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## How do your feeds compare?

 $\mathbf{f}'$ LUCTUATING milk and feed prices, coupled with varying availabilities and nutrient compositions of feed ingredients, can make it difficult to determine the most economical feed ingredients for the dairy herd. Also, the way that feed ingredients are priced has changed over the years.

For example, the price of alfalfa hay used to be driven by hay's visual characteristics, such as color, leafiness, pliability and moisture content. Today, the alfalfa hay price is usually driven by nutritive-value indices. These include relative feed value (RFV) or relative forage quality (RFQ), which classify alfalfa as "Supreme, Premium, Good or Fair Quality" based on nutrient composition.

Updated decision tools are available that allow farmers and nutritionists to use composition data when calculating the nutrient value of feed ingredients. This information is used to determine break-even prices to make better buying decisions.

## **Determine feed's value**

One of these decision support tools is FeedVal. This tool determines the nutrient value of feed ingredients by aggregating the value of individual nutrients contained in the feed. With that rationale in mind, the dairy management extension program at the University of Wisconsin-Madison has updated this tool to help decision-makers value feed ingredients.

The most recent online version of FeedVal is a more dynamic, userfriendly and robust decision support system tool than previous versions.

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FeedVal v6.0 is live connected to current data price sources. The tool allows selected nutrients (between two to 13 nutrients) and feed ingredients (up to 40 ingredients) to be used in a specific analysis, depending on the needs of a farm or feed mill.

FeedVal v6.0 allows full user customization of names, nutrient composition and available market prices of feed ingredients to calculate the predicted nutrient value of a feed as a percentage of its market price. The actual value of an ingredient is the sum product of its nutrient contents by their individual nutrient prices. It also predicts the nutrient value of feeds that do not have attainable market prices at the time of the analysis.

As a demonstration, let's analyze five feed ingredients during the last two years. This analysis used the following nutrient composition for each feed: rumen undegradable protein (RUP, percent of dry matter [DM]), rumen degradable protein (RDP, percent of DM), net energy for lactation (NEL, Mcal/lb. DM) and physically effective neutral detergent fiber (peNDF, percent of DM).

The five feed ingredients used were: soybean meal, dried distillers grains, whole cottonseed, corn gluten feed and alfalfa hay. Market prices for the analysis were from the months of March, June, September and December for 2013 and 2014 to represent the fluctuation of prices during those years, and for the month of March 2015.

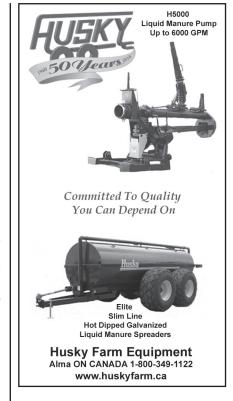
FeedVal v6.0 shows the potential opportunities for using feed ingredients that have a better return on investment considering their actual prices and predicted values based on nutrient composition. For example, whole cottonseed had a greater mar-

ket price than predicted value in each time period; the actual price as a percentage of predicted value was greater than 100 percent (see table). This means the market price was greater for a ton of whole cottonseed than the value of its nutrients.

A similar situation occurred for sovbean meal in 2013, but in 2014 the market price was close to or below the predicted value. Therefore, soybean meal had a better value as a source of nutrients in some of 2014 and March 2015 than in 2013. On the other hand, corn gluten feed and dried distillers grains are two feed ingredients that almost always had a market price below their predicted value. These two feed ingredients showed potential economic value when included in the diets of lactating cows because their predicted value was greater than their market price.

For alfalfa hay, the market price in 2014 was different than 2013. From 2013 to March 2014, the market price was similar to or lower than its predicted value, and thus a reasonably priced feed ingredient. However, after March 2014, alfalfa hay market prices were greater than predicted values, indicating that we should have been looking for alternative sources of peNDF or alfalfa hays with better nutrient composition versus market price relationships.

The current example included only five feed ingredients analyzed for four nutrients. However, you can consider more feed ingredients that are available locally for diet formulation and additional nutrients when using FeedVal v6.0 to help select potentially desirable feed ingredients for purchase.







Market prices source: USDA, Agricultural Marketing Service, http://www.ers.usda.gov/media/1820902/fds\_15d.pdf for SBM, CGF, DDG, and AH; and

