



## Biography:

Dr. Colin Palmer is an Associate Professor of Theriogenology (Animal Reproduction) at the Western College of Veterinary Medicine. Originally from Nova Scotia, Dr. Palmer worked in mixed practices in Ontario and British Columbia and has owned/operated a practice in Saskatchewan. Dr. Palmer along with his wife Kim and children Lauren, Emily and Carter run a herd of purebred Red Angus cattle under the KC Cattle Co. name.

## Considerations When Buying Your Next Bull

Borrowing from Harlan Hughes, beef industry economist, the single most important factor influencing the cow-calf producer's bottom line is the unit cost of production (UCOP). This is determined by dividing the total costs of maintaining the herd by the total pounds of weaned calf produced by that herd. The UCOP is often reported as dollars per 100 weight of calf which then makes it very easy to determine profitability when comparing it with market price. Simply put, producers with the greatest difference between market price and UCOP are the most profitable. Neither the lowest cost nor the highest weaning weight producer are necessarily the most profitable.

Since costs are largely determined by the number of cows, and gross income is determined by the pounds of calf sold it is logical that the most important variable influencing the UCOP is pounds of weaned calf per cow exposed to bulls. With market prices the way they are today extra pounds of weaned calf translate into huge profits real quick.

More available dollars in the beef cow-calf sector present some exciting opportunities for investment in herd genetics. Improvements in herd productivity through purchased females is very slow - bulls are by far the most effective way to introduce desirable traits into a beef herd. Selecting bulls based only on the need to get the cows pregnant is arguably a survival tactic that wasn't even defensible when our industry was on its knees. Good bulls were justifiable then and even more so today. You cannot expect your herd to perform any better than the bulls you select. Moving forward and improving on what you already have should be the goal of any business. Don't miss out on opportunity!

The compounding effect of sire selection decisions is amazing. The bulls you turned out last year will contribute half of the genetic material to the calves born this spring. Quite simple really - half from the sire and half from the dam. However, the sire, maternal grandsire and maternal great grandsire together account for nearly 90% (87.5% to be exact) of a calf's DNA. If the great grand sire was first used in 2010 and produced a crop of heifers that calved as two-year olds in 2013 there will likely be a next generation of heifers calving this spring (heifers giving birth to heifers). Therefore, in most herds a four-generation photo can be possible in as little as 5 years.

I don't think you can run any business on gut feel, intuition, or eyeballing. My mantra is you can't manage what you don't measure! Take a look at how your herd has been performing. Are your pregnancy rates, disease rates, length of calving season, proportion of weaned calves and weaning weights what you expect? Are your heifer replacements performing as good as or better than previous generations of heifers? Although many management decisions can influence these parameters your

choice of herd sires can have a tremendous affect.

Bulls with larger scrotal circumferences produce more sperm, are able to breed more cows and have daughters who reach puberty sooner and have greater lifetime fertility. Science has shown that herds with the highest reproductive performance routinely purchase herd sires with above average scrotal circumferences. More calves born during the first cycle or two of the calving season means more pounds of calf at weaning time.

Expected progeny differences (EPDs), genetic (DNA) markers, carcass evaluation data and indexes are other tools that should be used to help select bulls. Weaning weight (WW) is my favourite EPD as it is the most tangible for the cow-calf producer. Two visually identical bulls of the same breed with a 20 pound difference in their WW EPD are expected to produce calves that differ in weaning weight by an average of 20 lbs. The birth weight (BW) EPD should also be considered. Birth weight, WW and yearling weight (YW) are highly positively, correlated. Birth weight is the biggest single predictor of dystocia and more calves are lost at or around birth than at any other time. Remember, a big calf won't be worth much if it is dead. Bulls with near the top of the breed WW EPDs, but with average or below average birth weight EPDs are becoming more prevalent. The calving easing (CE) EPD should also be examined and remember that EPDs become more accurate as performance data from progeny and other relatives is included in the calculation. Look at breed averages to see how your potential purchase stacks up. Indexes are also useful as they lend credence to the EPD's - animals with the highest weaning weight and yearling weight EPDs within the herd should have the highest indexes for that trait.

A useful exercise for any herd that purchases registered bulls is to look up the current EPDS through the breed association website for bulls that you have used in the past. Check out how they rank in comparison with the breed average for various traits you may be interested in. Because our cattle are improving each year a bull that was superior for a trait 10 years ago may be just average today, but more importantly the EPD information and your herd performance records may help you decide what traits you may want to strengthen. I recently looked up a very influential herd sire that was born 25 years ago and was pleased to see that he still ranked well above breed average for weaning weight, yearling weight and milk.

So ... if reducing your Unit Cost of Production and maximizing your profitability interest you then using a few tools to help you select superior herd sires can pay off handsomely. Improving the genetics of your herd through bull purchases is kind of like picking low hanging fruit - lots in the basket for relatively little effort.