



Understanding Fructans in Spring Grass

Spring is in full effect which means lush, green pastures! Cool season grasses are rich in protein and carbohydrates which can significantly contribute to your horses' daily nutrient requirements. Grazing grass pastures/paddocks decreases feed costs and puts "Forage First" which is essential to your horse's overall wellbeing. However, care must be taken when transitioning a horse from consuming hay over the winter to grazing grass pastures in the spring.

Fructans are a class of carbohydrate that cannot be digested in the small intestine, but are easily fermented in the hindgut. Microbial fermentation produces volatile fatty acids (VFA) which are absorbed and used for energy by the horse. Unfortunately, the concentration of fructans in grasses are highly variable, ranging from 5 to 50% of the grass on a dry matter (DM) basis. Since horses can consume 3% of their body weight in grass (DM) daily while grazing, it's easy to see how large amount of fructans can be consumed. Overconsumption of fructans leads to large amounts of VFA and lactic acid being produced, resulting in hindgut acidosis. The hindgut microbial population changes due to extreme sensitivity to pH change. Beneficial bacteria die giving opportunity for pathogenic bacteria to flourish, potentially resulting in colic and/or laminitis.

Several steps can be taken to help reduce the risks associated with fructans in spring grasses. First, restrict the time spent grazing during early spring and fall. Begin the season with several, short grazing sessions each day, gradually increasing the number and length of each session. This allows the microflora of the hindgut to adapt to increasing fructans. Horses are perfectly capable of handling large amounts of fructans but only if a gradual adaption occurs. Most gastric disturbances are a result of sudden dietary changes. Second, use a grazing muzzle. This slows down your horse's consumption rate to help mitigate overconsumption. Third, when days are warm and nights are cool (< 40°F), limit grazing sessions to the morning. Fructans are produced via photosynthesis and will be highest during the day and evening.

If you have questions regarding fructans or any feed related topic, please contact us!