



Feeding the Laminitic Horse

March 2010, by Dr. Nerida Richards [with some changes from Claudia Garner]

Dr. Richards is affiliated with [FeedXL, a website that helps you balance your feed](#)



Laminitis can be time consuming, painful for your horse and heartbreaking for you. A proper diet can make it a whole lot easier.

Low sugar is vital (we could get all very technical here and call sugars non-structural carbohydrates, water soluble carbohydrates, starches, ether soluble carbohydrates or non-fiber carbohydrates, but let's just keep it simple and say 'sugar'). Sugar results in high blood insulin after eating and is believed to be the major cause of laminitis and certainly most cases of grass or pasture laminitis. Good quality protein is important for aiding in hoof tissue repair and meeting requirements for vitamins and minerals is also a must.

The good news is, feeding a laminitic horse doesn't have to be difficult. The following are some guidelines for making it a lot easier, by firstly getting the basics right, then fine-tuning for weight changes, and finally some tips on dealing with boredom and associated problems like hoof repair.



Getting the basics right

1. A low sugar forage should make up most of the diet
2. Never feed grain, grain by-products or molasses
3. Make sure the diet is balanced for vitamins and minerals

Base the diet on low sugar pasture or hay

All horses' diets should be based on forage and the laminitic horse is no different. However, they need low sugar forages. There are a few ways you can give your horse access to *low sugar* forages. These are:

- Graze in the very early hours of the morning until about 11 am as this is when pasture sugar levels are lowest. If you are unable to control the hours of the day your horse is allowed to graze, use a grazing muzzle to reduce your horse's intake of pasture.
- Feed hays that are typically low in sugars. These include mature or stemmy tropical grass hays and mature or stemmy Lucerne hay (including Lucerne hay that has been weather damaged). [Lucerne hay is alfalfa in the US and is not a hay, but a legume]
- If you can't access these kinds of hays, soak the hay you do have available in warm water for 30 minutes, before tipping all of the water off, rinsing and feeding.
- Avoid any hays that are known to have high levels of sugar, including ryegrass hay, oaten, wheaten or barley hay.
- Lucerne haylage or silage that has been produced specifically for horses is also a low sugar forage option (check there is no molasses added).

Never feed a grain or grain by-product based feed

If your horse needs extra feed in addition to the low sugar forage you are feeding you must be very careful when selecting a suitable feed. You should never feed a feed to a laminitic horse if it has any of the following ingredients:

- Oats, corn, wheat, rice or barley
- Millrun, mill mix, bran (rice or wheat), pollard, middlings
- Any form of steam flaked, micronized or extruded grain

So read all labels and lists of ingredients carefully before buying a feed. And it is buyer beware. Many feeds that contain grain by-products like millrun, bran or pollard advertise themselves as being 'grain-free'. This is grossly misleading and these feeds present as much danger to your laminitic horse as a feed that contains grain. Other feeds claim to be 'Low GI', but again, if they contain any of the ingredients listed above, they should be avoided for laminitic horses. And finally, watch out for molasses added to feeds as this can make a feed high in sugar. Again, FeedXL will help you select suitable feeds that do not contain these ingredients by highlighting all unsuitable feeds in the database red for laminitic horses. Very few feeds are truly suitable for a laminitic horse.

Make sure the diet is balanced!

It is very important to make sure the diet you are feeding your laminitic horse is balanced. Meeting the laminitic horse's requirements for protein, amino acids, vitamins and minerals will



help them recover from any previous bouts of laminitis, help them to resist other disease and infection and will keep them in good overall health.

Fine Tuning the diet

Feed according to your horse's need to gain, hold or lose weight

Assess the body condition (fatness) of your horse and have a clear goal in mind as to whether you want the horse to gain, hold or lose weight. Look for the help document in FeedXL on body condition scoring, or the newsletter for descriptions and photos of each body condition score.

To gain weight

If the goal is to gain weight you should:

1. Provide your horse with access to as much low sugar pasture or hay as it wants to eat.
2. Feed a low sugar complete feed at the recommended rates for your horse's bodyweight and current activity (only use the complete feeds that are not highlighted red in FeedXL). Complete feeds will provide your horse with the calories, protein, vitamins and minerals it needs.

OR

Mix your own low sugar balanced feed by using high calorie unfortified feeds like soybean hulls or sugar beet pulp, add your own vitamins and minerals via a low dose rate vitamin and mineral supplement and add protein from soybean, lupines or fava beans. [or better even from chia seeds]

3. If additional weight gain is needed add some oil to the diet. Start with $\frac{1}{4}$ of a cup per day and gradually increase the amount if required. [but make sure this is "good Oil" like coconut oil, hemp oil, flax oil]

To maintain weight

To maintain your horse's weight, you should:

1. Allow the horse access to up to 2.5% of its bodyweight of low sugar forage (12.5 kg for a 500 kg horse) per day.
2. Balance the diet with a low dose rate vitamin and mineral supplement and additional protein from soybean, lupines or fava beans if your pasture or hay quality is poor.
3. Monitor your horse closely. If it is not holding its bodyweight on this diet, increase the amount of low sugar forage you are feeding and reassess your horse. If it still isn't holding its bodyweight you can add a high calorie, low sugar unfortified feed like soybean hulls or sugar beet pulp to the existing diet.

OR

Switch to using a low sugar complete feed at the recommended rate for your horse.



To lose weight

If your horse needs to lose weight you must do it carefully, as forcing the laminitic horse into rapid weight loss can also stop them from healing their damaged hoof tissue and may cause other problems like hyperlipaemia (severe metabolic disorder). To gently encourage your horse to lose weight you should:

1. Feed up to 2% of your horse's body weight (10 kg/day for a 500 kg horse) per day as low quality, low sugar forage, including mature or stemmy tropical grass hays and/or weather damaged Lucerne hay.
2. Balance the diet with a low dose rate vitamin and mineral supplement and good quality protein from full fat soybean.
3. Constantly assess your horse's body weight and adjust the diet according to the rate of weight loss. If your horse is not losing weight, reduce the amount of low sugar forage being fed to 1.5% of the horse's current bodyweight (7.5 kg/day for a 500 kg horse). If this reduction doesn't achieve the weight loss you want, reduce the amount of forage being fed to 1.5% of the horse's ideal bodyweight.

Preventing boredom

To prevent boredom in these horses, make their forage hard to eat so it is more time consuming for them. One way you can do this is by placing their hay in 2 or 3 hay nets, which makes the hay hard to pull out. If you do feed hay out of hay nets you may need to dampen it down slightly to reduce dust. You should also feed their daily allocation of hay in 2 or 3 meals per day. If the horse is able to exercise, a gentle exercise routine each day will also help them to lose weight and reduce their risk of further bouts of laminitis.

Assisting hoof repair

Feeding a low sugar diet will help to prevent further damage to your horse's hooves. Providing high quality protein that contains good levels of the essential amino acids lysine and methionine (soybean and canola meal are good examples of high quality protein) as well as making sure your horse is getting its essential vitamins and minerals will give your horse the building blocks it needs to repair damaged hoof tissue.

If you find your horse's hooves are taking a long time to respond to a well-balanced, low sugar diet, you may find the addition of biotin to the diet is helpful.

By using FeedXL to balance your laminitic horse's diet you will ensure you avoid unsuitable feeds and that you meet your horse's requirements for good health and hoof repair.