

BeefTalk: Pounds of Calf Weaned per Acre



Pounds of Calf Produced Per Acre

The pounds of calf weaned per acre is key to the evaluation of any cattle system.

By Kris Ringwall, Beef Specialist

NDSU Extension Service

This Beeftalk concerns pounds of beef produced per acre utilizing two different types of cattle to help demonstrate what pounds of calf weaned per acre means.

The information presented, at this point, is an example of production data reflecting pounds of calf weaned per acre. For this article, I will not expound on marketing options.

Pounds of calf weaned per acre is a critical measurement in the commercial cow/calf operation. Unfortunately, the calculations seldom are made. Most producers appreciate the concept, but convenient processes are not readily available to measure pounds of calf weaned per acre.

Cattle may graze multiple pastures and pasture inventory may change during a season, plus all calves need to be weighed, making the collection of the needed data difficult. But the concept is real, and developing management and genetic programs that allow producers to better manage pounds of calf weaned per acre would be a very positive step for beef producers.

To help understand the concept, I would like to utilize two herds that are in residence at the Dickinson Research Extension Center (DREC) and also introduce the concept of cow size into the discussion. The herds are referred to as the "beef" herd and the "range" herd.

Utilizing the 2014 CHAPS (Cow Herd Appraisal of Performance Software) production records, a fair description of the two herds can be developed: The beef herd cows averaged 1,490 pounds at weaning; the range herd cows averaged 1,140 pounds at weaning. Granted, these are fall weights and will be used to estimate spring grass turn-out weight because the center does not weigh cows in the spring during calving. The two cow herds differ in cow weight by 350 pounds.

In terms of the pastures - the land base these cattle are grazing - the beef herd and the range herd have separate pastures. For the purpose of this BeefTalk, we will utilize 1,280 acres, with each pasture being one section of land (640 acres). Both groups of cattle graze native range for 4.5 months.

The DREC ranch headquarters are at Manning, and the pasture stocking rate is 2.2 acres per AUM (animal unit month). One AUM is equivalent to a 1,000-pound cow grazing for one

month. Therefore, each 640-acre pasture would support 64 to 65 cows (640 acres divided by 2.2 acres per AUM divided by 4.5 months) at 1,000 pounds per cow for 4.5 months of grazing. The total cow weight turned out on June 1 would be 64,646 pounds (64.646 cows times 1,000 pounds) for each pasture.

To help further understand the meaning of pounds of calf weaned per acre, I will use the beef and range herds to expand the concept because the two herds, as noted before, differ in mature cow weight by 350 pounds. The actual number of cows stocked on summer native range pasture will be determined by the average cow weight for the beef and range herds.

The beef herd could stock 43 to 44 cows (64,646 pounds divided by 1,490 pounds of average cow weight) on the pasture, while the range herd could stock 56 to 57 cows (64,646 pounds divided by 1,140 pounds of average cow weight).

Each herd was calved on crested wheat pasture during May, with native range turnout for 4.5 months of summer grazing at the start of June, followed by fall aftermath grazing from mid-October to mid-November while managing the cows for weaning. The calves were weaned in early November.

Using the more conservative number, 43 beef cows were sent to native grass pasture and weaned 43 calves that averaged 540 pounds at 164 days of age. Likewise, 56 range cows were sent to native grass pasture and weaned 56 calves that averaged 485 pounds at 176 days of age.

Because the age was not the same, the beef calves' weight per day of age was 3.29, so adjusting the calves to a common age of 170 days of age, the beef calves would have been estimated to weigh 559 pounds. The range calves' weight per day of age was 2.75, so adjusting their weight to 170 days of age, the range calves would have been estimated to weigh 468 pounds.

The beef herd weaned 24,037 pounds (559 pounds times 43 calves at 170 days of age) of calf, or 37.6 pounds per acre. The range herd weaned 26,208 pounds (468 pounds times 56 calves at 170 day of age) of calf, or 41.0 pounds per acre.

Although one is tempted to discuss the efficiency of cow size, that discussion is very complicated and for today, let us simply appreciate the number of pounds of calf weaned per acre, knowing that pounds of calf weaned per acre is key to the evaluation of any cattle system.

Ultimately, calf value and costs also must be included. Because land drives the cow/calf business, efficient production of high-dollar calves is crucial.

May you find all your ear tags.