

Over The Wire

A Beef Cattle E-Letter for Area Cattle Producers

Protein Nutrition for Beef Cows

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We Have A Problem!

Late last summer and early fall the nutritional value of pasture and range forages in this region was very low. The protein and energy content of the forage was not much better than straw. This low quality forage did not meet the nutrient requirements of the spring calving cows and their nursing calves, or fall calving cows in their third trimester or at parturition.

Subsequently, many cows went into the winter months thin and were not at the recommended body condition score of a 5.

The weaned calves also had trouble. I visited with a couple of feeders this winter who indicated that they had trouble with more sickness in calves from our area. This may have been caused by eating such poor feed which affects the ability of the immune system to fight off disease. Also, if the calves were not on a good mineral program, they were compromised even more.

In addition, many of the hay tests that I have seen taken from the 2012 hay crop are not very good. The protein and energy content is low. In fact, I tested some grass hay that looked nice and green and was put up in early July and the protein content was 5.0%. Wow!! If this was the only hay source fed all winter to either fall or spring calving cows, a train wreck may occur or may have already happened.



Why Worry About Protein?

Protein in the diet is essential for growth of the animal, reproductive efficiency and maintenance of the body. All monogastrics and ruminants need protein in the diet. When the required protein level is not met by the diet, the animal will respond by shutting down reproduction, they will lose weight, the immune system is compromised and if the protein level is not met for an extended period of time, it will result in death of the animal.

In ruminants, adequate protein is needed to feed the microorganisms that live in the rumen. Clay P. Mathis, Extension Livestock Specialist from New Mexico State University wrote a paper on Protein Supplementation. In the paper he indicated that there is a symbiotic relationship between the ruminant animal and the microorganisms that populate the rumen. Rumen microorganisms

break down forage and release volatile fatty acids which the animal uses as energy. As the cells or bodies of the microorganisms die and move through the digestive tract, they are utilized by the animal as a rich protein source, approximately 50% protein.

Mathis went on to say that the microorganisms must have nitrogen to digest the forage. Nitrogen is primarily found in protein.

So in short, protein is needed by the microorganisms to break down and digest the forages that the cattle eat. The healthier the microorganisms are, the quicker they break down the forage, which in turn provides more energy and protein for the cattle to use. Plus, more rapid digestion will move the forage through the digestive tract quicker and will result in an increase in consumption of forage which improves performance of the animal.

More information on the importance of proper protein nutrition on the performance of your cattle can be found in the following two Over the Wire newsletters previously published:

1. Nutrition and Fetal Programming—January, 2012.
2. Nutrient Requirements for Beef Cows During the Winter Feeding Period. October, 2011.

Contact me if you would like copies of these newsletters emailed to you.

What Can Be Done?

To begin with, you need to know the protein content of your hay. If you are feeding straight grass hay with no protein supplements, you need to test the hay to determine the protein content. Next you need to determine how much protein is needed by your cows at their current stage of gestation or lactation.

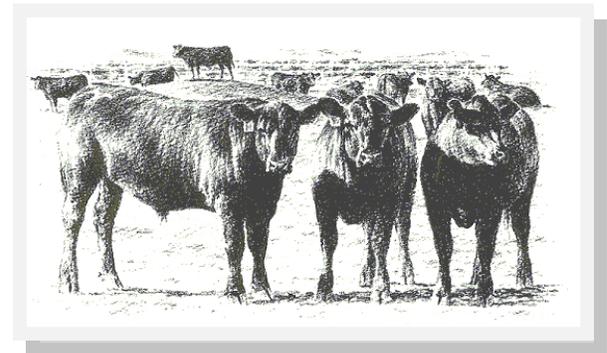
Then you can determine which route to take in regards to providing protein supplements. It is recommended that protein supplements be selected based on the price per pound of protein available to the animal and of course, ease of feeding and management concerns.

Summary

I have just scratched the surface on this topic. Our fall forages really lack the protein that is needed by both spring calving cows nursing calves and especially fall calving cows that have just dropped a calf. Couple this with grass hay grown in our area that rarely contains the required protein content and we have a recipe that causes sick calves in the fall at weaning, weak calves at birth, open cows or cows that are bred late and the list goes on.

Take the time to monitor your feed quality and make management decisions necessary to provide the nutrient requirements of your cattle at the least cost.

Feel free to contact me if you need help balancing a ration for your cows or if you want to visit about protein sources.



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References:

Mathis, Clay P., Protein and Energy Supplementation to Beef Cows Grazing New Mexico Rangelands., New Mexico State University CES Circular 564, January, 2003.

Lalman, David., Supplementing Beef Cows. Oklahoma State University CES Publication ANSI-3010.