



**RESPONSIBLE
HORSE OWNER BOOKLET**

GETTING THE RIGHT NUTRITION



MSD
Animal Health

INTRODUCTION



A balanced diet is crucial in helping to ensure a fit and healthy horse. Horses have evolved as trickle feeders, designed to be chewing or occupied by feed for a large portion of their day.

Their digestive systems are primarily designed to digest fibre and, therefore, forage (hay/haylage/grass) should represent the majority of their diet. As we expect much more of the domesticated horse in terms of workload, and often the forage provided is limited or of less than ideal quality, a forage only diet is unlikely to provide all the nutrients a horse needs. However, don't forget that forage is essential to keep a population of healthy hindgut bacteria.

Although changes in body weight often mean it is obvious when calorie/energy requirements are not being met, whether vitamin and mineral requirements are being met

is often less obvious. In their domesticated situation, forage may not be able to meet a horse's nutritional needs on its own so supplements or hard/compound feeds (mixes, cubes, balancers etc) may need to be fed to complement the forage.

This guide is part of a series covering a range of different topics to help you keep your horses healthy.

For more information and to gain access to the rest of the series, please visit our website: www.healthyhorses.co.uk or find Keeping Britain's Horses Healthy on Facebook and Instagram.



BASIC FEEDING DO'S AND DON'TS

- **Feed little and often** – due to the design of the horse's digestive system (designed to trickle feed rather than eat large meals), the stomach only represents around 10% of his digestive capacity. As a result, meal sizes need to be small – for a 500kg horse we would recommend that meal sizes don't exceed 1.8kg (dry weight)

- **Try and promote a good routine** – horses thrive on routine and therefore promoting this through feeding and management can help to reduce stress

- **Feed plenty of fibre** – as a trickle feeder, providing ample fibre helps to satisfy the horse's psychological need to chew and in doing so also helps to keep the digestive system healthy

- **Provide clean fresh water at all times**

- **Avoid making sudden diet or management changes** – doing either will present a significant challenge to the digestive system causing the healthy microbial population to be disrupted, which can lead to colic or diarrhoea

- Feed each horse as an individual, taking into account workload, age, body condition, type, time of year and reproductive status

- Hindgut health can be supported through the use of certain feed supplements containing pre and postbiotics

- If necessary supplement the forage with an appropriate concentrate source (eg a balancer to provide vitamins and minerals) fed at the manufacturer's recommended levels to ensure that the diet is fully balanced and the horse is not missing out on essential nutrients



MATCHING FEED TO WORKLOAD

As workload increases, so does the requirement for certain nutrients – in particular antioxidants and quality protein.

As such, it is important that horses are fed a feed that is appropriate for their workload as well as ensuring they are fed the full recommended amount.

If feeding the full recommended amount of your chosen feed is providing too many calories/energy then you may need to opt for one with fewer calories/energy or reduced volumes can be fed, but you will need to top up with a balancer to ensure the diet is still balanced.

Assessing how much work your horse is doing can be tricky.

The table below will help act as a guide but you may need to adjust this if your horse does not maintain his optimum weight.

Workload	Typical Activities	Feed Type
Rest/Light	Quiet hacking, light schooling 1-3 times per week	Feed a balancer or if necessary a low energy feed
Moderate	Daily hacking 1-2 hours, schooling 30-60 mins, riding club competitions, show-jumping	Medium energy
Hard	Racing, endurance, three day eventing, hunting (2-3 times per week)	High energy



MONITORING BODY CONDITION/WEIGHT

It's advisable to monitor body condition and weight regularly, where possible at least every 2 weeks.

If there are any concerns regarding weight or condition, more regular monitoring would be desirable. In an ideal situation, you would use a weighbridge to measure your horse's bodyweight, however, most people do not have regular access to this. A more manageable approach would be to use a combination of a weighttape and body condition scoring (BCS).


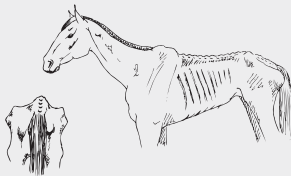

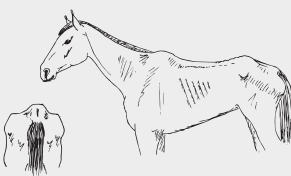
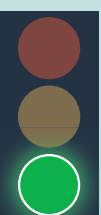
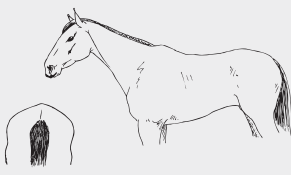
Although weighttapes are not 100% accurate for actual bodyweight, they are very good at giving you an indication of whether a horse is gaining or losing weight. Remember to always measure from the same point for consistency. It must be remembered that they are not accurate for pregnant mares or horses which are severely underweight.


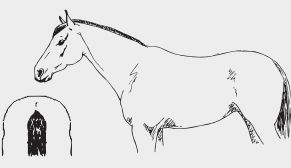




BCS is a measurement of the amount of stored fat on the horse's body and is assessed through both look and feel of the horse. This gives us an idea of how well a horse's calorie requirements are being met.

If possible, monitor body condition and bodyweight at the same time of day (in relation to the horse's routine) in order to reduce variation. In addition, having the same person monitoring each time would be best.



BODY CONDITION SCORING

 0	<p data-bbox="392 518 526 542">EMACIATED</p> <ul data-bbox="616 518 1019 654" style="list-style-type: none"> • Marked 'ewe' neck, narrow and slack at base • Skin tight over the ribs, which are clearly visible • Spinous processes sharp and easily seen • Angular pelvis, skin tight, very sunken rump Deep cavity under tail and either side of croup 
 1	<p data-bbox="414 790 504 813">POOR</p> <ul data-bbox="616 790 1019 949" style="list-style-type: none"> • 'Ewe' neck, narrow and slack at base • Ribs clearly visible • Skin clearly shrunken either side of spine Spinous processes well defined • Rump sunken but skin supple, pelvis and croup well defined, cavity under tail 
 2	<p data-bbox="392 1061 526 1085">MODERATE</p> <p data-bbox="616 1061 996 1085">Normally ideal for a fit racehorse or eventer</p> <ul data-bbox="616 1093 1041 1276" style="list-style-type: none"> • Neck narrow but firm, shoulder blade clearly defined • Ribs just visible • Spine well covered Spinous processes felt but not seen • Rump flat either side of spine, croup well defined, some fat, slight cavity under tail 

 3	<p data-bbox="1534 518 1624 542">GOOD</p> <p data-bbox="1736 518 2161 542">Normally ideal for most show and leisure horses</p> <ul data-bbox="1736 550 2139 734" style="list-style-type: none"> • Firm neck, no crest (except stallions), shoulder blades defined • Ribs just covered, easily felt • No gutter along back Spinous processes covered, but can be felt • Pelvis covered by fat and rounded, no gutter, pelvis easily felt 
 4	<p data-bbox="1545 790 1612 813">FAT</p> <ul data-bbox="1736 790 2161 949" style="list-style-type: none"> • Slight crest on neck, wide and firm • Ribs well covered • Gutter along spine to root of tail Fat stored either side of the spine to form slight 'apple bottom', with a gutter down the middle • Pelvis covered, felt only with firm pressure 
 5	<p data-bbox="1534 1061 1624 1085">OBESE</p> <ul data-bbox="1736 1061 2161 1244" style="list-style-type: none"> • Marked crest, very wide and firm, creases of fat Shoulder blade buried and difficult to feel • Ribs buried, cannot be felt • Deep gutter along spine, back broad and flat Deep gutter to root of tail, producing marked apple bottom, skin distended • Pelvis buried, cannot be felt 

Adapted from Carroll and Huntingdon (EVJ 1998). Images obtained with kind permission from World Horse Welfare.

For more information on weight management and body condition scoring visit <http://www.worldhorsewelfare.org/Right-Weight>

FEEDING TIPS FOR WEIGHT CONTROL OR LOSS

Forage

- If feeding hay/haylage, a late cut (coarser, more stalky) type is likely to be less nutritious and therefore more suitable
- If feeding hay (particularly if it is good quality and there is no option to change) you could consider soaking it. Soaking for 14-16 hours has been shown to reduce sugars and calories (soaking time would need to be reduced in warmer weather to reduce chances of fermentation)
- To maintain fibre intake and gut health never feed less than the equivalent (dry weight) of 1.5% of the horse's bodyweight per day

- If using haylage, consider that due to the moisture content of haylage, you are likely to need to feed more (up to 1.5 times, by weight) of this, in comparison to hay in order to meet minimum fibre requirements, so make sure you add this into your calculations
- Use management techniques to extend eating time of forage eg. small-holed nets or one haynet inside another
- If a horse is out on grazing, consider restricting this – whether this is through strip grazing, the use of grazing muzzles or turnout in an arena or bark paddock with supplementary hay/haylage

Hard Feed

- Ensure the diet is balanced – the best way to ensure this without providing excess calories is to feed a balancer or a low calorie chaff-based feed that is balanced with vitamins and minerals. Always feed at recommended levels



Overweight horse with large crest and fat deposits over neck, shoulder, ribs and quarters.

Image courtesy of www.baileyshorsefeeds.co.uk

FEEDING TIPS FOR WEIGHT GAIN

Forage

- Ideally feed forage (hay/haylage/ grass) ad lib so the horse has access to it at all times
- Remember that forage represents a large part of the horse's diet, therefore the better quality forage you can provide, the less reliance may be put on hard feed
- Earlier cut hay/haylage is typically more nutritious than later cut forage

Hard Feed

- Ensure meal sizes are kept small and, if possible, divide the daily ration over three or four feeds
- Provide a suitable conditioning feed that is designed to help with weight gain
- If you are struggling to feed more than twice a day and still need to increase calorie intake, you can consider oil or high oil products that are very calorie dense

Remember to consult your vet if you are trying to get your horse to gain weight. There may be underlying issues which need addressing. If these are left undetected and untreated your horse will not gain weight.

Underweight horse: underdeveloped topline and angular appearance. Scapula, ribs and hips are easily discernible.



Image courtesy of www.baileyshorsefeeds.co.uk

POTENTIAL PROBLEMS

In simple terms, not providing your horse with a balanced diet may, at best, result in your horse having insufficient energy, a dull, lacklustre coat or poor hoof condition, and at worst it could lead to more serious illness.

As the horse is designed to trickle feed on a high fibre diet, when this is not achieved and the horse is without adequate fibre for a significant period of time, the digestive system is negatively affected, which can lead to problems such as colic and gastric ulcers.

Likewise, any situation where the digestive system is overloaded with sugars and starches, may cause problems leading to laminitis, colic or gastric ulcers.

Any horse which has suffered from a nutrition-related problem should be fed with this in mind – if you have any specific queries, it is best to speak to your vet or nutritionist.

If you have chosen the correct feed for age, clinical condition eg. laminitis, workload and calorie/energy requirements, and are feeding the most appropriate forage source but are still having difficulties or are not sure whether you are on the right track, seek veterinary advice to rule out any underlying problems and then speak to a nutritionist to ensure the diet is the best it can be for your horse.

This is particularly important for clinical cases as choosing the wrong feed or management method could potentially make a situation worse.

In particular, as horses get older they may suffer from conditions such as equine metabolic syndrome or PPIID (Cushings), where careful consideration to their diet can assist in management.



Pony's feet demonstrating the changes which occur with chronic laminitis. Note the hoof rings are wider at the heel than at the toe.

WHAT SHOULD I DO NOW?

Ask yourself:

1. Is my horse the right weight?
2. Is my horse on the right amount of food for his requirements and workload?
3. Is my horse on a balanced diet?

Where can I go for further information?

- Your vet
- To find a vet in your area findavet.rcvs.org.uk/find-a-vet
- An equine nutritionist
- www.healthyhorses.co.uk
- For more information about prebiotics and postbiotics www.coopers-range.co.uk





Further information
is available from:

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