

Custom Fit

Herd rebuilding provides a chance to reprogram the cow herd.

by **Mark Z. Johnson, Ph.D.**

If we learn from experience, then there is some truth to the old adage that drought and hard times makes us better managers.

Many of us reduced cow herd inventories due to drought and are now anticipating herd expansion to capitalize on the bullish cattle market outlook. Now is the time to look closely at our business model; specifically, the cow herd that is our production factory. We maintain them on our grass, breed them, feed them, anticipate their next calf crop and plan their marketing. When our factory is performing optimally, in a normal production cycle, we expect each calf to offset our input costs and provide return on our investment.

If all goes well, we expect a cow to stay in production until the age of 10. Whether we buy bred heifers, cow-calf pairs or develop our own replacements, the longer a cow stays in production, the more she returns against our cost of getting her into production.

Optimizing cow performance

What type of cow is most likely to wean a calf every 12 months year after year? A cow that fits our production environment with respect to her mature size, level of milk production and reproductive efficiency.

If you culled cows the past few years, most likely they were the biological extremes (too big or too much milk) that didn't fit your operation's production environment; they were open and the first to go. As we look to the future, seize the opportunity to repopulate with cows that are the best fit for your production system and intended

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Replacement Heifer Management Considerations

Now is the time for spring-calving herds to make selection decisions and implement management practices aimed at keeping the right heifers and putting them on track to calve at 2 and then become productive cows.

Developing replacement heifers so they achieve 65% of their mature weight by 14-15 months of age is typically considered a best-management practice.

Research indicates 90% or more heifers reaching this target weight will be cycling at the beginning of breeding season and on target to calve at 2 years of age. Conversely, research indicates only half will be cycling if heifers achieve 55% of their mature weight by 14-15 months of age.

Obtaining the average weight of your cows — 4 to 7 years old — when you wean calves this fall is the most effective way to estimate the anticipated mature weight of replacement heifers. This enables you to establish the target weight for replacement heifers to breed quickly next spring at 14-15 months of age.

Cull open heifers early

Typically, we should expect well developed yearling heifers at 65% of their mature weight going into their first breeding season to conceive in 45-60 days. Pregnancy can be diagnosed by palpation at 60 days and by ultrasound as early as 30 days. Culling open heifers as soon as possible yields multiple benefits.

From a business standpoint, reproductive success (percent calf crop weaned) is of critical economic importance. Reproductive traits are low in heritability; nevertheless, culling open heifers will improve the genetic potential for reproductive performance in your cow herd by eliminating the sub-fertile heifers.

Culling open yearling heifers right now gives you the chance to market them as yearling feeder cattle. At this age, they still have the potential to finish out and hang the highest-value carcasses: Quality Grade Choice and Prime, "A" maturity.

Breeding heifers to calve a little ahead of the mature cow herd also is considered a best-management practice. It enables concentrating management efforts during the heifers' calving season. As important, this also gives heifers a little extra time to breed back and calve on schedule the following year. Hold your replacement heifers accountable and cull open cattle as soon as practical to save on feed bills, capture their maximum value and improve the fertility of your cow herd. **HW**

“... seize the opportunity to repopulate with cows that are the best fit for your production system and intended calf marketing plan.”

— Mark Johnson,
Oklahoma State University

calf marketing plan. If we intend to generate our own replacements, we can accomplish this through sire selection. This is the long-term solution, versus purchasing bred heifers or cow-calf pairs, which is the more immediate solution. In either case, consider the type of female that works best for you.

attainment of your breeding goals cost effectively.

Current DNA testing technology can: 1) verify parentage; 2) determine genotypes for simply inherited qualitative traits; 3) identify genes that have an additive genetic effect on the variation of quantitative, polygenic traits, which result in

higher accuracy via genomic-enhanced expected progeny differences (GE-EPDs). GE-EPDs increase the accuracy of selection for traits influenced by thousands of genes. These include traits like calving ease, weaning and yearling weights, carcass traits and maternal performance.

Moreover, determining genotypes for qualitative, simply inherited traits, when dominant/recessive gene action is occurring at a locus, can identify homozygous or “carrier” genotypes of animals with the same phenotype.

For example, the horned/polled phenotype, where the polled allele is dominant to the horned allele, means polled cattle can be either homozygous polled or heterozygous polled. If our breeding objectives include producing polled calves, parents with the homozygous polled genotype will sire and produce nothing but polled calves. Traits like coat color and most of the identified genetic defects are also inherited. **HW**

When buying bulls, evaluate the genetic potential of herd sires that will result in the type of production factory that offers the best return to your operation’s bottom line.

Identifying genetically superior animals early in life can increase selection effectiveness in your program while providing more reliable estimates of genetic potential to customers purchasing registered, pedigreed seedstock. Accuracy of selection decisions dramatically impacts how much long-term genetic improvement we will make.

DNA testing improves selection accuracy

DNA technology provides opportunity to accelerate the

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