

# Alternative Feedstuffs For Cattle

URBANA, ILL.

**M**ike Roegge, University of Illinois Extension, Adams/Brown Unit, reports that his office recently held a program to help beef producers determine appropriate rations for utilizing this year's very poor quality hay. Monte Rowland, Ursa Farmers Coop and Dean Oswald, U of I Extension were the speakers. Following is a summary of that program that will enable anyone to formulate a rough ration for their herd.

Because of the widespread rains this year the majority of hay was cut late (over mature) and then rained on (perhaps up to several times) before it could be put up, resulting in poor quality. Hay and corn silage both lacking protein, hay also lacks energy. It is important this year to have your hay analyzed, since there is a wide disparity in quality. Determining an adequate ration becomes a guessing game until you know the nutrient content of the hay, and if the cow is short on nutrition, cow and calf (and eventually you) will suffer. Testing labs locally include ADM Alliance in Quincy and Key Ag in Macomb. There are other labs scattered across the state.

Corn gluten is a favored feedstuff, providing a high level of both energy and protein to supplement poor quality hay. According to Monte, one pound of gluten will equal about 2.5# of corn and 1# of soybean meal. Gluten cost is lower than corn.

#### **Cow needs are:**

- 7-8# protein in first trimester and 50-52 percent TDN
- 10.5-11.5# protein in second trimester and 52-55 percent TDN
- 11-12# protein in third trimester and 55-58 percent TDN

Heifers will require 60-62 percent TDN. Monte also mentioned that you also need to keep in mind the cow condition as well as the weather. If the cow needs to be fleshed up a little, or the weather becomes adverse, then feeding a little extra energy and protein will be necessary. A cow will eat about 2.5-3 percent of body weight per day, you have to ensure that she gets all her protein and energy needs, which will be impossible with most of the grass based hay from the 2010 season, as she can't eat the amount of hay necessary to provide that amount of protein and energy. A 1200# cow eating 2.5 percent of body weight will consume 30# of dry matter per day

#### **Figuring a ration**

A 1200# cow in her first trimester needs 8 per-

cent protein diet and the ration needs to be at least 50 percent TDN. So how do you determine protein and energy of fed ration? She can consume 30# of dry matter, so let's assume she's consuming grass hay and gluten. She's being fed 25# hay at 8 percent protein and 5# of gluten at 20% protein. All you need to do is the math.

25# hay x 8% protein (as tested in the lab)= 200 units of protein.

5# gluten x 20% protein= 100 units protein  
200 + 100= 300 units protein divided by 30# of dry matter intake = 10% protein diet, which is more than adequate for a 1200# cow in her first trimester.

To figure the energy (TDN) in this diet do a similar math equation using the TDN from the hay test.

25# hay x 52% TDN (as tested in the lab)=1300 units of energy

5# gluten x 80%= 400 units energy  
1300 + 400 = 1700 units energy divided by 30# dry matter intake = 56% TDN

With this ration the cow is getting adequate amounts of protein and energy. You will need to provide mineral/salt supplement. These are rough estimates only.

If utilizing corn silage along with hay, you'll need additional protein, which gluten would provide. Here is an example ration using the same requirements as above (1200# cow, 30# DM per day) using silage that is 50 percent dry matter.

24# silage @ 50% dry matter = 12# dry matter x 8.5% protein (lab analysis)= 102 units protein  
5# gluten x 20% protein= 100 units protein  
13# hay x 7% protein (lab analysis)= 91 units protein

102 + 100 + 91= 293 units divided by 30# dry matter= 9.7% protein

The important message is get your forage tested to determine protein and energy needs, then formulate your ration to provide the necessary nutrients. You will need to reduce the amount of phosphorus in the mineral you feed if using gluten, which will help reduce costs even more.

Cows in the second and third trimester will require higher protein diets, so adjust the amounts of gluten appropriately, based upon your hay/silage tests. Simply fill in your numbers in the equations and through trial and error you'll come up with rations suitable to your feedstuffs. Δ



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