-22	-142
% Calf Survival at Birth	100%	90%
% Calf Survival at weaning	100%	71%
Milk Production Lbs/day	12.1 lbs	9.0 lbs
Calf Scours		
Percent Affected	33%	52%
Percent Mortality	0%	19%

As you can see, cows that were fed on a proper plane of nutrition, and a proper BCS, lost less weight at calving, produced more milk, had healthier calves and weaned them all.

On the production side, adequate BCS will help reduce calving difficulty, increase calf immunity through improved colostrum quality, allow the cow to produce adequate milk, and produce calves with higher rates of gain and higher weaning weights. In short, keeping cows in adequate BCS should produce more calves, and higher weaning weights.

Of course, for females to stay in the herd, they must not only produce but reproduce. So let's take a look at how BCS affects reproduction.

Keeping cows in adequate condition will help shorten postpartum interval, giving the cow a better chance to rebreed thus improving pregnancy rates and decreasing calving interval.

In a study by Houghton, P.L. et. al., BCS had a major impact on Post Partum Interval or the number of days from the time a cow calves to the time she conceives again.

### Effect of Body Condition Score at Calving on Postpartum Interval

BCS	PPI (Days)
3.5-4.0	88.5
4.5	69.7
5.0	59.4
5.5-6.0	51.7
6.5	30.6

As BCS increased, postpartum interval decreased. If you have a 45 or 60 day breeding season, the cows in better condition would have a better chance of breeding and breeding early in the season. Thus it is not surprising to find that cows in good condition have higher pregnancy rates.

### Reproductive Performance of First Calf Heifers Dependent Upon Body Condition Score at Calving<sup>1</sup>

BCS At Calving	Pregnancy Rate %	Days to Pregnancy
4	64.9%	92
5	71.4%	82
6	87.0%	74
7	90.7%	76

As BCS increased, pregnancy rate also increased. In this study also, as condition score increased, the "Days to Pregnancy" or PPI decreased.

It looks like if you manage condition score, many other factors in beef production almost take care of themselves. One of the most cost effective ways to manage condition is to conserve it. Let's take a brief look at some of the things we can do to manage/conservate condition score.

**Later Calving** When you study the nutritional requirements of gestating cows, it becomes evident that the cow's requirements start to increase in the third trimester of gestation and peaks about 60 to 90 days after calving. Therefore it makes sense to calve during late spring/early summer when there is green vegetative growth out in the pastures. Cows can meet most of their requirements through grazing with little supplementation.

Another good reason to move your calving season back is that adverse weather conditions are not as likely to increase nutritional requirements during an already critical time.

**Early Weaning** Recently, many producers have found that early weaning is very effective at conserving BCS in their cows. When calves are weaned early, the cows' nutrient requirements decrease by 20-30%. When the calves are

weaned, the cows will generally maintain their current, and sometimes gain, condition on grass. Early weaned calves will gain much more efficiently in the lot than if they would if they were left on the cow. These calves will also finish earlier in the year compared to more traditional weaning practices.

**Graze Crop Residues** Crop residues like corn stalks and sunflower residue work very well for maintaining condition score or even increasing condition prior to calving. These residues are usually moderate to high in energy and usually relatively cheap. Producers need to be careful to monitor nitrate concerns in stalks and runoff lagoons.

**Select efficient replacements** Last but certainly not least, producers need to select efficient females. Most producers have those cows that are known as "hard keepers". These cows require increased management and resources to make sure that they maintain enough condition to stay in the herd. If these cows are thin year after year, they probably should be culled. On the flip side of the coin, those cows that have a condition score over 6 consistently, but usually wean poor calves should be culled. These cows usually maintain condition at the expense of their calf. A cow calf record keeping system is invaluable in identifying these cows.

In summary, though body condition score is usually not managed directly, maybe it should be since it has an impact on so many other factors. Body condition can be managed very effectively and efficiently and if it is sacrificed, the consequences can be rather harsh and long-lived.

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic  
<sup>1</sup> Coombs et Al., Body Condition and Winter Supplementation Effect on Weight Change and Reproduction in Spring-Calving Beef Heifers. Louisiana State University Agricultural Center Bulletin Number 853

<sup>2</sup> Odde et Al., Colorado State University

## Handling Cattle from a "Structured" Point of View

As you all may know, I have been hanging out a lot lately with Bud & Eunice Williams. My relationship with Bud & Eunice revolves mostly around their cattle marketing schools, which they have invited me to be a part of, but if you spend any time with Bud & Eunice, you have to pick up on their world-famous low-stress stock handling methods. So, even though I am a desk jockey, I am going to switch gears and write about some stockmanship concepts.

Lately, I have seen an abundance of articles about stock handling that refer to the human-bovine interaction as a "predator-prey" dynamic. Even before I met Bud & Eunice Williams this always struck me as a little off-kilter. Yes, humans are raising cattle for food, but our interaction with cattle should never be driven by fear. From the point of birth on the range up to the point where cattle are incapacitated in the kill plant, we should be striving to keep them calm and contented. We do this because it makes economic sense. While cattle are growing, a low-stress environment translates to reduced gain costs. In the slaughter plant, a low-stress environment reduces the number of dark cutters that are produced. If we approach cattle with a "predator-prey" attitude, we will have a much harder time keeping the animals calm and contented, and a harder time making money from our cattle.

This concept was confirmed to me while attending one of Bud & Eunice's Stockmanship Schools earlier this year. Eunice said, "If an animal regards you as a predator, then you're through." She went on to explain that animals are like very small children. They want and need structure in their lives. They want to be told where to go and what to do. We, as stockmen, should be the source of that direction. It makes sense. Think about a room full of pre-

school aged children left alone. At first there would be chaos. There would be little kids running around and climbing the walls. After a while, the children would realize that there is no one present to give them help and direction, and the tears would start to flow. Compare this scene to a truckload of cattle that has just arrived. Fence running and other hyperactivity is frequently seen. After that initial manic display has run its course, the cattle are usually lethargic, not eating, and even beginning to get sick. The parallels are undeniable.

Animals need structure and leadership. Without a human presence, they will organize it for themselves. In nature, males are usually the dominant, direction-givers in a group of animals. We all know how bulls, stallions and rams interact with other animals. In the absence of a dominant male, the most dominant female will emerge as the leader. Wolves and other pack dogs form strict hierarchies. Apes do the same. Flocking birds, schooling fish and, most remarkably, hiving insects form clear social structures. The need for structure has been built into the genetic code of our animals. We as stockmen need to learn how to tap that resource and place ourselves at the top of their social hierarchy.

If we do this, we can move, sort and work cattle with relative ease. We can easily exercise our stock, which only improves performance and reduces sickness. We can keep our stock contented with their environment and focused on eating and gaining weight. Can we do those things if our cattle regard us as predators? I can't recommend Bud & Eunice Williams' Stockmanship Schools strongly enough. Check out their free website, [www.Stockmanship.com](http://www.Stockmanship.com) for more information and a calendar of upcoming schools.

Feedlot Magazine, Sept/Oct 2005  
Ann Barnhardt can be reached through her website at [Barnhardt.biz](http://Barnhardt.biz).

## CHAPS 2005 Benchmarks, How Does Your Herd Compare?

The North Dakota Beef Cattle Improvement Association has been keeping records since 1963 and annually presents five-year rolling benchmark values for average herd performance on several traits. The purpose of the NDBCIA is the improvement of beef cattle, primarily by focusing on genetic improvement, but is also very aware of the yearly management that is involved in a cattle operation.

For several years many producers have had an opportunity to use a computer program called CHAPS (Cow Herd Appraisal Performance Software). By entering data in this program these producers have access to some very good decision making information including the "benchmark" data.

By comparing individual herd values with the overall averages, individual performance can be evaluated. Differences between the individual and the "benchmark" values can give the producer an idea where their herd stands and if any management changes need to be made. It also helps us appreciate that excelling in one production trait usually comes at the expense of another and that we have to find a happy medium among them.

The most recent CHAPS production benchmarks are...

Number Exposed	191 cows
Average Cow Age	5.6 Years
Pregnancy Percentage	93.4%
Calving Percentage	92.8%
Weaning Percentage	90.3%
Calving 1 <sup>st</sup> 21 days	62.4%
Calving 1 <sup>st</sup> 42 days	86.4%
Calving 1 <sup>st</sup> 63 days	94.6%
Average Weaning Age	192 days
Average Weaning Weight	558 lbs.
Average Frame Score	5.5
Weight per Day of Age	2.95 lbs.
Pounds Weaned per Cow Exposed	500 lbs.
Replacement Percentage	15.1%
Culling Percentage	13.8%

Remember, these benchmarks are based from the 5 year rolling averages of herds in South Dakota representing about 112,000 head of cows. South Dakota has experienced drought also, so several herds have weaned early affecting weaning age, weaning weight, pounds weaned per cow exposed, weight per day of age, and even the reproductive traits like pregnancy percentage.

So how does your herd compare? The power of comparing one's individual performance against a benchmark like CHAPS, is that we can find areas that we excel at while finding other areas that could use improvement. One thing that we need to keep in mind is the fact that we can't have everything. It's always fun to brag about high weaning weights at the coffee shop but when those high weights come at the expense of lower conception rates, you have probably lost more than you have gained.

The truth is you can manage what you don't measure. Many of you use computerized systems like Cowsense to compile you data. Here at Twin Forks Clinic we offer a cow calf record keeping service using a program called CowCalf5. We collect rough individual data like calving, weaning, health and preg check records and compile them into a form that gives you sound decision making capabilities.

We also have the capability of working with electronic identification tags for chuteside data entry. As time goes on, the importance of a good, solid record keeping system will be demanded by the people who buy your beef, and we can help you accomplish that objective.

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