

HOW TO READ A FEED LABEL

BY DR. NERIDA MCGILCHRIST





Gut + Topline
- Really awesome mash for horses -

THIS is a seriously awesome feed for horses who need a little help gaining weight, building topline, and shining like the absolute star they are. Made to a set recipe in a horse-feed-only mill, this mash is packed with gut-friendly fibre, cool-as-a-cucumber oils and top-notch protein. (And no grain at all!)

Directions: 'Gut + Topline' can be soaked to form a mash or fed dry as a pellet. Introduce it into the diet gradually over 10-14 days. Feed with ample forage (hay, chaff, pasture). Always make sure salt and fresh water are freely available. Feed as per the table below and adjust quantities as needed to suit your individual horse.

How much to feed

	Your Horse's Bodyweight (kg)			
	400	450	500	550
Not in work	0.5	0.75	1.0	1.25
Light work	0.75	1.0	1.25	1.5
Moderate work	1.25	1.5	2.0	2.5
Heavy work	1.75	2.0	2.5	3.0

What's in the bag?
A carefully blended mix of lucerne leaf meal, soybean meal, copra meal, sugarbeet pulp, lupin hulls, canola oil, our own special vitamin + mineral premix, pink Himalayan salt, yeast probiotic, and vitamin E.

Nutrient Info

MAJOR NUTRIENTS	
Digestible Energy	12MJ
Crude Protein	16.0%
Crude Fibre	22.0%
Oil	5%
Salt	0.5%

ESSENTIAL AMINO ACIDS	
Lysine	2.5g
Methionine	2.5g
Threonine	5.5g

SUGAR + STARCH	
Starch	2.1%
NSC	11.5%

MAJOR MINERALS	
Calcium	100g
Phosphorus	50g
Sodium	50g
Potassium	100g
Magnesium	100g
Chlorine	100g

TRACE MINERALS	
Copper	10mg
Zinc	100mg
Selenium	100mg
Manganese	100mg
Iodine	10mg

Grain free
Gut Friendly





QUEENSLAND
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TRACK

INTRODUCTION

Feed labels are like a road map, incredibly useful... IF you know how to read them!

They can tell you if the feed they contain is what your OTT needs... or not!

Feed labels tell you what is in the feed, how much to feed and what physical form the feed is in.

You can also tell from a feed label how digestible the feed is likely to be and how high the protein quality is.

And from all of this information, you can roughly determine if the feed will do a good job of things like providing the nutrients your OTT needs, maintaining gut health and helping with muscle building.

While labels usually contain lots of information, it is sometimes not super easy to decipher.

But keep reading, and I'll show you what to look for when reading a feed label... then, next time you go to choose a new feed for your OTT, you'll know what you're looking for!

Let's go!



Nerida

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FEED LABELS

THE INGREDIENTS

The first place I look on a feed bag I am not familiar with is the ingredients. And here is what I am looking for...

Grain or grain free?

One of the first decisions you should make when looking for a feed is whether you want the feed to be grain-based or grain free.

For OTTs, both grain-based and grain free feeds work well, but there may be situations like behavioural issues you are struggling to bring under control or a long history of squamous gastric ulcers that may mean a grain free feed has advantages.

And it's as simple as reading the list of ingredients to see if the feed contains cereal grain or not.

To qualify as truly grain free, feeds should not contain any cereal grains, including;

- Corn
- Wheat
- Barley
- Rice
- Oats
- Triticale
- Rye
- Sorghum
- Millet; or
- Buckwheat



Nor should the feed contain any cereal grain by-products including;

- Wheat bran
- Rice bran
- Wheat pollard
- Millmix or millrun
- Brewers grains
- Dried distillers grains; or
- Oat hulls

Or anything else that sounds remotely cereal grainy...

THE INGREDIENTS (CONT..)

Fixed or variable ingredients

The next thing you can determine about a feed from the ingredients list, is whether it is made using fixed or variable ingredients. Here is how you tell...

If a feed has a very specific ingredient list, with each ingredient named individually, it has a **fixed list of ingredients**, and all of those ingredients should be in every single batch of the feed.

And the feed should not contain any ingredients that are not listed on its label.

If a feed has a non-specific ingredient list, and ingredients are named in groups, with items listed like 'cereal grains' or 'vegetable protein meals', the feed will be made from a **varying selection of ingredients**.

Both methods of manufacture give you the nutrients listed on the label... for example 12.5 MJ/kg of energy and 14.5% protein. But the ingredients used to provide those nutrients either won't vary at all with fixed ingredients, or they potentially vary quite a bit with varying ingredients.

Which type of feed you choose really comes down to your personal preference and your horse's needs at the time.

The main drawback of a feed that is made using variable ingredients is that its protein quality may be wildly variable. If your OTT needs to build a lot of muscle, you're better to choose feeds made using fixed ingredients, with soybean meal or full fat soybean listed in the ingredients.

Protein quality

Let's look in a bit more detail at protein quality, which is one of the most important attributes of a feed that you can determine from its list of ingredients.

Protein quality refers to the balance and availability of essential amino acids in the feed, and influences your horse's ability to build muscle.

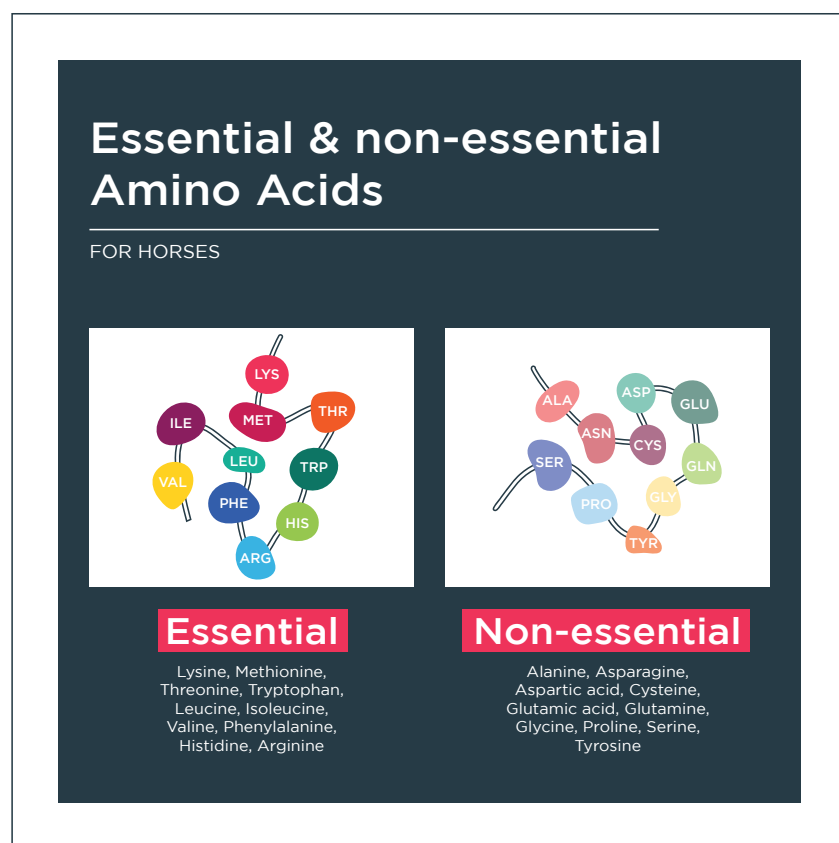
Let's do a quick little protein chemistry recap; Amino acids are the building blocks of protein. Proteins are made up of about 20 different amino acids.

10 of these amino acids are called the **non-essential amino acids**, because under most circumstances, **your horse can make them for themselves**.

The other 10 amino acids are called **essential amino acids** because **your horse must receive these ones in their diet!**

When your off the track eats protein in a feed, the enzymes in their small intestine cut protein up into single amino acids. Your horse absorbs these amino acids and then uses them to build muscle protein.

Among the essential amino acids, **lysine, methionine, and threonine** are particularly critical. They're known as **the limiting amino acids** because they're usually the ones a horse will run out of first.



THE INGREDIENTS (CONT..)

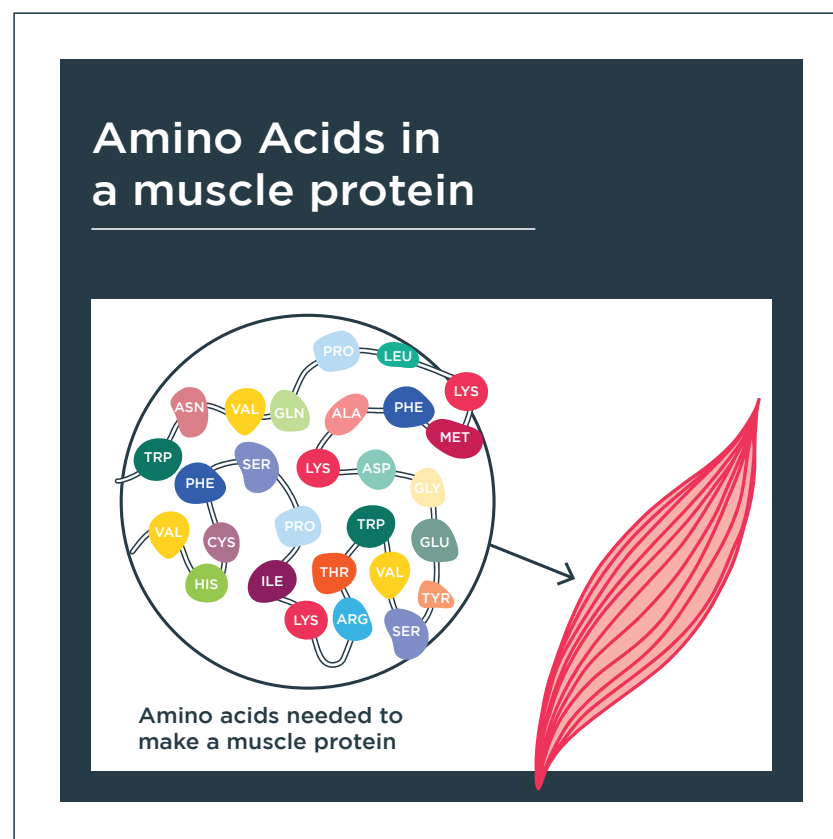
If any of these run out, muscle building stops, much like a bricklayer would have to pause work if they ran out of bricks.

Lysine, methionine and threonine are the ones you will normally see listed on a feed label, with higher levels indicating higher protein quality!

Except!

Remember I said **the biggest impact on feeds made using variable ingredients is on protein quality?** This is because **not all proteins are created equally.**

Cottonseed meal, for example, contains a decent amount of lysine, BUT around 60% of that lysine is unavailable for absorption. So the lysine is in the feed, but it is useless to your horse.



And in Australia, where cottonseed meal is abundant and cheap, it gets pulled into some of these variable ingredient feeds under the ingredient listing 'vegetable protein meal'. **A feed containing cottonseed meal will have good total lysine levels on the label. BUT, the usable lysine content is low.**

Which means, if you want to build muscle on your OTT, you are best to avoid feeds that list vegetable protein meals, as they may be poor sources of some of the essential amino acids, and this severely restricts muscle building capacity.

Processing method

A feed's ingredient list will usually also allow you to determine any grain processing method used to make the feed. OR it may say somewhere else on the label what processing method was used.

For feeds containing grains or grain-byproducts, **it is important to pay attention to a feed's processing method, as processing method determines how digestible the starch the feed contains will be in the small intestine.**

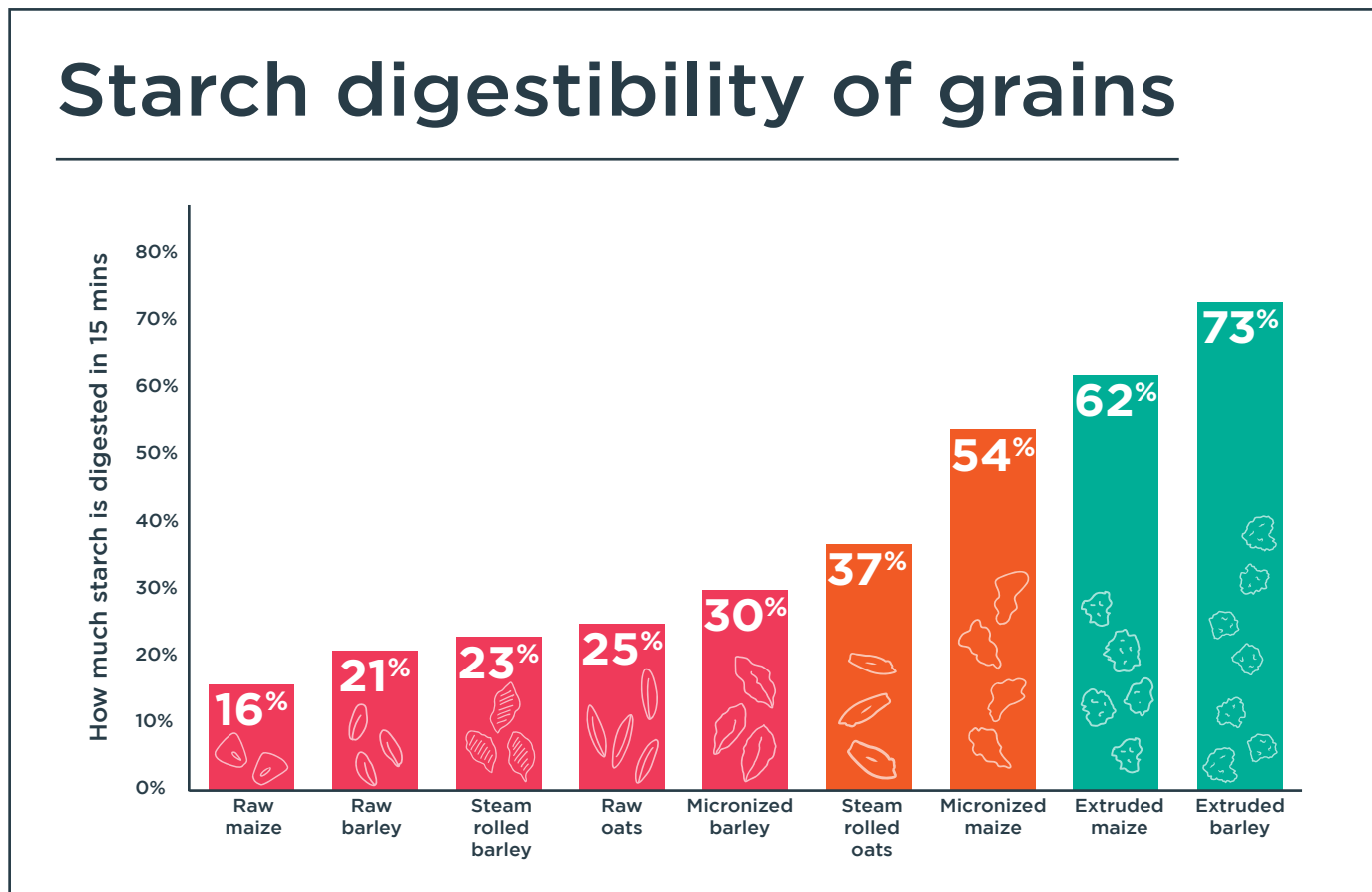
The higher the small intestinal starch digestibility, the more energy your horse will extract from a feed and **the safer and better the feed will be from a hindgut health perspective**, which we talk about in detail in Video 12 – How to Maximise Your OTT's Hindgut Health.

Very briefly, research shows that, in Australia, extruded feeds have the highest and most consistent starch digestibility, followed by properly steam flaked or micronized feeds, then pellets.

It is important to note that steam flaking and micronizing can be very variable in how effective they are at increasing small intestinal starch digestibility, as effectiveness is dependent on how much moisture is used in the process and how long the grain is exposed to heat.

Raw grains have the lowest small intestinal starch digestibility and will dump large amounts of starch in your horse's hindgut. With the exception of oats, raw grains should never be fed to horses. Ever!

THE INGREDIENTS (CONT..)



Ingredient Variety

The next thing to make a mental note of when looking at the ingredients list is how much wholefood ingredient variety there is, ignoring at this point the vitamin and mineral type ingredients.

Some feeds are made with very few wholefood ingredients. For example they may list 'millrun and barley' as the only two wholefood ingredients.

And other feeds are made with a broad range of wholefood ingredients, for example a single feed may list 'oats, barley, corn, wheat, millmix, soybean, lupins and faba beans'.

The advantage of having so many ingredients is that they provide a broad spectrum of primary and secondary nutrients as well as lots of different fibres to keep your horse and their microbiome healthy!

The simple rule to follow is, **the more wholefood ingredients, the better!**

Ingredients you want to avoid

You will of course be able to check feed ingredient lists carefully to identify any ingredients you want to avoid—either because they're unsuitable for your OTT or simply because you prefer not to feed them!

Other stuff on the ingredients list

There is other small stuff I look at on a feed's ingredient list, like whether any of the vitamin E is in natural form, and whether the feed contains things like any potentially useful pre-, pro- or postbiotics, enzymes or gut buffers.

But all of these are minor considerations in the scheme of things. The most important considerations are whether the feed you are looking at has the right type of ingredients, that are processed in a way that makes them safe and digestible for your horse.

Next, you should move on to looking at the nutrients and feeding rates to continue determining if the feed is right for your OTT.

THE NUTRIENTS AND FEEDING RATES

I am going to talk about nutrient levels and feeding rates at the same time because they are inextricably linked. The feeding rates given for a feed are actually **the amount of that feed that needs to be fed in order to meet a horse’s daily vitamin and mineral requirements.**

To give you an example, let’s look at two different feeds, from the same feed company, with two feeding rates, using copper and vitamin E as example nutrients...

Feed #1 contains copper at 98 mg and vitamin E at 365 IU per kg

Feed #2 contains copper at 51 mg and vitamin E at 230 IU per kg

	Feed #1	Feed #2	Units
Copper	98	51	mg/kg
Vitamin E	365	230	IU/kg
Daily feeding rate	2 - 2.5	3.0 - 4.0	kg/day

In other words, **Feed #1 has nearly twice as much copper and nearly 60% more vitamin E than Feed #2. And this is reflected in the feeding rates.**

With its higher nutrient concentration, Feed #1 can be fed at a lower feeding rate per day than Feed #2 and still meet vitamin and mineral requirements.

In this case, Feed #1’s feeding rate is 2 to 2.5 kg/day for a 500 kg horse in moderate work.

Whereas Feed #2 needs to be fed at 3 to 4 kg/day to the same horse in order to meet nutrient requirements.

Essentially, **the higher the nutrient concentration, the lower the feeding rate.**


Using feeding rate to choose the right feed for your OTT

Big long nutrient lists with numbers that mean very little when not in context of what your horse needs and feeding rate tables can feel confusing!


BUT, you really only need to look for one number...

You will know, with a fair degree of accuracy, how many dippers of feed your OTT needs per day. They will either need a: A tiny bit (1 dipper or less), a small amount (1 to 2 dippers per day), a moderate amount (3 to 4 dippers per day); or a lot (up to 5 dippers per day).


It varies with the feed, but one dipper is very roughly 1 kg of feed. So if you know roughly how many dippers of feed you need per day, just look for this number in the feeding rates given for your OTT’s current activity and see if the numbers line up.



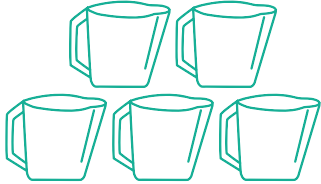
Tiny bit
Typically 1 dipper or less



Small amount
1 to 2 dippers per day



Moderate amount
3 to 4 dippers per day



A lot!
Up to 5 dippers per day.

THE NUTRIENTS AND FEEDING RATES (CONT..)

For example, taking Feed #1 and Feed #2 from the examples earlier... if your 500 kg off the track is in moderate work and needs around 2 dippers of feed per day, Feed #1 is your best choice because it will meet your horse's daily nutrient requirements when fed at 2 kg/day.

If you instead chose Feed #2 but only fed it at 2 kg/day, your OTT would only be getting about half of their daily vitamin and mineral requirements met!

You could top up with a vitamin and mineral supplement to fix this, but that adds more complexity and expense to your feeding program that could be avoided by choosing a more appropriate feed in the first place!

Conversely, if your off the track needed around 4 dippers of feed per day and you chose, Feed #1, and fed it at 4 kg/day, when its feeding rate for a 500 kg horse in moderate work is 2 kg/day, you would be way over feeding vitamins and minerals, and this is not ideal either!

Being More Accurate

Choosing a feed by simply selecting one that has the right feeding rate for your horse saves you getting all tangled up in how much of this nutrient or that, a feed contains on its nutrient table.

However, **not all feeds are created exactly equally** and often there is **a big advantage to taking a more analytical approach to feed selection**, looking closely at the nutrient levels and how they match with your horse's forages, fibres and workload.

But to do that, you need tools!

There are simply too many nutrients and too many variables to calculate that stuff by hand! Even for me it would take me more than a day to accurately calculate out and balance a diet looking at 30 or more nutrients.

So, if you want a more substantial method of selecting the right feed for your OTT than using the feeding rate tables, use an online tool like **FeedXL** or the **MyHappy.Horse** virtual nutritionist app (<https://www.myhappy.horse>).

These tools will calculate your horse's daily nutrient requirements, accurately estimate what is being supplied by the forages and calculate what is being provided by feeds and supplements so you can KNOW your horse's diet is correctly balanced.

More is NOT better

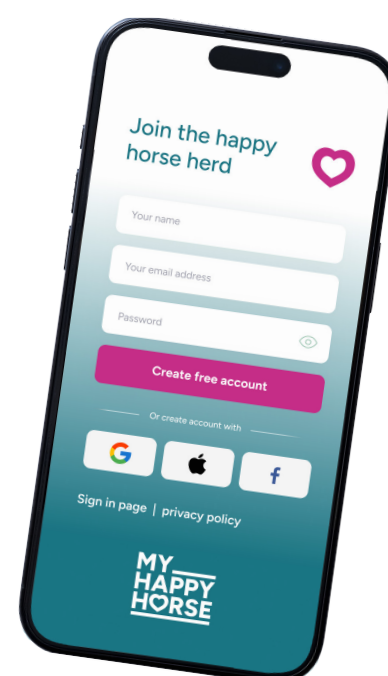
I wanted to add a quick little note in here to say beware of marketing that tries to say one feed is better than another simply because its nutrient levels are higher.

For example, there may be two feeds with exactly the same feeding rate, let's say, 3 kg/day for a 500 kg horse in moderate work. One feed contains 51 mg/kg of copper and the other one 86 mg/kg. When fed at 3 kg/day, the first feed will provide 153 mg and the second feed will provide 258 mg per day of copper.

But let's say your horse only needs 150 mg of copper... even though the second feed does indeed contain more copper, the extra is useless because your horse simply doesn't need it!

So don't fall prey to this 'more is better' marketing, because most of the time, it's not.

Again, tools like **FeedXL** and **MyHappy.Horse** will help you to dig into the details!



FEED FORM

The last little detail you might like to pay attention to on a feed label is the physical form the feed is in.

Feeds are typically presented as: Pellets, extruded cubes, sweetfeeds (usually with a molasses coating); or meals and mashes that are fed wet.

You or your OTT may have a preference for the type of feed you use and the label should tell you or show you what form a specific feed is in so you can select a feed in the form you want!

THE IMPORTANT BITS

Choosing the right feed for your OTT gives you an excellent shot at keeping your horse calm, happy and healthy and helps you to keep feeding time simple and as cost effective as possible.

The important things to remember when reading a feed label are:

- 1. Read the ingredients list carefully. This will tell you if the feed:**
 - contains grains or is grain free
 - is made with fixed or variable ingredients
 - contains high quality protein that will support muscle building
 - contains digestible starch and therefore whether it will be safe or damaging to the hindgut
 - has good ingredient variety or not
 - is free from ingredients you want to avoid; and
 - has any potentially useful micro-ingredients like natural vitamin E or postbiotics
- 2. Pay close attention to the feeding rate tables and choose a feed that has a recommended feeding rate similar to the amount of feed you know your OTT needs to maintain weight or energy levels**
- 3. Avoid variable ingredient feeds and look for soybean meal or full fat soybean in the ingredients when your OTT needs to build muscle;**
- 4. Use diet formulation tools like FeedXL or MyHappy.Horse to really dig into the details of your horse's diet when you want to be more accurate!**

There are a mind-boggling number of feeds available to you and it really can get confusing when choosing a feed. But hopefully with what you have learnt here, you will now be able to more easily sort feeds into suitable or not suitable categories for your horse, and be able to make informed feeding choices that are in the best interests of your OTT!



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