

South Dakota Rancher[®]

Management tips for South Dakota livestock and grassland managers

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Sample and Test Hay Before Winter Feeding

Any idea how much protein and energy your cows will get when you start feeding hay? Testing hay for quality characteristics is much cheaper than overfeeding or underfeeding livestock in the winter.



Photo: E. Mousel, SDSU©

Whether using hay as a primary feed source or a supplement on winter range, using proper sampling techniques and lab tests for forage quality are necessary for livestock producers who want to get the most value from their hay and profit from their animals.

Possibly the most important, and sometimes the most difficult step in sampling hay is deciding which bales, loaves, or stacks should be included in each sample. Categorizing hay into groups under which harvest conditions are nearly identical is the obvious place to start. Grouping hays into types, e.g. alfalfa, upland range grass, meadow grass, or winter annual hay is simple and takes little effort. Each cutting of hay likely provides a different forage quality as well, so these groups should be separated. Hays from different fields or meadows

also should be separated as two fields rarely produce exactly the same quality hay. Separate any hay that was rained on, cut late, or has significant amounts of weeds in it.

Once these categories have been established, it is time to sample. From each category, take core samples from twelve to twenty similar bales or stacks and combine them into one sample. Be sure to use a good hay probe that will core at least a foot into the bale or stack.

Send the samples to a certified lab for a crude protein (CP) test and energy content and any other nutrients of interest to you. You can use this information to feed livestock as profitably as possible.

A couple of things to remember if you are hunting for hay to feed cows this winter; remember all of that winter and spring wheat that didn't make a crop last summer because of the drought conditions? Well obviously most of that wheat/rye/cale/etc. was cut for hay so there is a lot of it floating around in some areas.



The SDSU extension service has advised folks with this type of hay to check it for nitrates as these forage types tend to accumulate a lot of nitrates, especially when soil moisture is limiting. So, once again, if you have or are planning to buy winter cereal grain hay to feed cows this winter, check it for nitrates so you know whether it needs to be blended with other forages to feed safely.



Photo: Hugh Aljoe, Noble Foundation, Ardmore, OK

Also, in the past several weeks I have gotten calls from people wanting to know how to evaluate price vs. quality when buying hay to winter beef cows. Ideally we would like to evaluate hay based on protein and energy content, often however, those values are not available to us from the hay grower. I typically use the Relative Feed Value index (RFV) to evaluate quality, simply because most alfalfa growers use this index. Using RFV we can standardize a price vs. quality analysis between a lot of different types of forages (i.e., we are comparing apples to apples). If you are buying hay and a quality test is provided by the seller, a lot of the time they will give you an RFV index value. The thing you have to remember however, is that RFV is only a proxy for overall quality, it tells us nothing about CP or energy values, therefore, if you are looking at quantifying how a forage feedstuff will fit into balanced rations, RFV is useless. The problem is however, that rarely will hay growers be able to provide us with CP and energy values for their hay, you just get an RFV index.

So, if lot #1 has an asking price of \$110/T and a RFV of 185, lot # 2 has an asking price of \$95/T and an RFV of 165 and lot #3 has asking price of \$85/T and an RFV of 130, Which is the better buy?

If we simply divide the asking price per ton by the RFV index we can establish a price per unit of RFV.

So, for Lot # 1: $\frac{\$110/T}{185 \text{ RFV}} = \$0.59/\text{unit RFV}$

Lot #2: $\frac{\$95/T}{165 \text{ RFV}} = \$0.57/\text{unit RFV}$

Lot #3: $\frac{\$85/T}{130 \text{ RFV}} = \$0.65/\text{unit RFV}$

You can see in this example that lot #1 and lot #2 are actually fairly similar in terms of cost per unit RFV and that lot #3 is fairly over priced in terms of cost vs. quality. So a rancher may be better off choosing lot #2 because they will get more bang for their buck.

Do remember that RFV is only a proxy for overall quality. Once you have purchased your forage feedstuffs, have a chemical analysis done to quantify protein and energy values so feed rations can be balanced appropriately.

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