

Optimizing Nutrition: Selecting the Best Feeds and Supplements for Your Horse

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Proper nutrition plays a vital role in the daily care of your horse. Selecting feeds that deliver the essential nutrients (energy, protein, vitamins, minerals and water) to your horse is incredibly important. These feeds should always be clean and free from toxins and promote gastrointestinal health. The large intestine of the digestive tract contains a diverse population of microbes that can easily be upset by selecting the wrong feed. This article will provide guidance in selecting the optimal feeding program for your horse's needs.

Forage: the foundation of your feeding program

Roughage (such as fresh pasture or hay) should always be the basis of the horse's diet. Horses evolved to spend more than 50% of their time grazing, thus feed that mimics this feeding behavior is desirable. Any concentrates or supplements should be used only to supply additional energy and/or essential nutrients not provided by the forage.

Forages are composed of cell contents (proteins, fat, soluble carbohydrates) and cell walls (cellulose, hemicellulose, lignin); of which the relative proportions vary according to the forage source and maturity at the time of harvest. Forages can differ considerably in their energy and nutritive values which will be largely determined by fiber content and fiber quality. This implies that the appropriate selection of forage type for your horse is of utmost importance.

One of the first things to determine then is the type of hay that will be fed. Legumes, such as alfalfa or perennial peanut, generally produce higher quality forage than grass hays, such as timothy, orchardgrass, and coastal bermudagrass. This is due to the fact that legumes usually have less fiber and more protein than grass hays. A lower fiber content will result in more energy, or calories and will be more digestible.

Differences in nutrient content between different grass hay varieties, like warm-season vs. cool-season grasses, are much smaller than differences between legumes and grasses. Cool-season grasses (grown in temperate climates) include timothy, orchardgrass, and fescue. Warm-season grasses (produced in tropical and subtropical regions, like Florida) include Coastal bermudagrass, Tifton-85 bermudagrass, and bahiagrass. There are some differences between cool-season and warm-season grasses; but if cut at similar stage of maturity, these differences are minimal.

The quality of hay can be influenced by many factors, including type, fertilization practices, stage of growth, how it was cured/preserved, and how it was stored. While many of these aspects can be assessed visually, the only way to determine nutrient content is to submit a sample to a forage lab for testing.

Concentrate: when needed

Grains, grain mixes and supplements are used when forage does not meet all the nutrient needs of a horse. Grains, such as oats, corn and barley are used to increase the calorie content of the diet. The digestibility of these grains can be improved by processing, such as cracking, rolling or pelleting. In particular, pelleting can improve the nutrient characteristics of grains.

There are many options on the market for fortified feeds. Because plain cereal grains are usually low in essential nutrients, commercial concentrate mixes are usually fortified with added protein, vitamins, and minerals. Fortified feeds are intended to be fed along with a forage to meet the nutritional needs of a certain type of horse. For example, feed companies often manufacture one feed for performance horses and another for growing horses. In general, feeds manufactured for horses with higher nutrient requirements (e.g. horses performing moderate to heavy exercise, growing horses, lactating mares) have higher concentrations of nutrients. It has been common practice in the industry to purchase a fortified feed and mix it with oats or corn. This practice is not recommended as it can result in an unbalanced diet.

Most commercial grain mixes will list the information about the concentration of various nutrients in the feed on a feed tag or directly on the bag. The Association of American Feed Control Officials (AAFCO) requires feed companies to list crude protein, crude fat, crude fiber, and ingredients. Many times feed companies will provide additional nutrient information upon request. It is important to note that these values guarantee a minimum or a maximum value, not the exact content.

Supplements: wading through the masses

The use of dietary supplements has become popular within the equine industry to improve performance, preventing a problem from occurring, and/or managing a problem after it arises. Some supplements contain known nutrients with known functions such as vitamin E or selenium. Other supplements contain ingredients that are supposed to enhance performance, however little is known about the nutrient function. Horse owners should be cautious when using these products. Few equine supplements are tested for efficacy through controlled research trials which compare treated horses and untreated horses.

A nutritional supplement may be vital when other feeds (forage and or a concentrate) do not meet the nutrient requirements of your horse. A great example of this type of supplement is a vitamin-mineral supplement. Your horse is likely to need a vitamin-mineral supplement if they are consuming a forage-only diet, forage along with unfortified grains, or forage along with

insufficient quantities of a fortified feed. Performance horses competing or training in hot environments may benefit from electrolyte supplementation. When evaluating an electrolyte product, look for the amount of sodium, chloride and potassium in each dose, as these should be the primary ingredients. It is common place to feed supplements that provide a mixture of antioxidants, such as vitamin E, C, and selenium.

Non-nutritional feed supplements, commonly referred to as nutraceuticals, are commonplace in the equine market. Some common examples are supplements that contain chondroitin sulfate and/or glucosamine, which are intended to improve joint function. There is limited research on the effectiveness of these supplements in horses, but studies in other species have shown some benefits. Recently, herbal supplements have gained popularity for their effect on the immune system among other various properties (antioxidant, anti-inflammatory, sedative, etc.). Common herbs used include Echinacea, garlic, bee pollen, ginger, ginseng and yucca. There are few scientific studies on the benefits of these herbs in horses. Therefore, it is advisable to use with caution and to not assume that they are safe because they are “natural”. Interactions between ingredients when horses are fed multiple supplements may be a concern and some substances (e.g. valerian root) are banned in competition.

Take home message

As a horse owner, providing your horse with the most suitable feeding program is important. Maximizing forage in the diet should be the first priority. Having your forage tested will determine if and what type of concentrate and/or supplement is needed to meet the requirements that the forage cannot provide. Once appropriate feeds have been selected, it is important that they are fed in the correct amounts. Cost, availability and convenience should also be considered when creating the optimal feeding program for your horse.