Holistic Medicine...

It isn't just the market you seek to supply, the environment you operate under, or the base genetics of your cowherd. A holistic approach to sire selection considers all of this and more, and is the prescription for sustainable profitability in the cow/calf sector.

Most beef industry economists often get around to the fact that being a "low-cost" producer is key to survival in the cow/calf business. Ironically the same research that has led to that observation usually shows that genetics (bulls) is the only area where low cost producers spend more money than high cost producers.

As the calendar turns to another year, Spring calving is right around the corner. In some parts of the country calving may be only weeks away, while some operations wait for green grass and warmer weather. Regardless of its starting date, once calving begins, cows must be rebred in 90 days, or next year's crop will arrive later in the year. And, the sooner you finish calving - the more uniform calf crop you will market in terms of age and weight. Since uniformity is a significant concern influencing the value of one's calf crop; it is always wise to address the reproductive potential of the bull battery prior to breeding season. A sound, athletic and virile bull battery will go a long way toward achieving uniform rebreeding and subsequent calving seasons.

In addition to maintaining the beneficial reproductive status of your cowherd, the bull battery is the primary driver of the herd's genetic improvement. Yes, it's true that a cow contributes 50 percent of the genetics of an individual calf, but it is far easier and more cost efficient to affect genetic change by upgrading four range bulls versus the 100 +/- cows they service. Also, by the time producers cull open and/or unsound cows, the need to maintain critical mass limits the opportunity to cull solely for genetic improvement.

The extent and duration of a bull's impact is significantly increased for producers who retain ownership, especially if they market on a value-based grid, and even more so for those who raise their own replacement females. In these cases, the traits considered in selection must be expanded to account for the different market endpoints. The bottom line: the longer you own the results of your sire selection the longer you live with your decisions and the greater those decisions impact your operation's profitability.

Identify the symptoms...

First, consider the methods employed to market your cattle, and then factor in the environmental and management limitations your herd must live within. Now, consider the genetic base of your existing cowherd as one of the fixed constraints you work with. Understanding the traits needing improvement to be successful in both your market and environment will help lead you to consistently advantageous sire selection. Here are some examples of how marketing, base genetics, and environment should be evaluated simultaneously when making bull purchase decisions.

A cow/calf operator with baldy (Angus x Hereford) cows who

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sells feeders in October wants to sell the most pounds of valuable 3/4 Angus calves. Obviously, weaning weight is the primary trait of economic relevance? Not so Fast! Suppose those baldies were all vigin heifers; then selection for added performance must be balanced against calving ease. Calves won't be able to express that extra growth unless they are born alive. Fortunately, Red Angus sires come complete with genetic predictions (EPDs) for both birth weight and more importantly Direct Calving Ease (CED). These EPDs can be used in conjunction with weaning weight EPDs. Thus, cow/calf producers can ensure that their selection for weaning weight isn't actually costing them money in calves that never make it to market.

Another rancher backgrounds calves and sells them as yearlings. They probably put less emphasis on weaning weight. They know that if the calves are too heavy they won't be as attractive to a feeder because they will finish later and heavier. Potentially, this producer may suffer from heavy weight carcass discounts, and/or cattle that finish too late to hit the seasonal high spring fed cattle market. Often producers with this type of marketing strategy may place an upper limit on growth EPDs - especially if the base cows have some continental breed influence.

If the same producer retains ownership and markets on a value based grid - such as Angus America - then they will likely be more interested in selection for carcass traits. Understanding the

strengths and weaknesses of the cowherd will allow the producer to select bulls better suited to breed away from carcass discounts, and produce progeny more capable of hitting carcass premiums. For instance, if the base cows are higher percentage Continental, and/or have historically suffered from a low percentage choice, selection of Red Angus bulls with higher marbling EPDs should prove beneficial. Another consideration that works with the inherit marbling ability of the calf crop, is the frame and mature size of the cowherd.

Now, if this producer who retains ownership and feeds their crop as calf feds has a cow herd built with large framed, high growth genetics, then the increased emphasis on marbling may need to be coupled with selection for moderation in size and growth. Allowing for calves that mature a little earlier to express their marbling genetics during the high fed cattle market while avoiding heavy carcass discounts.

Another producer may have a cowherd that includes lighter muscled breeds. In that case, selection for higher rib-eye, lower back-fat Red Angus bulls can help avoid YG 4 discounts. The 2008 Red Angus Sire Summary includes bulls capable of making significant improvements in marbling or rib-eye, as well as sires that are quite proficient in both. Sons of these superior Red Angus carcass sires will be available in quantity across the country this spring.

Red Angus is a maternally efficient breed, so it is only logical that producers build replacement heifers from Red Angus sires. However, they need to pay particular attention to their environment. The replacements they keep should be productive for many years to come, and it is important that the heifers retained grow into cows suited for their working conditions. It takes more than milking ability to make a profitable beef cow. Fertility, feed efficiency, mothering ability, and longevity should exist mutually in a productive, efficient and low maintenance beef factory. Red Angus aids in this selection process as the only breed to completely describe reproduction through EPDs. Genetic Predictions for Direct Calving Ease, Heifer Pregnancy Rate, Daughter's Calving Ease and Stayability measure economically relevant reproductive traits from unassisted birth to productive lifespan.

The Cure for High Feed Costs...

Areas of the country with minimal rainfall and scarce or poor quality feed may be concerned with feed requirements of higher growth and/or heavier milking cattle. Red Angus launched the industry's first Mature Cow Maintenance EPD in Spring 2004, marking the first effort to look at the expense side of a rancher's profit equation. Red Angus gives producers an opportunity to see how much energy is required for extra growth and milk. Purchasing sons of bulls with lower maintenance energy requirement EPDs can help develop cowherds suited for harsher environments.

The choices made through sire selection reflect desired levels of selection pressure to achieve preferred directional genetic change. It is only through selecting sires that are genetically varied from the target cowherd that changes in required traits will be realized in the herd's subsequent calf crops. Also, producers should remember that genetic variation within a breed for given traits is often as great as the variation between breeds. The previous examples show situations where producers' sire selections exhibit the additive effect of the variation within Red Angus sires selected, plus the breed difference (or variation between sire breed and cowherd breed).

Red Angus' EPDs...the best medicine.

One of the challenges presented to bull buyers is that of sorting through an abundance of data, and eliminating information that does not assist in locating bulls capable of meeting their breeding goals. Many bull suppliers provide individual animal weights; others combine the weights with contemporary group ratios to establish rankings within calf crops or management groups. Most provide Expected Progeny Differences (EPDs), which may be used to compare potential sires' genetic potential across herds and environments. EPDs are the most accurate selection tool, because they include not only the individual bull's performance and how he compared to his contemporaries, but also comparative performance of his close relatives such as siblings, parents, grandparents, etc. Red Angus EPDs are the industry's most reliable as they include 12 years of data collected through Total Herd Reporting (THR). THR requires that the perform-

ance (through weaning) of every calf be reported as a requirement for registration. Furthermore, every cow on active inventory must report progeny...even dead ones...annually to remain active. Thus Red Angus EPDs are built on complete contemporary group data...not just the calves good enough to register. Red Angus breeders are armed with selection tools to make more accurate breeding decisions, and in turn are able to provide a more reliable genetic product in the form of a range bull to their commercial customers.

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Bull buying season is upon us. Performing that task well can be summarized in these three steps.

1. Know the markets you wish to hit: feeder calves, yearlings, value based grids, replacement females.
2. Have a true appraisal of how close your cow herd is in the traits required to hit those market targets - understanding that your cows have to continue to live and reproduce within your environment.
3. Identify Red Angus bulls whose EPDs predict the ability to move your cow herd in the right direction for the traits required to hit your desired market endpoint, and function efficiently in your environment.

This holistic approach to selection evaluates individual traits as part of the whole (how they function in a ranch's production environment, fit the marketing plan, complement the base cow herd), and may prove to be the best medicine to achieve herd-wide goals. ■