

Is breed complementarity still a thing?



Mark McCully, CEO
MMcCully@angus.org

I remember my introductory beef production classes in college, and I still have the textbooks. At the beginning of the genetics chapter was a lesson on beef breeds and the attributes of each. Exposing my age, this was in the late 1980s and early 1990s.

The breeds were divided into categories based on origin — British, Continental and American. The British and Continental breeds were distinctly different. The British breeds were more moderate-sized and tended to be more maternal. The Continental breeds were larger, heavier-

muscled and tended to be more terminal. There was quite a variation in color.

Beef Breeding 101 discussed the science and benefits of heterosis and using different breeds that complement each other, or provide *breed complementarity*. For example, a herd might use a British breed, like Angus or Hereford, for the maternal side and cross with a Continental breed, like Simmental or Maine-Anjou, for terminal traits.

While that made sense to me in the late 1980s, I question if *breed complementarity* is still as viable of a concept today. Should it instead be *genetic complementarity*?

Breeds change

During the past two or three decades, the number of relevant beef breeds has decreased. Many of the distinct breed differences have minimized or gone away entirely. The most obvious likeness today is color.

When discussing this topic in a presentation, I show a slide of nine black bulls of different breeds to illustrate this point. All nine can be found in major bull studs, but most cattlemen would be hard-pressed to accurately identify their correct breeds.

Secondly, those nine bulls, and their representative breeds, are not much different in frame size, muscling or overall type and kind. In

general, the British breeds have increased in size and muscle, while the Continental breeds have moderated.

Many of the breeds have incorporated Angus genetics, and those Angus-percentage genetics make up a large portion of their breed registry. If you have an Angus base and are seeking a breed to complement, a registered animal from a different breed may not provide the diversity in genetics it once did. Consequently, it's more important than ever to know what *genetics* you are buying and have confidence in the tools that will help you select those that best complement your herd.

Tools to define

The use of expected progeny differences (EPDs) and genomics has allowed breeders to make directional changes in their breed with far more speed and accuracy than in previous decades, when visual appraisal was the only tool available. With more than 80 million phenotypic records and 1.3 million genotypes, breeders of registered Angus seedstock have led the charge, and commercial producers using those genetics have reaped the rewards.

In general, for Angus that has meant improving calving ease, maintaining maternal function, and increasing growth and carcass merit. The U.S. Meat Animal Research Center (USMARC) Germplasm Evaluation Program has identified Angus as the heaviest weaning and yearling weight breed in the United States, outperforming the Continental breeds. It also ranks highest for marbling and quality grade.

Yet, some Angus breeders have focused their breeding program on maternal traits by keeping downward pressure on mature size while selecting for fertility, longevity, mothering ability and efficiency.

In my mind profitable beef production still comes down to balance. Keeping a strong maternal base to the commercial herd — where cows get bred early, have strong mothering ability, and stay in the herd for a long time — is vital. Just as important, producing a large pay weight of valuable pounds that work for the feeder, packer, purveyor and consumer is a crucial component of the profit equation.

While *breed complementarity* was a solid concept in its day, with many breeds becoming more homogeneous and a significant advancement in the tools and technology available to describe genetic merit, we should probably be thinking more about *genetic complementarity*.

You can complement your genetics by using EPDs and index values to find registered Angus cattle that contribute both the maternal and terminal traits needed to reach your goals. The diversity within the Angus breed is a huge benefit to commercial cattlemen. Using those diverse genetics in a well-designed breeding program is a surefire way to increase success and profits. **ABB**

Digital EXTRAs



Use these adjustment factors to compare EPDs across breeds.



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