FEEDING YOUR OTT FOR CALM BEHAVIOUR

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INTRODUCTION

There really is nothing more zen than a riding a horse who is attentive and responsive, yet calm and safe.

But sometimes achieving that can be challenging, especially when you are riding a young OTT!

While a lot of different factors help determine a horse's energy level and behaviour, nutrition certainly plays a major role.

The amount of energy, the type of energy, the way ingredients affect your OTT's gut microbes and the diet's overall nutrient balance are the main aspects of nutrition that will impact behaviour.

Let's look at these aspects of your OTT's diet, starting with the big one... the amount of energy!

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FEEDING FOR CALM BEHAVIOUR

AMOUNT OF DIETARY ENERGY & ITS EFFECT ON BEHAVIOUR

If there is only one thing you remember about feeding and behaviour it is this...

Don’t. Feed. Too. Much. Energy!

Horses, and particularly OTTs, are sensitive to the energy (which is the same as calories) in their diet.

The more energy there is in the diet, the more energy your OTT will express in their behaviour.

And over the years, I have found this to be the most common contributing factor to hyperactivity in horses while being ridden.

Too much feed simply equals too much energy!

The solution... feed less!

The best way to do this?

Be very conscious of how much high energy ‘hard feed’ you are feeding!

‘Hard feeds’, be they grain or fibre based, are high energy feed ingredients. So if you overfeed them, you can very quickly oversupply energy in the diet... and create hyperactive, unsafe behaviour in your OTT.

So don’t feed too much!

But how much is too much?

How do you know how much is too much?

Let your horse tell you!

Whenever you feel that uptick in behaviour – when it goes from good, forward responsive energy to too much energy – and your horse starts to feel like a wound-up rubber band when under saddle, you're probably feeding too much for the amount of work they are doing.

When you realise you are feeding too much it is as simple as feeding less and continuing to reduce the amount you are feeding until you find the sweet spot for your horse.

If your OTT has already gotten themselves into a right tizz, cut the hard feed out completely for a short while, and, once their behaviour comes back down to where you want it, slowly introduce your hard feed again and gradually adjust the amount until you find their sweet spot... which is the amount that is enough for them to hold their weight, but not so much it affects their behaviour.

Keep in mind that sweet spot of just the right amount of feed will change depending on how much energy they are using doing the work you ask them to do.

Which means you need to be mindful of workload!

Don't overestimate how hard they are working which will then cause you to overfeed them.

And don't be afraid to adjust their hard feed amount regularly – daily if you have to – so the amount you feed matches the work they do, on any given day.

Details on how to do this well can be found in the QOTT Video 3 'OTT Nutrition Into The Future'.

If you are feeding a complete feed, be mindful that you don't accidentally cause nutrient deficiencies by simply reducing the quantity you feed. We cover how to avoid doing this on page 8 in this eBook and also on pages 4 and 5 of the 'Supplements and Your OTT' eBook. First though, let's explore how the **type of energy** can affect behaviour.

TYPE OF ENERGY & BEHAVIOUR

Horses evolved for 55 million years eating a high fibre diet that contained very little grain. Fibre is their most natural source of energy AND it tends to be the form of energy that creates the least disturbance to behaviour.

Which means if you can get away with feeding your OTT predominantly on pasture and hay, and they maintain weight and muscle well on a forage based, high fibre diet, you should absolutely do that!

There is no rule to say OTTs NEED hard feed!

But, if you have an OTT who can't maintain weight and muscle on their pasture/hay for at least some of the year (due to the quality of the forage available), then you will probably need to feed them some higher energy hard feed.

Do keep in mind that you can definitely get changes in behaviour in OTTs if they are grazing high energy, rocket-fuel-like pasture.

You might need to limit access to these pastures if they create behavioural issues for your OTT.

TYPES OF ENERGY & BEHAVIOUR (CONT..)

If you happen to have an OTT who loves to show you just how much energy they have to spare, you need to choose carefully, as some hard feeds tend to affect behaviour more than others!

I would rank hard feeds, in order of least likely to most likely to affect behaviour like this:

COOLEST

Fibre and oil based feeds

These are typically grain-free feeds based on ingredients like lupin hulls, soybean hulls, beet pulp, lucerne meal, lupins, protein meals and oils. Oil by itself also makes an excellent cool source of energy that can be added on top of any diet.

< 20%

Low starch feeds

These are low grain feeds with less than 20% starch.

Extruded grain feeds

These feeds contain grain that is extruded. While extruded feeds are high in energy they have the least impact on a horse's hindgut and therefore tend to have the least impact on behaviour... we cover this in more detail on page 7.

Note: You do have to be careful not to overfeed extruded grains... because they are so digestible, they are also high in available energy! Which means, it's easy to unknowingly feed too much energy and cause hyperactivity this way.

Other processed/ cooked grain feeds

This category includes grain feeds cooked using micronizing, steam flaking or pelleting processes. While more digestible than raw grains (below) they aren't quite as digestible as extruded grains (above), so they have potential to have more of a negative impact on the hindgut microbes and therefore, more of a negative impact on behaviour.

Just like extruded grains, they are also high in energy and can quickly impact behaviour if overfed.

Raw grain feeds

At the hot end of the scale, with most ability to negatively affect behaviour is raw grains! With the exception of oats, raw grains should never be fed to your OTT.

Grains like corn and barley, in their raw state, contain huge amounts of starch that is poorly digested in the small intestine.

If you feed hard feed that contains raw grains, most of the starch ends up in the hindgut, ferments rapidly and shifts the hindgut from having predominantly good, fibre fermenting microbes to being dominated by the 'bad' starch fermenters... this has negative implications on behaviour for multiple reasons.

HOTTEST

And this gives us a beautiful segue into the next element of feeding that can affect behaviour, which is the way feeds affect your OTT's hindgut microbes!

GUT MICROBES & BEHAVIOUR

Remember the trillions of microbes that live in your horse's hindgut? They do all sorts of important stuff for your horse, with two important functions:

1. The production of B-vitamins; and
2. Communication with your horse via the gut-brain axis (which is closely linked to behaviour).

B-Vitamins

The B-group vitamins are well known for being part of nervous system function and behaviour control in mammals. While feeds and forages contain B-vitamins, horses also rely heavily on the fibre fermenting microbes in the hindgut to produce B-vitamins for them.

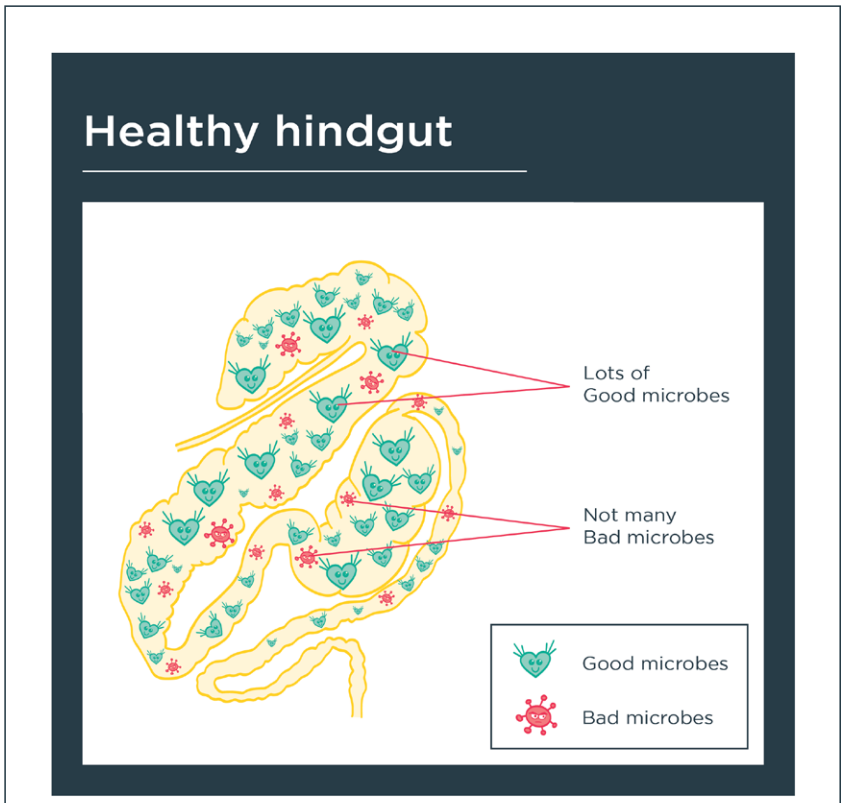
To maximise B-vitamin production, we need to maintain a strong and healthy population of fibre fermenting microbes.

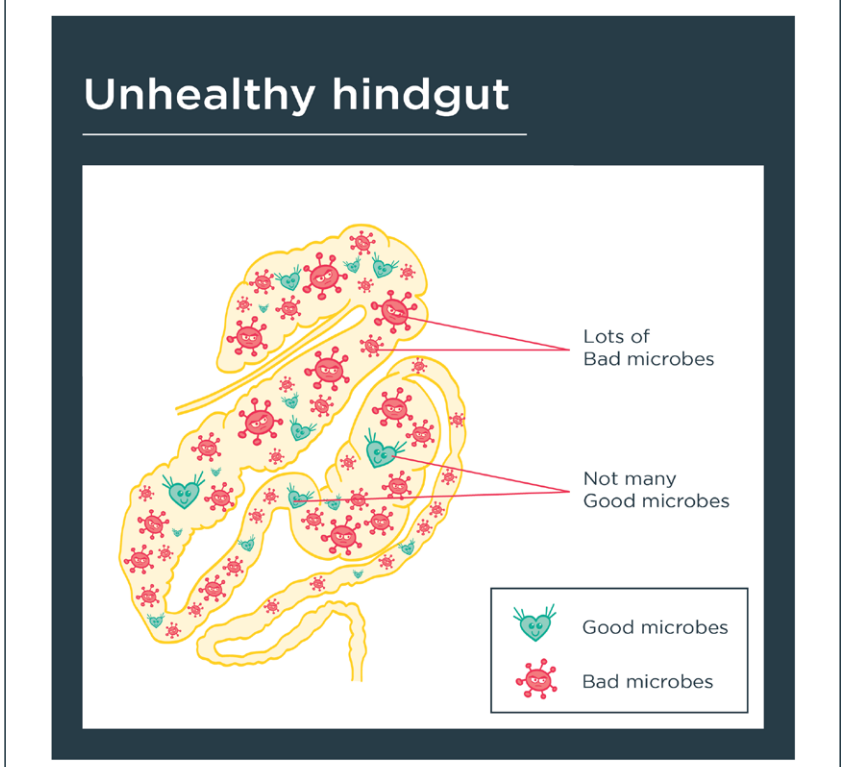
To achieve this, we must:

Feed lots of forage. Forage based diets support the fibre fermenting critters and maximise their ability to make B-vitamins; AND

Limit grain and grain-based feed intake. When we feed too much grain, we dump starch in the hindgut, where it feeds the undesirable starch fermenting microbes, shifts microbial balance toward these unhelpful critters and reduces B-vitamin production! PLUS these undesirable starch fermenters actually actively destroy vitamin B1!

Any time your OTT's B-vitamin availability is reduced, behaviour can be affected!





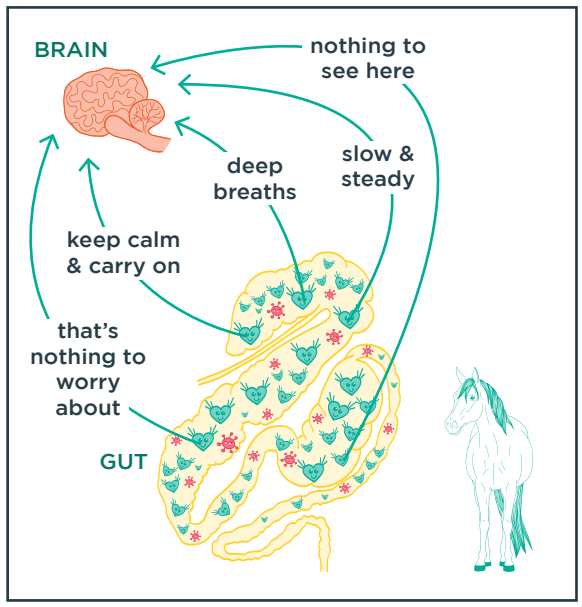
Gut-Brain Axis

The gut brain axis, for me, is one of the most mind-blowing, and in many ways scary aspects of nutrition... we know, from research in multiple species, including humans, that the microbes that live in the gut, communicate with their animal host, to not only affect, but CONTROL behaviour!

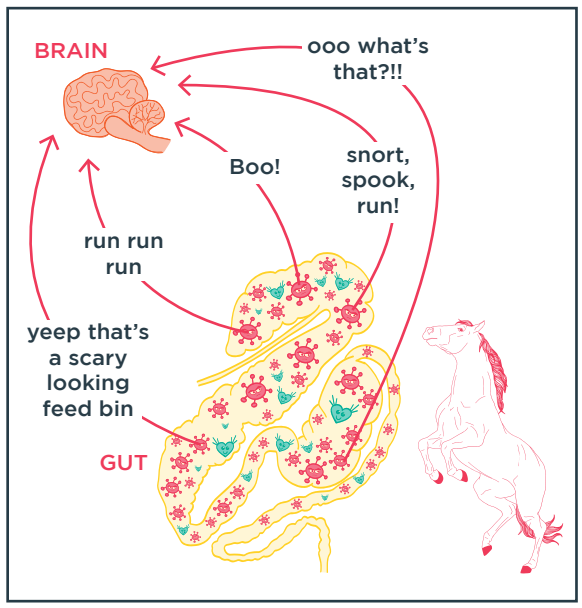
Research has shown that **gut microbes from stress-resilient mice are able to promote recovery from stress-induced depression and cognitive decline in previously stressed mice** (He et al 2024), and this highlights just how much an animal's microbiota are entwined with behaviour.

And it absolutely pays to remember this connection between the gut and the brain when thinking about how to feed your OTT for calm behaviour!

There are three things you can do to make sure you are supporting the microbes that produce the hormones and send the messages to your OTT's brain to help them stay calm:



Gut brain axis with a <u>healthy</u> gut



Gut brain axis with an <u>unhealthy</u> gut

1. Feed lots of forage. It's the fibre fermenting microbes that keep your horse nice and zen. So, by feeding lots of forage you give these calm little critters lots of their favourite food to keep their populations strong and healthy! Which then allows them to dominate the gut-brain axis communication with your horse.

As a quick reminder, **lots of forage** for **an average sized off the track** is either **free access to pasture** or between **10 and 15 kg of hay/day!**

2. Feed a variety of fibre! Fibre variety gives rise to microbial diversity. And this gives your OTT the best chance of having a hindgut microbe population similar to the one they evolved to have in their hindgut. And that gives them the best chance of having 'normal' communication between their gut and their brain! To achieve fibre variety, graze your OTT on pasture with multiple plant species, feed multiple types of hay and use alternate fibres like lupin hulls, sugarbeet pulp and copra meal in their diet.

3. Feed controlled amounts of grain and never feed raw grains. As we already discussed, too much grain or raw grain will cause large amounts of starch to end up in the hindgut, where it ferments. This starch fermentation then shifts the microbial population toward the starch fermenting microbes. And these less-than-desirable critters are associated with more anxious behaviour in horses... which is exactly what we are trying to avoid, especially in OTTs.

As a general rule, never feed more than 5 kg of grain or grain-based feed per day for a 500 kg OTT. And never, ever feed raw grains (with the exception of oats).

If you haven't already, go back and watch the QOTT video 1 'Knowing Your Horse Inside-Out' and video 2, 'The First 12 Months' to learn more about the gut microbes and how to feed your OTT to keep their microbial population strong, diverse and healthy and their behaviour calm!

NUTRIENT BALANCE & BEHAVIOUR

Nutrient balance can affect behaviour. As already mentioned, the B-vitamins and minerals like magnesium are important for normal nervous system function and behaviour.

To make sure you are meeting your OTT's requirements for these nutrients – as well as all the other nutrients your OTT needs – use a high-quality complete feed OR a balancer pellet OR a vitamin and mineral supplement at the correct feeding rate.

On page 4 we briefly covered adjusting the amount you feed regularly to control energy intake and behaviour. But whilst you're busily adjusting feeding rates to balance energy, don't forget about vitamins and minerals.

Pay attention to the feeding recommendations given on the back of feed bags. These are **the amount of feed needed to meet vitamin and mineral requirements.**

If you find the feed you are using has a feeding rate that is too high for your horse from an energy perspective, and you **consistently feed below recommended feeding rates** or have to reduce the amount you feed to below the recommended rate to control behaviour, you should **switch feeds to a lower feeding rate product.**

For example, if you find your OTT's sweet spot is 2 kg of complete feed per day when they are in moderate levels of work, this feed (eg. Pryde's EasiResult) has a feeding rate that is too high. You need a minimum of 2.5 kg/day of this feed for a 500 kg horse in moderate work to meet vitamin and mineral requirements. Which is half a kilogram more than you want to feed each day!

	Bodyweight (kg)				
	300	400	500	600	700
Idle/Spelling Horses	0.75 - 1.0	1.0 - 1.5	1.5 - 2.0	2.0 - 2.5	2.5 - 3.0
Light Exercise	1.0 - 2.0	1.5 - 2.5	2.0 - 3.0	2.5 - 3.5	3.0 - 4.0
Moderate Exercise	1.5 - 2.5	2.0 - 3.0	2.5 - 3.5	3.0 - 4.0	3.5 - 4.5
Intense Exercise	2.5 - 3.5	3.0 - 4.0	3.5 - 4.5	4.0 - 5.0	4.5 - 5.5

Light Exercise: Up to 60 mins walking, or 30 mins walking, trotting and cantering.
Moderate Exercise: Up to 120 mins walking and trotting, or 30-60 mins trotting, cantering and some galloping.
Intense Exercise: 30-60 mins intense skill work, short duration galloping, racing and endurance.

Pryde's EasiResult feeding rates table

Instead, you would be better using this feed (eg. Pryde's EasiSport). It has a feeding rate of 2 – 2.5 kg/day for a 500 kg horse in moderate work, so it will meet all of your OTT's nutrient requirements when you feed it at your OTT's ideal 2 kg/day amount.

	Bodyweight (kg)					
	300	400	500	600	700	800
Idle/Spelling Horses	0.5 - 0.75	0.75 - 1.25	1.0 - 1.5	1.25 - 1.75	1.5 - 2.0	1.75 - 2.25
Light Exercise	0.75 - 1.25	1.0 - 1.5	1.5 - 2.0	1.75 - 2.25	2.0 - 2.5	2.25 - 2.75
Moderate Exercise	1.25 - 1.75	1.5 - 2.0	2.0 - 2.5	2.5 - 3.0	3.0 - 3.5	3.5 - 4.0
Intense Exercise	1.75 - 2.25	2.0 - 2.5	2.5 - 3.0	3.0 - 3.5	3.5 - 4.0	4.0 - 4.5
Dry or Early Pregnant Mares	0.5 - 0.75	0.75 - 1.25	1.0 - 1.5	1.25 - 1.75	1.5 - 2.0	1.75 - 2.25
Late Pregnant Mares	1.0 - 1.25	1.25 - 1.75	1.5 - 2.0	1.75 - 2.25	2.0 - 2.5	2.25 - 2.75
Lactating Mares	1.25 - 1.75	1.75 - 2.25	2.0 - 2.5	2.25 - 2.75	2.5 - 3.0	2.75 - 3.25
Breeding Stallions	0.75 - 1.25	1.0 - 1.5	1.5 - 2.0	1.75 - 2.25	2.0 - 2.5	2.25 - 2.75

Light Exercise: Up to 60 mins walking, or 30 mins walking, trotting and cantering.
Moderate Exercise: Up to 120 mins walking and trotting, or 30-60 mins trotting, cantering and some galloping.
Intense Exercise: 30-60 mins intense skill work, short duration galloping, racing and endurance.

Pryde's EasiSport feeding rates table

You can also use the feeding rate tables to help you regularly adjust your OTT's daily feed amount according to their workload to help you maintain calm behaviour. Pryde's EasiSport, for example, allows you to feed 1 to 1.5 kg/day on days off with no work, 1.5 to 2 kg/day on days you do light work and 2 to 2.5 kg/day on moderate work days.

By switching between these amounts depending on your horse's daily workload, you will control their energy intake, maintain calm behaviour AND always maintain a balanced diet in the process! And this will do wonders when it comes to your horse's behaviour!

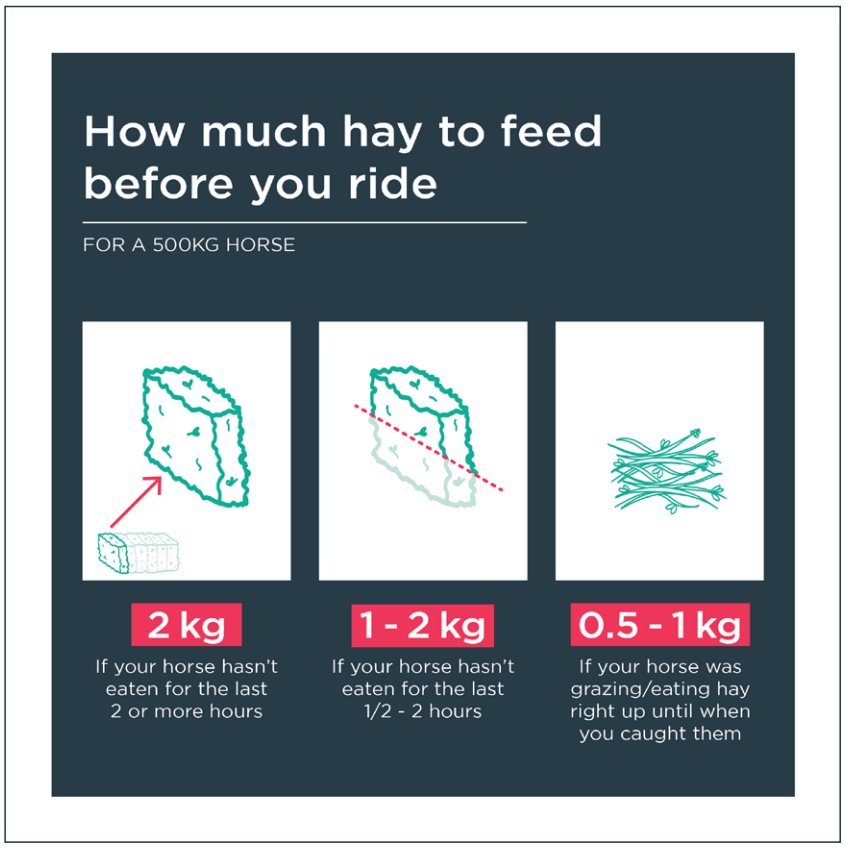
ONE MORE THING...

I can't talk about feeding for behaviour without mentioning this critically important tip ...

Feed lucerne hay before you ride!!

Truly, making sure your horse's stomach is full and comfortable for every ride will make a HUGE difference to their behaviour when they're under saddle.

Go back and watch the QOTT video 3 'OTT Nutrition into the Future' and video 8 'Managing Gastric Ulcers in Your OTT' for more details.



THE IMPORTANT BITS

To recap, remember:

1. **Don't feed too much energy. If your horse isn't as calm as you would like, reduce the amount of energy you are feeding by reducing their high energy hard feeds until you find their 'sweet spot' for having just the right amount of energy for the behaviour you desire.**
2. **Remember, some feed ingredients affect behaviour more than others.**
3. **Forages, fibres and oils are least likely to affect behaviour, while raw grains are most likely to create hyperactive behaviour and should be avoided!**
4. **Your OTT's gut microbes impact behaviour through their communication with your horse via the gut-brain axis.**
5. **Feeding forage based, high fibre diets, a big variety of forage and fibres AND feeding grains in controlled amounts will help to keep the calming microbes dominant in the gut.**
6. **Feeding a balanced diet is important for maintaining calm behaviour so pay close attention to the correct feeding rate for the complete feed, balancer pellet or vitamin and mineral supplement products you are using; and**
7. **Feed lucerne hay before you ride to keep your horse's stomach pain-free and your OTT happy and calm during your rides!**

OTTs are beautiful, sensitive creatures. And this means that their behaviour is easily affected by the way we feed them.

Getting their nutrition right in a way that is going to support calm, confident, responsive energy, will give them the very best chance at a highly successful life after racing. And it will keep them healthier, happier and you safer in the process!

That's a win, win, win, win, win!

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