Spring Grass – Avoiding Laminitis and Colic

So why is it important to manage the amount of grass your horse or pony gets in the spring time? The reason is that the grass growing at this time of the year is growing in ideal conditions and it is often high in nutrients called fructans – to which your horse's digestive tract is unaccustomed after a long winter on hay. Your pony or horses digestive system needs to be slowly conditioned to handle grazing on this type of grass.

"Fructans" in grass are a type of sugar. This sugar is part of photosynthesis (how plants get their energy from the sun) and is used to aid plant growth. On sunny days, fructose is produced in large quantities and stored within the blade of grass. When it cools off at night, these fructans are then used as fuel for grass growth.

Fructans are higher in the seasons when the weather is cool: spring and autumn. They are still present during hot summers, but not usually at levels that can be dangerous.

Here are a few key things you should know about fructan levels:

- **Higher** in stressed pastures than in lush grass
- **Lower** in new spring grass (first 3-6 inches), but also lower in fiber
- **High** in mature grass (8-10 inches), but also higher in fiber
- **Lower** in rainy, wet weather

How Do Fructans Affect Horses?

Fructans are a type of carbohydrate that horses cannot digest. Therefore, fructans must be broken down by the bacteria in the hindgut first so that they can be absorbed. Because they are a type of sugar, horses love to eat grasses that are high in fructans.

Horses that have been on hay all winter, or that are already prone to colic and laminitis can have their digestive tracts upset easily by high levels of fructans**.** Here's how it works:

1. The types of microorganisms in a horse's hindgut vary according to the types of food it eats. When a horse is suddenly put out on pasture after a winter of hay, the microorganisms aren't equipped to digest the high levels of fructans, and the bacteria die.
2. When the good bacteria dies off, the acidity of the hindgut is raised (lactic acid is produced) and harmful pathogens are released.
3. The lactic acid and pathogens are absorbed into the bloodstream and are known causes of laminitis.
4. When the acidity level of the hindgut increases quickly as it is prone to do when fructans are high, the horse can also get colic.

While some horses have a higher risk for colic and laminitis, they are very serious conditions that can affect any horse if it isn't managed carefully.

Spring Grass Management Tips to Avoid Health Risks

Fortunately, careful management in feeding and turnout can help protect your horse from health risks like laminitis and colic caused by high levels of fructans in grass. The key is to build up time on grass slowly.

Increase Spring Turnout Gradually and Maintain Grass

For all horses that have subsisted on hay all winter, introduce pasture time incrementally over a period of weeks. This might means restricting time on grass. Fructan levels tend to be highest on sunny afternoons so avoid turning your pony or horse out during these times if they have not had much grass over the winter.

Fructans levels are higher in pastures that are overgrazed or where grass is too mature. Rotate pastures to give them a break and try not to allow grass to get too mature.

What is Laminitis?

Laminitis is a painful inflammatory condition of the tissues that bond the hoof wall to the pedal (coffin) bone in the horses hoof. It can affect any horse, of any age or sex, at any time of the year. Although it is often thought of as a disease of fat ponies, laminitis can be triggered by a variety of metabolic or physical causes in any horse.

Laminitis is caused by weakening of the supporting lamina within the hoof, leading to painful tearing of the support structure suspending the pedal bone within the hoof. If laminitis is not treated promptly, the pedal bone drops (these cases are described as "sinkers") or the pedal bone can rotate downwards.

What components of the horses diet create the risk of laminitis? Lush green grass can have high levels fructans that can have a major impact on the horses digestion.

Horses digest their food in two ways

- Simple digestion. Once the food has been eaten it is digested by enzymes in the first part of the digestive tract. The nutrients are then absorbed from the digestive tract.
- Hind gut fermentation. Excess sugars (fructans are part of this group) and complex carbohydrates which require longer to digest, move onto the hindgut for fermentation.

Normally the bacteria ferment away slowly and horse absorbs the products from the bowel for use as an energy source. Excessive sugars arriving in the hind gut trigger laminitis.

What is Grass Colic?

Grass colic is a type of colic caused by gas build up in the intestinal tract. It can occur when a horse ingests too much grass to which he is unaccustomed. A horse is at risk of colic whenever his diet suddenly changes. This may happen without you doing anything in spring when the fructan levels in the grass that the horse is eating changes without any outward signs of change except that the grass is growing more quickly than before.

The Silver Lining

It would seem that spring grass is not a blessing for your hard worn paddocks after winter. However, if you have a pony or horse that has been struggling to keep weight on over winter or has flagging energy levels, then spring grass my put a bounce back in his step. Just make sure that the addition of spring grass to the diet is managed.