

## Beef Cows are What They Eat

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The beef cow never was intended to lead a pampered life. A beef cow is a ruminant animal specifically designed to convert fiber or other low-quality plantlike materials into products edible, or at least usable, by humans.

Depending on economic or production situations, the quality of feed materials available for the beef cow can vary widely, but producers must remember that the cow can exist on low-quality roughage when necessary.

Feeding a beef cow requires a basic understanding of the cow's requirements. Once the basic understanding of one cow is appreciated, then mathematics will be used to determine the amount of feed needed by a producer to meet the nutritional needs of a cow herd during the winter.

During a normal year, a beef cow doesn't need supplemental feed if she gets enough grass hay to fill her up.

There are lots of examples. If a typical mature cow in North Dakota is defined as weighing 1,200 pounds, a review of the beef cattle requirements would indicate this cow will need 10 pounds of energy daily from late-summer to three months before calving. This requirement can be met if the cow consumes about 20 pounds of grass hay. The cow needs 1.4 pounds of protein daily, so to meet this requirement, the hay must have a minimum of 7 percent protein. Grass hay seldom will fail to meet requirements during this period.

After calving, the cow needs another 2 pounds of energy, which can be provided simply by adding 4 pounds of alfalfa to the diet. Protein requirements also will increase by three-tenths of a pound, but will be met with the added alfalfa. After calving, the cow will require an additional pound of energy and four-tenths of a pound of protein. Adding 2 pounds of roughage will meet the energy requirement.

The protein requirement can be met if the basic grass hay ration is switched to a ration that is two-thirds grass hay and one-third alfalfa. Essentially, 26 pounds of this grass-legume mix would feed the cow.

In herds that have greater than average milk produc-

tion, 3 pounds of barley should be added to the ration and the roughage blend shifted to half grass hay and half alfalfa. When normal roughage types are not available, beef producers still do not need to panic, providing they can find substitute roughage that is at least 7 percent protein.

A mixture of 4 pounds of barley and 4 pounds of high-quality straw or weedy hay can substitute for half the roughage, providing the other half is good-quality hay. The increase in protein before calving can be met with 1 pound of 30 percent protein cake daily.

After calving, average milking cows would need 2 1/3 pounds of cake and heavier milking cows would need 4 pounds to replace alfalfa hay until adequate pasture is available in May. During severe roughage shortages, barley can substitute for hay at a rate of 1 pound of barley for 1.6 pounds of hay to a maximum of 10 pounds of barley. Ten pounds of barley and 8 pounds of grass/legume hay would meet the requirements of a cow in the last trimester before calving.

Vitamin A and phosphorus deficiencies are likely when feeding low-quality roughages. These requirements are best met with a free-choice mineral-vitamin mix.

A nutritional analysis to determine feed quality, unusual mineral compositions or imbalances is needed on all livestock feed. The analysis should be taken to your nutritionist. The nutritionist should review the analysis and develop a formal program. Successful beef operators use examples as springboards to develop a program for their own situation. In real life, the specifics of each operation must be accounted for and discussed appropriately with knowledgeable nutritional consultants.

May you find all your ear tags.

Your comments are always welcome at [www.BeefTalk.com](http://www.BeefTalk.com). For more information, contact the North Dakota Beef Cattle Improvement Association, 1133 State Avenue, Dickinson, ND 58601 or go to [www.CHAPS2000.com](http://www.CHAPS2000.com) on the Internet. In correspondence about this column, refer to BT0313.

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