

# SUPPLEMENTS AND YOUR OTT

BY DR. NERIDA MCGILCHRIST

QUEENSLAND  
OFF THE  
TRACK



# INTRODUCTION

Walk into any feed store or saddlery and you will almost certainly find shelves FULL of supplements. There are many brands of products designed to fix multiple different problems a horse may experience.

And they usually all have one thing in common... they are expensive, commonly hundreds of dollars for a single bucket!

Which might leave you wondering a few things, including 'do supplements actually work?' and 'are they worth the money they cost?!'.

And the answer to both of those questions, as it is for so many questions in horse nutrition is... it depends.

Some supplements are incredibly effective. Others are a complete waste of time and money. But it can be hard to know which is which! Especially when their marketing is convincing!

So let's explore supplements a little.

In this QOTT eBook we will look specifically at why a balanced diet is so important and how vitamin and mineral supplements can help you achieve this.

Then we will look at some useful supplements, some not so useful supplements and some traps to avoid when buying supplements.

Let's go!



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## SUPPLEMENTS

## FIRST THINGS FIRST

As horse owners, we will usually want to reach for a supplement when our horse has a specific issue. Things like poor performance, hoof problems, weight loss, an inability to build muscle, gut problems, behavioural issues or a lacklustre coat and skin conditions all make us wonder if there is some silver bullet to 'fix' the problem. A supplement that will just make the problem go away.

Over the years, what I have found, and what the science of nutrition tells us, is that many, if not most of these problems are due to basic nutrient deficiency OR an imbalance in the types of ingredients your OTT is being fed.

So my first step in 'fixing problems' is always to look at the underlying diet and to get this right before choosing to use any specific 'problem-solving' supplements to spend your money on.

Let me give you a personal example...

When I was a teenager (couple of years back!), before I knew ANYTHING about horse nutrition, my beautiful mare CoaCoa was constantly breaking her hooves. Her entire back quarter of a hoof would split away! We sought advice and were told to use a biotin supplement. Logical advice, given biotin is well known to improve hoof quality... EXCEPT... it didn't work because biotin was never the issue!

My childhood horse was never supplementary fed, so knowing what I know now, and knowing that >98% of Australian pastures are too low in copper and zinc to meet a horse's bare minimum requirements, I know she would have been deficient in copper and zinc... and these minerals are both crucial for strong hooves!

So my horse had a copper and zinc deficiency that we were trying to fix with biotin... which... needless to say, didn't work and her hoof woes continued!

All this to say, if your OTT has a specific problem, your first step should always be to look at whether the underlying diet is balanced!





# WHAT IS A BALANCED DIET?

A balanced diet is a diet where:

1. The ingredients being used are balanced. Specifically, the diet is high in forage, has excellent forage and fibre diversity and contains minimal grain; and
2. The diet is meeting all requirements for nutrients, including vitamins and minerals.

## THE PROBLEM WITH UNBALANCED DIETS

Unbalanced diets cause a plethora of specific issues... Diets that are too low in forage, too high in grain or that lack forage and fibre diversity have the potential to cause a shift or dysbiosis in your OTT's gut microbes. And that alone can cause problems with performance, behaviour, immune function, hoof quality, feed digestion and ability to hold weight as well as disease, generalised inflammation and even skin conditions.

Diets that lack specific nutrients will also cause problems.

Owing to Australian forages being inherently low in the minerals copper, zinc, selenium and iodine, and more mature forages or stored hay having low vitamin levels, it is not uncommon to see issues like poor performance, lack of stamina, slow recoveries, poor hoof quality, poor digestion, weight loss, inability to build muscle, muscle loss, muscle damage, poor appetite, behavioural issues, low immune function, dull, rough coats, skin conditions and general ill-thrift... all caused by various nutrient deficiencies.

### Enter... Vitamin & Mineral Supplements

If you go searching the supplement shelves you will almost certainly find a specific supplement to 'fix' these individual issues. BUT unless they are fixing the root cause of the problem, they won't work... just like biotin didn't work for my mare!

The solution, in a majority of cases, is simply to balance the diet and make sure all requirements for vitamins and minerals are being met. Which means, a well formulated vitamin & mineral supplement is definitely a useful addition to a diet, where vitamin and mineral deficiency is the problem!



### Don't Double Up

It is important to keep in mind however, that vitamin and mineral supplements are only useful where a vitamin and mineral deficiency actually exists. So be careful not to double up by adding a vitamin and mineral supplement to a diet that already contains a balancer pellet or complete feed being used at the correct feeding rate.

Adding a vitamin and mineral supplement on top of a balancer or complete feed will just double up on nutrients... and more isn't better.



## THE PROBLEM WITH UNBALANCED DIETS (CONT..)

Once a requirement for a specific nutrient is met, adding more of that nutrient won't give any extra benefits. It's like trying to fit more water into a bucket that is already full! The extra just flows out and is wasted!

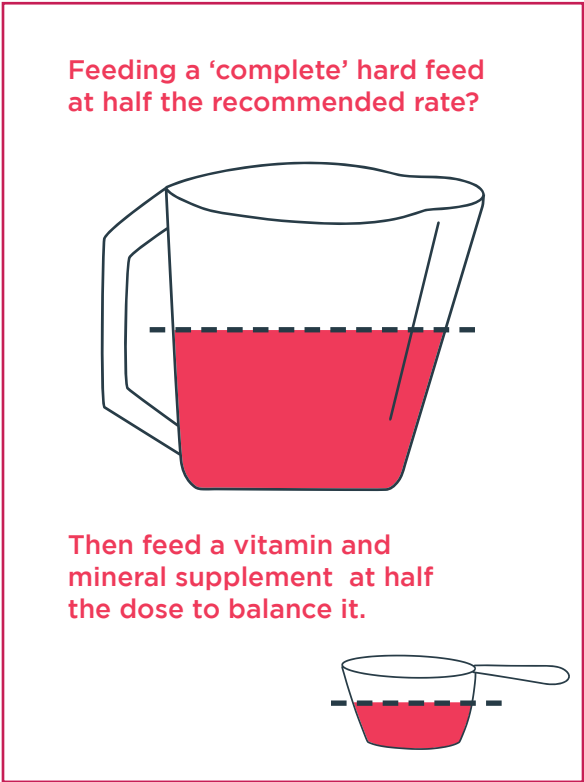
It is however possible to use a vitamin and mineral supplement together with a complete feed IF you are feeding the complete feed at less than recommended amounts.

For example, a feed such as Pryde's EasiResult has an average recommended feeding rate of 3 kg/day for a 500 kg OTT in moderate work. If you were using this feed, but only feeding it at half rates, or 1.5 kg/day, your OTT would only be getting HALF the required amount of vitamins and minerals.

To fix this, you could add a vitamin and mineral supplement at HALF its dose rate and that should top up all the nutrients that were low in the diet.

As an example, your diet may look like this:

**Note that all diets given in this e-Book are intended as starting points for your OTT. They are all based on an average sized OTT of 500 kg bodyweight and use feeds, balancer pellets and supplements from QOTT partners.**



Diet option – Complete Feed PLUS Vitamin & Mineral Supplement	
1.5 kg/day	<b>Complete Feed</b> (Pryde's EasiResult)
35 g/day	<b>Vitamin &amp; Mineral supplement</b> (Poseidon Digestive VM)
60 ml/day	<b>Flaxseed oil/Canola oil</b>
500 g/day	<b>Lucerne chaff</b>
2 kg/day	<b>Lucerne hay</b>
24/7 Access	<b>Pasture and/or multiple types of grassy hay</b>
Free Choice	<b>Salt</b>

**NOTE: This is HALF the recommended feeding rate for a 500 kg horse in moderate work.**

To make truly sure your diet is balanced you should work with an experienced nutritionist OR use an online nutrition calculator to double check your OTT's diet.

## USEFUL SUPPLEMENTS

Even on a balanced diet, there are still additional supplements your OTT either requires or would benefit from. Let's take a look at a few that would specifically benefit Queensland OTTs!

USEFUL SUPPLEMENTS (CONT..)

Electrolytes

In Queensland, where it is frequently hot and can be very humid, electrolytes are at the top of the list of useful supplements! And in fact, they are essential!

If a horse becomes electrolyte deficient, they can't properly rehydrate themselves, they won't recover from exercise, they may tie up and most worryingly, they will no longer be able to sweat properly, putting them at risk of heat stress.

Electrolyte minerals are so important, in fact... that there is one supplement every horse must have... and that is... SALT!



Ordinary old salt is made up of two electrolyte minerals, sodium and chloride. And these are two of the most important electrolyte minerals your OTT needs.

Salt can be added to feed and should always be made available free choice. It is best provided free choice as loose salt because horses find it very easy to lick up and consume. If you would prefer to provide a block, I find the Himalayan blocks are ideal because they are smooth and easier on a horse's very soft tongue than compressed salt blocks.

Horses in regular hard work may also benefit from a well-formulated electrolyte supplement. Electrolyte supplements typically contain sodium and chloride as well as potassium plus small amounts of calcium and magnesium.

Electrolyte supplements will quickly replace the salts lost in sweat, helping your horse to properly rehydrate and recover from exercise. And ensure they can continue to sweat normally.

Be aware that not all electrolyte supplements are created equally and some contain so little actual electrolyte mineral that they are all but completely useless!

The table to the right shows the optimum amount of each electrolyte mineral (as % and on a g/kg basis) that should be in a well formulated electrolyte product to help you select high a quality, effective electrolyte supplement.

ELECTROLYTE MINERAL	OPTIMUM AMOUNT	
	%	g/kg
Sodium	20 - 25	200 to 250
Chloride	43 - 48	430 to 480
Potassium	12 - 15	120 to 150
Magnesium	1 - 2	10 to 20
Calcium	1 - 2	10 to 20

Hoof supplements

Hoof supplements can be particularly useful for OTTs, especially in their first 12 months off the track. Racing life is hard on hooves, and the high grain diets fed tend to reduce the amount of biotin naturally produced in the hindgut. Meaning OTTs can have biotin deficiency related hoof issues that a biotin containing hoof supplement will help to rectify!

Look for supplements with a minimum of 20 mg of biotin per daily dose and if the supplement contains zinc, it ideally should also contain copper to help keep these minerals in the right ratio in the diet.

## USEFUL SUPPLEMENTS (CONT..)



### Gut health supplements

Gut health supplements are another group of supplements that may help your OTT, particularly in their first 12 months off the track.

We discuss your OTT's first 12 months, and some of the potential issues in their gut, in detail in **video 2 of the QOTT nutrition video series, 'The First 12 Months'**. Very briefly, gastric ulcers and an imbalance of the microbes in the hindgut are common.

So gut supplements, that support stomach health and a healthy hindgut microbe population can be useful.

You may choose to go with a supplement that focuses just on the stomach, with acid-buffering capability and nutrients like amino acids that will help support a healthy gut lining and normal mucus production.

Or you may choose a supplement that focuses more on the hindgut with ingredients like pre or post-biotics to support the beneficial hindgut microbes and digestive enzymes that help keep starch out of the hindgut.

Or you might go with a more 'broad-spectrum' supplement that supports the whole gastrointestinal tract.

Whatever you choose, do your research to make sure the product you purchase has reputable science to support each of the ingredients it contains. AND that those ingredients are used at a dose rate that has been shown to be effective for achieving the outcome you want... more on this on page 8.

### Other useful supplements

This certainly isn't an exhaustive list of useful supplements. Other potentially useful supplements include:

- Bone mineral supplements for horses grazing high oxalate pastures.
- Vitamin E supplements for horses without access to fresh pasture for long periods of time.
- Protein and amino acid supplements for muscle building.
- High Omega 3 oils or supplements for horses on higher grain diets or when fresh pasture isn't available.
- Enzyme supplements that help improve digestion; and
- Mycotoxin binders.

And this still isn't an exhaustive list! There are lots of potentially useful supplements, but the ones I have mentioned are the ones you will likely come across the most.



# LESS THAN USEFUL SUPPLEMENTS

There are, unfortunately, many products on the market that sound amazing, cost you significant amounts of money and are also likely to provide your horse with very little benefit.

Amongst this list include many of the traditional or older style joint supplements, calming supplements based on tryptophan and at least at the time of recording this, traditional bacterial, largely lactic acid bacteria based, probiotics.

There is little to no science to support the use of these products in horses... and yet... they are commonplace! Some of the most used supplements on the market!!

**Why?!** For a few reasons... One is that as horse owners we get so desperate to fix a problem we will try anything. And then, due to 'motivated reasoning', we find it very difficult to objectively assess whether the product actually makes a difference.

And second, some of these products are very effective in humans, so we, mistakenly believe, that they will also be good for our horses.

Garlic is actually a classic example of this. As humans we know it is good for us as a part of our diet. It is actually TOXIC for horses, and yet... for years, it was a popular ingredient in horse supplements!!



All this to say, be selective with your supplement choices.

Ask for the research and if it's not published in a reputable journal and not convincing, it is perhaps best to pass on that supplement.

## OTHER SUPPLEMENT TRAPS

A few other things to watch out for when buying supplements include:

1. Claims that sound amazing but don't have any science to back them up.
2. Products that are supported by research that is only published as an in-house report. I have seen documents like this report positive benefits in the leading summary that are not backed up anywhere in the actual data! And other reports where the study design or statistics are so inadequate that the results are meaningless but are still made to sound convincing.
3. Products that use ingredients with excellent research to support their use, BUT they are included in the supplement at well below the dose rate shown to be effective in the research. This is the equivalent of taking something like one-eighth the dose of a pain medication like Panadol and still expecting it to work... it won't. And neither will those supplements; and
4. **You must feed supplements at the correct dose rate.** Being expensive, we sometimes have the tendency to underfeed them to make the bucket last longer. But this will reduce or even completely negate any positive influence the supplement may have had.

# THE IMPORTANT BITS

To summarize what to buy and what to avoid in the world of supplements, remember:

1. **A supplement will only work if it addresses the root cause of the problem your horse is experiencing.** For example, a biotin supplement will not fix hoof issues caused by a zinc or copper deficiency.
2. **With that in mind, the first thing you should always do when solving a problem your horse is experiencing, is get the diet balanced.** That way you will fix the problem if it is due to an ingredient imbalance or nutrient deficiency OR you will identify that it's not a simple imbalance or deficiency and can continue searching for a solution.
3. **Well-formulated vitamin & mineral supplements are perfect for balancing diets and are well worth the money you will spend on them.** But be careful not to double up on nutrients by feeding them unnecessarily on top of complete feeds or balancer pellets that are already being fed at the correct dose rate.
4. **Salt is an essential supplement for all horses, and especially so in the typically hot and humid climate of Queensland!**
5. **Electrolyte, hoof and gut health supplements are all potentially useful for OTTs, especially in their first 12 months off the track.**
6. **Other useful supplements, when used in the right circumstances, include bone mineral supplements, vitamin E, protein and amino acids, omega 3, enzyme and mycotoxin binder supplements.**
7. **Old style joint supplements, tryptophan based calming supplements and traditional bacterial probiotics don't have strong research to support their use in horses.**
8. **Beware of unsupported claims, dodgy research and supplements that use ingredients in amounts far less than was shown to be effective in supporting research; and finally**
9. **Be sure to feed supplements at the correct dose rate**

Supplements can be amazing and in some cases, even life-saving. BUT they will only work when they are addressing the specific cause of the issue your OTT is experiencing. And they must be fed together with a balanced diet at the correct dose rate.

Buying the wrong supplement or buying supplements for the wrong reason will cost you a lot of money for no good return.

BUT, if you read the research, ask lots of questions, read customer reviews with an open mind and choose carefully, supplements can become an invaluable part of your OTT's diet, keeping them their happiest and healthiest selves!







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