# CANADIAN LUING
Cattle Association

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***MESSAGE FROM THE SECRETARY*** ***Iain Aitken***

# Luing – A Valuable Source of Genetic Diversity

A question I was often asked when I first started my Luing herd in Canada was: Why not use a popular cattle breed that everyone had heard of? Certainly it would have been easier to pick a breed like Angus where there were literally thousands of purebred females for sale from which to select my foundation stock. The downside of that would appear to be that there are also thousands of Angus bulls offered for sale by established breeders every year, so it would be a difficult market to break into as a newcomer. Marketing Luing bulls may require first educating some buyers about the breed and its strengths, but it also makes us one of only a handful of breeders with Luing cattle to supply the entire North American market. I look at that as a huge opportunity and a challenge to be met. Running a "non-mainstream" breed also gives the neighbours something to talk about!

In addition to the marketing opportunities offered by a lesser-known breed, I am also driven by the desire to offer genetic diversity to producers within our industry who recognize the danger of limiting our beef cattle population to about five major breeds. Who knows what traits will be needed in future if beef production has to make fundamental changes to its production model? If all our cattle are selected based on their ability to fatten on grain, what happens in the future if cattle need to be fattened only on forages raised on land that cannot support crops used for direct human consumption? To an extent, this problem is already evident in North America with the resurgence of interest in grass-fed beef and the shortage of cattle genetics suited to that purpose. There are many other diverse, unique and potentially useful traits and characteristics contained within the gene pools of some of the less populous breeds.

In this age of globalization and easy worldwide movement of cattle genetics through artificial insemination and embryo transfer technology, another risk of reduced genetic diversity is coming to light. Genetic defects like fawn calf and curly calf currently being exposed in the Angus breed will potentially affect huge numbers of purebred cattle around the world. I was surprised to hear that these Black Angus genetic mutations are also going to affect some other breeds as the carrier bulls have apparently been used in several other "pure" breeds! That seems rather an oxymoron. Mother nature promotes diversity and constantly challenges mono-cultures, which is why grain farmers spend a lot of their time and money spraying chemicals on their crops in order to kill everything but the single plant species they seeded. Cynics might suggest that with the emergence of these genetic mutations in the Angus breed, Mother Nature has decided that there are just too many black cattle around!

Another factor that seems to have been neglected by breeders transferring genetics around the globe is the importance of regional adaptation of cattle to their own conditions. Growing up in the southwest of Scotland, a mild grass-growing area known for its dairy farms, gave me an early insight into this problem. That part of Scotland was the traditional home of the Ayrshire dairy cattle breed. These cattle had been selected over many generations to produce milk economically under the prevailing climatic and land conditions. They are a smaller brown-and-white breed that is light-boned due to the thin, nutrient-leached soils of the area. Ayrshire breeders in the 1980s began to look enviously at the milk yields produced by Canadian

Holsteins and saw that they typically yielded 9000 litres per lactation compared to the 5000 litres the Ayrshire could produce. What they seemingly failed to take into account was that the high yields of the Holstein had been achieved by selection over time under confinement dairy operations. There is a big difference between what a cow can produce if you set high-quality feed in front of her in a dairy barn versus that cow having to go out and harvest her own feed. This is especially true when it involves harvesting grass through the vagaries of the Scottish climate as the Ayrshire traditionally did. There is also a big difference in the physical type of cow that you get by selecting those best adapted to consuming harvested feed in a climate-controlled building. Modern Holstein cows easily weigh 50% more than old-fashioned Ayrshires for a start, and seemingly cannot tolerate rain either. Apparently oblivious to these fundamental differences, Ayrshire breeders decided to integrate some Holstein blood into their cattle. I remember quite a controversy at Scotland's leading agricultural show one year when the Ayrshire cow winning her breed championship was revealed to be the dam of the heifer winning the Holstein breed championship the next ring over! The exhibitor of both was no less than the then President of the World Association of Ayrshire cattle breeders and his comment was that the different phenotype and hide colour didn't matter to him as they all produced white milk! Most dairy cows in Scotland now are Holstein and they are still totally unadapted to that environment. Producers soon gave up trying to run these cows on the traditional system of grazed grass in summer and turnips or grass silage in winter. Instead, there has been a large-scale movement to confinement dairying, and many producers are even growing corn (in a climate quite unsuited to it) to add a high-energy forage component to their mainly grain-based TMR rations. Yes, the Holsteins have higher yields – but at what price did it come?

It seems that like many others in today's society, cattle breeders seek instant gratification. In the case above, higher yields were obviously sought after by the dairy farmers. Selection for higher yields from the cattle they already had would have produced that result eventually without compromising their breed integrity by crossbreeding, using cattle with quite different breed characteristics. Too often nowadays the temptation seems to be to reach for a quick fix by integrating genetics of another breed in order to change the colour, shape and size, or milk production of your cattle. The problem with this is that a breed can no longer remain what a breed is supposed to be – 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.

***Luing, commonly red or yellow, may also surprise – and delight – with mixed colours or roans***

Today, beef cattle of most major breeds are now available in the default colours of solid red and solid black, despite many of these breeds only ever having been white, yellow, or of broken colour patterns for several hundred years of their recorded history. Of course these new black and red cattle are all polled – again regardless of the fact that when their ancestors arrived in North America a few decades ago they were all horned. These cattle are often marketed as having the "convenience traits" of solid colour and polling genetics. I don't know about you, but any time I buy something marketed as convenient, it generally comes at an inflated price. I fear the price to be paid for these convenience traits down the road will be high, and we will come to

realize the huge investment of time and capital of the master breeders of the past who created and refined the breeds which today's stockmen are so quick to mongrelize.

***Climatically-adapted, forage fleshing cattle, once the norm, are now hard to find***

The way that we are headed, it would appear that you will soon only be able to buy either a red or a black "convenience bull;" the true breed parentage will be immaterial as so much crossbreeding will have taken place. Some already advocate such a policy, citing the way the hog and chicken industries have gone with their use of a standardized hybrid product. One factor that is usually overlooked is that the modern hog or chicken lives in a multi-million dollar climate-controlled barn. The beef cow, on the other hand, will presumably continue to live out on the open range or pasture and have to deal with the weather conditions that arise there. I would also be very fearful if we got to the position of having only two breeds, red or black convenience cattle, that agribusinesses like Cargill and Tyson would be very interested in buying and controlling the rights to the seedstock. Like the hog or chicken farmer, we would then be in the position of buying our seedstock from the company that would ultimately buy our finished cattle. Whereas this may have resulted in low-priced pork and chicken at the retail level, there is no indication that it has been profitable for hog or chicken farmers. This is certainly one type of vertical integration I have no interest in participating in.

One issue that I have thought a lot about without forming a clear opinion concerns "open" herd books and "upgrading" registers. Many breeds allow this practice (ours included) but I often wonder if we have strict enough rules governing this type of breed development. In Scotland, I was involved with two breeds that allowed upgrading: Luings and Galloways. In both cases, before cattle were allowed to enter the upgrading register they were inspected by breed officials to ensure they were of adequate quality but also of suitable "breed type." In Canada, it seems that most upgrading cattle are accepted into the registers sight unseen and there is no requirement for them to be of breed type. The limitation of having an inspection process like they do in Scotland is the calibre of the inspectors. If the wrong people are given the job, they can be over-zealous and only approve the type that they personally prefer or deem fashionable at the moment. It will always be a balancing act getting the approval criteria correct, yet this is crucially important in a breed with a limited gene pool.

When we started our own herd, we began upgrading quite a few females from commercial Red Angus bloodlines, mainly to expand Luing numbers more quickly using what we saw to be a complementary breed. We have now largely abandoned this program, realizing how many generations it would take to establish the level of predictability that we already have in the existing purebreds. Due to the effects of hybrid vigour and heterosis, the grade cattle we have make excellent commercial cows and we will continue to use them for that purpose. We now believe that heterosis has no place in a purebred herd, whether it be introduced by upgrading cattle or by "outcrossing" to unrelated bloodlines within the Luing purebred population.

As the saying goes, "you can't get blood from a stone" – it would also appear that you can't get a Luing from anything but a Luing! At least, not unless you are prepared to invest the time and money for several decades, aggressively selecting, culling and purifying bloodlines to bring your cattle up to an acceptable breed standard. ▣

# Association News

## Luing Semen Available

The Canadian Luing Cattle Association has for sale semen from various bulls, suitable for both purebred and commercial herds. Luing sires offer trouble-free calving with growthy, vigorous calves. For information and ordering contact Iain Aitken at (403) 843-0094 or ieaitken@hotmail.com.

## Luing Cattle for Sale

We feature the coming 2-year-old bulls in our Fall newsletter, but breeders may have bulls, females or crossbred cattle for sale throughout the year. Contact Iain for further information.

## The Annual General Meeting

of the Canadian Luing Cattle Association will be held at the ranch of Wilf Chelle at Charlie Lake, in the glorious Peace Country of British Columbia, Saturday August 1. Please contact Wilf at (250) 772-5607 to let him know your arrival time and arrangements.

***Early morning on the Medicine River Ranch, west-central Alberta***

# Getting off the Bandwagon

***AN ARTICLE REVIEW BY IAIN AITKEN***

Recently I came across an interesting article entitled "The Scrotal Circumference Bandwagon" written by Dr Bill Beal, a lecturer at Virginia Tech. University. I have highlighted some of the main points here, but you can read the original article in its entirety at http:/www.kakahuangus.com/articles_full_scrotal.html.

Much selection emphasis is currently being put on scrotal circumference by cattle breeders, but unfortunately, in Beal's opinion, the emphasis is often misdirected. Measuring a bull's scrotal circumference simply gives an indication of the available capacity for sperm production, with the common assumption being that bigger is better. The standard sought when a vet performs a bull Breeding Soundness Evaluation (BSE) is a greater than 30cm scrotal circumference, greater than 50% sperm motility and greater than 70% normal sperm. If a bull passes these standards at 12-18 months he is deemed a good potential breeder. However, it is obvious from attending sales that bulls with 40cm scrotal measurements are a lot easier to sell than ones at 35cm or less. Although larger scrotal circumference seems to suggest higher fertility, especially as better semen quality often accompanies it, it has been difficult in trials to prove consistently an increase in reproductive efficiency by using the larger scrotal circumference bulls. It seems that as long as the minimum standards of the BSE are met, the bull has every chance of being a satisfactory semen producer and successful breeder. Conversely, there is no evidence to support the idea that a bull with a 40cm scrotal measurement can breed more females or is more likely to have a higher pregnancy rate than a bull of the same age that has a 34 cm scrotal circumference. Bear in mind also that a good BSE result does not guarantee success as it does not measure a bull's libido or work rate.

The most misconstrued part of the quest for large scrotal circumference bulls is the much-touted effect on their daughter's "fertility." What this fertility boost amounts to is simply that the daughters of a larger scrotal measurement bull will reach puberty at a younger age. I was surprised to learn from the article just how little this difference actually is. It was estimated that an increase in scrotal circumference of 1cm results in daughters reaching puberty less than one day sooner (0.8 - 0.9 days/cm). So daughters of a bull with a 40cm scrotal measurement would be expected to reach puberty only seven days earlier than daughters of a bull with a 32cm scrotal. As most heifers will be bred for the first time between 12 and 15 months of age, it is likely that most will have already reached puberty and will have cycled several times before being exposed to the bull in any case. A daughter of a high scrotal measurement bull is also no more likely to conceive on her first mating than is a later-maturing daughter of a lower scrotal measurement bull. Reaching puberty a few days earlier as a heifer has no direct effect on timing of subsequent pregnancies or lifetime fertility of the adult cow.

***Bull performance is a wholistic picture: as a 2 yr-old, this bull, MRR Solomon, easily settled more than 50 cows.***

In conclusion, it would appear from Dr Beal's article that we should still seek bulls with adequate scrotal measurements and good BSE results, but putting undue selection pressure on bulls for this one trait is unnecessary. ▣

# the Canadian Luing Cattle Association

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