

THE IMPORTANCE OF FIBRE IN A HORSE'S DIET AND HOW TO CHOOSE THE RIGHT TYPE OF HAY



In order to comprehend the role of hay and pasture, you must first understand what fibre is. Fibre is simply the tissue that composes the main structure of plants (including the plants found in hay and pasture). Comparable to the structure of a house, fibre allows plants to stand up relatively straight while preventing infection by creating a protective barrier against illness and insects. Fibre consists of 4 main elements, each one possessing different levels of fermentability:

- Pectin: very fermentable
- Cellulose and hemicellulose: partially fermentable
- Lignin: non-fermentable

Fermentability is of importance because the large intestine is essentially a big fermentation chamber. It is here that the fibre contained in hay is digested through fermentation. This differs from the starch in grains which is digested by the enzymes in the small intestine. Within the large intestine, the animal is only able to use fermentable fibre, namely pectin, cellulose and hemicellulose. Non-fermentable fibre will be transformed into waste. With the help of essential bacterial flora, the large intestine transforms energy from fibre into volatile fatty acids. These volatile fatty acids can either be used as immediate sources of energy or transported to the liver where they can be converted to glycogen or fat reserves.

The digestibility of fibre contained in hay depends on the pasture's plant species and maturity. In the springtime, you may have already noticed that as grass is just beginning to grow, it is very flexible. This is because during the early stages of growth, grass contains more pectin, cellulose and hemicellulose than it does lignin. But as the summer progresses, higher proportions of lignin cause the plant to become increasingly solid and stiff, and thus less digestible for the horse. Two different hays can vary greatly in their composition. For this reason, all changes to a horse's diet must be made gradually. While this concept is widely accepted when it comes to changing a horse's feed, we often forget its importance when transitioning the horse to a new hay or forage. Gradual transitions are most critical when putting a horse to pasture. Grasses available to grazing horses are much different from the dry hay served inside. Outdoor pasture is much more fermentable than dry hay since it contains less lignin and its nutritional profile is very different. As with any other food, it needs to be introduced gradually to avoid disrupting the bacterial flora in the large intestine; lignin cannot be digested by the same bacteria as the other types of fibre. Given that any imbalance in the large intestine can lead to colic and laminitis, it is important to take all necessary precautions.

HAY BALES: ROUND OR SMALL?

Should we choose round bales of hay, or are square ones better? As it turns out, dry hay remains exactly the same regardless of whether it is tied into round or square bales. The main difference lies in storage methods. Tying hay into round bales is more difficult since it takes longer for the hay to dry enough to be put into bales. Round bales served in the field result in more waste since horses tend to trample over the hay and use it as a litter when it is not served in a suitable trough. Those using round bales must be sure to have a shelter to protect the bales from bad weather; rain, snow and wind increase humidity and dust, bringing about all sorts of

health risks for the horse. And be careful about wrapping moist or semi-dry round bales of hay; a small, dead animal, inadequate pH levels or excessive fermentation may put the horse at increased risk of botulism. When it comes to the serving process, round bales clearly tend to be more practical, especially if you're keeping groups of horses outside. That said, given the health risks, it is important to consider the above points before making your decision.

SERVING FIBRE: HOW AND HOW MUCH?

Your horse's daily ration should include a minimum of 1% of its weight in fibre. Although this serves as a general guideline, we typically aim for a daily intake equivalent to 1.5 to 2.5% of the horse's body weight. Fibre should comprise at least 50% of a horse's ration. Exceptions include the growing foal and the heavily worked horse who must often be served a higher percentage of concentrates in proportion to the amount of fibre.

It is preferable to serve hay in several small meals or else make it available at all times; a horse's capacity to store food is limited and its gastrointestinal tract functions quickly. For this reason, the horse needs to eat frequent, but small meals. Eating in this way prevents gastric irritations and reduces the risk of stomach ulcers.

If your horse is too fat and needs to lose weight, it is recommended that you decrease its portion of grains or feed before reducing its fibre intake. If, however, your horse remains overweight on a ration composed entirely of hay or pasture, you will need to either limit its portion of hay and/or its hours of grazing time. You must still ensure that your horse consumes a minimum of 1% of its weight in fibre. Combined with a change in diet, an increase in exercise is proven to be the best strategy for helping your four-hooved friend lose those few extra pounds.