By Appointment to His Majesty The King
Horse Feed Manufacturers, Dengie Crops Ltd, Essex

Dengie

WEIGHT MANAGEMENT & LAMINITIS GUIDE

THE UK'S FAVOURITE FEED

LOVE FIBRE

www.dengie.com

How to manage horses and ponies at risk of laminitis

Laminitis is a potentially fatal or life-altering disease and so if you suspect your horse or pony may have laminitis you should contact your vet. One of the most significant risk factors for laminitis is obesity. If you want to reduce your horse or pony's risk of getting laminitis it is essential that you maintain them at a healthy weight. We know this is not always easy; studies have shown that horse owners tend to underestimate their horse's body fat score so think they are thinner than they are and finding the balance between giving enough fibre to maintain a healthy digestive system without promoting weight gain can be tricky. This guide is intended to cover some key areas but there is a lot more information on our website. Our expert team of nutritionists are available to help create personalised feeding plans and answer any queries you have.

Scan the QR code to watch our helpful video for expert insight, practical advice and product guidance to help manage your horse or pony's weight.

Getting started

Is my horse or pony overweight?

The image above shows a sports horse with a fat score of 3 on a 5 point scale.

Body Fat Scoring, also known as Body Condition Scoring, provides images that you can compare your horse or pony to. At Dengie we use the 0-5 scale, a copy of the chart can be found on page 30 of this guide.

A fat score of between 2.5-3.5 is in the healthy range. We purposefully don't use the definition ideal as there are situations where it is acceptable for a horse to be lean. For example a score of 2.5 is acceptable for a fit athletic horse competing or racing as well as for horses and ponies that have a history of laminitis or that have Pituitary Pars Intermedia Dysfunction (PPID or formerly known as Cushing's Disease).

The image above shows a pony with a fat score 2.5 on a 5 point scale.

My horse is overweight what should I do?

Taking action is key. If your horse is overweight it is very likely they will continue to gain weight unless you change something about their regime and it is much better to do this before they get laminitis. The first step is to monitor them by using a weigh tape every two weeks and body fat scoring them every month. Record this information as over time you will build a picture of how your horse changes and you will start to identify when they typically gain weight.

Weigh tape every two weeks, consistently by the same person, at the same time of day; ensuring the horse is stood square.

A graph plotting your horse or pony's progress in addition to taking photos – see pages 26 and 28 in this booklet – is useful to monitor progress and changes. Images are also useful for our nutritionists if you would like their thoughts on what Body Fat Score to give your horse.

For Fat Scoring you have to get hands-on and feel the level of fat over the horse or pony's skeleton. If you're unsure how to Weigh Tape or Fat Score or need to refresh your skills, scan the QR code to watch our short film.

SCAN TO LEARN MORE

How long will it take to lose weight?

A healthy weight loss is suggested to be between 0.5 and 1% of bodyweight per week. If a 500kgs horse should be 450kgs it will take 5.5 months to get there at 0.5% weight loss per week and 2.25 months at 1% per week. Lots of factors will contribute to the rate of weight loss other than diet which include temperature, amount and intensity of exercise.

Above is Rocky. He is a 15.2hh Connemara x, who competes in riding club activities, he is schooled & hacked 4-5 times a week for approximately 45 minutes – 1 hour. His diet consists of Dengie Ulser Lite plus a performance balancer which provides him with a balanced diet and a low-calorie source of fibre to increase chew time. Rocky is also fed 6kgs of a 50:50 blend of hay and oat straw in a small-holed net. He is turned out for around 8 hours a day and wears a muzzle whenever there is a lot of grass in the paddock. The Dengie Nutrition Team visit the yard twice a year to monitor his weight, and his owner regularly weigh tapes, fat scores and records the details between visits so any changes can be discussed.

Forage

How much should I feed?

The horse has evolved to spend most of its time eating – up to 18 hours every day – and it is suggested that horses will typically eat between 2 and 2.5% of their own bodyweight per day of dry matter.

However, many consume much more; ponies, can consume twice as much if left to their own devices on good pasture!

Even 2% of low nutritional value feed such as forage can be too much for some good doers.

It is widely accepted that 1.5% of bodyweight as dry matter should be the minimum amount of forage fed for long term management of good doers

Obviously if you can feed more than this without the horse or pony gaining weight then that's ideal.

Should I soak my hay?

Soaking hay is often done for hygienic reasons and straw can also be soaked to reduce dust too. Soaking can also remove some water soluble carbohydrate (WSC).

Warmer temperatures of water have been shown to remove more WSC – up to 46% - but it is not easy keeping water at that temperature for a prolonged period and results are variable. If a hay is very high in sugar, then soaking won't necessarily get it down to the target 10-12% so finding a low non-structural carbohydrate (NSC) forage is the preferable option.

We recommend soaking hay overnight in cool conditions but only for a couple of hours in warmer summer months to ensure it is safe to feed

Try to source forage that has a maximum combined WSC & starch (NSC) value of 10% on a dry matter basis.

What type of forage should I use?

The type of forage used is important too. It is better to be able to feed more of a lower nutritional value forage than less of one that has a high nutritional value. Straw can be useful when used as part of the total forage ration. Recent research by Jansson et al (2021) has shown that feeding up to 50% of the forage ration as straw is acceptable and doesn't increase the risk of Equine Gastric Ulcer Syndrome (EGUS). When using typical energy values for straw and average hay, replacing 50% of hay with straw can reduce energy intake by around 20%. If straw replaces even higher energy value forages the reduction in energy intake can be even greater.

Replacing 50% of the hay with straw can reduce energy intake by around 20%

Just a note of caution, straw is not recommended if your horse has poor teeth or a history of impaction colic. As with all new forage, try to introduce straw gradually and mix it in with the other forage used so the horse is not consuming all the straw in one meal.

The aim with forage is to try and keep the NSC content below 10% NSC to help maintain a normal glycaemic and insulinemic response. Levels of NSC above 16% typically elicit an exaggerated response and so could act as a trigger to laminitis in a predisposed horse or pony. In the Jansson et al study, the use of straw slowed the rate of eating so significantly that the insulinemic response was negligible – another potential benefit of feeding straw. In theory, a true haylage with a dry matter content of between 50 and 65% should have a low level of sugar as it will have been fermented during the preservation process. The challenge with haylage is that it is often more digestible than hay and so horses tend to do better on it and so gain more weight.

It is also worth considering that many haylages are actually "wrapped hays" in that they have been dried almost to hay i.e. 80% dry matter, and so are too dry to ferment. Analysis of these forages shows that sugar levels are just as you would expect to find in a normal hay.

Making forage last longer

The aim is to keep the period of time the horse doesn't have access to forage as short as possible. Once you have calculated the total daily amount of forage the horse requires, try to divide it into as many small meals as possible throughout the day. If you are using haynets then multiple small-holed nets around the stable can help to slow intake; a net with 25-30mm holes slowed intake by 5 minutes per kg of forage compared to a net with 75mm holes. Hay balls have also been shown to reduce the rate of intake compared to feeding from the floor.

Can I turn my horse out to pasture?

If your horse is showing any signs of laminitis, has been diagnosed with Equine Metabolic Syndrome (EMS), has Insulin Dysregulation (ID) or is significantly overweight or obese, grass presents a serious risk of causing laminitis and should ideally be avoided. If your horse has had laminitis in the past but is now at a healthy weight, some access to grass is usually possible but it may be necessary to remove them completely at key times such as when there is a flush of grass growth. Restricting grass intake can be achieved through strip grazing and track systems as well as the use of a grazing muzzle. It is also possible to have "turn out" areas that have no grass i.e., wood chip or sand paddocks; these can allow the horse to interact with other horses and move around more which is generally beneficial for their health and welfare.

Why feed at all?

The simple answer is that forages do not contain all the nutrients a horse needs particularly those in work, youngsters and breeding stock. Plants reflect the soil they are grown in and as UK soils tend to be very low in trace minerals such as selenium and copper, these are not present in forages in sufficient quantities to meet a horse's needs.

Most good doers simply need a good source of vitamins and minerals alongside their forage ration. This can be supplied in the form of a balancer or supplement. If a horse is on limited forage intake we would recommend using a high specification of supplement or balancer to make up the shortfalls in essential nutrients that forage would normally provide.

The addition of a chopped fibre feed to slow the rate of consumption of the balancer is particularly important for horses and ponies with insulin dysregulation (ID) such as those with EMS and PPID. A study by Macon et al (2021) showed that a balancer was sufficient to elicit an exaggerated insulinaemic response in those with ID but the important thing to note is that it was consumed in around 10 minutes. If we can slow the rate of intake using chopped fibre feeds, the insulinaemic response is likely to be reduced.

Both balancers and supplements are fed in very small amounts and so a chopped fibre feed is commonly used to provide more chew time and act as a conduit for the supplement. Should you need further help and support or a personalised diet plan please contact the Dengie Feedline on **01621 841188** or scan the QR code to complete our Feed Advice Form.

Feed Advice Form

Energy v Sugar

An area that often causes confusion is that products that are lowest in energy (calories) are higher in sugar. It is important to remember that all the Dengie feeds are relatively low in sugar, it's just that when they are compared to one another, some contain more sugar than others. There are two groups of ingredients that make up the majority of Dengie feeds: the fibre sources – straw, alfalfa and grass, plus the coatings – molasses and rapeseed oil. These are the ingredients that provide nutrients such as protein and fibre as well as being the main sources of energy in the feeds. It is the relative proportions of these core ingredients that determine their nutrient levels.

There are two ingredients that contribute higher levels of sugar to the feeds which are grass and molasses. If we don't use molasses then a light oil coating needs to be added. This is because fibrous ingredients such as grass, straw and alfalfa are very prone to shattering and can make the feed look very bitty. The coating provides some moisture to reduce the shattering whilst also helping disperse other ingredients such as herbs, vitamins, and minerals through the feed. Oil coatings provide more energy than molasses which is simply because oil is more energy dense than carbohydrates such as sugar.

Alfalfa is naturally very low in sugar but contains more energy than straw and so if we use alfalfa it helps to keep the sugar content down but the energy level comes up a bit. Grass is a popular ingredient in fibre feeds but any product with grass in will have higher levels of sugar than those that don't. This is why we use it sparingly in feeds for those prone to laminitis.

Alfalfa is naturally low in sugar & starch

Straw is a useful low-calorie fibre

Grass naturally contains more sugar than alfalfa

Molasses coatings contribute to sugar levels

Oil provides slow-release energy

Do you just want a small amount of chopped fibre to mix a supplement or balancer in?

Meadow Lite with Herbs, Hi-Fi Molasses Free, Hi-Fi Lite and Ulser Lite are all suitable options. Choosing which one is right for your horse or pony depends on a number of factors. Ulser Lite is a soft blend of fibres so suitable for those prone to ulcers. Hi-Fi Lite has a light molasses coating and so can be helpful for hiding medications or for tempting really fussy feeders. Hi-Fi Molasses Free has an oil coating making it slightly higher in slow release energy so may be the best option for those in work. Meadow Lite with Herbs is pellet-free so provides the most chew-time for the least calories if your aim is to keep your horse or pony occupied for as long as possible.

Are you looking for a balanced feed that you can use without needing to feed an additional supplement or balancer?

Dengie Healthy Hooves Molasses Free contains vitamins and minerals so nothing else needs to be fed to provide a balanced diet **IF** they are fed at recommended levels. They offer a convenient way to feed but if a horse or pony does not receive the recommended quantity the ration is no longer nutritionally balanced. It is possible to feed less and top up with a supplement or balancer – you could use half the feeding rate of Healthy Hooves Molasses Free and half the feeding rate of a balancer for example. Alternatively, you can feed a straight feed and use the full amount of balancer required.

Are you looking for a forage replacer?

Short chopped fibre feeds can be used to partially or completely replace hay which may be necessary for older horses but also for younger horses when hay is in short supply. Chopped fibres should replace hay on a weight for weight basis. The level of oil is why Dengie Hi-Fi Molasses Free is recommended as a partial forage replacer rather than an total one but it can still be fed at levels up to 1kg per 100kgs bodyweight.

Dengie Ulser Lite is another alternative and can be used as a partial or total forage replacer. This soft, tasty blend of oat straw, grass and pellets is molasses free, however due to the inclusion of grass it has a sugar level of 6.5%.

Dengie Meadow Lite with Herbs is a great option for use as a complete forage replacer as it provides the most chew time for the least calories. Hi-Fi Lite can also be used, particularly for those that are fussy, as it has a light molasses coating but still only contains 7% sugar and so is lower in sugar than most grass hays.

Is your horse underweight or in work but prone to laminitis?

There are some cases where horses prone to laminitis are underweight and need to gain some weight. Fibre and oil are the safest way to provide energy for weight gain or work; high starch and sugar feeds should be avoided. Dengie Alfa-A Oil and Dengie Alfa-A Molasses Free are great options for promoting weight gain or fuelling work. The energy is equivalent to a conditioning or competition mix or cube but it comes from alfalfa and oil so provides up to 10x less starch than cereal based feeds of a comparable energy value. Alfa-Beet can be added which combines alfalfa with unmolassed sugar beet and so is a great source of highly digestible fibre.

Do you have a broodmare that is prone to laminitis?

The increased energy requirements of reproduction can be met using fibre and oil rather than cereal based feeds. Alfa-A Oil has an energy level equivalent to a stud mix and so can be used to support the high level of energy required for lactation alongside plenty of good quality forage. Alfa-Beet is another way to provide energy from quality fibre sources. It is important that a source of vitamins and minerals, designed for breeding stock is fed alongside as these supply essential nutrients for correct growth and development. Native breeds, Warmbloods and good doers may not need high levels of energy even when they are lactating, so try not to assume it is essential to increase the bucket feed.

Feed with confidence

The foundation of advice when it comes to choosing the best feed for horses and ponies prone to laminitis is to choose a product that is high in fibre and provides low levels of sugar and starch. Dengie's range of feeds that are suitable for those prone to laminitis are lower in sugar than grass hay and so are all safe and effective which is supported by independent endorsements from organisations like The Laminitis Site and BETA Approval Mark for horses and ponies prone to gastric ulcers.

BETA Certification Mark
Suitable for equines prone to gastric ulcers as part of a balanced diet

TLS
www.TheLaminitisSite.org

SUITABLE FOR HORSES & PONIES PRONE TO LAMINITIS

Look for these approval marks on our packaging, it's an easy way to be sure that you are choosing a suitable feed.

Still need some guidance? Dengie's qualified and experienced nutrition team would be happy to help.

Call our Feedline on: **01621 841 188** or visit our website **www.dengie.com**

"Spud licks his feed bowl clean!"

Emily & Spud

"Dengie Meadow Lite with Herbs is so soft and tasty; Spud licks his bowl clean! The straw and grass blend is ultra low in calories, allowing me to increase Spud's fibre intake, without increasing his calories! Plus the linseed oil coating makes his coat gleam"

EMILY & SPUD

MEADOW LITE WITH HERBS

A soft, tasty blend of British grown, chopped, precision-dried grass & high-quality oat straw for maximum fibre content whilst being low in calories.

NO ADDED SUGAR

SUITABLE FOR HORSES & PONIES PRONE TO LAMINITIS

NUMBER OF SCOOPS 60 PER BAG

- A blend of British grown grass & high-quality soft straw with a light dressing of linseed & rapeseed oils
- Provides maximum chew time, whilst remaining low in calories (5MJ/kg DE)
- Suitable for good doers & those prone to laminitis
- Naturally low in sugar (3%) & starch (0.5%) with added postbiotics to promote digestive health
- The inclusion of tasty cinnamon & thyme tempts fussy feeders
- Free from molasses, alfalfa, cereals & preservatives

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	5 MJ/kg
Protein	5%
Oil	3.5%
Fibre	38%
Naturally Occurring Sugar	3%
Starch	0.5%
Stubbs scoop weight = 250g approx.	

FEEDING RATE

Bucket feed = up to 500g per 100kgs bodyweight.
Forage replacer = up to ad-lib.

INGREDIENTS

Cereal straw, grass, pea hull fibre, rapeseed oil, linseed oil, cinnamon & thyme, postbiotics

“Chill is a happier & relaxed horse”

Eleanor & Chill

“Dengie Ulser Lite has enabled me to increase Chill’s fibre intake without creating any extra ‘fizz’ or too many calories, making her a happier horse!”

ELEANOR & CHILL

ULSER LITE

A soft, tasty blend of British grown, chopped, precision-dried grass & high-quality cereal straw for maximum fibre content whilst being low in calories.

BETA Certification Mark – Suitable for equines prone to gastric ulcers as part of a balanced diet

TUMMY LOVING CARE BIOTICS

NO ADDED SUGAR

- Alfalfa pellets are included to provide a bio-available source of calcium
- Naturally low in sugar 6% & starch 2%
- A unique blend of herbs including oregano, cinnamon, ginger, rosemary, thyme are added to enhance palatability
- Contains our ‘biotics’ package of pre-, pro- and postbiotics for some TLC – Tummy Loving Care
- A very light dressing of British-grown rapeseed oil is added to promote coat shine
- Free from molasses, artificial flavours, preservatives & binders.

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	8 MJ/kg
Protein	10%
Oil	3.5%
Fibre	30%
Naturally Occurring Sugar	6%
Starch	2%
Stubbs scoop weight = 400g approx.	

FEEDING RATE

Bucket feed = up to 500g per 100kg bodyweight. Forage replacer = up to ad-lib.

COMPOSITION

Cereal straw, precision dried grass, grass pellets, alfalfa pellets, rapeseed oil, postbiotics, yeast, prebiotics, herbs (oregano, cinnamon, ginger, rosemary and thyme)

HI-FI MOLASSES FREE

A low-calorie, high fibre feed, ideal for leisure horses & ponies who are good doers & those prone to laminitis.

NO ADDED SUGAR

SUITABLE FOR HORSES & PONIES PRONE TO LAMINITIS

- No added sugar just 2.5% naturally occurring & very low in starch at just 1.5%
- A tasty blend of nutritious alfalfa & high-quality, soft straw, use a handful for mixing with balancers or supplements
- Mint, fenugreek & alfalfa pellets help tempt fussy feeders
- A high oil coating provides slow-release energy & coat shine
- Can be used as a low-calorie partial forage replacer
- Free from molasses & preservatives

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	8.5 MJ/kg
Protein	10%
Oil	6.5%
Fibre	35%
Naturally Occurring Sugars	2.5%
Starch	1.5%
Stubbs scoop weight = 500g approx	

FEEDING RATE
= up to 1kg
per 100kgs bodyweight

COMPOSITION
Alfalfa pellets, straw pellets, alfalfa, cereal straw, rapeseed oil, mint & fenugreek.

HEALTHY HOOVES MOLASSES FREE

A nutritionally-balanced, high-fibre, low-calorie feed to promote hoof health, perfect for laminitis prone. Includes MSM for healthier joints and stronger hooves.

WITH ADDED BIOTIN FOR MAXIMUM HOOF HEALTH

NO ADDED SUGAR

NOW WITH MSM for HEALTHIER JOINTS & STRONGER HOOVES

SUITABLE FOR HORSES & PONIES PRONE TO LAMINITIS

- Nutritionally-balanced, low-calorie, high fibre feed
- No added sugar – 2.5% naturally occurring - & very low in starch at just 1.5%
- Packed with B vitamins including biotin to improve hoof quality – no need for additional supplements*
- Includes MSM for healthier joints & stronger hooves
- Includes garlic & pellets to tempt fussy eaters
- A light oil coating provides slow-release energy & coat shine
- Free from molasses & preservatives

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	8.5 MJ/kg
Protein	9%
Oil	5 %
Fibre	27%
Naturally Occurring Sugars	2.5%
Starch	1.5%
Stubbs scoop weight = 500g approx.	

FEEDING RATE
= 500g per 100kgs bodyweight

COMPOSITION
Alfalfa pellets, straw pellets, cereal straw, alfalfa, rapeseed oil, vitamin & mineral premix, methyl sulphonyl methane, garlic

* when recommended levels are fed

Still need some guidance? Dengie's qualified and experienced nutrition team would be happy to help.

Call our Feedline on: **01621 841 188** or visit our website **www.dengie.com**

HI-FI LITE

High in fibre, low in calories; pellet free formular offers more chew time with less calories. Perfect for leisure horses and ponies who need to watch their waistlines.

GREAT VALUE over 66 scoops 20KG BALE

SUITABLE FOR HORSES & PONIES PRONE TO LAMINITIS

High in fibre; the pellet free formula provides more chew time & less calories per scoop

A blend of cereal straw & nutrient rich alfalfa helps create strong hooves & a glossy coat

The sugar level in Hi-Fi Lite is lower than typical grass hay

Can be used as a low calorie, total or partial forage replacer, simply replace the weight of hay with Hi-Fi Lite

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	7.5 MJ/kg
Protein	10%
Oil	1.5%
Fibre	35%
Sugars	7%
Starch	1.5%
Stubbs scoop weight = 300g approx	

FEEDING RATE
Bucket feed = up to 500g per 100kg bodyweight.
Forage replacer = up to ad-lib.

COMPOSITION
Cereal straw, alfalfa, molasses, mould inhibitor

ALFA-BEET MASH

A high-fibre, naturally low in sugar & starch, soaked feed. Aids hydration & is ideal for those with dental issues.

SUITABLE FOR HORSES & PONIES PRONE TO LAMINITIS

NO ADDED SUGAR

15 mins hot soak

Naturally low in sugar, 5% naturally occurring & starch at just 2%

A blend of alfalfa & unmolassed sugar beet

A highly digestible fibre source that's sympathetic to the digestive system providing a source of slow-release energy

Aids hydration & recovery

Convenient 15-minute hot soak or 2 hour cold soak

Free from molasses, preservatives & straw

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	10.5 MJ/kg
Protein	14%
Oil	3%
Fibre	32%
Naturally Occurring Sugars	5%
Starch	2%
Stubbs scoop weight = soaked 500g, unsoaked 1.6kgs	

FEEDING RATE = up to 500g per 100kg bodyweight or up to 1kg per 100kgs bodyweight as a partial forage replacer. For soaking, we recommend three parts water to one part Alfa-Beet.

COMPOSITION Alfalfa, unmolassed sugar beet

ALFA-A OIL

Not all horses and ponies prone to laminitis are overweight. If you need a higher calorie feed to support a harder level of work or to promote weight gain, high quality fibre feeds with oil are ideal. Low in sugar and starch, but high calorie, Alfa-A Oil allows you to condition safely.

NO ADDED SUGAR

High-calorie, providing 12.5 MJ/kg of Digestible Energy from fibre & oil – a comparable energy level to a competition or conditioning mix or cube with around 10 times less starch

Approved by BETA for horses & ponies prone to Equine Gastric Ulcer Syndrome

Promotes weight gain & condition without excitability

No added sugar just 4.5% naturally occurring & low in starch at just 2%

Made from pure alfalfa, providing quality protein for topline & muscle condition

High oil content for show ring condition, healthy skin & coat shine

Free from straw, molasses & preservatives

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	12.5 MJ/kg
Protein	14%
Oil	12%
Fibre	27%
Naturally Occurring Sugars	4.5%
Starch	2%
Stubbs scoop weight = 400g approx.	

FEEDING RATE
= up to 500g per 100kgs bodyweight

COMPOSITION
Alfalfa, rapeseed oil

ALFA-A MOLASSES FREE

A medium calorie feed that is naturally low in sugar & starch. The addition of pellets means Alfa-A Molasses Free provides more calories per scoop and so is perfect for those with limited appetites.

NO ADDED SUGAR

Medium energy, providing 11.5 MJ/kg of Digestible Energy from fibre & oil with around 10 times less starch than a comparable medium energy mix or cube

Includes mint & fenugreek plus alfalfa pellets for interest & taste

Contains no added sugar & at just 4.5% naturally occurring sugar, it provides less than half the level of sugar than average hay

Suitable for horses & ponies prone to laminitis that need to gain weight or condition

Free from straw, molasses & preservatives

INGREDIENTS & NUTRITIONAL INFORMATION

Digestible Energy	11.5 MJ/kg
Protein	14%
Oil	8.5%
Fibre	27%
Naturally Occurring Sugars	4.5%
Starch	2%
Stubbs scoop weight = 500g approx.	

FEEDING RATE
= up to 500g per 100kgs bodyweight.

COMPOSITION
Alfalfa, alfalfa pellets, rapeseed oil, mint & fenugreek

Key terms

Adipokines
Hormones secreted by fat stores in the body that have pro- & anti-inflammatory effects. Leptin is a pro-inflammatory adipokine that increases as the amount of adipose (fat) tissue increases.

Chronic inflammation
Occurs as a result of increased levels of pro-inflammatory adipokines associated with obesity.

Dry matter
All feeds & forages are made up of dry matter & water. The dry matter portion contains all the nutrients once the water is removed & is established through analysis. Hay is approximately 85% dry matter & 15% water; haylage 65% dry matter & 35% water.
To compare feeds & to ensure sufficient nutrients are fed, nutritionists compare them on a dry matter basis so that like for like is compared. For all horses a minimum of 1.5% of bodyweight of forage on a dry matter basis daily is recommended. For a 500kg horse this equates to 7.5kg dry matter daily which is 8.8kg of hay as fed (7.5/0.85), or 11.5kg of haylage as fed (7.5/0.65).

Energy
Measured in calories or joules. Consuming more energy than is being used results in stores of fat accumulating. Energy is found in nutrients such as fat, sugar & fibre in varying proportions.

Equine metabolic syndrome (EMS)
Is a metabolic problem characterized by obesity or regional adiposity, including fat pads, cresty neck, insulin resistance & repeated incidents of laminitis.

Fructans
Grasses make sugar via photosynthesis. When the grass has more sugar than it needs to grow it stores the surplus as fructan. Photosynthesis occurs in the presence of sunlight, but certain conditions such as temperatures below 5°C can inhibit grass growth meaning that lots of sugar is being produced & stored as fructan. Cold, bright mornings can therefore result in high fructan levels in pasture.

Insulin dysregulation (ID)
When insulin is released but the body fails to respond, & so more & more insulin is released which is known as hyperinsulinaemia. Horses & ponies with high levels of insulin are more likely to develop laminitis & develop it sooner than those with lover insulin levels.

Laminitis
Layers of tissue that bond the hoof wall to the pedal bone are known as laminae. Laminitis occurs when the laminae become inflamed, resulting in severe pain due to the hoof wall preventing any expansion to accommodate swelling. In severe cases the laminae fail, allowing the pedal bone to rotate downward & even push through the sole of the foot.

Non-structural carbohydrates (NSC)
The total amount of WSC & starch in a feed.

Pituitary pars intermedia dysfunction (PPID)
Previously known as Cushing's, PPID is a condition of the older horse. In PPID a degeneration of the dopamine producing neurons from the hypothalamus result in higher levels of hormones being secreted from the pituitary pars intermedia & subsequent clinical signs. Horses with PPID can also be predisposed to laminitis.

Starch
The storage form of sugar in grains & seeds. High starch sources include wheat, barley & maize.

Sugar
Simple sugars including monosaccharide & disaccharides.

Water soluble carbohydrates (WSC)
Includes simple & storage forms of sugar such as fructan.

Weight loss & feeding tips

Restrict grazing – grazing muzzles, track systems, turnout paddocks, stabling can all be used to reduce grass intake. Research shows that using a grazing muzzle can reduce intake by around 75%

Use a low calorie forage replacer such as Hi-Fi Lite. Replacing hay with the same weight of Hi-Fi Lite can help reduce sugar intake by up to 50%

Feed according to your horse's bodyweight not their workload

Exercise – try schooling, lunging, long-reining, hacking or driving for at least 20 minutes a day – all of which will help your horse's waistline

Soaking hay can help reduce the sugar content

Weigh your haynets to help monitor calorie intake

Regularly weigh tape, fat score & take photos, note & plot your progress so you can spot changes & take action

Lose the duvets – try not to over rug, to help burn off a few extra calories keeping warm, especially if horses aren't clipped or the weather is mild

Use small-holed haynets, hay balls or double net to help reduced rations last longer. Use smaller haynets so you'll be less tempted to overfill them!

Still need some guidance? Dengie's qualified and experienced nutrition team would be happy to help.

Call our Feedline on: **01621 841 188** or visit our website **www.dengie.com**

Photographic Diary

Taking photographs of your horse from the start, during and upon reaching their target weight helps you visualise their weight loss or gain progress.

Before photographs

Taking photographs of your horse from different angles during their first weigh in and then again upon reaching their target weight helps you visualise their weight loss progress.

Photographic Diary

Taking photographs of your horse from the start, during and upon reaching their target weight helps you visualise their weight loss or gain progress.

After photographs

Put your after photos here so you can see how much progress you've made!

Weight monitoring chart

STARTING WEIGHT: _____ TARGET WEIGHT: _____

600																									
580																									
570																									
560																									
550																									
540																									
530																									
520																									
510																									
500																									
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300																									
280																									
270																									
260																									
250																									
240																									
230																									
220																									
210																									
200																									
WEEKS	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52

Nutrition & diet advice notes

Bucket Feed

Forage & Grazing

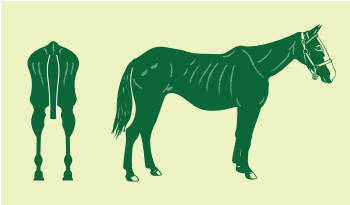
Exercise

Still need some guidance? Dengie's qualified and experienced nutrition team would be happy to help.

Call our Feedline on: **01621 841 188** or visit our website **www.dengie.com**

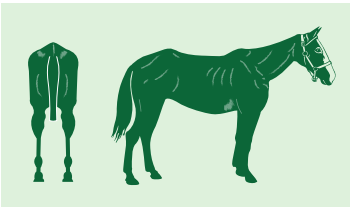
FAT SCORE CHART

Use the following guide to help you ascertain if your horse or pony is overweight. If you're not sure why not take a photo from the side & the rear then send them to our nutrition team who will be happy to help you? Make sure you score your horse or pony regularly to ensure you spot changes early.



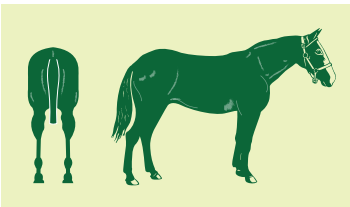
0 - EMACIATED

- No fatty tissue can be felt
- Skin tight over bones
- Shape of individual bones visible
- Marked ewe-neck
- Very prominent backbone & pelvis
- Very sunken rump
- Deep cavity under tail
- Large gap between thighs



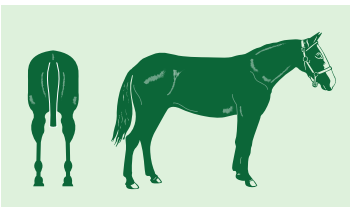
1 - THIN

- Barely any fatty tissue
- Skin more supple
- Shape of bones visible
- Narrow ewe-neck
- Ribs easily visable
- Prominent backbone, croup & tailhead
- Sunken rump; cavity under tail
- Gap between thighs



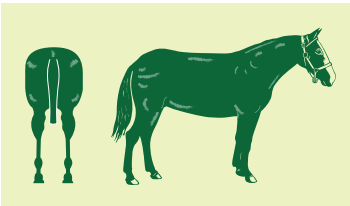
2 - LEAN

- A thin layer of fat under the skin
- Narrow neck; muscles sharply defined
- Backbone covered with a very thin layer of fat but still protruding
- Withers, shoulders & neck accentuated
- Ribs just visable
- Hip bones easily visable but rounded
- Rump usually sloping flat from backbone to point of hips, may be rounded if very fit
- May be small gap between thighs



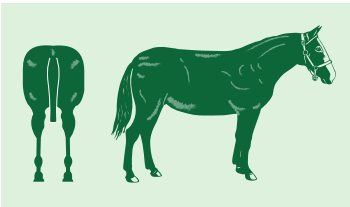
3 - MODERATE

- A thin layer of fat under the skin
- Top line developing & becoming more rounded
- Withers rounded over tips of bones
- Shoulders & neck blend smoothly into body
- Back is flat or forms only slight ridge
- Ribs not visible but easily felt
- Thin layer of fat building around tailhead
- Rump beginning to appear rounded
- Hip bones just visible



4 - FAT

- Muscles hard to determine beneath fat layer
- Spongy fat developing on crest
- Fat deposits along withers, behind shoulders & along neck
- Ribs covered by spongy fat
- Rump well rounded
- Spongy fat around tailhead
- Gutter along back
- From behind rump looks apple shaped



5 - OBESE

- Horse takes on a blocky, bloated look
- Muscles not visible as covered by layer of fat
- Pronounced crest with hard fat
- Pads of fat along withers & behind shoulders
- Extremely obvious gutter along back & rump
- Flank filled in flush
- Lumps of fat around tailhead
- Very bulging apple shaped rump
- Inner thighs pressing together

Laminitis feed selector

	Digestible Energy (MJ/kg)	Simple Sugar %	Starch %	Good Doers	Poor Doers	Molasses Free	Full or Partial Forage Replacer	Nutritionally Balanced	
	5	3	0.5	✓		✓	✓		Blend of British grass & high-quality straw provides maximum chew time whilst low in calories. Inclusion of cinnamon & thyme tempts fussy feeders.
	7.5	7	1.5	✓			✓		Pellet-free formulation provides more chew time for less calories Ideal low calorie, total or partial forage replacer
	8	6	2	✓		✓	✓		Contains grass for natural sweetness; a blend of soft fibres & herbs Contains biotics package to support digestive health
	8.5	2.5	1.5	✓		✓	✓		Lowest sugar option as free from grass & molasses Mint, fenugreek & pellets help tempt fussy feeders
	8.5	2.5	1.5	✓		✓		✓	Molasses free & packed with B vitamins including biotin to improve hoof quality. Includes garlic to tempt fussy eaters.
	10.5	5	2		✓	✓	✓		Must be soaked, ideal for aiding hydration & supplying extra calories Great for those with poor dentition or struggle to chew
	11.5	4.5	2		✓	✓			For horses in work, needing to gain weight or breeding stock Pure alfalfa promotes digestive health
	12.5	4.5	2		✓	✓			A high calorie blend of pure alfalfa & rapeseed oil Fuels work, improves topline & muscle condition, promotes digestive health

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THE UK'S FAVOURITE FEED LOVE FIBRE

Dengie

For further information or friendly feeding advice for your horse or pony please contact the Dengie Feedline on:

01621 841 188

www.dengie.com

NATURAL & OTHER PROHIBITED SUBSTANCES NOPS BETA REDUCING THE RISK

INVESTORS IN THE ENVIRONMENT GREEN 2025

Investor in Wildlife Essex Wildlife Trust Gold Member

Dengie complies with quality assurance schemes such as UFAS and FEMAS that were set up to ensure feed safety. Dengie are approved under the BETA NOPS scheme which means we are recognised as having taken action to reduce the risk of contamination with substances that contravene the rules of racing and FEI disciplines.

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carbon footprint

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We constantly strive to improve our feeds so slight changes may occur after the printing of this leaflet
Scoops weights and numbers of scoops per bag may vary due to natural variance in raw materials.