

News Column

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### **Protein and Forages**

As a County Agent I wear a lot of different hats, when the phone rings or someone walks through the door we never know what the question(s) might be. My degree is in animal science but I will have to admit, I get more questions related to crop production and farm management. So this article is a good review for me on beef cattle nutrition, and I hope you find it useful as well. Both articles come directly from Bruce Anderson at the University of Nebraska.

#### **THE PROTEIN-FIBER CONNECTION**

Most winter feeding programs for dry cows rely on less expensive, lower quality forages that have low amounts of crude protein, and most of their energy value comes from fiber. How does this work?

Cattle get energy from this fiber because microbes in their rumen can digest fiber, releasing volatile fatty acids for energy and producing microbial protein.

These microbes, however, also need specific nutrients to function optimally. Extra vitamins or minerals rarely, if ever, are needed (by rumen microbes). They can be deficient in protein, however, especially when the cow's diet has low amounts of protein in lower quality forages.

Not just any protein will do, however. Non-protein nitrogen sources like urea are not used well by rumen microbes when most of their dietary energy comes from fiber. Rumen microbes growing in a high fiber/low energy environment perform better when provided true protein and amino acids rather than non-protein nitrogen. In addition, much of this protein should be ruminally degradable so the microbes can use it rather than in the form of undegradable intake protein, often referred to as escape or bypass protein. Protein from natural plant sources, such as alfalfa, soybeans, cottonseeds, and distiller's grains often provide the needed types of protein most economically.

When fed properly, rumen microbes break down and digest the fiber in the forage more completely and do it more rapidly. Forage passes out of the rumen quicker, providing space for more forage. Thus, it also increases forage intake by the cow.

Lower quality forages usually are among the least expensive feedstuffs available for the cow herd. When they are supplemented with the proper type and amount of crude protein, they can provide adequate nutrition to maintain healthy, productive animals.

#### **A FORAGE FOR EVERY SEASON**

Think back over the past couple of years. Did you have ample pasture all season long, or were there times when more forage growth would have helped?

If you have cows, horses, ewes, or other livestock that can graze year-around, one of your goals should be to graze for as many days during the year as possible. But no matter where you are, no single pasture can meet that objective.

Warm-season range grasses provide good summer grazing in some areas, but more green grass would be nice in early spring and for late fall grazing. For livestock producers in many other places, though, smooth brome grass, wheatgrass, fescue, and other cool-season grasses grow well in spring and fall but mid-summer pasture often is limiting.

To overcome these seasonal pasture shortages, you need to have several different types of pasture available. For example, warm-season grasses like the bluestems, indiangrass, blue grama, and switchgrass provide excellent summer pasture. Match them up with other, but separate, pastures or meadows that contain cool-season grasses for spring and fall grazing and you will have a good, long grazing season.

Another consideration of extending the grazing season even further is to plant winter wheat, rye, or triticale next fall to get pasture as early as late March. And oats planted in late July or August can be grazed through November, while turnips often provide pasture into December or even January. Don't forget that alfalfa and corn also can be grazed effectively throughout much of the year, giving you even more options for timely pasture.

Start looking at your pasture gaps. Maybe next year you can extend your grazing season with new and varied pastures. And don't hesitate to contact your local K-State County Extension Office if you have any questions or need any assistance.