

A Reflective And Futuristic View Of Cattle Breeding From Outside The Registered Mainstream.

By Iain Aitken

My quest for knowledge about line-breeding has led me to a man with remarkable wisdom and experience of cattle genetics and a totally different perspective to the mainstream purebred cattle industry. That man is Larry Leonhardt of Shoshone Angus based at Cowley, Wyoming. Larry was right at the top of the purebred Angus circuit thirty years ago before turning his back on the limelight and high prices to concentrate on producing a more consistent and profitable animal for the commercial sector. The goal now for his 600 cow herd is simply stated as: “The development of purebred parent stock that can regularly produce beef animals which at the lowest possible cost and *expenditure of labor give the highest possible and longest lasting net returns.*”

Reading back in the history of the Luing breed in Scotland I can see many parallels between the Cadzow’s development of the Luing breed and Larry’s development of the Shoshone “strain” of cattle within the Angus breed. Both were spawned by disillusionment with the mainstream purebred industry and it’s fixation on following fads and fashions that had nothing to do with commercial beef production. After spending decades breeding cattle towards one goal in their respective programs there seemed to be an honest recognition by both of the limitations of any particular breed or strain. Not for them the hollow claims made by many breeders and breed associations that their showing selected cattle “can do it all and excel in every trait needed in the purebred or commercial herd.” Denis Cadzow’s statement that their Luing breed “was not a wonder breed - *It has been created commercially for a specific purpose*” would likely be mirrored by Larry about his Shoshone cattle.

In his booklet “The History of the Shoshone X Strain of Angus Cattle” Larry presents the most worthwhile critique I have ever read of mainstream purebred breeding practices and how they fail the commercial producer. I found many things explained that I had experienced in my own cattle breeding endeavors over the years but hadn’t previously understood. It seems most of our problems in cattle breeding do not stem from the cattle - but from human nature and our unrealistic expectations of what can be achieved. Within any contemporary group of cattle there will be an average in every trait but that is made up of a variation of individual performance. There will be animals close to the average of the gene pool and then there will be animals towards the extreme (and opposing) ends of the spectrum on any given trait. These could be classified as the “outliers” and being so far removed from the average indicates they are the most heterozygous and thus the least likely to stamp their type on their offspring. This is unfortunate as human nature leads us to almost automatically identify the biggest, heaviest or most extreme in any trait as the “best” among the group. This is further compounded by the fact that we are usually looking for a bull to counter the effects of the last extreme bull. If the last one was too small we want to make sure the next one is more than big enough. Round and round we go in circles picking different types, usually extremes, trying to correct perceived faults in our herds but always unwittingly introducing more. These trends or fashions occur not

only at herd or breed level but also on an industry scale - first smaller cattle, then larger, then thicker and fleshier types. It seems we are constantly pursuing change and mistakenly acclaiming it as “genetic progress”. A breed by definition is a collection of cattle that will predictably reproduce their distinguishing characteristics and traits because they have been purified over many generations to contain only that type of cattle so why do we need to “change” them to “improve” them? I read the following rhetorical question posed recently by one of Larry’s followers on the current popularity of an A.I. Angus bull with almost Limousin conformation “ how come Angus breeders don’t like Angus cattle? always choosing the bulls most unlike the Angus breed to use? ” Sadly all too true and something that applies to most breeds today.

In reality the cow’s purpose has never changed and her natural environment has changed very little. A more profitable goal for all sectors of the industry would be average performance created more predictably. The most important profit drivers in a commercial cow/calf herd are fertility and longevity yet most bull selection is still based on growth rate and beef conformation – is that logical? It is costly to develop heifers given that you must feed them for two years from weaning until they themselves wean their first calf and give you your first paycheck. On top of that is the increased calving risk associated with heifers, the smaller calves they produce and the higher risk of failing to rebreed. I think that any cow that gets culled out of a herd after 1-3 calves is likely a loss maker. The most profitable cows in any herd are the ones that go unnoticed until you suddenly realize they are teenagers. A cow that turns in ten calves in her lifetime is always more profitable than the one that turns in even five calves. When you have cows with this type of longevity and productivity you find that you can afford to give up a bit of weaning weight on their calves and still come out ahead. Most herds contain a few of these individuals but even if their value is recognized they prove difficult to predictably replicate using conventional breeding practices. Maybe the most common problem is that we tend to pick the wrong herd bulls based on visual assessment of phenotype. After all it is the parents combined genotypes, not phenotypes which produce the next generation. I think too we often confuse muscularity with masculinity and they are not the same thing. My experience has been that selecting daughters off higher growth rate, muscular bulls seems to result in faster growing, earlier maturing females which tend to have lower fertility and burn out early.

It seems then if our goal is to create a more predictable herd of cows our selection should be based around the average rather than the extremes. I can see why the mainstream purebred industry hasn’t pursued the selection of “average” to date – it would a harder concept to market than the extreme animals that they can claim to be the biggest, the fattest, the milkiest etc. But in reality what these breeders are marketing is the illusion that we can have it all – ever increasing performance, with no increase in feed requirements and no negative trait correlations. Of course in the fullness of time the negative consequences of our selections are revealed and this often results in extensive culling being necessary which always proves costly. It is interesting to note that USDA data shows that over the last few decades with the emphasis on increasing production per animal, there has been no documented change in overall biological cow herd efficiency. Industry wide cow and slaughter steer size has increased about 20% but this has required

a corresponding increase in feed quantities and qualities for both maintenance and reproduction.

If we want to make real improvements to the efficiency of beef production we should aim for the economically optimum level of production rather than constantly striving for the maximum. We should have regionally and climatically adapted strains of cattle, all genetically purified and prepotent for the characteristics and traits of that strain. By cross breeding these different strains at the appropriate point in the production chain we can then harness hybrid vigor in its purest form leading to the most efficient and lowest cost beef production possible. Larry Leonhardt likes to quote American geneticist Sewell Wright's 1920 summary on cattle breeding where he concluded "the principles of the successful breeder are exceedingly simple - the difficulty is in applying them." No doubt part of this difficulty is the time factor involved as developing strains is like creating breeds all over again which is painfully slow work. Wright continues "The successful breeder establishes an ideal type, he isolates and fixes a good type by careful selection and close breeding and he brings inferior stock up by the consistent use of a prepotent sire of the same type."

In a follow up article I hope to explain how Larry actually developed his X strain of cattle – the selection process, identifying his ideal type, the in-breeding and the remarkable results that he has achieved.

