

Super Fibres

Not all fibre is the same and, depending on its origins, it can vary widely in terms of quality and digestibility.

Fibre consists of three main substances: cellulose, hemicellulose, and lignin. Lignin is considered 100% indigestible by either horses or the bacteria they harbour in their digestive tracts; it is the very hard fibre that gives plant material its rigidity (trees are high in lignin; tender young grass shoots are low). Cellulose, and to a certain extent hemicellulose, however, are digestible, and it is from these two that horses derive most of their digestible energy requirements.

Cellulose and hemicellulose, which stem from the non-seed and non-fruit portions of a plant (such as the leaves, stems, and hulls), also are known as insoluble fibre. Soluble fibre (which makes up a relatively minor portion of the fibre in a horse's diet) is fibre stemming from the "liquid" portions of a plant: the resin, sap, pectins, and mucilages.

All plant-eaters use nearly all of the soluble fibre they ingest. But the degree of insoluble fibre that horses use varies. The sooner bacteria go to work breaking the beta-bonds, the higher the percentage of the fibre that is used by the horse; but even insoluble fibre that is not digested has its place in the equine diet. It helps maintain gut motility and function, as well as preventing the too-quick consumption of carbohydrates, which are readily digested and sometimes can cause digestive upset if not "cushioned" by the presence of fibre in the colon.

Products like Beet Pulp and Soya Hulls are often referred to as a "super fibres" due to their high digestibility and ease of fermentation. The reason is the lack of lignin in the fibre. Tall pastures and overly mature hay cannot be digested well by horses because of the high lignin content in the plant to give the stalk strength. In addition, high lignin content fibres like peanut hulls, oat hulls and rice hulls have very low fermentation properties and are, therefore, very low in caloric content. Super fibres like Beet pulp, on the other hand, have about the same caloric content as oats.

It is unusual to have a fibre product that is so completely and easily fermented by the horse's digestive system and still provides the calorie content of a grain product. This describes the advantage of using these so called super fibres in the diet. With the current focus in the horse industry on lowering non-structural carbohydrates(NSC) in equine diets (starches typically derived from grains easily causing digestive disorders), it is important to note that some super fibres have an average NSC of around 12%. This fact, combined with their good calorie content and ease of fermentation make them an excellent ingredient for formulating high fibre, low carbohydrate diets. The use of super fibre diets can benefit not only older horses but also horses suffering from gastric ulcers, respiratory issues, metabolic diseases and many other feeding situations.