

Cow Efficiency Measured by Performance

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What defines an efficient cow? What criteria should a beef producer evaluate to measure cow efficiency? These are complex questions. Performance records are the first step to know how a cow has performed in our herd. If we don't measure performance, how can we evaluate it?

The mission of the Alabama Beef Cattle Improvement Association (BCIA) is to promote, educate and facilitate the use of beef cattle performance data and record keeping. Alabama BCIA assists its members in applying performance records by providing the BCIA Commercial Record Keeping Program. In 2019, the Alabama BCIA Performance Advocate Program was created to encourage growth in record keeping for further evaluation of whole herd performance. This program recognizes data collected in the following areas: breeding, pregnancy percentage, calf adjusted weaning weights and ratios, mature cow weight at calf weaning, yearling weights and ratios for replacement heifers and herd health.

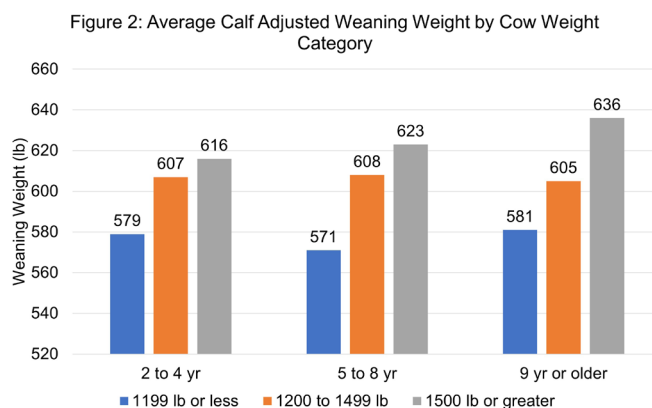
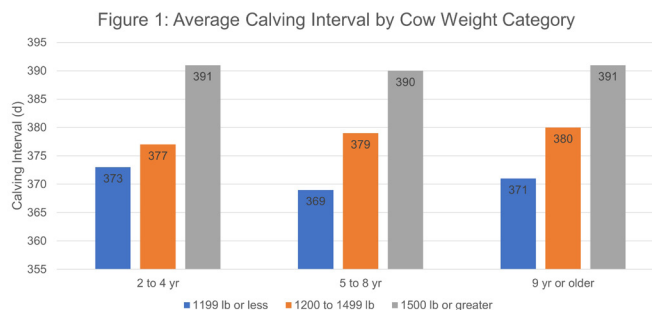
How can we measure cow performance with record keeping? Recording cow and calf birth dates, calf weaning weights, and cow weight at weaning provides information to do so. Cow performance can then be evaluated by specific measurements such as average calving interval, calf adjusted weaning weight, and percent cow body weight weaned. An average calving interval, or the average number of days from one calving to the next, is ideally 370 days or less. Optimal average calf adjusted weaning weight is established on an individual herd basis. Comparing cow weight to calf weaning weight shows the percentage of pounds of calf a cow is producing.

From 2019 to 2023, 10 cattle operations within the Alabama BCIA Performance Advocate Program annually collected individual cow weight at calf weaning for a total of 1,430 cows across these 5 years. Cow weight was classified into three categories as small (1,199 lb. or less), moderate (1,200 to 1,499 lb.) or large (1,500 lb. or greater). Cow age was also grouped as 2 to 4 years old, 5 to 8 years old and 9 years and older.

Within each age range and weight category, cow performance was measured by cow body weight and age relationship, average calving interval, average calf adjusted weaning weight and percentage cow body weight to adjusted calf weaning weight. Overall, average cow body weight was 1,307 lb., with a 377-day average calving interval and 600 lb. average calf adjusted wean-

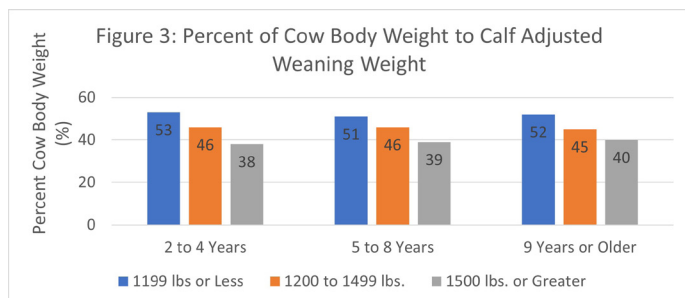
ing weight. Across cow weight categories, average cow weight and number of cows per category resulted in small 1,117 lb. from 396 cows, moderate 1,336 lb. from 859 cows, and large 1,592 lb. from 175 cows. The moderate cow weight category was the most represented at 60%, with the small category at 28% and large at 12%.

Across cow age categories, only slight differences were shown. Across cow weight categories, average calving interval increased as cow body weight increased, as shown in Figure 1. Regardless of cow age, the large cow weight category maintained average calving intervals 13 to 14 days longer than the overall average of 377 days, also shown in Figure 1.



As cow body weight increased, regardless of cow age, average calf adjusted weaning weight also increased by 50 lb. from the small to large cow weight categories, 32 lb. from small to moderate, and 18 lb. moderate to large, displayed in Figure 2. Comparing calf adjusted weaning weights across cow age and

body weight categories, modest differences between the moderate and large categories were found, as also displayed in Figure 2. The relationship between cow body weight and calf adjusted weaning weight was very low. As cow age and weight increases, the percentage of cow body weight weaned decreases, demonstrated by Figure 3.



Complementing genetics to the production environment is critical to achieve optimum herd performance. For improved genetic selection, metrics such as cow body weight and its relationship to average calving interval, calf adjusted weaning weight, and percent cow body weight to calf adjusted weaning weight are viable to evaluate a cow's efficiency within her production environment, which is a balance of the environment, management level, and her genetics.

Overall management practices can also be enhanced with the collection of cow body weight, which improves accuracy in estimating of stocking rates, hay and supplementation needs,

vaccine and medication dosage, economic analysis, and more. Collecting cow weight aids in more precise planning to meet cow nutritional needs for optimal performance and efficiency.

Take Home Message


Collecting cow weight at calf weaning and measuring its impact provides more knowledge for genetic selection to strive to improve cow efficiency within a herd's production environment. How do you know what average cow weight is the best target for efficiency in your production environment? Collect and measure performance to find out.





This article is furnished as a producer-directed goal of the Alabama State Checkoff. For more information on how beef checkoff dollars are working for you, contact the Alabama Cattlemen's Association at 334-265-1867 or visit our website at www.bamabeef.org.

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