

SEPTEMBER 2023

Sublette County Ag. & Natural Resources Extension Newsletter

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SUBLETTE COUNTY AG. AND NATURAL RESOURCES EXTENSION

NATIONAL 4-H WEEK

SUBLETTE COUNTY 4-H OPENHOUSE
4PM-7PM OCT. 4TH & 5TH

-OCT. 4TH, PINEDALE, @ EXTENSION
OFFICE

-OCT. 5TH, BIG PINEY, @ MARBLETON
TOWN HALL



UNIVERSITY
OF WYOMING

Extension
Sublette County

Newsletter Highlights and Upcoming Events

**Save the Date: Rancher's
Workshop in Pinedale**

**Understanding a Hay
Analysis Report**

**Beef Reproduction Task
Force**

**Mosquito Control
Gimmicks to Avoid with
Scott Schell**

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Extension
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Extension Webpage**

SEPTEMBER 2023

SAVE THE DATE!



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Green River Rancher's Workshop

Presentations by:

UW Beef Specialist Shelby Rosasco

UW Ag. Economics Research Scientist Brian Lee

Sublette County Extension Educator Dagan Montgomery

Topics:

Replacement Heifer Development, Repro Tract Scoring,
Hay Analysis, Beef Market Updates & Outlooks

November 29th

10:00am-4:00pm (tentative)

Sublette County Extension Office

9660 US Highway 191, Pinedale

FREE LUNCH WITH RSVP

Updates and RSVP info to come

SAVE THE DATE FOR SUBLETTE COUNTY'S GREEN RIVER RANCHER'S WORKSHOP!

Sublette County Extension will be hosting our first annual Green River Rancher's Workshop on November 29th at the Extension Office! This will consist of a series of talks and presentations from UW staff focused on beef production in western Wyoming, including Extension Beef Specialist Shelby Rosasco, Ag. Economics Research Scientist Brian Lee, and Sublette County Extension Educator Dagan Montgomery. Topics are to include heifer development and reproductive tools for Wyoming, nutritional evaluation and planning, and beef market outlooks. A free lunch will be provided to all that RSVP (RSVP info to be announced in the coming weeks, along with a finalized agenda). Please share help us spread the word!

HAY ANALYSIS REPORTS: INTERPRETING RESULTS

More and more beef producers nationwide are having their hay sampled to analyze its nutrient content. This relatively simple and affordable exercise allows cattlemen an in-depth look at the actual nutrient profile their herd will receive from hay, allowing them to plan supplemental feed programs accordingly. However, before a hay analysis can be effectively put to use, it has to be understood. Depending on the lab performing the analysis, you may receive back a simple list of nutrients next to the corresponding measured value, with no indication of whether the value is high, average, or low compared to similar feeds. The nutrients themselves may only appear as abbreviations and could include a long list of measured components, some of which are more important than others. This article will go through a basic break down of the key nutrient components found in most routine hay analyses, as well as the relative values to look for in each.

Moisture

Typically, the first values you'll find on a hay analysis report are moisture and dry matter (DM), a means of comparing the amount of water within different feeds. This is determined by drying the hay in an oven and then weighing all non-water components. Nutrient values will often be reported as both dry matter (DM) and "as-fed" (AF) or "as received" side by side. Hay should be compared to other feeds using the DM value for nutrients. For the rest of this article, values for other nutrient measurements will be discussed on a DM basis.

Moisture level also greatly influences the stability of harvested forage during storage. The target for hay is around 85% DM, or 15% moisture. Baleage is usually 40 – 60% DM, and silage 30- 40% DM for proper fermentation. You'll notice some moisture should remain, as being 100% water-free decreases palatability and leads to leaf shatter.

Crude Protein

Protein in ruminant feeds is usually expressed as crude protein, or CP, as a percentage of DM. This is based on the total nitrogen in the plant matter multiplied by 6.25 as plant protein is typically 16% nitrogen. Crude protein level is critical for a productive beef herd. Protein is required for growth, lactation, reproduction, and muscle development. This is why protein is the one of the most commonly supplemented nutrients for grazing or hayed cattle. It is also the most expensive. Dry gestating cows need at least 7% CP on a daily basis (7% value is also considered the bare minimum for wintering cattle, as this is lowest level needed to support rumen function). For at least the first 60 days after calving, a cow's needs increase to 11% CP. Throughout the rest of lactation cows need at least 9% CP. Growing rations for calves typically contain 14 – 16% CP. Crude protein can vary based on forage species, maturity, soil and storage stability.

Fiber

The fiber content of the forage is made up of the structural components in the grasses' cell wall and is usually broken into neutral detergent fiber (NDF) and acid detergent fiber (ADF), both expressed as a percentage of dry matter. Neutral detergent fiber contains the components cellulose, hemicellulose and lignin, and is what remains after the digestible material is removed with a neutral detergent. Forage intake will decrease as NDF increases, and the formula $120 \text{ divided by NDF}$ can help determine how much the animal will eat as a percentage of body weight. For example, if NDF is 50%, dry matter intake will be 2.4% of the animal's weight. Neutral detergent fiber can range from 40 to 65% DM, and at 60% and higher begins to noticeably affect feed intake. Lower values are typically desired for NDF. Acid detergent fiber is what remains after remaining NDF has been removed with acid detergent. Forage digestibility decreases with increased ADF. Average ranges for ADF in hay are anywhere from 30 to 45% DM. Values above 40% ADF usually indicate a lower quality hay. Both forms of fiber increase with plant maturity and are typically lower in legumes than grasses.

Energy

Energy in a feed can be measured in several ways. The most common and practical way to evaluate energy content of a forage is total digestible nutrients, or TDN. Total digestible nutrients are also expressed as a percentage of dry matter, and are the sum of digestible carbohydrates, protein and fat the animal will receive. In general, hay with less than 52% TDN would be considered lower quality, hay with 52% to 58% TDN would be medium or average quality and hay exceeding 58% would be high quality. Based on the 2016 "Nutrient Requirements of Beef Cattle, Eighth Revised Edition", mature cows that are nursing calves need a minimum of 58 to 61% TDN in their diet, whereas a dry pregnant cow should be getting at least 50 to 54% TDN, depending on stage of pregnancy. These values can easily be converted to pounds by multiplying the percentage of TDN by the total pounds of dry matter the animal eats per day.

Minerals

Both macrominerals and trace minerals are critical for cattle growth and performance, and several will show up on a good hay analysis. Two of the key minerals you should look for are calcium (Ca) and phosphorous (P), both usually reported as a percentage of total DM. These are both needed for skeletal growth in growing cattle and are crucial for lactation. Dry cows need 0.25% to 0.28% Ca and 0.16% to 0.19% P a day in their diets. Cows at peak lactation need at least 0.31% Ca and 0.21% P per day. The ratio of calcium to phosphorous should remain between 1.5:1 and 4:1, because too much phosphorous can impede calcium absorption. Most common complete mineral mixes are sufficient to provide cattle with enough calcium and phosphorous.

Calculated Values (RFV & RFQ)

Several values can be calculated based on other results from a hay sample. Relative Feed Value (RFV) and Relative Forage Quality (RFQ) are calculated values and meant to combine energy content and dry matter intake into a single value, which is measured against full bloom alfalfa as a standard (full bloom alfalfa is assumed to have RFV=100). These are meant to provide an idea of how well a forage would provide for a ruminant animal if that was all that was being fed. Both may appear on a hay sample analysis. However, depending on the lab, these may need to be specifically requested.

Relative Feed Value was developed first, calculated using the measured values for ADF and NDF in the sample. The problem is that RFV isn't accurate for some kinds of forage, such as when comparing good grass to legumes, so RFQ was developed using TDN as part of the calculation and is considered a better judge of true potential for a forage to predict animal performance.

In most cases, RFQ will range from 50 to 250. In hay, RFQ < 90 = low quality, 90-110 = fair quality, 111-140 = good quality, 141-200 = premium hay, > 200 = outstandingly high-quality hay. Dry cows can get by on hay in the 100 to 115 range, whereas growing cattle and lactating cows really need hay in the 115 to 140 range.

A good hay analysis can provide a tremendous amount of information about the actual nutrition your herd is receiving. But the data you get back can be difficult to sort through, especially without a good frame of reference for what the values and nutrient components mean. Some values are extremely important to pay attention to and can go a long way in formulating a good supplementation program for your herd. Others may not be as crucial.

If you still have questions or want to be sure your interpretation is correct, reach out to your local extension personnel for assistance. A list of county extension offices for Wyoming can be found at <https://www.uwyo.edu/uwe/index.html>.

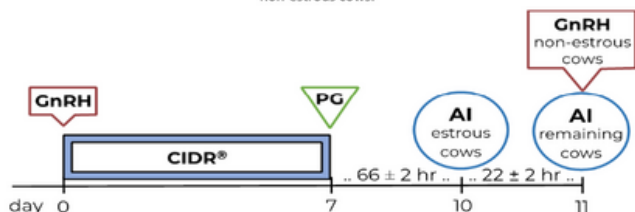
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BEEF REPRODUCTION TASK FORCE



7-day CO-Synch+CIDR® & Split-TAI

Perform first TAI 66 ± 2 hour after PG in estrous cows. Second TAI with GnRH only in non-estrous cows.



On Sept. 6th & 7th, the Beef Reproduction Task Force met in Cheyenne. This national task force consists of university researchers, extension faculty, and industry professionals from across the US. Presentations included topics on heifer development, estrus synchronization, and more. A complete list of previous webinars discussing beef reproduction, AI and estrus synchronization protocol diagrams, and other resources can be found on the BRTF website at <https://beefrepro.org/>.

MOSQUITO CONTROL GIMMICKS TO AVOID

Even though mosquito season is done, you may still be wondering why you employed every anti-mosquito method you've heard of and still got covered in bites this summer. Unfortunately some of these methods are wishful thinking. Click the bug to the right to view advice from Wyoming's state entomologist Scott Schell regarding mosquito control methods that simply aren't worth it next summer.



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