

# Calhoun County Cattleman's Monthly

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# Efficient Females in the Cow Herd

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The key to any successful business operation is efficiency. It doesn't matter if you run a grocery store, a bottling company, or a cattle operation. The simple act of making things more streamline can drastically improve an operator's bottom line. For instance, the guy running the grocery store can make more money if he reduces the amount of time his products are on the shelf. The guy running the bottling company can improve efficiency by purchasing a new piece of equipment that allows him to put out 10% more bottles per shift. The cattleman can improve his efficiency by selecting for efficient females.

That begs the question, what constitutes an "efficient female". A cow's jobs in a commercial operation are to have a calf every year and ideally wean that calf at half of her mature body weight by the time the calf is around 205 days old (7 months). To do this she needs to be fertile and be able to produce a substantial amount of milk. There are a few factors that influence fertility and milk production, genetics obviously can play a big part but since most producers aren't sure of the genetic history of their replacement cattle let's look at the role nutrition plays.

It doesn't take a person with a PhD to understand that a smaller animal will eat less than a large animal. It's more or less common sense. But, let's look at this in a more factual manner so we can attempt to estimate the economic difference between smaller and larger cows. According to research that was done by Dr. Darrell L. Rankins Jr., an Extension Animal Scientist with Auburn University, smaller cattle consume a significantly smaller amount of Dry Matter (DM) to meet their requirements. Tables 1 and 2 below illustrates this.

Table 1 – Relationship between cow size and Dry Matter Intake while Pregnant

| SIZE OF COW         | AVG DM INTAKE DURING GESTATION |
|---------------------|--------------------------------|
| 1000lb Pregnant Cow | 18.9 pounds per day            |
| 1200lb Pregnant Cow | 21.7 pounds per day            |
| 1400lb Pregnant Cow | 24.3 pounds per day            |

Table 2 – Relationship between size of cow and DM Intake with Nursing Calf

| SIZE OF COW        | Expected Calf Weight | AVG DM Intake of Cow During Period |
|--------------------|----------------------|------------------------------------|
| 1000lb Nursing Cow | 500lbs               | 23.7pounds per day                 |
| 1200lb Nursing Cow | 600lbs               | 28.4 pounds per day                |
| 1400lb Nursing Cow | 650lbs               | 31.3 pounds per day                |

By looking at the numbers from Table 1 we can figure that the 1000lb cows will consume 12.9% less Dry Matter or forage per day when compared to the 1200lb cow and they require 22.2% less forage when compared to the 1400lb females. If we take these trends and compare them to cows that are nursing, we see even bigger

advantages in efficiency. The 1000lb cows are 16.5% more efficient when compared to their 1200lb counterparts and 24.3% more efficient when compared to the 1400lb females.

To be conservative let's base our estimates purely off of our Table 1 numbers. If our 1000lb cows are 13% more efficient, that means on the same amount of inputs we can house 13% more females when compared to 1200lb cows. I'll work through the math below.

Assume we have 100 – 1200lb cows and just for the sake of easy math 100% of those females wean off a 600lb calf.

$100 \text{ calves} \times 600\text{lbs/calf} = 60,000\text{lbs}$  to be sold. Let's also keep our math simple and assume the going rate for those calves is \$1/lb.

$60,000\text{lbs} \times \$1 \text{ per pound} = \$60,000$

Now let's work through the math on 1000lb cows. We know that we can house 13% more females on the same amount of inputs so:

113 cows = 113 calves (assuming the same weaning rate as before)

$113 \text{ calves} \times 500\text{lbs per calf} = 56,500\text{lbs}$

(I assumed 500lbs per calf to keep the same ratio of calf weight compared to the cow)

The value of 500lb calves is generally worth at least 10 cents more per pound.

$56,500\text{lbs} \times \$1.10 \text{ per pound} = \$62,150$

Therefore, we can see how smaller sized cows can be more profitable for a producer in the long run.

I've done lots of discussing about the size of these cattle but haven't really put into perspective what these size cows would translate into in the "real world". A conservative guess would be that your typical F1 Tiger stripe (Brahman-Hereford cross) females would be around 1000lbs when at a BCS of 5. The type cattle that would be on the opposite end of the spectrum would be more Charolais type influenced type cattle. Unfortunately, there are too many of silver, yellow, or orange colored cows in our herds. Don't get me wrong I have no issues what-so-ever about utilizing Charolais, Limousin, Simmental, or any other Continental breed as bulls in our management systems. But, their daughters are significantly less efficient when compared to their British (Angus, Hereford, Red Angus) or British Cross (F1, Brangus, Red Brangus, Gerts) counterparts.

In summary, moderating the size of your cows will increase the efficiency of your operation. Aside, from the advantages I discussed earlier there are also others such as increased maternal ability, potential increase in heterosis (hybrid vigor), decreased grazing pressure, and the potential to weather a drought more efficiently. I'll be the first to admit, the examples and the math included in this article are VERY basic and don't include several different variables. However, they still give an accurate estimate of what could be expected by moderating cow size. If you would like some assistance in affordable options to make this transition, give me a call at the Extension Office.

Although the seasonal decline is approaching there is much optimism that the market will stay stronger than normal. Keep an eye on the current market trends so that you can be sure to take full advantage of your selling price.

## Seasonal Calf Price Trends

**M**ost producers have a solid handle on seasonal calf price trends and why they occur. Seasonal trends don't help us pinpoint price levels but they can help put perspective around our expectations. So far in 2011, 550-pound steer calf prices are averaging \$142 per cwt. That's up from \$111 per cwt. a year ago or more than \$150 per head. So, how long can the calf market maintain this large advantage compared to 2010 levels?



The big calf price drivers over the past several months have been tight supplies, solid industry margins and a large premium in the deferred cattle futures market. Corn is always a factor, but at least recently has been trumped by other factors. However, it is all of these factors that will determine what the shape of the calf market is during the remainder of 2011.

Cattle supplies are going to remain relatively tight for the remainder of the year and industry returns should be decent through the spring. So more than likely, the big drivers will be the deferred live cattle

futures market and corn prices. There remains tremendous confidence in the markets and the fact that the fed cattle market reached \$118 this spring will provide additional support for that optimism. So as long as the optimism remains, feeder cattle and calves are going to be worth considerably more than last year's levels. Corn is going to be the wildcard for 2011 and you can make a case that it can trade from \$4.50 per bushel to over \$6.00. The bottom line is that until we get the crop in the ground, the corn picture is going to remain cloudy. For now, expect a fairly normal seasonal trend. But, be prepared to change course if any of these factors change substantially.

The above article was taken from "Trends" - A Cattle-Fax publication



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This newsletter is meant to be a tool that Calhoun County Cattlemen can utilize to increase the efficiency and profitability of their operations. If there is a topic that you want to be addressed in next month's issue or sooner, contact Chance Crossland at the Extension Office.