

Experiences with Composite Breeds and Crossbred Bulls

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Although this topic is titled in your program "Experiences with Composite Breeds and Crossbred Bulls," my remarks will be based on a combination of experiences, observations, speculation, and prejudices. They will also probably consist more of what I *think* and less of what I *know*. The other two panel members will be able to speak from considerably greater "experience."

To set the stage, it is obvious to me that there is a perceived need (and probably a real need) in this part of the country for Brahman derivative crossbred bulls in commercial beef cattle operations. My remarks will be primarily directed toward the use of crossbred bulls, and not toward using composite breeds with bulls and cows of the same genetic makeup. Let's consider a list of commonly held beliefs, or "truths," used in comparing crossbreds to straightbreds. For the purpose of this discussion, we will include the Brahman derivative breeds in this definition.

These are in no particular order of importance and this list is certainly not all inclusive.

(1) *It is simpler to manage an operation using Brahman derivative crossbred bulls than it is using Brahman bulls in some kind of more complicated rotational crossbreeding program.*

This is probably true, however, replacement heifer selection is extremely important and it will likely be more difficult to maintain the effects of heterosis, particularly in mothering ability of the replacement females.

(2) *Calves sired by crossbred bulls will be less uniform than those sired by straightbreds.* There may be greater predictability from straight-bred bulls with a lot of pedigree behind them, but

I suspect we are seeing far greater variability in Florida calves from the use of multiple breeds of straightbred bulls in a program (what my friend Jim Selph refers to as the "rainbow" effect), and from *within-breed variability* than we are from the use of crossbred bulls, per se. I once heard a producer proudly proclaim that he was using 14 different breeds of bulls in his operation.

(3) *Selection pressure is more critical when using crossbred bulls.* Selection pressure is critical regardless of the breeds of bulls used. As indicated in research at Ona, when F1 Brahman X Angus were mated in an inter se breeding scheme; there was segregation in the F2 generation with some of the offspring being phenotypically more like the Brahman, some more like the Angus, and some more like the F1s. However, the segregation did not occur to the degree that might have been expected. We can probably use crossbred bulls on selected cows in a program without suffering too greatly from the problem of segregation. Again, we will not maintain the heterosis for mothering found in the F1 females.

(4) *The wider the genetic and phenotypic diversity within a cross, the more variability we can expect.* I think this is generally true. We would expect greater variation in calves from a Hereford X Brahman cross than from a Hereford X Angus cross.

(5) *The more breeds within a cross, the greater the variability.* I am not so sure about this. Once a 4-breed composite herd is established, indications are that variability is not a big problem. Much of what we refer to as variability may relate to traits that are not very significant economically, such as color and horns.

(6) Multi-generation stability assures less variability (i.e., a $3/8 \times 5/8$ individual created by breeding a $3/4 \times 1/4$ to a $1/2 \times 1/2$ is going to produce less uniformity in its offspring than an individual that is the product of several generations of breeding $3/8 \times 5/8$ to $3/8 \times 5/8$). Not being a geneticist, this does not make a lot of sense to me. However, hopefully, the product of several generations of stabilized crosses will also be the product of considerable planned selection pressure.

Generally, I think we place too much emphasis on color uniformity. I believe that, if you own your cattle through the feedlot or if you have established the performance of your cattle with a repeat customer, then color is of little importance.

We recently heard a speaker at the Cattlemen's Institute say that his calves out of $1/2$ Hereford $1/2$ Brahman cows bred to $1/2$ Red Angus $1/2$ Gelbvieh bulls performed well in the feed yard in terms of gain, feed efficiency, and grade and yield. There were some brindles and other variables in the color mix. However, he indicated that the $1/4-1/4-1/4-1/4$ composites, when bred in succeeding generations, tended to stabilize in color and were generally quite uniform.

As far as my personal experience is concerned, I have worked a good deal over the years with a producer who has extensively used home-raised crossbred bulls produced from a base herd of mostly select Brahman-Angus crossbred females bred through artificial insemination (AI) to Simmental bulls. I do not think he has experienced a reduction in overall productivity when compared to the years when he used straight bred bulls. However, he has experienced a much greater variation in color and probably some less general uniformity. Again, I believe these changes were due to the addition of another breed rather than the use of crossbreds, per se.

From my own limited experience using crossbred bulls (I have used F1 Hereford X Simmental, F1 Brahman X Angus, $3/4$ Gelbvieh X $1/4$ Brahman, and fifth generation Brangus bulls) I doubt if I can

honestly say that I have experienced any greater variability (except for color and the presence or absence of horns) from these bulls than from the straightbred bulls that I have used. Those observations are made in spite of a deeply ingrained prejudice favoring straight-bred bulls. If you want to have some fun sometime, get a panel of experts to visually identify the percentage Brahman breeding in some pre-selected calves of known percentages, regardless of whether they were sired by purebred Brahman bulls or crossbreds.

I think we are a long way from the composite breed successes that the poultry and swine industries have accomplished. There are a number of reasons why I think it will be a long time before the beef industry finds the composite breed that will fit everyone.

In any case, I think the most important factor—regardless of the breeds of bulls you use—is the job you do in selecting them. I like the idea of using half brothers that look alike produced by a breeder who has some long-term stability in his program and objectives common to mine. This, in my opinion, is how we get predictability; but it is not always an easy thing to find. I am sure you have noted a lot of however's and other "hedge" words in this presentation. You can draw your own conclusions from that since we seem to still be searching for answers to this complex topic. I strongly recommend that you obtain and read a copy of a forthcoming bulletin by Dr. Tim Olsen titled "Cross Breeding Programs for Beef Cattle in Florida" when it hits the streets.

I will conclude with a personal prejudice: If I were going to put together my "ideal" Florida commercial beef cattle herd, I would use nothing but F1 Angus X Brahman females, 5 to 12 years of age, bred to straightbred Charolais bulls. Someone else would produce my replacements and nurture them through their difficult years. In most years, I would own all the calves (heifers and steers) through the feedlot.