

REMEMBERING HOW WE USED TO “READ” CATTLE GENETICS FROM THE OUTSIDE

By Will Winter, DVM

This is a story about developing our skills as good judges of bulls, cows and calves. No, not for some blue ribbon at a bovine beauty contest, but for helping reverse some of the wicked genetic damage done in the past 70 years or so by people who were figuring out how to build cattle that would allow us to stick more grain into them without killing them. Cattle are, of course, and always have been, the least-efficient grain-eating beast on the farm. But, apparently unbeknownst to people at universities, they have always been the very best at turning grass into delicious meat and milk! It's time to get back to what we forgot.

Last month, when Allan Nation quoted a figure stating that the top 15% of cow-calf operators achieved a 22% return on their investment, it occurred to me that this is the goal. We want to help you get into that top tier. We want you to do as Gabe Brown suggests, start signing the backs of checks instead of the fronts! Everyone who reads this magazine knows something about buying cattle, but what makes the difference between being good vs. being mediocre? It's knowledge, practice and skill development. Not

everyone is a “natural” but everyone who wants to improve can definitely do so. So, let’s get started!

Word of warning: Steps in this direction will require you to be one of those people that grass-genetics seed stock producer Kit Pharo calls “herd quitters”. Such people are not followers so much as they are leaders. That means you will have to toughen up your skin because your neighbors, probably even your relatives, are going to start talking behind your back, usually at the local cafe or when they meet at the farm sales of their fellow herd-mates that have gone broke. They will laugh at you, they will think you are clearly a lunatic, and they will assure you that if you keep this up you will go broke (Just ask lunatic farmer Joel Salatin about all this!).

PRE-CONDITIONING CALVES

So, that being said, there is one important aspect of creating top-notch money-making grass genetics that makes a very good starting place. It’s basically just “sticking your toe in the water”, but I like it because it is something that every single producer can do and I think it will work for everyone.

Steve Campbell calls this “Pre-Conditioning your calves, a la Mother Nature”. The technique goes against the current paradigm of early weaning. The industry dictates that calves should be weaned from their mothers around 6-7

months of age. The average cow begins to lose body condition as her access to fresh grass goes away and we want her to begin building back up and building the next calf. The question remains, can your cow actually eat and digest enough for three? What Steve is suggesting is that we sort our calf crop around the normal time, but then we take all the calves that we plan to keep as replacement heifers and put them back on their mothers until they are approximately 10 months of age. I call this natural weaning.

In exchange for the likely cost of supplementing the cow for one winter, her daughter will consume 10-20% less forage than her mother for every year for the entire time she is in the herd. An additional bonus is that when this heifer has her daughters she will probably not need extra winter supplementation to maintain the next generation of daughters for her 10 month nursing period. You are already on your way utilizing a very solid technique for building a herd of grass genetics cows.

WHAT IS GLANDULAR FUNCTION?

Moving on, we can't talk about Linear Measurement without discussing the techniques we use to determine the glandular function of cattle. Additional knowledge regarding selecting and culling can be achieved in this manner. Here are the basics of what we are talking about. As we know, all vertebrate animals have a skeletal structure that

carries around all the muscles, the digestive, circulatory and respiratory organs, all of which is covered by a protective hide. That is an animal. However, what determines basically everything that we are interested in comes from the glands within. We are talking about hormones for growth and reproduction, we are talking about digestive enzymes, acids and chemicals, and we are talking about the immune system itself. In other words, everything that matters, everything that differentiates winners from losers. Interestingly, it is the hide itself, along with hair coat that can inform us of pretty much everything we need to know about what is happening inside. So, let's get more specific....

- 1) HAIRCOAT - The external window into all glandular function. What we want to see is uniformity. We want to see a velvety shine, or "glow", and we want to see deep, rich colors. Even white animals should shine. All this varies with age, gender, pregnancy, and season, but we know what we want to see. What we do not want to see is faded color, dullness, coarseness, patchy areas, or dry brittle hair. The same quality differences are reflected in the horns and toes as well, which are diversified functions of modified hair follicles. Skin and body oils are regulated by the thyroid gland which determine quantity, scent and viscosity of the oils. These factors make up the "grade card" of health. We know "mate selection" in humans has a lot to do

with the quality and condition of skin and hair, so it must be equally important in the animal kingdom.

2) SWIRLS- Call them “cow licks” if you wish because that is what they are. We are now getting into the finer aspects of selection, so this is where we all need to begin paying attention; we need to look for swirls on every animal we see. All swirls are good. Repeat, all swirls are good. Anywhere on the body is fine, but swirls in some locations are even more important to “read”. A lot of good calves will have “wavy” hair (at certain stages of growth or season), and in heifers we particularly like to see swirls up and down the hind legs. It does not bode well for the fertility of a bull with a poll bedecked with straight hair for it is here where the boys with the curly-locked polls rule.

3) THE THYMUS EXPRESSION. This swirl is on the sides of the neck and it should look like the hair was “painted uphill. The larger the swirl, the more activity in the thymus gland and the better it is. The thymus is the largest gland in the immune system and is the source of the T-killer cells for immunity.

4) THE ADRENAL WHORL- This is the cow lick that we have all seen over the backs of animals at the top of the spine between the shoulder blades. The further forward it is the better, whereas the further back it is, the lower the glandular function. Some animals have a double swirl there and if so, we measure the front one (it may also indi-

cated a tendency towards twinning). The size and location of the adrenal whorl is related to the ability to generate butterfat in the milk, or to generate rich body fat and condition. It's likely an animal with a weak or rearward adrenal will not make an easy-keeper nor will they be likely to do well in a grass program.

5) THE PANCREATIC or OVARIAN WHORL- This one is on the side, near the bottom of the belly up in the flank. Again, what we want to see is hair that looks like it is going uphill. In some cases it will look like it is moving forward up towards the armpit or it may look like it's moving up the belly. Expert judges of glandular function, such as South African Jan Bonsma or America's own Buck Chastain, can take in so much data from this swirl that they can accurately predict the number of eggs ovulating and more. It's important to remember that swirls are much harder to read in the winter when the hair is long or on the normally-shaggy breeds such as the Highlands.

6) VERTICAL FOLDS IN THE HIDE- This is considered by all to be an excellent finding. We are looking for highly visible folds particularly over the ribs and along the sides of the neck. If you see them in a heifer of any age remember it well, because she will likely become a great cow for you. The same is true for any bull calf.

7) PREGNANCY DIAGNOSING- Wouldn't it be great to be able to eliminate the stress, risk and cost of rectal palpa-

tion to determine pregnancy? I've seen vets who routinely squeeze to death over 10% of the fetuses, and you blame your cow! External diagnosis easy say all the experts who know how to read body signals, and it's probably more accurate depending upon the skill of the reader. What we see beginning around 4 months into the pregnancy is a growing wave extension of the Pancreatic Swirl that moves up to the armpit and down to the flank. Simultaneously, the Adrenal Swirl flattens during pregnancy. In addition to prep checking, experts such as GEARLD FRY can even determine with great accuracy the gender of the growing calf.

8) THE ESCUTCHEON MIRROR- This is a rather technical concept so I will only deal with it briefly here, which really is to not do it justice. It's important. For a more complete discussion go to Guenon's fabulous book "A Treatise on the Milch Cow", or to Gearld Fry's website bovineengineering.com for pictures. The escutcheon consists of two swirl lines of upward-facing hair that runs along the backs of the hind legs of all cattle, and it roughly forms the shape of a shovel. The "handle" is the part of the swirl that runs up from the udder to the bottom of the vulva. The wider the distance between them, the sooner the female will come into milk and the longer she will produce (think: this is how we get 10 month natural weaning). Via this marking, the experts can determine even in a newborn baby calf, how productive she will be, what will be her butterfat production capability, her overall milk potential and even

more. These rules apply just as aptly to all beef cattle as it does to dairy cattle.

9) DETERMINING BUTTERFAT-MAKING ABILITY- And this is as opposed to the cows that produce too much milk volume, which is generally associated with higher maintenance cattle, and is therefore selected against in the world of grass genetics for beef. The ones that produce the high level of butterfat in their milk are the ones we want to keep. Actually, they are easy to spot because they are the ones that *will get too fat on grass* if you aren't careful! Here's how the experts find them...

~ Bald udder- We do not want to see any hair here, except fine baby hair, although there will be slightly more hair there in North Dakota cows than from cows in Texas.

~The vertical folds on the sides of the neck and thorax are excellent indicators of animals that will produce high levels of both butterfat and intramuscular fat. Look for nice vertical folds below the vulva as well.

~We actually like to see extra teats, probably small and non-productive, but indicative nonetheless. They are almost always on the rear of the udder.

~Back to the escutcheon mirror, we want to see an "upward tilt" to the shovel portion, that part where you would

place your foot on a real shovel should angle up as if to keep your foot from slipping off, that's good.

~We want to see the adrenal swirl up high, by the shoulder blades, the further forward it is, the better the butterfat.

~Fine, dense cannon bones, that is, dainty ankles. We've mentioned this before, in that it's also a great indicator of fine-grained tender meat, but it's also a great butterfat indicator.

~And, we also want to see what is called a pointed poll, not a flat forehead. For animals with horns, this is still visible, it creates a narrow ridge (from front to back) between the horns. An excellent sign.

So, there you have it. Your brief introduction to becoming an expert judge of cattle. No one does this overnight, it's a lifelong study and, like playing the violin, practice makes perfect. Learn to train your eye. Study your cattle, as well as those of others. Look at herd bull catalogs, study breed photographs. Even more interesting, look at paintings of cattle from the 1800's and early 1900's. You will actually see that all these traits are there. It's nothing new. This is knowledge that was probably much more widely known before we started learning how to not think, how to not trust our vision or our instincts. Sometimes we need to go back in time in order to move forward in our pursuit of success.

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