

## **Sugar Content of Hay is Important When Managing Laminitis Risk**

Sugars (ESC) and small quantities of starch are digested in the horse's stomach by the enzyme amylase. This rapidly releases glucose into the bloodstream and triggers the release of insulin, which regulates blood sugar levels. Raised insulin levels can induce laminitis (Asplin *et al*, 2007) and the higher the insulin levels the more severe the laminitis (Walsh *et al*, 2009)

When selecting forage, if the sugar (ESC) and starch levels are not known, the effects on blood glucose and insulin cannot be predicted or managed. Independent advisors propose a maximum 10% combined sugar and starch in all feeds (including forage) to reduce the risk of hyperinsulinemia and therefore prevent insulin induced laminitis [www. ecirhorse .org 1 July 2016].

Controlling sugar and starch intake from grazing can be even more difficult, as pasture has been shown to undergo circadian and seasonal variation in Non Structural Carbohydrates (NSC) which includes sugars, starches and fructans. Pasture NSC levels correlated with ambient temperature, solar radiation and humidity and was linked to alterations in blood plasma glucose and plasma insulin levels of grazing horses (McIntosh, 2006). Management of horses and ponies at risk of laminitis used to be focused on limiting fructan intake, but dietary glucose has been shown to cause a higher rise in blood sugar and insulin levels than fructose or inulin (a form of fructan) (Borer *et al*, 2012).

Variability in pasture nutritional value and quantity can make it very difficult to manage the intake of sugar and starch. A grazing management strategy using Feetfirst Hay as the main source of forage offers consistency and reduces the risk of excessive sugar intake and the resultant laminitis. Every batch of Feetfirst Hay has been sampled, fully analysed and shown to be less than 10% combined sugar and starch.

**Simplicity\* Reliability\* Flexibility**

