

Large Animal Newsletter

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Preg Check 2006

As the year comes to a close, so also does the preg check season. For the last seven years we have been analyzing the preg check data here at Twin Forks Clinic. This year we have 7505 cows, 2nd calf heifers and replacement heifers on record. This is the highest number of records in the last seven years. This is about a 20% increase from last year. The main reason for this increase is due to the clients that we have at Wray. Average herd size may be increasing slightly but the main reason for the increase in numbers is the change in our client base.

Pregnancy Rate

Overall, the average pregnancy rate was 91.6 %. Last year the average was around 92-93%.

A general rule of thumb for pregnancy rate is 90% for mature cows and 2nd calf heifers, and 85% for replacements. As you can see from the chart below, the mature cows and 2nd calf heifers had preg rates above our goal while the replacement heifers were below.

Preg Rate

	Ave	Min	Max
Mature Cows	93.2%	72%	100%
2 nd Calf Heifers	92.4%	50%	100%
Replacements	83.5%	46%	100%

Projected Calving Pattern

We also tried to get an idea of the projected calving pattern or percent of cows calving per cycle. The projected calving pattern is just an estimate of the calves born in three consecutive 20-day periods. This is calculated based from the individual cows projected calving date. The beginning date for calving was estimated using the bull turnout date or A.I. date if they were available.

Projected calving patterns can give us an idea if any problems occurred during the breeding season. For example, if the cows were slow to come back into heat due to dystocia or nutritional problems, the pregnancy percentage in the first cycle would be low. If there were bull problems in the middle of the breeding season, the pregnancy percentage in the 2nd or 3rd cycles would be low. Probably most importantly, the projected calving pattern can give us an idea of the percentage of females that will calve within a 60-day calving period.

% Conception/Cycle

	1 st	2 nd	3 rd
Mature Cows	46.2	74	92.1
2 nd Calf Heifers	48.4	70.9	94
Replacements	58.3	83.6	96.9

A goal that we use for conception per cycle is 65% for the 1st 20 days,

85% by the 2nd cycle and 100% by the 3rd cycle.

Financial analysis indicates a pregnancy percentage of 90-95% in 65 days is both achievable and likely the most profitable. If your herd is below this level, some investigation by you and your veterinarian should be done.

Condition Score

Of the measures that we look at during preg check time, condition score gives us the clearest picture of the cow's nutritional plane. Condition scoring is a subjective measure of the energy reserves of the animal. Condition score is closely linked to reproductive performance, affecting rebreeding rate, calving interval, calf vigor and colostrum quality. Cows were assigned a numerical score ranging from 1 (thin) to 9 (fat) based on fat deposition over the ribs, backbone, hooks and pins and over the brisket. Here is a summary of what we saw.

	Ave	Min	Max
Cows	5.2	2	8
2 nd Calf Heifers	5.1	3	7
Replacements	5.5	3	7

Typically, we recommend that mature cows and 2nd calf heifers have a condition score between 5 and 5.5 prior to calving, while replacements should have a score of 5.5-6 prior to calving. On the average, all classes already fall into these ranges. The outliers, however, will need special care. Females with a condition score of 4.5 or less may need to be fed separate from more aggressive cows in the herd in order to gain enough condition prior to calving. The fatter cows (condition score 7 or 8) should be investigated. They may be gaining condition at the expense of their calf. Obese calves can also have a higher rate of calving difficulty. At any rate, these cows represent an inefficient use of feed resources.

We are seeing the biggest ranges in condition score in all classes since

we have been keeping track of data. There were several old cows with condition scores of 2 or 3 that should have been sold after weaning at the latest. A disturbing trend is that of 2nd calf heifers and replacement heifers with condition scores of 3. These heifers already have quite a bit demanded of them as they are still growing and will be nursing a calf. Their future reproductive performance will likely be affected.

Condition Score	Pregnancy Rate
<= 3	81.8%
4	90.6%
4.5	90.7%
5	94.9%
5.5	96.2%
6	95.3%
6.5	94.5%
>=7	89.6%

Above is the distribution of pregnancy rates vs. condition score. The optimal condition score is around 5 or 6. It appears that cows don't breed well under a condition score of 4 and it is not very efficient to feed cows over a condition score of 6.

Cow Weight

Of the herds preg checked this year, only about 12% of the cows were weighed. However, we did see quite a range in weight amongst the different age classes. We also set a new record for the largest cow weighed at preg check time, (2020 pounds!).

	Average	Min	Max
Mature Cows	1348	962	2020
2 nd Calf Heifers	1226	934	1538
Replacements	1051	846	1294

Many producers have been weighing cows at preg check time to take a look at cow efficiency in terms of percentage of dam weight weaned. Depending on when the calves were weaned, many producers expect their cows to wean a calf, 45-50% of their weight. At this rate, the 2020-pound cow would have to wean a calf that weighs 1010 pounds at 6-7 months of age. Not to mention it would take about 25 more pounds of grass a day to maintain the 2020-pound cow versus the average 1348 pound cow.

With feed resources as limited as they are, it may be worthwhile to take a harder look at the heavier cows to make sure they are producing enough to justify keeping them.

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic

The Importance of Global Markets

Global beef demand is growing at the rate of 800 to 850 million pounds per year. Before bovine spongiform encephalopathy (BSE), the U.S. was responsible for nearly 20% of global beef exports. However, post-BSE the U.S. is only capturing about 5% of the global export market.

Like it or not, the global market has changed since BSE. Age verified cattle will be commonplace in the post-BSE environment. Countries like Canada, Australia, New Zealand, Brazil, Argentina, and Uruguay are ahead of the United States when it comes to implementing source and age verification. Each of these countries relies heavily on export markets to move a significant quantity of their total beef production. As a result, these countries are adapting source and age verification more quickly than the United States.

Many producers want to know why it is so important to source and age-verify cattle when the United States has historically only exported about 10% of its total beef production. Despite this relatively low overall percentage, a much higher percentage of some individual beef cuts and variety meats has been exported. For example, pre-BSE, between 70 and 80% of all beef tongues, 68% of short plates, 61% of outside skirts and nearly 60% of all short ribs were exported. Each of these items generated a significant premium in the export markets, especially compared to the price they would command in the domestic market.

The tongue alone can sell for \$8 to \$13 per pound in the export markets.

It is worth less than \$1 per pound in the domestic market. The U.S. Meat Export Federation estimates that the top five export items from the United States will generate about a \$78-per-head premium in the export market, compared to the domestic market. The top 10 items will generate about \$105 more per head in foreign markets.

At a minimum, an animal will have to be age-verified if it's carcass or any of it individual cuts or variety meats are going to be eligible for export. The domestic marketplace will also require more source and age verification for animals in certain branded beef programs. The programs will use certification programs of source and age verification to differentiate the product from commodity beef. Like it or not, industry experts expect this to become the norm in both the global and U.S. markets.
Surehealth magazine, Fall 2006

Udder Quality

Many of you who utilize our services with the CowCalf 5 record keeping system have not only been measuring production in terms of weaning weight or percent of dam weight, but have been measuring traits that affect future production as well. Several years ago I suggested to the programmers for CowCalf 5 that we include a way to measure and manage udder quality. We know that selection for high milk production has a negative impact on udder quality. We also know that udder quality generally deteriorates over time, and the sooner we identify cows with poor udders, the sooner we can get them out of the herd and reduce the risk of decreased production on their part.

Initially, we used the American Gelbvieh Association's udder scoring system in which a score of 0-50 is assigned to both teat size and suspension. The scores for teat size and suspension are added together

to create an "udder score" with a score of 100 being excellent for both size and suspension.

AGA Udder Scoring	System
Teat Size	Udder Suspension
50-(best)	50-(best)
45-very small	45 very tight
40	40
35 small	35 tight
30	30
25-intermediate	25-intermediate
20	20
15-large	15-large
10	10
5-very large	5-very pendulous

Later we discovered, while it is important to quantify different teat sizes and suspensions, an udder score of 100 was not "perfect". For a cow to have an udder score of 100 according to this scoring system her teat size would have to be very small and udder suspension would have to be very tight.

According to research done at the University of Georgia, the correlation between teat size and suspension was .95, suggesting that the same genes may control both traits. They found that cows with large pendulous udders and large teats had a negative impact on the calf's direct weaning and yearling weights. The cow was probably producing enough milk to reach the calf's genetic potential, but the calf was having trouble accessing it. Conversely, they also found that cows with small teat size and very tight udders probably were not producing enough milk to the calf to reach it's genetic potential. In conclusion the researchers concluded that in order to obtain a balance between maximum milk production and accessibility of the milk by the calf, that producers select cattle with intermediate values for udder score.

What does this mean to us?? First off, we probably don't need to waste much time assigning both teat and suspension scores to the cows when both traits are closely correlated, a simple overall udder score will do.

Second of all, while a cow with large teats and a pendulous udder is bad, a cow with small teat size and a tight udder suspension is not necessarily good either and avoiding extremes in all traits when we select replacements is critical.

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic,
<http://kccowcalf.blogspot.com>

Distiller's grains used properly can contribute to high performance, low-cost rations

Distiller's grains, either wet or dry, can make a valuable contribution to beef cattle diets, regardless of the animals' stage of production. However, there are various factors, which need to be considered when determining their potential value in your production system.

It is important to understand that during the distillation process, the starch component of cereal grains (normally 60-70%) is fermented out of the grain to ethanol. By removing this fraction, the remaining nutrients are concentrated, roughly, 3-fold. For beef producers this can be beneficial, resulting in an affordable protein supplement containing roughly 30% crude protein. Also, after removal of the starch component and concentration of the fat and fiber fractions, distiller's grains are a good source of energy in the form of digestible fiber and fat.

However, some of the nutrients that become elevated in distiller's grains may limit their potential use in beef cattle diet. The phosphorus content (~0.8-0.9%) of distiller's grains may require the addition of more calcium in order to maintain a proper calcium to phosphorus ratio.

Excess phosphorus in the diet will also result in increased excretion in the manure and the associated need to dispose of this phosphorus. Sulfur content of distiller's grains (~0.5-1.2%) may limit their potential use because excessive sulfur in the final

diet may cause trace mineral imbalances, health problems, reduced intake, and possibly death.

The fat content of distiller's grains is beneficial to growing and finishing cattle as a concentrated energy source. But excessive fat in the diet of forage-fed animals can reduce forage digestibility resulting in lower net energy consumption and lost body condition.

One additional benefit of feeding distiller's grains in the wet form (WDG) is the conditioning factor this wet ingredient brings to an otherwise dry diet.

This may stimulate consumption by growing and finishing cattle, particularly if all the other ingredients in the diet are dry and/or dusty. The moisture added helps tie the loose, fine particles together.

Conversely, dried distiller's grains (DDG) may actually contribute to dustiness of an already dry diet, due to the fine particle size. A dusty ration may not be palatable, particularly for stressed calves. This dustiness can be alleviated if even a small amount of some other wet ingredient, such as silage, is fed.

Handling is also an important consideration. Wet distiller's grain stored outside during the summer is subject to spoilage within three to five days. If the operation is not large enough to use a full load within this brief time frame, the product can be stored in sealed plastic bags to limit oxygen content and potential of mold development. Another benefit of sealed storage may be to improve the opportunity to purchase an excess supply of wet distiller's grain at a lower price.

Using dried distiller's grains reduces the risk of spoilage, but because of dustiness, they cannot be stored long term outdoors. Also, due to high fat content, dried distiller's grains may bridge up in a gravity-flow bin. Ideally, the dried product would be stored in a concrete-floored commodity bay.

Variability can be an issue when feeding either the wet or dry product. Particularly, moisture level in wet distiller's grains between loads can vary greatly, affecting the actual amount of dry matter fed. Also, nutrient content may fluctuate over time, between loads, and between suppliers. There are also notable differences in nutrient content

between distiller's grains originating from corn, sorghum, or a blend of the two.

In summary, factors to consider when formulating rations with distiller's grains include:

- Protein
- Fat
- Phosphorus
- Sulfur
- Moisture
- Storage options

If these factors are optimized and rations are properly balanced, distiller's grains can contribute to high-performance, low cost production for beef producers.

Chris Reinhardt, feedlot specialist, KSU
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**Twin Forks Clinic
Drs Downey, Auffet and Gdanitz
P.O. Box 449
Benkelman, NE 69021**

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