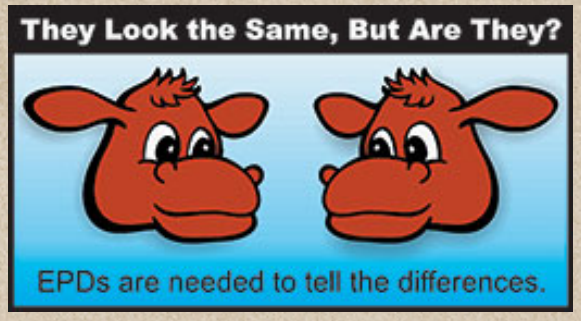
BeefTalk 634: Color-coded Data or Something Else?

SUPPORTING MATERIALS



Producers have set aside the old color-coded, breed-based management systems to focus on data instead of phenotype.

What association are you using to manage the genes in your cow-calf system? Where do we start as we come to understand the modern world of genetics?

The beef cattle industry evolved through a fairly long but fair process. The process utilized color-coded data. If there was any deviation in the colored data, secondary data such as horns, hump, hair pattern, line backs or other color patterns could be used.

For those who never experienced such data, they probably never stood ringside and heard very experienced people proclaim how beef breeding systems that utilized different colors for horns, humps and hair to guide selection techniques could be used to establish the right cattle.

Once the basic criteria was established, skeletal frame, muscling type and fleshing ability were added to make sure a marketable product would be delivered to the packer. The system worked and cow-calf producers could understand the process readily.

What was said was also visual, so the end product could be seen and even felt if necessary. In a broad sense, this system of cattle breeding still exists today. However, it is somewhat problematic because those color labels (phenotype) that were good indicators of the genotype involved are not as prevalent. The majority of cattle are now black, polled and smooth-haired. However, when looking at the hump, some regional differences still exist, particularly in warmer regions.

At the heart of historic cattle production was the knowledge that certain genotypes of cattle had very characteristic phenotypes. In other words, the genetic makeup of the cattle was stamped with obvious characteristic physical attributes.

These traits were good indicators of the cow-calf management required by the producers, as well as the associated management needed further down the beef supply chain. In addition, the market literally priced cattle based on color,

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horns, hump and hair. For example, Angus cattle were different than Hereford cattle in appearance and marketable end points. The differences brought about the expansion of sale barns that would sort cattle into uniform lots by frame and weight within phenotype.

However, crossbreeding then started. The many discussions about crossbreeding cattle essentially started with the well-known Black Baldy, which is a cross between purebred Angus and Hereford cattle. The early cross was very distinctive. The cattle were somewhat heterozygous (dominant and recessive traits) in genotype but still recognizable.

As producers, it still is fun to seek out Black Baldy cattle that are original crosses of purebred Angus and Herford cattle. The cattle still are distinct in color pattern and hair. However, those days are gone. Most of today's Black Baldy cattle have various breed makeups and have lost the "look."

Given the current mix of cattle and absence of prominent color-coded traits, the point of the discussion today is that cattle producers need to move on. Reluctantly, as evidenced by historically classifying breed types with certain production scenarios, producers have set aside the old color-coded, breed-based management systems to focus on data instead of phenotype.

In general, as producers seek new breeding stock, color, horns and hair do not say much. Rather, expected progeny differences (EPDs) within the same color, horns and hair are needed to select the right type of cows and sires. Furthermore, with experience, the same selection techniques can be used across breeds as well.

What used to be simple still is simple. However, the answer is in the eye of the reader, not in the eye of the speaker. Breed associations have made it simpler to peek inside known sires and report a better estimate of just what is the real genotype.

In years past, the color-coded, breed-based system worked, but not today. What makes today's system even more exciting is the increasing knowledge due to DNA technology. It serves to further strengthen our knowledge and understanding of young sires.

However, as one greets fellow beef producers, an early question often is: "What breed of cattle do you raise?" The real answer probably is unknown. There still are lingering breed descriptions, but the reality in the world of genetics would suggest that many producers probably have similar genetic packages. Perhaps a better question might be: "What association are you using to manage the genes in your cow-calf system?"

That seems a bit far-fetched from the early color-based, breed-based systems, but time does not stand still.

May you find all your ear tags.

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