

THE ART OF BREEDING PROPER LIVESTOCK -Part One

By Will Winter, DVM

The art of breeding proper livestock boils down to two major criteria: *selecting* the good ones and *culling* the bad ones. For me, culling is so painful that I'm terrible at doing it! I save the losers! I seem to be drawn to some of the wrong ones for all the wrong reasons, maybe because I feel sorry for them. That is why this article is not about me!

When I need to make herd-building decisions, like we all need to do, I am inclined to turn to the professionals. And at this point I will admit, not everyone agrees who will be that person. There are several out there. This story is about the ones that I have found and why I think they are on to something very interesting. Please come along for the ride and see if you agree.

I will never forget the first time I sat down in an AcresUSA annual conference lecture hall and listened to bovine geneticist GEARLD FRY speak. Not having any idea what I was getting into, I sat down with a relatively open mind and blank notebook, and 90 minutes later I had over 15 pages of detailed notes. As it turned out, I had chosen the lecture with my friend JERRY BRUNETTI and at the end, we just looked at each other with that stunned look you get when you know you have just witnessed something but yet don't even know what it is. That was almost 15 years ago, and I'm still not sure what I saw and heard. Since then I've gone over those notes many times, likewise I have listened to Gearld Fry speak many times since. All those numbers, facts, figures, measurements, Biblical quotes and esoteric details are still swimming in my head. To this day, if I am standing right next to Gearld Fry I am a pretty good judge of cattle, that is, as long as he picks first and I'm listening. After that, when I'm out on my own, it's a whole lot harder.

And then there is STEVE CAMPBELL. Steve is a seasoned cattle man from Idaho who also became inspired after hearing Gearld Fry speak.

For him, it was back in 2003. Like me, he was powerfully affected by what he had heard although he was already considered to be a pretty good judge of cattle flesh. One of the things we both liked about the body of wisdom relayed by Gearld was that frankly there was absolutely nothing new involved whatsoever. As it turns out, Man has been selecting and culling cattle and animals of all domesticatable species basically since the the beginning of civilization. In fact, you might say the very essence of domestication can be found right here. We are basically molding the foundation of animal health, virility, fertility and production such that it can merge with our own needs which certainly include all of these factors as well as docility and increased production of tender, delicious meat and milk.

Steve learned from Gearld that it's pretty easy for the eye to be fooled by living and moving animals so thus began the art of what is called LINEAR MEASUREMENT. This being pretty much exactly what it sounds like, using a tape measure or other instruments to get objective numbers from which to make basic decisions. Steve then set off with a set of measuring tools from Gearld whereupon he commenced to measure thousands of cows, bulls and steers. Steve found that one of the most impressive facets of livestock production is how few US cattle actually stack up statistically. No wonder we have such a hard time getting cattle to breed properly, no wonder we have such trouble getting cattle to fatten on natural forages.

Noticing this in his own studies, Gerald took it to the next step. He set up an Excel spreadsheet in which he entered the measurement numbers for all cattle studied. For each part of the body that is measured, there is a standard cut-off, and then inches above or below that standard. This is what determines the numeric score. They devised a grading system from the data in which all cattle were given a measurement score somewhere between 0-5 with 5 being the best. Steve also determined that he would accept no cattle into his program that graded below a three. Sadly, the average score of all the U.S. cows that were measured was only 1.5. Even worse, the average of all the bulls in the US was 0.5. Steve feels that this means that only about

one out of one hundred of all cows will be highly efficient on grass, for bulls, again even worse, He believes that only about one out of five thousand bulls will rate a 3 or higher. Note that everything is based upon finding cattle that will be efficient enough to thrive on natural forages (without additional concentrates). Since most cattle do pretty well in a feedlot situation, all these numbers are geared to estimate the ability to achieve the ultimate function of ruminants which is to become efficient grass-eating creatures.

Now remember, there are things you know, and there are things that you don't know. Together, these two categories make up about 30% of everything that is out there. Today, we are going to talk about the other 70%... the things that you don't know you don't know!

So, you are not going to be an expert judge of cattle by the time you finish reading this series. Let's just say that right now. These refined skills take a lifetime. However, you will definitely know the basics and you will know when and if you need to hire a professional. People who start out to finish cattle on grass, that have not gotten the right genetics, are in for a really long haul and probably will never find the finish line. Additionally, the best cattle in the world that are put on poor quality forages or who are not properly managed for grazing efficiency, are unlikely to achieve their genetic potential. To put it into perspective, most professionals agree that it's usually easier to raise animals with poor quality genetics on excellent grass, with excellent management than it is to raise the top quality genetics cattle on poor grass or poor grazing management. That being said, why handicap yourself with crummy livestock if it can be avoided? So let's get started with the basics. We are going to start out being focused on both the male and the female of the species. While it's true that the bulls contribute much much more to the overall genetic influence of the herd, we know that it is also essential to be able to select the best replacement heifers or the best cows to buy.

We begin with the "long-view" evaluation. These are the more obvious and overall criteria before the measuring instruments come out. This

can be done across the pen or out in the field. In general, Steve says #1 is shape, #2 disposition, and then for #3, we can get “picky”. I agree. This is also sort of a “health” exam as well but it’s much more detailed when the expert information is used. For example, via swirls in the haircoat, the geneticists can determine the glandular function of the body, the ovaries, thyroid, adrenals and pituitary. By examining the escutcheon of the back legs of the cow, the expert can accurately determine both the quantity and the quality of milk production over the lifetime of that cow. Experts look for hair quality, if there is broken hair, discolored or faded coat, that is potential for problems. We want to see a dense, shiny coat, rich in color, which indicates glowing health. We also want to evaluate skin thickness, I love watching Gerald Fry pull out a pinch of hide over the shoulder or flank. He likes to be able to pull it out several inches and have it spring back. If the hide is thick, we can expect tougher meat with more connective tissue as well as a lower total cut-out of red meat. The linear measurement experts like to see a relatively small head, but yet a wide “lawn-mower” or wide jaw for being an efficient harvester of grass. They also look at the cannon bones above the ankles, and want to see fine, dense bones that indicate, more than anything else, the likelihood of finely-textured grain to the meat, that is, a tender, flavorful steak.

During this phase of examination one can almost squint the eyes a little bit. Is the top line nice and flat, with nothing sticking up and no dips? That’s what we want to see. Is she just one huge “block of meat” when viewed from the side, or is there a lot of leg, and not much depth? If it’s a steer for fattening, or a bull for that matter, how far apart are the shoulder blades? As you may know, it’s the delicious rib-eye steak muscles that hold the shoulders apart and every inch matters. Most of this is similar to what all seasoned cattlemen and women know, but the detail in observation is intense. Like William Albrecht always asked, *“are you really seeing what you are looking at?”*. That is what this story is all about. So, let’s get into the actual linear measurement so we can understand why it is so important.

First of all, I will tell you the most important things first and then, if you want, we can go into as much detail as you can stand. Steve says that with regard to linear measurement, there are Three Main Keys to Easy-Keeping Cows:

- 1) The heart girth, which is measured with a tape placed all the way around and just behind the front legs, most be greater than the total Top Length, which is measured from the pin bones on up to the poll. This is the most important criteria of all. How many of you have seen an otherwise gorgeous cow with a pinched heartgirth? I know I have. Incidentally, when we are measuring, we have to make sure that she is not pulling back on the head gate. We measure first the top line, then we can catch them to measure the heart girth. On finished animals, every inch of heart girth that is less than the top line costs you over 37# of red meat! For animals on grain, where linear measurement works equally well, every two inches of extra heart girth means those animals will need one pound less grain for each additional pound of gain.
- 2) The second most important criteria is related to the Production of Butterfat. When studies were done at Penn State University, they discovered that the #1 criteria that affected proper rumen development, with regard to both development of proper papillae and blood vascularization was how much butterfat was given to the calf. This is why it is virtually impossible to fatten a Holstein bull calf that has been fed nothing but artificial milk replacer throughout calf hood, on a 100% grass diet. We will discuss later in this series how we can determine how rich the cow's butterfat will be, and we can do so even before she is in milk.
- 3) We need to know how long we can keep a calf on it's mother without her losing condition. We expect a "grass genetics" cow to keep her baby by her side for a good 10 months. With cows like this "weaning" turns into self-weaning for the most part. No cruel nose rings, no bellowing cows or calves, and virtually no stress. Late winter is always the best time to judge

cattle, primarily because lush forages in the spring and summer can make even the least efficient ones look pretty good.

Easy-keeping cows. That is part of our goal here. Steve says that cows that measure three or better on the measurement scale will give you the equivalent of “one free calf” over the lifetime of every cow. Additionally, these cows tend to get by with less than half of the forages needed by the standard industry cow.

OK, so now it’s time to get to the “picky” part but we will need to have this continued in the next issue. We will talk more about how and when to select breeding bulls, how to buy bulls as well, more on the stock cow and then discuss how the professionals like Gearld, Steve and many others create a breeding and calving program that really works! In Part Two we will discuss how we can learn to put the specifics of linear measurement to work!

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