

Horse Feed Economics

As feed prices increase, you may wish to look into the possibility of becoming frugal with your feeding practices without depriving your horses of their nutritional requirements. That is, converting from a premium feed to a ration which you balance, without adversely impacting your horses' health.

Depending upon the demands which you place upon your horses, one horse may have a feed requirement which costs several times more than that of another horse.

For example, a healthy gelding that's in the maintenance stage of life, and on high quality pasture, may not require any supplementation of vitamins, minerals, or concentrates (grain). This is especially true if he's an easy keeper (low metabolism). On the other hand, a mare in her third trimester of gestation with severe dental problems would require a complete pelletized feed containing more nutrients than would the pastured gelding.

There are four factors which need to be taken into consideration when feeding horses:

1. Physiological stage the animal is in (e.g., maintenance, growth, gestation, etc.).
2. Nutrient requirements for the stage the animal is in.
3. Relevant medical issues (e.g., dental or gastric).
4. Analysis of all available feed (pasture, hay, concentrates, etc.).

Upon determining the horse's stage, refer to a reputable source for your horses' nutrient requirements. Most sources are derivatives from the National Research Council (NRC) tables; a compilation of shared input from numerous sources of research. All of the NRC's tables can be found on the internet (nap.edu) and are free, as are many other sources.

Feed companies post their recommended guidelines and many offer their own nutrient requirement tables. Although there is some bias toward selling their brand of feed, most companies are reputable enough to admit that pasture or hay should make up the majority of the horse's intake, when possible.

You would, with your veterinarian's input, determine if any medical considerations, such as difficulty in chewing, would enter into your feeding program. This is not uncommon with senior horses.

Your last consideration is the nutritional quality and content of the feeds which are available to you. This would include pasture, hay, and grain.

If you have access to pasture, have the grass analyzed by a laboratory. Do the same for any hay you are purchasing, or intend to purchase. Many of the larger hay producers periodically ship samples to analysis labs and will provide those results to their customers.

If you are buying prepared feed, check the feed tag and panel for content analysis, along with guaranteed minimum and maximum nutrient levels. Many companies post a more comprehensive analysis on their web site or may be willing to provide it to you.

Now that you're armed with enough information, let the numbers make the decision for you when balancing your ration.

Ration balancing is the mathematical process of determining the quantity of each feed source to arrive at the total amount of required nutrients.

There are four ways to balance a ration:

1. Pearson Square with pencil and paper.
2. Ration balancing software.
3. Cooperative Extension Service (CES).
4. Nutritionist.

The Pearson Square can be done in your barn with pencil and paper and is the same method taught to 4-H and FFA members.

Simple spreadsheets and software, which are often free, can be downloaded onto your computer and are usually reliable. However, to ensure accuracy, it would be prudent to confirm a sample calculation of any freeware through either a Pearson Square or a third-party.

Most CES agents have balancing software on their computers and will gladly formulate an occasional ration for the hobbyist. Land-grant universities sell their own proprietary software, offer simple versions to the public for free, avail a spreadsheet on a web site for free, and/or offer classes on ration balancing.

Last, and most expensive, is to hire a livestock nutritionist. But, for just a few horses, the added expense may not justify the savings.

Once the ration is balanced, a cost value is assigned to each nutrient (e.g., dollars per ton). For example, protein is found in most feeds. Alfalfa is more expensive than brome hay, but, depending on your location, market, and quality, alfalfa may be a less expensive source of protein than brome hay.

Let's look at an over-simplified example. We'll illustrate a gelding at maintenance, with adequate available shelter, and not subject to extreme cold weather conditions, requiring 20 ounces of crude protein, per day.

Analysis of the available feeds (on a dry matter basis – no moisture) indicates that the alfalfa (premium) contains 20% protein at \$300/ton (\$0.15/lb), while the brome contains 10% protein at \$200/ton (\$0.10/lb.). Therefore, each pound of alfalfa and brome would contain 3.2 ounces and 1.6 ounces of crude protein, respectively, to meet his protein requirements, only.

Thus, the horse would require either 6.25 lbs. of alfalfa or 12.5 lbs. of brome, or \$0.94 worth of alfalfa, compared to \$1.25 worth of brome.

Using only these numbers, it would appear to be much less expensive to feed the higher priced and quality hay. But, to obtain a complete and true answer, the above process would have to be repeated for every required nutrient.

It is important to remember that reputable feed mills process a premium feed using the same approach. You can save additional money by purchasing grain and other feeds (including premium feeds) at tonnage prices, but you will need adequate storage facilities which maintain low moisture levels to prevent spoilage. Although the facilities are a long-term purchase, you would still need to factor the investment into the above equations.

The scale of economy dictates that savings comes with a greater number of horses. This is especially true if the horses are used for work, breeding, in growth stages, or whenever the nutritional demands are higher.

Because you assume all risks when formulating your own rations, along with the potential of losing several tons of grain due to exposure to mold, the appreciation for a premium feed may be more appealing.

Yes, it is possible to save money by purchasing less expensive feeds, in certain cases. But, to have an unbiased answer, you'll need to run the numbers.