

Importance of Fiber in Horse Feed

What is Fiber?

Fiber is made up of several different types of carbohydrate and is the carbohydrate that horses cannot digest in their small intestine, but rather ferment in their hindgut. Fiber is called many different names, including 'structural carbohydrate', bulk, roughage, crude fiber ... the list goes on.

Why do Horses Need Fiber?

Fiber plays very important roles in the diet of horses. These are:

1. Fiber provides a source of energy (i.e. calories) for horses. While the horse itself cannot 'digest' the carbohydrates that form fiber (because like humans they don't have the necessary digestive enzymes to break it down in the small intestine), the horse houses billions of bacteria in its hindgut that do the job of digesting fiber for it. So, the horse provides the bacteria somewhere safe and warm to live and grow and in return the bacteria pass on to the horse most of the energy (calories) contained in the fiber.
2. Fiber provides the horse with 'gut fill'. The horse's gastrointestinal tract is an ENORMOUS organ and it needs to be kept full. The fiber in a horse's diet is what provides that bulk or roughage that keeps the gut full.
3. Fiber can soak up and hold water in the horse's gut, which acts as a water reserve for when horses need it.



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What Happens if a Horse Doesn't Get Enough Fiber?

Diets that don't provide a horse with enough fiber can cause major problems including:

Colic - if a horse's gastrointestinal tract is not kept full it is prone to twisting about and moving in ways that it can't normally when it is full of fiber. Unfortunately for the horse this can lead to serious colic that can only be resolved (if the horse is lucky) by surgery.

Diarrhea - low fiber diets very often result in loose sloppy manure, which in-turn affects the whole dynamic of how the gut works. Horses with diarrhea digest what fiber they do get less efficiently and they are prone to problems with dehydration and electrolyte deficiency.

Dehydration - horses on a low fiber diet don't have a readily available water reserve in their gut, meaning if they sweat heavily or spend an extended period of time away from water they are more prone to



dehydration than a horse on a high fiber diet. Problems with diarrhea as discussed above make this issue worse.

Energy deficiency - horses that aren't being fed enough fiber are also most likely not being fed enough energy (calories) so they may be losing weight or having difficulty gaining weight.

Boredom - horses on low fiber diets will often have a lot of spare time during the day that ordinarily, they would spend eating. This boredom will often lead to problems like cribbing, weaving and chewing on strange objects or eating dirt.

Constant hunger - because fiber is the part of the diet that provides the 'gut fill' a diet low in fiber will leave a horse always feeling hungry, which then causes its own set of problems including behavioral issues and even sand colic (see below).

Sand colic - when horses are fed low fiber diets it increases the chances that sand and dirt will

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accumulate in their hindgut and cause colic or severe diarrhea (which is partly also related to the fact that many horses on low fiber diets are always hungry and if housed on dirt or sand will be going around vacuuming everything off the ground, and picking up large amounts of dirt and sand in the process).

What Type of feed is high in fiber?

As you can see fiber is absolutely essential in a horse's diet. Feeds that contain a lot of fiber include:

- All types of hay and chaff
- All pastures
- Copra meal
- Sugarbeet
- Soybean hulls
- Lupin hulls
- Oat hulls; and
- Specific fiber feeds such as CoolFiber (a mix of copra meal and soybean hulls)

How Much Fiber Does a Horse Need per day?

The general rule of thumb is a horse should be fed an absolute minimum of 1% of its bodyweight in fibrous feeds (those listed above) per day. This equates to 1 kg fiber/100 kg bodyweight (which equals 5 kg fiber/day for a 500 kg horse). This, as already mentioned is the absolute minimum for any horse. Preferably a horse should be fed at least 2% of its bodyweight per day in fibrous feeds. This level will keep the horses gut full and provide plenty of feed to chew on to keep it happy.

Any of the feeds listed above can be used to provide the 'fiber' portion of a horse's diet. A second good rule of thumb to follow is to provide at least half of the fiber in your horse's diet as long stem fiber in the form of hay or pasture. The long stem fiber takes the horse longer to eat (so keeps them happier) and also makes them chew more, which encourages more saliva production, which is important for gut health too.

The Last Straw!

Horses evolved eating a high fiber diet and fiber is still the single most important component in your horse's diet aside from water. If your horse isn't getting enough fiber it can be facing serious consequences including colic, dehydration and diarrhea. So be sure to feed enough, it will keep your horses much healthier.

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