

The Mythical 1200 lb Cow... Downsizing Cows

by Forest Dunning

High priced feed, discounts for heavyweight carcasses, declining reproductive efficiency, and rapidly escalating production costs all raise the question: What is happening to the economics of the cow business? The answer is simple, cows are too big! Producers are witnessing the downside of single trait selection for growth. Like a dog chasing the car that finally catches it, the result is not pretty. The old 1200 pound cow is now the 1400 pound cow and the industry is well on the way to a 1600 pound cow.



Accurate cow weights, proper bull selection tools, and a commitment to a long term plan can help return a herd average to the magic 1200 lbs cow weight.

How did cow size get too large, and more importantly, how do producers reduce cow size intelligently? The answers to these questions have profound implications for the industry and the Red Angus breed. First, start with simple biology. A cow and a bull each contribute 50% of their genes to a calf. A producer can only influence the genes which make up the individual parents, not which specific genes each parent contributes to the calf. And the ancestors of the animals' parents each have a great influence over which specific genes the parents have to donate. For example, breeding a frame seven (2400 lb.) bull to a frame four (1200 lb.) cow does not necessarily produce a heifer calf that will grow up to be a frame five (1300 lb) cow. It is more likely that out of four such progeny, one will be large like the bull, one will be smaller like the cow, and two will be in-between. Even a frame 3.0 or frame 4.0 cow saved for breeding from such a pairing will retain 50% of the genes from the large framed bull. To expect to get a 1200 lb cow from such a mating is much like throwing dice and expecting to get a seven every time, sometimes there are boxcars and sometimes snake eyes.

What many producers fail to understand is the geometric effect of breeding 1200 lb cows with large

frame genes in their pedigrees to large frame bulls. Suppose a producer saved only the moderate sized heifers from the previous paragraph to try and keep the cow size in the 1300 lb area. These first calf heifers would probably be bred to a moderate size bull to prevent calving problems. The resulting calves will be small compared with those from the mature cows and the producer will sell rather than save them for replacements. Problems will start in the following year when the expected coming three-year-old 1200 lb cows with the large genes are bred to another high growth bull. From that mating, the majority of these heifer calves will be large and growthy. In fact, rather than grow up to be 1300 lb cows, most will jump to 1500+ lb but the producer will not know that for another two years. In the meantime, the problem will compound and the producer will wake up one day to the fact that all of his younger cows are too big.

Okay, so a producer decides that his cows are generally too big and he needs to reduce the frame and weight of his cows. What is the most intelligent way to accomplish this goal? The answer to that question will depend on each producer's circumstances and cow herd. Nonetheless, here are some suggestions:

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1. Weigh each cow. The old adage that says a person can't control what isn't measured is absolutely true. A producer needs to know the cow's true weight after adjustments for age and body condition. Weighing dry cows or cull cows is not comparing apples to apples. A very good idea is to weigh the cows at pregnancy check after the calves are pulled off. Have the vet call a body condition score (BCS) in addition to pregnant or not pregnant. Then adjust the raw cow weights for age and BCS. The RAAA website can provide the appropriate formulas and guidance for making the correct adjustments. Once the average adjusted cow weight is known, then a strategy to lower the herd weight can be developed.

2. Don't make big changes. If a producer's cows average 1500+ lbs and are too large for the envi-

ronment, don't run out and buy a bunch of very moderate bulls with the hope of pulling down the frame score and average mature weight of the next year's replacement heifers. That action will introduce an unacceptable size variation in the calf crop. Instead, cull the really large cows and use a moderate bull battery with growth expected progeny differences (EPD's) or frame scores 10-15% below the current cows. This will bring the average replacement heifer size down without ruining the "even" in the overall calf crop. Consider saving more replacements out of the first calf heifers if they were bred to moderate low birth weight bulls. If there is a really serious problem, buy replacement heifers from a reputable moderate program or look for a complete dispersal sale with cows that meet these criteria. In any case, it will take a minimum of

three to five years to work the size issue down to an acceptable level.

3. Understand the Red Angus Maintenance EPD. The Breed Improvement folks have already done the hard work for you. The Maintenance EPD (ME) is a calculation of the amount of expected energy to maintain the measured mature animal to a BCS of five. It is the best prediction of "easy keeping" ability. A high ME will probably also correspond with a high mature weight and high yearling weight EPD. To bring cow size down, choose replacement heifers sired by bulls with a lower ME than the previous bull battery. If a seed-stock producer doesn't publish the ME, heifer pregnancy (HPG), maternal calving ease (CEM) and Stayability (STAY) EPDs in his catalog, ask for them. Without those important pieces of information, an

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informed decision on future replacement cow impacts cannot be made.

4. Beware of extreme curve bending claims.

Genetics is a study of probabilities and true genetic progress is glacial in speed. Some curve bending is possible for a given trait but that trait is passed on to all progeny regardless of sex. One of the most common ploys used in marketing yearling bulls is to breed a high growth, large frame bull to a low birth weight cow with good fertility, maintenance, and stayability numbers. The resulting EPD's will be an average of the parents plus a small change for the individual's measured weights. Such bulls appear to have low birth weight EPD's, high weaning weights, high yearling weights, and decent heifer pregnancy, maintenance, and stayability proofs. However, the EPD accuracy on such bulls is very low and over time their EPD's will change significantly as their progeny data becomes available. Most of these bulls are a disappointment over time.

A 1200 lb cow is not necessarily the perfect cow weight. The perfect cow weight is the one which produces the maximum pounds of calf weight per acre on a sustainable basis. In the Midwest, a frame size 5.5 or 6 may be well suited to the environment because of the abundance of feed. On the other hand, that same cow would do very poorly in the high desert country of the Southwest, where a frame score 3.0 and ME of less than zero would be more appropriate. Nevertheless, even where feed is abundant, moderate cows will generally produce more total pounds of calf per acre than large cows. In fact, there have been several academic studies that show a ranch currently supporting 100 cows weighing 1400 lb will support 120 cows weighing 1200 lbs. A better metric for cow profitability is "pounds of calf per acre" rather than "pounds of calf per cow exposed". Another good measure of cow efficiency is the calf weaning weight (adjusted to 205 days of age) divided by the dam's weight (adjusted for BCS and age). The resulting number is expressed as a percent of cow weight. A cow that can wean a calf 50% or more of her body weight is a keeper; anything less is unacceptable.

A big soggy calf will nearly always warm a producer's heart. Bragging rights at the sale barn coffee shop usually go to the guy with the heaviest set of calves. Nonetheless, the heaviest calves are not necessarily the most profitable calves. Accurate cow weights, proper bull selection tools, and a commitment to a long term plan can help return a herd average to the magic 1200 lbs cow weight. Better reproductive efficiency and lower costs are many times more important to cow profitability than growth traits. Remember, if a producer sells calves at \$1.15 per lb, but they cost him \$1.20 per lb to raise, he can't make up that difference with more pounds! ■