

FREQUENTLY ASKED QUESTIONS

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Why can fresh grass cause laminitis in horses?

During the process of photosynthesis, plants manufacture sugars that are either used for metabolic processes such as growth, or are stored as polysaccharides such as starch or fructan. The storage form of the sugars depends on the plant species. In certain situations, such as the warm sunny days and chilly nights that we see in the spring and the fall, the plants use fewer sugars for growth, and therefore store more as polysaccharides. This can cause problems for horses, especially when the sugars are stored as fructan, because fructan does not appear to be digested in the horse's upper gut (where starch is digested and absorbed), but instead passes into the hindgut where it is fermented by the microbes. It is this fermentation of fructan that appears to be a trigger factor for colic and/or laminitis, similar to a grain overload in horses. The fermentation of fiber carbohydrates in the hindgut is normal, and does not cause digestive disorders in the horse. Other environmental conditions that can affect the amount of polysaccharide storage in plants include drought stress, duration and intensity of sunlight, salinity (salt content) of soil, and overall health of the plant. Again, some species of grass, including cool season grasses, tend to store sugars as fructan, while others, the warm season grasses, tend to store sugars as starch and are less likely to cause problems.

How can we manage pastures to minimize the risk of laminitis?

Horses that are kept on pasture year-round usually adjust to the new grass as it grows. Nature does a fairly good job of making the pasture change gradually. The problems usually occur when horses have been confined and fed a hay and grain diet during the winter, and are then abruptly turned out on the lush green pasture in the spring. Further, horses that have been kept up through the winter may overeat when turned out because of the palatability of the lush green foliage. This sudden change in the diet, especially when it includes a rapid influx of the unfamiliar fructan into the hindgut, may trigger digestive upset.

There are several ways to prevent or minimize problems when introducing horses to spring pastures. Feeding hay immediately before turn-out may help keep horses from overeating, since they are less likely to overeat on an already full stomach. Restricting grazing time will also help minimize risks. A suggested schedule is: thirty minutes of grazing once or twice a day on the first day of grazing; then increase grazing time by 5-10 minutes per day until the horses are grazing 4-6 hours per day total. At this point, they have adapted to the green grass.

What should I feed a horse that has foundered (laminitis)?

Laminitic horses should be fed to maintain moderate to low body weights so that excess weight does not aggravate the laminitis condition. Diets for horses with laminitis should contain digestible fiber sources and fat with little or no starch (soluble carbohydrates). Purina products to consider include Equine Senior, Equine Adult and Horse Chow (all designed to be fed with little or no hay), or Strategy or Ultium with hay. If the horse is an easy keeper, a good option would be one to two pounds Purina Born to Win per day with a warm season grass hay (in our part of the world that will probably be prairie grass hay).

How do I put weight on a thin horse?

I am often asked questions about putting weight on a thin horse. My initial reaction is to try to determine why the horse is thin in the first place.

When dealing with a thin horse, first we need to look at the horse's health status. Is the horse suffering from parasites, disease, chronic pain, or dental issues? These are all issues to be addressed by the veterinarian.

Another possibility is that the horse is getting old enough that its teeth are no longer adequate to chew long-stemmed hay. Hay is very fibrous, and as a horse ages, its teeth wear down to the point that the horse is unable to fully chew the hay, and, also with age, the horse's digestion and absorption in the gut becomes less efficient. Therefore, what hay and feed does get chewed and swallowed does not get fully utilized. In these situations I recommend feeding Purina's Equine Senior. Equine Senior was designed to contain enough roughage to be fed with no or minimal hay, so that the geriatric horse can get enough nutrients to meet its requirements without being able to chew adequately. The horse should be gradually switched from the current feed to Equine Senior, and then the amount of Senior will be gradually increased to compensate for the roughage the horse is unable to eat. There will come a time that a geriatric horse will not be able to utilize hay whatsoever, and will need to obtain all its nutrients from Equine Senior. For this reason it is not uncommon to feed 15 or more pounds per day of Equine Senior, especially if the horse is working. If the time comes when the horse's teeth are in such poor condition that the horse is no longer even able to chew the soft pellets, then water can be added to the Equine Senior to make a mash. (Note: the age at which a horse becomes a Senior is determined by the horse. Some horses need to be fed Equine Senior in their teens, others will do fine on Strategy or Omolene 200 and grass or hay well into their twenties.)

In many cases, the reason a horse is underweight is that it is just not eating enough calories. So, to put weight on a horse, first you need to determine how much the horse currently weighs and how much weight it needs to gain. An easy way to determine the horse's body weight is to use the Purina weight tape, which is available through your Purina Mills Dealer. To decide how much weight the horse needs to gain, you need to determine the body condition score of the horse. In general, most horses should be at a body condition score (BCS) of 5; broodmares should be 5 to 7. A BCS of 5 is a horse that you can look at from the

side and not see any ribs showing, but if you run your hand along the barrel you can easily feel the ribs. For more information, go to the Purina Mills website (horse.purinamills.com; click on Body Condition Scoring Chart).

For every condition score below 5, the horse needs to gain about 45 pounds, and a 1-pound gain requires about 8000 kcals over the calories required for maintenance. So, for example, if the horse needs to go from a 4 to a 5, it needs to gain 45 pounds, which is a total of 360,000 kcals. Obviously, we're not going to feed that in one day! It is safest to put weight on a horse slowly, so let's take 90 days for this example. 45 pounds of gain in 90 days is pound per day, a safe goal to aim for. About 4000 additional kcal per day over the normal amount fed should achieve_ pound of gain per day. This could be accomplished by adding 2 lbs of Strategy (3000 kcals) and 1 lb of alfalfa hay (900 kcals) per day. As in all cases, changes need to be made gradually to reduce the risks of digestive upsets.