

BeefTalk: With Cow Size, One Can't Forget Production Potential

Percentage of Cow Weight Weaned Percentage of Cow Weight Weaned
What size cow is right?

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The Dickinson Research Extension Center recently established two sets of cattle based on body weight. Since the year was dry, the cow size question came up quickly. What size cow is right? How does one measure inputs versus production?

These two herds (groups) of cattle were weighed in the late fall or early winter. The difference in weight was 355 pounds.

The first herd of 52 cows averaged 1,216 pounds (856 to 1,395 pounds). The second herd of 50 cows averaged 1,571 pounds (1,350 to 1,935 pounds).

Earlier discussion detailed the difference in dry-matter intake for these two groups of cows. Projections were shown if the groups were placed in confinement on June 1 when the calves were approximately 3 months old and fed during the summer until the end of September.

The 1,216-pound group of cattle, with milk production estimated at 20 pounds peak, would have an average daily need of just less than 28 pounds of dry matter of a ration that was 60 percent total digestible nutrients and 9.8 percent crude protein. The 1,571-pound group of cattle, with milk production estimated at 20 pounds peak, would have an average daily need of just less than 34.5 pounds of a daily dry matter of the same ration.

By placing the two groups of cows on pasture, with normal forage production in southwestern North Dakota, the land mass required for a group of 50 cows weighing 1,216 pounds would be 529 acres. A group of 50 cows weighing 1,571 pounds would require 642 acres.

The heavier cows would require approximately 23 more tons of feed in a dry lot for 4.5 months. On pasture, the heavier cows would need approximately 113 more acres.

Does the output of the larger cows justify the extra nutrition? That is not an easy question because cow age and other factors need to be considered when calf production is estimated.

However, some idea of potential production from these two groups of cows can be estimated. For instance, since cows tend to reach peak calf production around 5 years of age, the actual previous calf production of the cows in each group could be utilized to estimate this year's production.

Performance records of body weight at weaning of cows aged 5 to 9 years and their respective calf's weaning weight were pulled and evaluated.

The older cows in the first group (current winter weight 1,216 pounds), averaged 1,272 pounds in the fall and weaned 602-pound calves, or 47 percent of their body weight. The heavier group of cows (current winter weight 1,571 pounds), averaged 1,463 pounds in the fall and weaned 603-pound calves, or 42 percent of their body weight.

This data trend was further examined by finding the percentage of cow weight weaned in all mature cows in the center's herd data system. The data evaluated actual weaning weight of calves and mature cows with calves of both genders.

Percentage of Cow Weight Weaned				
Weight Range (pounds)	Number of Records	Average Calf Weaning Weight	Average Cow Weight at Weaning	Percentage of Cow Weight Weaned
Less than 1,300	37	617	1,242	50%
1,301 - 1,400	39	611	1,357	45%
1,401 - 1,500	38	589	1,456	41%
1,501 - 1,600	33	598	1,549	39%
Greater than 1,600	22	572	1,698	34%

Based on performance records when 5 to 9 years of age for the Dickinson Research Extension Center cows enrolled in the North Dakota Beef Cattle Improvement Association's CHAPS programs.

All the cow records were allotted to 100-pound increments and weaning percentages were calculated. The 12-weight or lighter cows weaned 50 percent of their fall weight (1,242 pounds) with 617-pound calves.

Thirteen-weight cows weaned 45 percent of their fall weight (1,357 pounds) with 611-pound calves. Fourteen-weight cows weaned 41 percent of their fall weight (1,456 pounds) with 589-pound calves.

Fifteen-weight cows weaned 39 percent of their fall weight (1,549 pounds) with 598-pound calves. Those sixteen-weight and above cows weaned 34 percent of their fall weight (1,698 pounds) with 572-pound calves.