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Decline in Brahman Breed Influence of Beef Calf Lots Marketed by Video Auction from 1995 to 2015

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Introduction

Brahman cattle are widely known for their ability to tolerate hot and humid climates as well as for their insect and parasite resistance. An estimated 40% of all beef cows in the United States are located in the southern region, which has a relatively hot climate. Historically, many of these beef cows have had at least some Brahman influence. The opportunity to evaluate potential changes in the influence of the Brahman breed on beef calves produced in the United States was available through lots of beef calves marketed through a video auction service. The objective was to characterize the potential change in the percentage of lots of beef calves with Brahman influence among calves originating from various regions of the United States marketed through summer video auctions from 1995 through 2015.

Key words: beef calves, Brahman influence, video auctions

Experimental Procedures

Information describing factors about lots sold through a livestock video auction service (Superior Livestock Auction, Fort Worth, TX) was obtained from the auction service in an electronic format. These data were collected for lots of beef calves offered for sale during summer sales from 1995 through 2015.

The breed of lots of beef calves were categorized as English, English crosses, English-Continental crosses, or Brahman influenced. The Cochran-Armitage trend test was used to determine the presence of an increasing or decreasing trend in the percentage of lots with Brahman influence over time with a $P \leq 0.05$ considered significant.

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To determine potential regional differences of Brahman influence percentage in lots of beef calves marketed, the United States was divided into seven regions:

1. West Coast (Alaska, California, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington);
2. Rocky Mountain/North Central (Colorado, Iowa, Illinois, Indiana, Michigan, Minnesota, Montana, North Dakota, Nebraska, South Dakota, Wisconsin, and Wyoming);
3. South Central (Arizona, Kansas, Missouri, New Mexico, and Oklahoma);
4. Texas (Texas);
5. Coastal (Alabama, Florida, Georgia, Louisiana, Mississippi, and South Carolina);
6. Sub-Coastal (Arkansas, Kentucky, North Carolina, Tennessee, Virginia, and West Virginia); and
7. Northeast (Connecticut, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Vermont).

The Northeast region was excluded from this study due to few lots representing this region.

Results and Discussion

The data analyzed were collected from 171 summer livestock video auctions from 1995 through 2015. There were 80,574 lots (9,685,247 total calves) used in the analyses. There was a decrease ($P < 0.0001$) in percentage of lots with Brahman influence in the United States during the 21 years (Figure 1). Percentage of lots with Brahman influence decreased ($P < 0.0001$) in four regions: West Coast (CA, ID, NV, OR, UT, and WA); Rocky Mountain/North Central (CO, IA, IL, IN, MI, MN, MT, ND, NE, SD, WI, and WY); South Central (AZ, KS, MO, NM, and OK); and Texas (TX).

There was no change ($P = 0.30$; $P = 0.07$, respectively) in percentage of lots with Brahman influence originating from the Coastal (AL, FL, GA, LA, MS, and SC) and Sub-Coastal (AR, KY, NC, TN, VA, and WV) regions (Figure 2). We expect the relative stability in percentage of lots with Brahman influence in the Coastal and Sub-Coastal regions is likely due to producers' continued value of the breed for its adaptability to the warmer climates of these regions.

Across the 21 years of this study, between 14 and 29% of lots of beef calves marketed in summer sales through this video auction service had Brahman influence. Specifically in the Coastal region, between 89 and 98% of all lots of beef calves marketed from 1995 to 2015 had Brahman influence.

Of the 80,574 lots marketed via summer video auctions from 1995 through 2015, 68,870 lots sold. Of the sold lots, Brahman influenced lots had average price discounts of \$4.28/cwt and \$3.09/cwt when compared with English crosses and English-Continental crosses lots, respectively. During the 21 years, the smallest discount for Brahman influenced lots compared with English crosses lots was in 1996 at \$1.93/cwt and when compared with English-Continental crosses lots, in 1997 at \$1.45/cwt. The greatest price discount for BR lots was in 2014 at \$7.01/cwt and \$5.11/cwt compared with English crosses and English-Continental crosses lots, respectively.

Implications

The percentage of lots of beef calves with Brahman influence marketed via summer video auctions appears to be decreasing in the United States. However, it has remained unchanged in the Coastal and Sub-Coastal regions where Brahman influenced calves are adapted to the warmer, more humid climates. The decision to utilize the Brahman breed is a decision made by producers, likely evaluates trade-offs of cattle performance and value to best fit their operation.

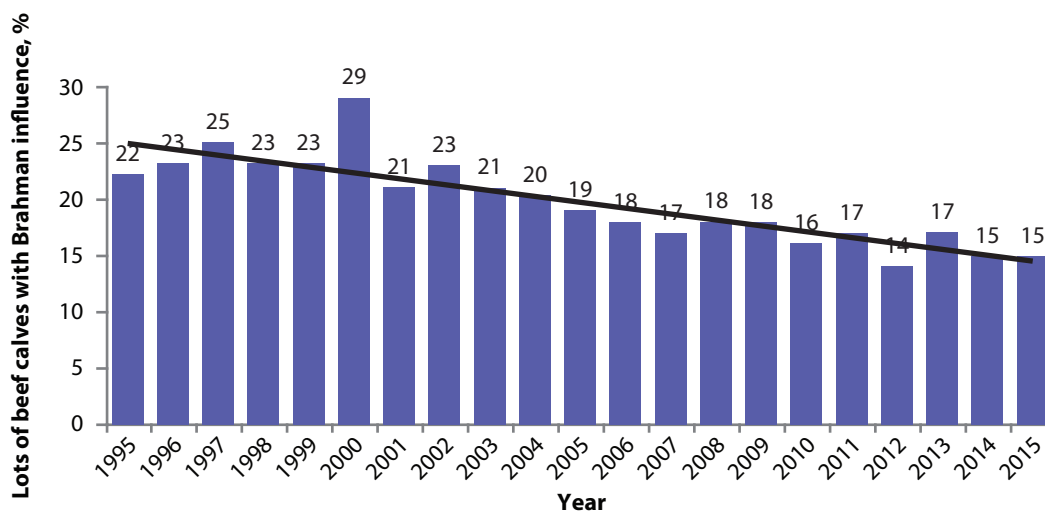


Figure 1. Percentage of lots of beef calves with Brahman influence decreased in the United States from 1995 through 2015 ($P < 0.0001$).

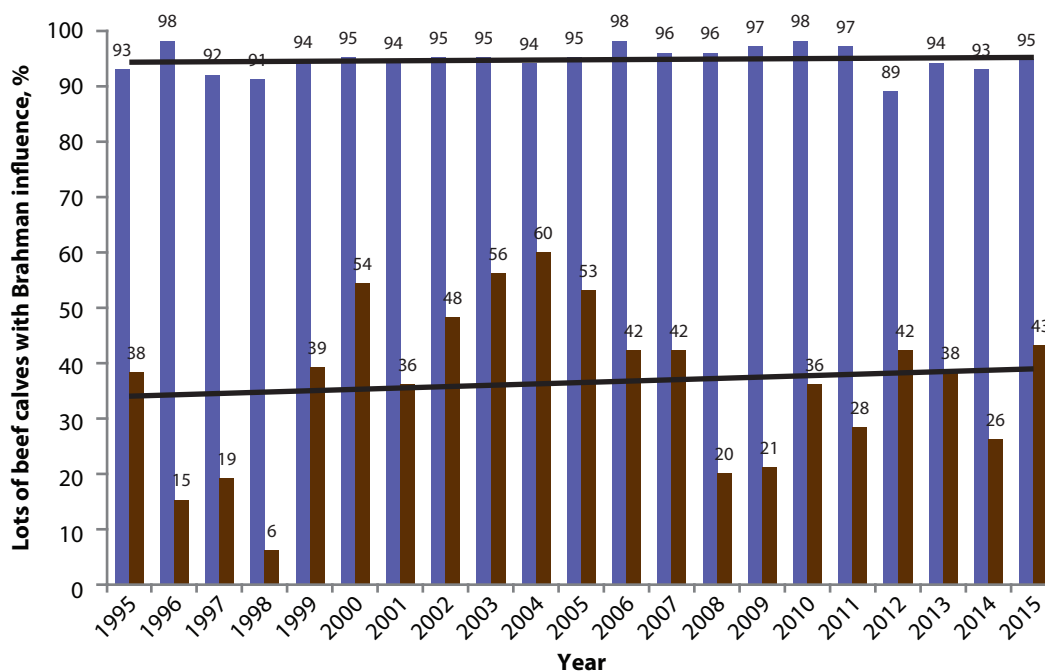


Figure 2. Percentage of lots of beef calves with Brahman influence from 1995 through 2015. The percentage of lots of beef calves with Brahman influence from the Coastal region did not significantly change (\bullet) ($P = 0.30$). The percentage of lots of beef calves with Brahman influence from the Sub-coastal region did not significantly change (\blacksquare) ($P = 0.07$).