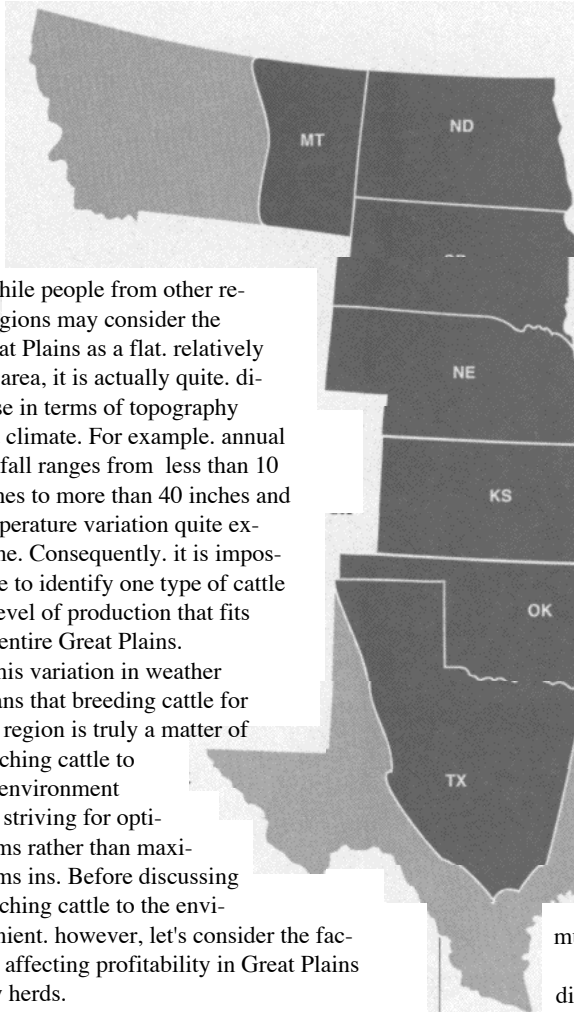


GREAT PLAINS



While people from other regions may consider the Great Plains as a flat, relatively dry area, it is actually quite diverse in terms of topography and climate. For example, annual rainfall ranges from less than 10 inches to more than 40 inches and temperature variation quite extreme. Consequently, it is impossible to identify one type of cattle or level of production that fits the entire Great Plains.

This variation in weather means that breeding cattle for this region is truly a matter of matching cattle to the environment and striving for optimums rather than maximums. Before discussing matching cattle to the environment, however, let's consider the factors affecting profitability in Great Plains cow herds.

PROFITABILITY ON THE PRAIRIE

Studies evaluating the profitability of cow herds in the Great Plains have shown that the following factors have the greatest influence:

1. Cost of Production
2. Reproductive Rate
3. Weaning Weight

During the past few years, producers have focused on improving weaning weight assuming that increased weaning weight would translate into greater profitability. However, weaning weight appears to be a distant third as a factor influencing profitability. Consequently, producers should strive to reduce costs while maintaining

high reproductive rates which is accomplished by matching the cattle to the environment or adjusting the environment.

WHAT IS THE ENVIRONMENT?

When most people consider the environment, they think of factors such as rainfall and temperature. However, the environment must be considered in the broadest sense which means it includes other factors which may be even more important than weather in establishing the "best" cattle for a specific operation. Any discussion of the environment on Great Plains cattle operation, must recognize that most cow-calf enterprises are typically part of a diversified livestock/farming operation. And in this context, it must be recognized that producers often consider the cow herd a "minor enterprise and spend a limited amount of time on management. While the wisdom of this philosophy may be debated given the investment that even a relatively small cow herd represents, the fact is most producers in the Great Plains mist' cows to take advantage of crop residue and glean some production from ground too rough to farm.

The fact that it most cost's the cow herd is not the major enterprise must be considered as part of the environment. It means that labor and/or management for the cow herd is often a major uniting factor. Additionally, a survey of commercial cattle producers in Kansas indicated that hired labor is ill short, supply. While the labor supply may not dictate the cow size anti level of milk production which best fit the operation, it does mean producers will increasingly emphasize traits which minimize labor requirements. For example, in a recent survey conducted to determine what traits commercial cattle producers emphasized in the bull selection, calving ease was the highest priority. While these producers wanted good growth, they also placed high priority on soundness and good disposition. Clearly, they wanted cattle that would perform, but they had to do so with a minimum of problems. In summary, the "environment" on each cattle operation in the Great Plains, is different when one considers weather variation, labor availability and management. This is good news considering that it means a wide range of genetics will work in the region, but it also means each producer must determine the "best" genetics for his/her operation.

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MATCHING COW SIZE TO ENVIRONMENT

No other topic generates as much discussion among cattle breeders as the "optimum" cow size. A fairly wide range of mature sizes will "work" across the Great Plains if the level of nutrition is adjusted to compensate for the change in weight. However, in the western half of the region, it is wise to keep mature size on the smaller end if, the scale since forage production is often limited. Conversely, forage production in the eastern half will generally support larger cows. However, a long-term consideration relative to cow size is the priority for carcass weights by the packing industry.

If, for example, they will be paying top price for 700 to 750 pound carcasses, then it would seem unwise to maintain large cows to produce finished cattle which will be marketed at a live weight of approximately 1,100 to 1,150 pounds.

MATCHING MILK TO THE ENVIRONMENT

While most of the discussion about optimums center., on ('Ow size, a more important. issue is milk production since increasing milk production places even greater additional nutritional stress on cows than increasing size. furthermore, most operations in the Great Plains practice spring calving which means that peak milk production, which occurs 50-70 days after caking. just precedes the start, of the. growing season for grass and breeding season. In marry cases, nutrition isn't adequate for high producing cows to both milk at a high level and maintain adequate body condition to support timely reproduction. Obviously. if producers increase nutrition management during this critical period, the high level of milkproduction isn't a problem. Bill many producers have increased the genetic potential for milk production without increasing the nutritional regime which has resulted in later rebreeding arid/or a higher percentage of open cows.

SELECTION FOR CARCASS TRAITS

Many commercial cattle producers in the Great Plains have started to emphasize carcass traits. I however, the economic importance of these traits is fairly low at the present, time. Producers should continue to locus on traits that have a major impact on profitability, such as growth, milking ability arid soundness. Certainly. the purebred industry needs to determine genetic differences for carcass traits with the goal of meeting future industry requirements, but the commercial sector shouldn't focus on carcass merit until char price differentials are established and accurate breeding values are available from purebred breeders.

IN SUMMARY

Current levels of growth arid milking ability in most breeds are adequate to meet the industry's needs. Moreover, some rattle oil the high end of the. spectrum for these traits are too extreme. Consequently. emphasis should be on "optimums" as opposed to maximums. Furthermore, purebred breeders must recognize that commercial ('attic producers want functional cattle with a minimum of' problems which means establishing minimum culling levels for such traits as udder soundness arid caking ease.

ABOUT THE AUTHOR

Danny D. Simms. an Extension livestock specialist at Kansas State University, is widely recognized for his expertise in cow-calf management. A native of California. Simms obtained his Ph.D. from Oregon State University in animal breeding. His Extension program has emphasized production and financial analysis of the cow-calf enterprise with the goal of increasing profitability, He is the co-author of eal computer ration programs and a performance analysis program for cow herds. Additionally. Ire initiated tile Standardized Performance Analysis (SPA) program developed hi' Extension in conujunction with the National Cattlemen's Association.

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