

BeefTalk: Expect to Hang Two-thirds of the Cow's Weight on the Rail

Assuming carcass quality is the same, then acceptable carcass quantity is achievable across a large range in cow weights.

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I enjoy pondering over numbers collected from the Dickinson Research Extension Center beef herds.

One number I ponder over, for example, is cow size and how it relates to carcass size. Just like the industry, the discussion of cow size is complex, and pondering includes searching for ways or numbers that help me understand and ultimately explain the impact of cow size within the industry.

Ultimately, the producer decides what gate to open and what bull to buy, and entwines all the pieces into a cow-calf operation.

We do know that carcass size is very relevant because it is a driver of income. Recently, the center dispersed two cow herds due to the lack of feed. The long-term essence of these two herds was a targeted 300-pound difference in the average body size of the cows.

Through time, the "range" herd had an average mature cow weight of 1,295 pounds. The "beef" herd had an average mature cow weight of 1,522 pounds.

The most recent live-finish weight and carcass data from the steer calves from these two herds were interesting. The "range" steers had an average weight of 1,456 pounds at harvest, yielding an average carcass weight of 872 pounds. The "beef" steers averaged 1,751 pounds, with an average carcass weight of 1,050 pounds. These are some good numbers to ponder.

What percentage of the cow's weight ended on the rail? The "range" cow had 112 percent of the average cow weight marketed as live weight and 67 percent as carcass weight. The "beef" cow had 115 percent of the average cow weight marketed as live weight and 69 percent as carcass weight.

Essentially, steer calves finished from 112 to 115 percent of their mother's weight, with the potential to put two-thirds of their mother's body weight on the rail. That's worth pondering and expanding our thoughts on carcass weight.

Searching historical carcass weights, a range between 600 and 900 pounds most often comes up. Using those numbers, for carcass weight between 600 and 900 pounds, the anticipated cow weight, using the center's "range" herd, would be between 900 and 1,350 pounds. Historically, I did not find any major discounts related to carcass weight between 600 and 900 pounds, a distribution the "range" herd fit.

For heavier carcass weights, an average of 1,000 pounds, the cows would be anticipated to weigh just under 1,500 pounds, using the center's "beef" cows. Pondering these numbers is a good thing and certainly

Images

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Range Herd			Beef Herd		
Average Mature Weight	Average Steer Finish Weight	Average Carcass Weight	Average Mature Weight	Average Steer Finish Weight	Average Carcass Weight
1,295 pounds	1,456 pounds	872 pounds	1,522 pounds	1,751 pounds	1,050 pounds
	(112% of cow weight)	(67% of cow weight)		(115% of cow weight)	(69% of cow weight)

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interesting.

Assuming carcass quality is the same, then acceptable carcass quantity, that being carcass weight, is achievable across a large range in cow weights.

To stay in a normalized range - 600 to 900 pounds carcass weight - cows weighing 900 to 1,350 pounds fit commercial production. As cow size creeps over 1,400, heavier carcass weights result, which could trigger discounts, depending on the current demand and market specifications.

I pondered the meaning of this. Let's say a cow calf-producer has land ecotypes and grass that will stock 50,000 pounds of cow weight plus a calf. The actual acreage required is location-dependent.

The number of cows the acreage can support was calculated using a metabolic weight with the assistance of Chip Poland at Dickinson State University. The number of 900-pound cows on the acreage would be 54; 1,000-pound cows, 50; 1,100-pound cows, 47; 1,200-pound cows, 44; 1,300-pound cows, 41; 1,400-pound cows, 39; 1,500-pound cows, 37; 1,600-pound cows, 35; or 1,700-pound cows, 34.

Now this is where the pondering really gets interesting. Center data show that 50,000 pounds of cow has the potential to put 33,500 pounds of beef on the rail (assuming steers and 67 percent of cow weight). So, regardless of cow weight, the same amount of beef ends up on the rail when the steers are managed to a similar U.S. Department of Agriculture yield grade.

Remember, if a producer maintains and stocks cows averaging more than 1,400 pounds, the potential for historical carcass discounts exist, most certainly at cow weights exceeding 1,500 pounds.

Center cattle have shown that as cows got heavier, the heavier carcass weights more likely will have larger rib eyes, less 12th-rib fat and lower marbling scores. As cows got lighter, the carcasses more likely will have higher marbling scores and larger rib-eye area per 100 pounds of body weight. Interesting!

Now, convert this thought to a "per head" ponder and compare approximate center cow weights that have a targeted difference of 300 pounds of body weight on average. When stocking with 47 1,100-pound "range" cows, an anticipated 25,145 pounds of calf would be produced (47 calves at 535 pounds at 7 months). While stocking with 39 1,400-pound cows, production would be 24,921 pounds of calf (39 calves at 639 pounds at 7 months). Interesting!

As far as the world goes, both groups, managed correctly, fit the industry. Producers should ponder appropriate cow size for their operation.

May you find all your ear tags.

For more information, contact your local NDSU Extension Service agent (<https://www.ag.ndsu.edu/extension/directory>) or Ringwall at the Dickinson Research Extension Center, 1041 State Ave., Dickinson, ND 58601; 701-456-1103; or kris.ringwall@ndsu.edu.

NDSU Agriculture Communication - March 1, 2018

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Attachments



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