Thin Cows Cost You Money!

By Jackie Nix, Nutritionist

Thin cattle are a common site in many winter pastures. The reasons that these cattle become thin are many and varied. While most realize that this is not an ideal situation, many take the stance of "what does it hurt?" I want to outline in this article the financial losses incurred by allowing cattle to become too thin.

The profitability of a cattle herd is closely tied to its reproductive efficiency. One measure of reproductive efficiency is the percent calf crop. This figure merely expresses how efficiently calves are produced. Divide the number of calves weaned by the number of exposed females and multiply by 100 to arrive at this number. The national average calf crop percent is about 75%. What this means is that only 3 out of every 4 cows in this country wean a calf each year! This certainly leaves room for improvement. Failure to wean a calf can be attributed to three main causes: reproductive failures, dystocia and post-calving losses. Reproductive failures in cows are influenced by several factors including the environment, animal health status, and bull fertility. However, number one above all of these is nutrition.

How Can I tell if My Cattle are Receiving Proper Nutrition?

Nutrition directly affects reproductive performance. A nutritional program can get as complicated or as simple as you want it to be. I'm all for keeping it simple. Body condition scoring provides a simple means to measure an animal's nutritional reserves. Body condition scoring is a fancy way to describe looking at your cattle to determine their relative fatness (fleshiness). The most commonly used body condition scoring system rates cattle on a scale from 1 to 9, with 9 being morbidly obese and 1 being a walking skeleton. However, for the purposes of this article, we are going to simplify this body condition scoring system into an even more practical form. We are going to reduce this down to 3 categories: Thin, Ideal, or Fat. Unfortunately, visual appraisal can be subjective though -- thin to me may not be thin to you. To try to get everyone on the same page, I'm going to give a few guidelines to go by. Thin cattle have a sharp, angular appearance. The bone structure including hooks, pins and ribs is easily seen and muscle tone is lacking (See Figure 1). Cattle in ideal body condition are fleshy and have good muscle tone. Bone structure is visible, but appears smoother than thin cattle (See Figure 2). Fat cattle have a square, boxy appearance. Bone structure and muscle definition is hidden below fat (See Figure 3). Keep in mind that shrink can make cattle appear thinner than they actually are, while late pregnancy can make cows look fatter than they really are. Assessing body condition scores at key times in the production calendar can help cattlemen customize their feeding decisions for maximum profitability.

Relation Between Body Condition and Profitability

Research has shown that variations in body condition are directly related to reproductive performance and thus profitability. Thin cows do not cycle as early as heavier cows and have

lower overall conception rates. They tend to take longer to get pregnant and thus have an increased calving interval and wean younger calves. Calves born to thin cows have decreased survivability and lowered growth rates. The overall profitability of thin cattle is lower than cows in ideal or fat condition.

Research from the University of Georgia confirms that thin cows do not rebreed well. Cattle need to breed back within 80 days from the time they calve in order to maintain a yearly calving interval (365 days – 285 days/pregnancy = 80 days) A summary of UGA studies showed that only about half of thin cows were cycling by 80 days after calving, while over 80% of cows in ideal or fat condition were cycling within this 80-day window. Also, it was shown that young cows (first-, second- and third-calf) that were thin had lower pregnancy rates than thin mature cows. Studies at Clemson University concluded that first-calf heifers that calved in ideal body condition had heavier calves without increased dystocia than those in thin body condition. In a summary of 12 trials conducted in Florida, Texas and Oklahoma with over 4000 beef cows, pregnancy rates were shown to improve dramatically as body condition scores improved from thin to ideal. Thin cows tend to breed later, so they calve late into the calving season and thus their calves are youngest at weaning. In addition, thin cows have less energy reserves to produce milk and as a result tend to raise calves that grow slower (See Table 1). Economically, thin cows raise lighter calves that make less money than the calves of cows in ideal condition (See Table 1). In this study, it was shown that a thin cow earns $187 less per year than a cow in ideal body condition.

Practical Use of Body Condition Scores

By identifying the body condition of cattle within your herd, you can make informed decisions on a supplement program designed to maximize profitability. It is known that cows will not breed at acceptable rates without adequate body fat. It is also known that it is difficult if not impossible to increase a cow's body fat stores during lactation. It is not uncommon for a productive cow to drop in body condition during lactation. Therefore, it is imperative that cows calve at or above ideal body condition in order to have enough body reserves to rebreed quickly.

There are several key times during the production calendar to evaluate body condition for maximum benefit. These are before calving (about 90 – 100 days prior to calving), at calving, at weaning and at breeding. By monitoring cattle during these times, cattle owners can manage available resources and make appropriate decisions to maintain cattle at ideal body condition for optimum productivity. Cows should be in ideal to slightly fat condition at calving and at breeding for best calf growth and rebreeding performance, respectively. If cattle are identified as thin prior to calving or at weaning, you will have the opportunity to improve body condition through supplemental nutrition in time for the pivotal calving and breeding periods. Keep in mind the study mentioned above, a thin cow earns $187/year less than cows in ideal body condition. It is often much cheaper to maintain a cow in ideal condition than it is to allow her to become too thin and then try to gain weight back or to allow her to remain too thin.

What Affects Body Condition?

Overall quality and quantity of available forages, parasite load, presence of disease, genetics, weather and dominance status all affect a cow's body condition score. The collective body condition of a beef herd changes throughout the year. Cattle tend to be in highest body condition in mid to late summer and then slowly decline throughout the winter with their lowest body condition in late winter or early spring. It is very difficult as well as expensive to put weight on

cows in winter or early spring months. Therefore it is best to supplement to maintain ideal body condition throughout the winter rather than to try to regain lost weight later in the year.

How Can Sweetlix® Help Cattle Maintain Body Condition?

During winter months, most cattle producers rely primarily on hay to provide for their cattle. Good to high quality hay is an excellent feed source for cattle. However, hay quality varies greatly from year to year and even cutting to cutting. Environmental factors like excessive rains or drought can adversely affect hay quality, as well as man-made factors like improper fertilization and harvesting.

Because hay represents such a large portion of a cow's diet and hay quality varies so much, it is strongly recommended that you forage test your hay source(s) for nutritional content. This service is modestly priced and will save you money in the long run. By testing your hay, you will know its nutritional content and will thus have the proper information to make better management decisions. Contact your local Cooperative Extension agent or feed store representative to learn more about this service.

Most average hay will fail to meet all of the protein, energy and mineral needs for lactating cows and growing steers and heifers. If you have not had your hay tested, it is best to assume that these groups of cattle need supplementation in order to maintain body condition. If cattle are already in thin body condition, then a supplement regime is definitely necessary in order to put weight on cattle. Poor quality hay (stemmy, over-mature hay) should be fed to dry cows and mature bulls whenever possible, but even these groups may need protein and energy supplementation in order to maintain body condition entering the winter months. Also, thin dry cows and bulls will need a supplement program to allow them to gain weight, especially during winter months. A good mineral supplement is always recommended when feeding hay to all groups of cattle in order to prevent deficiencies.

What Types of Supplements Are Out There?

Nutritional supplements come in all shapes and sizes. Choosing which type is best for your operation will vary according to individual circumstances. In many cases a combination of supplement products will best meet cattle needs. Contact your local Sweetlix® dealer for more information about available cattle feeds and how they can help cattle maintain or gain body condition in conjunction with use of Sweetlix® protein supplement blocks.

Protein Supplements Available from Sweetlix®

Sweetlix® offers a wide variety of protein supplement products to allow the greatest amount of flexibility for cattle managers. Here are a few of the Sweetlix® cattle supplements available through your local Sweetlix® dealer.

EnProAl® 16% & 20% Supplements

- Ideal supplement to help all classes of cattle maintain body condition
- Work well in conjunction with hand-fed cattle feeds to help cattle gain weight
- Deliver same amount of magnesium as high-mag minerals to help protect against grass tetany
- High energy levels (55 to 60% TDN – up to 15% more than other chemical block formulas)
- Predictable feed costs (regular and consistent consumption of 1-2 lbs per head per day)
- Convenient, self-fed tubs –labor-free supplementation option

- Recommended that you also provide a complete Sweetlix® loose mineral supplement

EnProAl® 24% & 25% Supplements

- Ideal supplement to help mature cattle maintain body condition on lower quality forages
- Work well in conjunction with hand-fed cattle feeds to help cattle gain weight
- Added non-protein-nitrogen for optimal forage utilization and economical feed conversion
- Higher protein delivery than comparable low-moisture tubs
- Deliver same amount of magnesium as high-mag minerals to help protect against grass tetany
- Predictable feed costs (regular and consistent consumption of 1-2 lbs per head per day)
- Convenient, self-fed supplement
- Recommended that you also provide a complete Sweetlix® loose mineral supplement

VMS® Kowpoke 37% Pressed Block

- Smaller size (33.3 lbs) easily maneuvered without heavy equipment – ideal for small herds
- High protein with added NPN ideal for mature cattle on poor quality roughages
- Predictable feed costs (regular and consistent consumption of 1-2 lbs per head per day)
- Weather-resistant blocks can be placed right out in the pasture with cattle
- Compliments most cattle feeds well

In summary, body condition is a good reflection of a cow's nutritional reserves. Thin cattle are less productive and less profitable than cattle in ideal or fat body condition. Nutritional supplements are often necessary to maintain body condition and thus reproductive and growth performance. Cattle supplements pay for themselves in added production and profitability when used properly. For more information about the Sweetlix® line of protein supplement products for cattle and information to help you decide if they will fit into your management situation, visit our website at www.sweetlix.com, call your local Sweetlix® dealer or call 1-87SWEETLIX.

Jackie Nix is an animal nutritionist with Sweetlix® (www.sweetlix.com). You can contact her at jnix@sweetlix.com or 1-800-325-1486 for questions or to learn more about the Sweetlix line of mineral and protein supplements for cattle, horses, goats, sheep and wildlife.

Figure 1. An example of a cow in thin body condition. Note the prominence of the bone structure (especially ribs, hooks and pins) and lack of muscle tone. No fat is visible in the brisket or tail-head areas.

Figure 2. Cow in Ideal body condition. Note that the bone structure is still visible and that muscle definition is quite evident. There may be slight accumulation of fat in the brisket and tail-head areas.

Figure 3. An example of a cow in Fat body condition. Note the boxy appearance with very little visible bone structure. Muscle definition is hidden below excessive fat. Fat is prominent in the brisket and around the tail-head.

Table 1. Relationship between body condition, cow performance and income.

	THIN	IDEAL
% Pregnant	43%	86%
Weaning age	190 days	240 days
Weaning weight	374 lbs	514 lbs
Calf ADG	1.6 lbs/day	1.8 lbs/day
Income/calf	$359	$416
Yearly income/cow	$142	$329

Adapted from University of Florida data.