

AG NEWS AND REVIEWS

by OSU Extension Agent

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Is Hay Good Enough as a Sole Feed Source? . . .

After some discussion among themselves, some producers ask me the other day if hay is good enough to sustain a cow without any additional feed supplement. The short answer is; it depends. For a definitive answer we need to know what the nutrient requirements of the cow are and what level of nutrients are supplied by the hay. To determine the cows' needs, we must know her weight and stage of production. To determine how much nutrients the hay will supply, we must forage test the hay and at least know the crude protein (CP) and TDN (energy) levels.

During the winter feeding period, a general rule-of-thumb is that it takes about 1000 pounds of hay to supply a mature cow for one month (33 pounds of hay per day), assuming none is wasted. The following examples will help understand the relationship between forage quality and stage of production.

Example #1: In a 1000-pound bale of bermudagrass hay, with 5% crude protein and 45% TDN, there are 50 pounds of CP and 450 pounds of TDN. An 1100-pound mature cow in the middle third of pregnancy requires 1.4 pounds of CP and 9.5 pounds of TDN each day. From a couple of simple calculations (Table 1), we can determine that the CP requirement for this animal is 42 pounds and the TDN requirement is 285 pounds – for 30 days. It is evident, then, that this hay should be adequate for this 1100-pound cow during the middle third of pregnancy if her daily consumption is at least 28 pounds (42 lbs. CP/5% = 840 lbs. hay; 840 lbs./30 days = 28 lbs. per day).

Table 1. Relationship of nutrients provided by hay and nutrients required by animal during different stages of production

<u>Nutrients provided¹</u>		<u>Monthly nutrients required²</u>			
		<u>Middle 1/3 gestation</u>		<u>30 days post-calving</u>	
<u>CP</u>	<u>TDN</u>	<u>CP</u>	<u>TDN</u>	<u>CP</u>	<u>TDN</u>
50 lbs.	450 lbs.	42 lbs.	285 lbs.	60 lbs.	363 lbs.

¹Nutrients provided by 100-pound bale of hay with forage analysis of 5% CP and 45% TDN.

²Nutrients required per month by 1100-pound cow (average milking ability) during middle 1/3 gestation and during first 30 days post-calving.

Example #2: The nutrient requirements of the same 1100-pound cow the first 30 days after calving will increase to 2.0 lbs. CP and 12.1 pounds of TDN each day. Some quick calculations show that this hay is now deficient in CP but still adequate in TDN. Assuming the cow consumes 33 pounds of hay per day, she will need about 1/3 lb. of supplemental protein per day to meet her requirements and maintain reproductive performance.

To summarize the key points, it is important to know the quantity of nutrients being supplied and the nutrient requirements of the animal. You can then supplement any deficiencies that exist or

avoid supplementing when no deficiencies exist. For a handy resource to help you in determining the nutrient requirements of various classes of beef cattle, contact your County OSU Extension office and request OSU Extension Circular 974, or you can view and print this publication from <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1921/E-974web.pdf>).

Your County OSU Extension office can also assist you with forage analyses to determine the nutrient content of your hay, so that you can minimize inefficiencies in the winter feeding program and keep costs to a minimum.

“Civilization has been a permanent dialogue between human beings and water.” – Paolo Lugari (founder of the Gaviotas Community in Colombia)

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