



# Target Terminal and Maternal Opportunities

Select bulls and utilize crossbreeding to capture terminal and maternal attributes.

by **Bruce Derksen**

References to terminal and maternal sires still evoke puzzled expressions. Their ranking of importance to some cow-calf producers' breeding strategies is still unclear. Definitions from years ago simply connect a terminal mention with a Continental breed and a maternal one with a British breed.

These breed-based models were common in the 1980s and '90s, but terminal- and maternal-oriented sires are not limited to specific breeds.

## Terminal and maternal defined

Terminal sire qualities predominantly support traits targeting the feedlot and packer. These traits include growth, frame size, carcass marbling and yield. Tunnel vision zeroes on marketable traits that are appealing to finishers and packers.

Maternal sire qualities predominantly support traits aimed at the cow-calf operation: calving ease, birth weight, milking ability, longevity, feet and legs and

reproductive fertility. Blinders often block downstream market opportunities and target the integrity of the females.

Eric Mousel, regional beef Extension educator at the University of Minnesota, says genetic packages today from all the major breeds are much more diverse.

"Individual sires can be selected from pretty much any breed to match the goals of all variations of producers," he says. "I don't think the target needs to be limited to one end of the spectrum or the other."

## Hold center

Excessive risk exists when bulls are selected close to either side of the terminal and maternal scale, Mousel believes.

"If the calves are only marketed through the local sale barn, it is hard to get paid for the risk taken with a terminal system in this situation. Some years the payoff might be lucrative, but a lot of years, it is a wash."

Producers selecting predominately terminal traits can let excessive frame size become dominant.

"Cows can certainly be made bigger if that is the goal. Sometimes, people start thinking, 'If this much is good, then a lot more should be better.' Well, not necessarily. There is a lot of diverseness in the genetic pool and the extensive data to go with it, but there is also a happy medium. It is something to watch for and be aware of. Disciplined selection of females is important."

Likewise, selecting bulls with disproportionate maternal traits also leads to unnecessary risks, according to Mousel. If the focus is filling the roster with maternal heifers, he believes producers sacrifice too much profit, even if they try to hit the replacement market consistently.

"I would steer away from that type of thinking. Always selling replacement heifers might work out two years of every 10, but it is a risky situation. Demand for

those females is all over the board, and it is hard to consistently hit the market for them.”

### Consider a basic approach

Mousel understands operators need to be aware of their eventual markets but encourages them to take a basic approach to breeding strategies unless they have nailed down a defined market for a terminal or maternal product.

All herds need to meet basic standards including calving ease, milking ability and longevity, no matter where their product is targeted. “As a cow-calf guy, those are the three things paying the bills. Find a genetic package primarily meeting those needs but also achieving some results of a more terminal sire. The difference in calves on balance is probably not great and the risk is lower.”

From the three basics, he advises pursuing traits targeted to where the calves will end up. Feedlot and finishing markets also have basic standards of operation. “They need healthy cattle to grow and grade. It is how they make their money. If I provide them with those requirements and still cover my bases on the ranch with calving, milking and longevity, I’m going to have a product that pays off pretty well.”

### Find the most desired traits

It is important to think about which traits are most desired for their operation, says Jared Decker, associate professor and Wurdack Chair in Animal Genetics at the University of Missouri.

When asked which traits are desired, Decker believes a roomful of cow-calf producers will provide plenty of different answers, but when drilled down, only one becomes obvious.

“The most important trait in beef production is profit. It is only as traits help us become more profitable that they become important. If we discuss maternal versus terminal, they are two different production systems to be profitable. They don’t have to be antagonistic.”

When compared, Decker says they generate three distinct flavors of indexes.

The all-purpose index assumes the retention of females, so it contains maternal traits and an influence of carcass and production attributes.

The purely maternal index, focused strictly on traits such as longevity, fertility and milking, is not as common and might be tricky to navigate.

Decker believes many operations underutilize the strictly terminal system. For this option, 100% of the calf crop is marketed as beef; no females are retained.

“What the terminal system allows is the opportunity to take advantage of heterosis with crossbred animals outperforming their straightbred counterparts, but also to map breed complementary. It matches the strengths of one breed with the weakness of a second and the weakness of the first breed with the strengths of the other.”

Cows grounded in maternal traits can be the foundation of a terminal-type herd and sires can be selected for growth, weaning and yearling weights, carcass grading and yield. Decker believes a crossbreeding system can be profitable.

### Identify sources of replacement females

Females come from somewhere, and he outlines some distinct choices.

Purchasing females from reputable suppliers of desired maternal crosses is an option, although not guaranteed to be obvious and easy.

Decker is aware of large operations using a version of the previously mentioned all-purpose index with heifers and 2-year-olds bred to all-purpose maternal sires. Resulting heifer calves are kept as replacements.

He notes this could be flipped on its head with the proven cows bred to a maternal or all-purpose bull and their female offspring retained.

“What a lot of producers appreciate is the simplicity that comes from identifying animals matching both the maternal and the terminal. It is harder to do, but when selection intensity is spread out and more traits are focused on, it can be done successfully.”

— Jared Decker

He adds the Premium Red Baldy tagging program — developed in partnership between the American Hereford Association (AHA) and the Red Angus Association of America (RAAA) — is full of potential. It takes advantage of crossbreeding heterosis value, and also identifies females in the top half of the AHA’s Baldy Maternal Index (BMI\$) and RAAA’s HerdBuilder Index.

“The combination presents an excellent opportunity to build genetic merit for profit,” he said.

This heifer-only program builds herd foundations around the characteristics inherited from both breeds, such as longevity, adaptability and fertility. The baldies are designed to work in varied environments and deliver excellent longevity.

Operators can purchase reputable, certified genetics in high-quality females providing extensive flexibility when choosing the direction of their terminal crossbreeding program.

Circling back to the original comparison of terminal and maternal traits, Decker believes both can be a part of the plan.

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