



## Pasture Nutrition

Pastures can be an excellent nutritional source that is adequate for the forage portion of most horses' diets.

However, caution should be extended to horses that are at risk of Insulin Resistance or PSSM Type 1. The variable sugar and starch (NSC) load of the plants can pose problems for these types of animals.

Generally, pastures provide many benefits to horses in addition to nutrition. Pastures help any operation by:

- Reducing feed (hay) costs
- Reducing labor and/or bedding costs
- Horses receiving unlimited exercise
- Reducing stress or boredom for horses
- Allowing more social interaction if kept with other animals

The two plant types in a pasture are grasses and legumes. Both are excellent sources of forage for horses. It is even recommended pastures be planted with both warm- and cool-season grasses and legumes for a more complete diet throughout the year.

The most important aspect of any pasture is obviously the nutrients provided by the grass and legume forages planted. The nutrient content of the forages



in any pasture are dependent on plant type, the soils of the area, time of year, and even stage of growth of the plant.

Typical grass forages and their characteristics for horses include:

- Bahiagrass
  - Warm season grass
  - Moderate nutritional value with ranges of crude protein (CP) 7-10% and digestible energy (DE) of 0.77 to 0.86 Mcal/lb
  - Nutritional value declines with maturity, mostly observed in late summer
- Bermudagrass
  - Warm season grass
  - Moderate nutritional value with CP 9-14% and DE 0.82 to 1.04 Mcal/lb
  - Sensitive to overgrazing and poor draining soils
- Kentucky Bluegrass
  - Cool season grass
  - High nutritional value with range CP 12-17% and DE 0.86 to 1.04 Mcal/lb
  - Dormant during warm summer months
- Ryegrass
  - Cool season grass
  - Moderate to high nutritional value with range CP 11-17% and DE 0.82 to 1.0 Mcal/lb



- Susceptible to colder conditions below 41°F and above 87°F
- Timothy
  - Cool season grass
  - Moderate nutritional value with range CP 11-15% and DE from 0.82 to 1.04 Mcal/lb
  - Low quality as plant matures

Typical legume forages and their characteristics for horses include:

- Alfalfa
  - Cool season legume
  - High nutritional value with range CP 18-22% and DE from 1.0 to 1.2 Mcal/lb
  - Requires well drained and fertile soils
- Clover (many species)
  - Cool and warm season legumes
  - High nutritional value with range CP 15-22% and DE from 1.0 to 1.3 Mcal/lb
  - Depending on species of clover, can have short growing season

For more background on DE in horses see the [Comparing Calories](#) article.

The nutrient quality of any forage will always be dependent on its stage of growth. A grass that is young and immature is nutrient dense. Meaning, grass that has grown only a few inches tall (~ 3 inches) is high in nutrients such as protein, starch and minerals. Fiber is low.



For grass that has grown tall (> 9 inches), nutrients are more evenly distributed throughout the plant. The protein, starch, and mineral levels are lower, and fiber is higher. Grass that has flowered with seed heads being present is considered too mature to provide adequate nutrients for a grazing horse. Grass that has not yet flowered, or seed heads are not seen, is usually considered good quality forage. Thus, it is recommended that pasture plants are kept under 9 inches as mentioned in our [Summer Pasture Management](#) article.



As mentioned above, soils can influence the nutrient quality of a forage. More specifically, minerals absorbed within the plant are influenced by mineral content in the soil. For one example, selenium is typically low in the soils of Florida, as well as the Northeastern and Northwestern regions of the United States. This means the selenium within forage plants would be low. There are other examples of mineral deficiencies in many soils throughout the world. Thus, for a complete diet for most horses, it is usually recommended they are fed an appropriate concentrate to meet all of their nutrient requirements.

In summary, there are many different types of forage plants with varying nutrient quality available for horse owners. Which plants to utilize for your



pasture will primarily be dictated on where you live in the world. Furthermore, it is always wise to sample your pastures to evaluate which forages are currently being grown and get a complete nutrient analysis. For a nominal fee, horse farm operators can take samples of their pastures and send them off for a nutrient analysis. Many pasture analysis laboratories advertise online and can be contacted directly for pricing and details.

For more background on reading a nutrient analysis, see our [Understanding Forage Analysis Results](#) article.

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