

Building the Perfect Cowherd... Balancing Outputs and Inputs in your Environment

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In Beef industry circles, most coffee shop talk quickly comes around to "bragging rights". Yep, we brag about how many cents per pound our calves brought and even more about how much they weighed. Having the heaviest calves at the table is still a sure fire way to build a rancher's self esteem. My favorite is the guy who brags about how heavy his [cull] cows were when he hauled them to the sale barn. Clearly, he's missing the point. Our coffee shop talk should start at profit and work backwards – considering environment, efficiency, and input costs in addition to revenue.

It is easy to understand our focus on revenue traits. They are easy to count, and the seedstock industry has plenty of tools to measure them. WE LOVE KEEPING SCORE. Once it was determined we were going to sell 'em by the pound we started running calves across scales. This led to selection using within herd ratios for weaning weight and yearling weight. In turn, this brought about selection/culling of the cowherd based on calculated production measures like MPPA (most probable producing ability). Today, most breed associations offer EPDs (Estimated Progeny Differences) to guide selection decisions. EPDs consider not only an animal's performance, but that of its parents, grandparents, and siblings. Furthermore, EPDs do not merely evaluate the performance of an individual within its respective herd, but reflect performance of related individuals across herds and environment. EPDs are the most accurate and meaningful selection tool to date.

While EPDs remain the most accurate tool for changing cattle genetically – we should be careful what we wish for. Selection based solely on revenue or "output" traits have indeed allowed for rapid genetic change and quite often – overshooting the target of profit. The frame race of the late 70's and 80's is an excellent example. Many failed to consider that increases in revenue through additional weight, milk, retail product yield, etc. – all came with increased costs. Sometimes increased costs are directly related to genetic change; for example, bigger heavier milking cows require more feed. Sometimes these costs are reflected in the effect genetic changes have on other traits; unchecked increases in growth will typically increase birthweight and reduce calving ease. Still in other cases, the genetic change can have the effect of moving the cowherds' production capacity beyond its environment's carrying capacity.

There is a better way.

Red Angus established the industry's first performance registry in 1954, and continues its leadership today as the only major beef breed that requires members to report the annual production of every cow and the performance of every calf through weaning. During a time when many breeds continue to grow the list of traits they measure, Red Angus has chosen the road less traveled – measuring traits of economic relevance to commercial beef production – using as few EPDs as possible. In other words, instead of measuring

every indicator trait that a rancher may encounter – let's focus on the actual observations that affect his bottom line.

Of course when we think great cows we think lots of milk and weaning heavy calves. Pretty early in my beef cattle career, I had a cow that weaned a 1000# calf. No kidding, she calved in March. When I hauled the calf to the sale barn in December its pay-weight was 965 lbs. I didn't have to allow myself too much shrink to know I had a cow that weaned a 1000 pound calf. Of course, the 1000 pound calf didn't really fit in a pen with any others, so he sold with some yearlings and brought significantly less per pound. Still, I had the perfect cow. She was big, weighing a bit over 1500 pounds, but had just weaned 2/3 of her body weight, so she was the model of efficiency. The problem with my math was: she didn't calf the next year, so I had to spread my 1000 pound calf across two years. All of a sudden the efficiency model I wanted my herd patterned after was weaning only 1/3 of her body weight. Realizing this, I shipped her, gave up on weaning 1000 pound calves, and understood that it takes more than milk to make a great beef cow.

Production is the last word in reproduction.

Single trait selection for production traits like growth and milk is really putting the cart before the horse. Reproduction has a significantly greater influence on profit, thus is the logical place to start when building a cowherd. Here are some reproductive fundamentals that you should expect from foundation females.

- 1) Be born unassisted.
- 2) Get Pregnant to calve as a two-year-old.
- 3) Calve unassisted (keeping your hands, and calving chains out of first calvers goes a long way towards getting them rebred on time).
- 4) Rebreed to calve 365 days after her first calf was born.
- 5) Repeat steps 1-4 annually. (Research has shown that replacement heifers must remain in the herd for six years if they are to break even on the expense of retaining and developing them.)

In 2002, the Red Angus Association of America published the Heifer Pregnancy EPD, which represents the final element in Red Angus' complete description of reproduction through genetic predictions (EPDs). These four EPDs serve as selection tools allowing genetic progress in each of the reproductive fundamentals previously described.

- 1) CED – Calving Ease Direct is expressed as the percent probability of a calf being born unassisted. Birth weight is the largest indicator of calving ease; however it is just an indicator. Other factors make up 30-40 percent of the unassisted birth. Some breeds publish calving ease EPDs based solely on calving ease scores. Red Angus combines birth weight with calving ease score so the rancher's observation of unassisted birth has genetic differences for birth weight already built in.
- 2) HPG – Heifer Pregnancy is expressed as the percent probability of a heifer conceiving to calve as a two year old.
- 3) CETM – Calving Ease Total Maternal is expressed as the percent probability of daughters giving birth to their first calf unassisted. Red Angus calculates this prediction by combining the female's genetic predisposition to calve unassisted

- with her own Calving Ease Direct EPD – after all she is providing half of the birth weight and related calving ease genetics to her calf.
- 4) STAY – Stayability is expressed as the percent probability of a cow staying productive in the herd past six years of age. It is a measure of productive lifespan.

Each of these predictions are based on a “yes” or “no” answer to the ranchers’ observations. Was the calf born unassisted? Is the heifer pregnant? Did the (daughter) 2-year-old have her calf without help? Is the cow still producing in the herd past her sixth birthday? When considered across the entire herd, it is clear how the answers to these questions can represent either red or black ink on producers’ bottom lines. In becoming the first breed to completely describe beef cattle reproduction, Red Angus has provided the industry with perhaps the most important tools for building prolific, problem-free cowherds.

Looking at reproduction enables us to evaluate reproductive performance with measures including conception rate, calving interval, replacement rates, average cow age, percent calf crop weaned, etc. However, there is more to the picture. When we combine reproduction with production we can look at measures like percent of body weight weaned, or pounds of calf weaned per cow exposed. These measures give us a benchmark as regards our cow and cowherds’ efficiency. We are seeing more of the picture, but not all of it.

Eating the profits

We are still looking at income. These measures, traits, and EPDs all put money in our pockets. So why aren’t we rich? Where did that extra income from higher weaning weights and larger calf crops, and more Yield Grade 1’s & 2’s go??? **The cows ate it.** Over-simplified, yes, but feed cost is the single largest expense for most cow/calf producers, and it typically rises with increased production/performance. To help ensure that resulting expenses don’t exceed the benefit of added revenue traits, RAAA published the industry’s first Mature Cow Maintenance Energy Requirement (ME) EPD in January of this year. It represents the first genetic prediction relating to the expense side of the producers’ profit equation.

The ME EPD is calculated using measurements we’ve had for years to include: milk, mature size, and body condition score. If we think about these different indicators they all make sense: An eight frame, 1800 pound cow requires more feed than a 5 frame, 1150 pound animal. Likewise, a heavy milking Holstein requires more feed than an average milking beef cow. Body condition score is used to adjust animals’ weights to an equal body condition score of 5. Red Angus seedstock producers have this tool to make sure their other selection goals do not create higher maintenance animals that are more expensive to feed. Also, they can fine-tune their selection to create animals that are well suited for environments where forage is typically low quality or not very plentiful. When evaluating efficiency within our environment, we must consider the entire herd. Even if our cows are reproductively sound in their environment, could we run more cows, and

wean more total pounds of higher value (lighter weight) calves if the cows were a little smaller and not quite as heavy milking?

Environmental Fit...

is an absolute must when building a cow herd, and how you market your calves is part of that environment. One producer, who sells calves early straight to the feedlot may want higher weaning weight cattle that grow fast when they are put on feed. Yet another, who calves later and backgrounds his calves to hit spring markets, is not nearly as interested in those traits; he knows that if his calves are too heavy by spring, feeders will discount them because they'll take heavy carcass weight discounts. How you plan to market your product is just as much part of your environment as annual rainfall, and available forage.

It does take more than just milk to make a great beef cow. Cows must provide years of trouble free reproduction - making the most of their given resources, while consistently producing offspring that hit market targets. Fortunately, Red Angus producers are armed with the right tools to develop Red Angus bulls that are capable of bringing all of these components together to help you build a profitable cowherd.