

[Menu](#)[Home](#)

Comparing and Pricing Forages

 Updated June 09, 2021

Heather Gessner
SDSU Extension Livestock Business Management Field Specialist



Courtesy: Canva

Drought and generally dry conditions across South Dakota have challenged the feed availability for many livestock producers. With this challenge is the potential increase in demand for forage products and a wide range in the nutritional quality of the forages for sale.

With feed costs accounting for 50–75% of the total cow costs for the year, controlling this cost is a critical profit component for the producer. Before purchasing hay, alfalfa or silage, a feed analysis and a price comparison between forages ensures the feedstuff meets the operation's required quality and quantity needs at a profitable price.

Producers need to be able to answer the question: "Do I have enough bales to create a balanced ration, which meets the nutritional requirements of my cow herd, through each gestational stage and post-calving, and what kind of supplementation (if any) is needed?"

[Samples must be taken](#) and submitted for analysis to determine feed quality. The adage of needing to measure it before you manage it is valid here. Many factors can affect the quality of grass hay and alfalfa harvested during the summer. To create a balanced, low-cost ration, you should know the value of the total digestible nutrients (TDN) and protein levels in the forages considered for the diet.

This knowledge allows the producer to plan for additional hay, cornstalk, alfalfa or other forage purchases, as well as non-forage supplements that may be needed to meet the nutritional needs of mid-late gestation and post-partum cows.

Compare the Following Sample Forages

Forages vary in price, dry matter and quality, as noted in the sample forages in Table 1. Thus, creating a balanced, low-cost ration can likely be done if time is taken to submit samples for analysis and then work through the feeding options available. For comparison, three forages are used in this example. The cost per ton, dry matter, crude protein and TDN vary for each sample.

At first glance, the \$60/ton savings for the grass hay compared to alfalfa appears to be a solid economic decision. However, if protein is the required supplement, alfalfa is a better option. On a TDN comparison, corn silage is the most cost-efficient feed in this example, provided other feedstuffs can be purchased to balance the protein needs of the animal. By inventorying the feed on hand and analyzing the feed needed, producers can determine what, if any, additional feedstuffs are needed.

TABLE 1. SAMPLE FORAGES

	Cost per Ton (\$/T)	% Dry Matter (%DM)	% Crude Protein (%CP)	% TDN	Cost per ton of Dry Matter (\$/#DM)	Cost per ton of Crude Protein (\$/#CP)	
Grass Hay	\$ 90.00	90%	5.50%	50%	\$ 100.00	\$ 1,818.18	\$
Alfalfa	\$ 150.00	85%	16.0%	54%	\$ 176.47	\$ 1,102.94	\$
Corn Silage	\$ 50.00	35%	8.5%	72%	\$ 142.86	\$ 1,680.67	\$

SAMPLE CALCULATION

To make feedstuff comparisons, use the steps below, with the grass hay data used as an example:

Step 1

- Cost per Ton ÷ Percent Dry Matter = Cost per Ton Dry Matter
- Example: $\$90.00 \div 0.9 = \$100.00/\text{Ton}$

Step 2

- Cost per Ton Dry Matter ÷ Percent Crude Protein = Cost per Ton Crude Protein
- Example: $\$100.00 \div 0.055 = \$1,818.18$

Determining Hay Prices

There are different methods available to the seller of hay to price forages. Input costs would provide a lower bound or minimum asking price for hay. Market forces and quality levels also need to be considered.

Cost of Production

Before pricing forages, producers need to understand the cost of growing a ton of hay, alfalfa or straw. Determining your [cost of production](#) ensures that sales are not made below a break-even selling price. Land (ownership expenses or rental rate) and equipment (both ownership and operational) charges will cover most of the costs of producing these forages. In the case of grass hay and straw, the seed cost is minimal, or in the case of alfalfa, the seed cost is generally charged to the

establishment season only. If small, square bales are put up, labor may be a significant component when determining production costs. Other costs may include twine, fertilizer and its application and insecticide and its application.

Custom Rates

Determining the actual cost of production may be difficult for the forage enterprise, as costs can be more ambiguous than items like seed, fertilizer and chemicals readily available on a per-acre rate. Keeping a log of the number of gallons of fuel used during windrowing, raking, baling, loading and hauling is one method to break down total gallons of fuel used into a per-acre value. Labor hours could be tracked similarly. Iowa State Extension publishes a yearly [custom rate guide](#), and it is another resource for those determining the value of their forage production costs.

The National Hay, Feed, and Seed Weekly Summary Report

The National Hay, Feed and Seed Weekly Summary report is published by the Agricultural Marketing Service (AMS), a division of the U.S. Department of Agriculture (USDA). For more information, view the [weekly summary](#) of the hay markets across the nation, or view individual state or auction market information at the [AMS Hay Reports website](#).

The summary report is a good resource for those buying and selling hay, alfalfa and straw. The report breaks down alfalfa into quality standards of Supreme, Premium, Good, Fair and Utility based on the Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF), Relative Feed Value (RFV), Total Digestible Nutrients (TDN-100%), TDN-90% and Crude Protein (CP-100%). Grass hay is categorized by Crude Protein percent. The breakdown provides a good understanding of the effect quality has on the price of the forage.

Before buying up "cheap" feed, make sure that it is cost-effective when creating balanced rations this winter. By inventorying the quantity and quality of feed on hand, purchases can be planned and budgeted for, thus allowing the creation of least-cost, balanced rations for the herd throughout all reproductive stages this winter.

RELATED TOPICS

[Drought: Livestock](#), [Beef Nutrition](#), [Beef Marketing and Economics](#), [Forage](#), [Farm Business Management](#)

RELATED CONTENT



Targeted Grazing Strategies for Kentucky Bluegrass Control

Fact sheet for targeted grazing strategies for Kentucky bluegrass control.



Determining an Economically Optimal Nitrogen Rate for Corn in 2022

While we can't know what the prices of corn and nitrogen fertilizer will be next year, it is very important to understand how the level of both prices will influence corn profitability for 2022.



Consumer Demand for Genome-Edited Crops: Implications for Farmers' Adoption Decisions

Genome-editing is a breakthrough technology for crop improvement that makes site-specific modifications in the genomes of cells and organisms.

Start the discussion...

LOG IN WITH

OR SIGN UP WITH DISQUS

Name

Be the first to comment.

Subscribe Add Disqus to your site Add Disqus Add Do Not Sell My Data



South Dakota State University
Brookings, SD 57007

Questions? Call 1.605.688.4792 or
email sdsu.extension@sdstate.edu

Follow Us



Sign Up for Our Newsletter

Receive the latest information from SDSU
Extension

SUBSCRIBE

More Links

- Equity
Drainage Calculators
Livestock Decision Aids
Mesonet at SDState
RSS Feed

