FEEDING YOUR

OTT IN THE TROPICS

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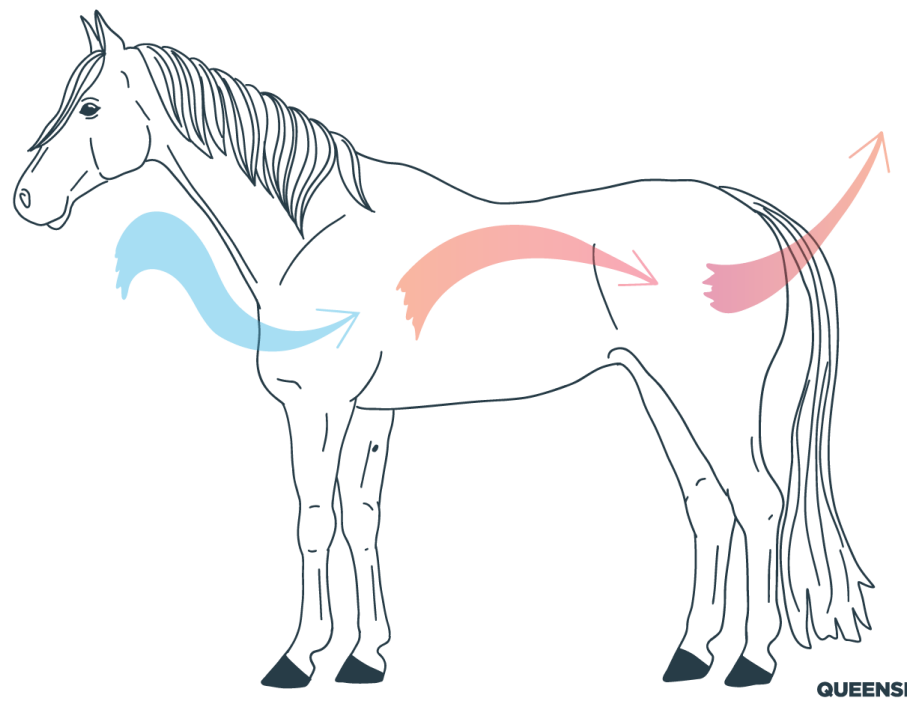

QUEENSLAND OFF THE TRACK™

INTRODUCTION

The tropics of Queensland are stunning... one of my favourite places in our down under land of amazing landscapes. But as an OTT owner, the tropics are also a challenge, on a few fronts!

The high heat and humidity create potential electrolyte deficiency and heat stress issues.

The warm season grasses can cause severe mineral deficiency and sometimes make it difficult for your OTT to maintain weight and muscle.

Skin conditions and biting insects are commonplace.

And, feed and hay storage can be tricky!

But it's not all bad news for the horses. When all of these challenges are well managed, off the tracks can and do thrive in the tropics.

Join me as I share with you some tips and tricks for making this happen!

Let's go!

Nerida
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FEEDING OTTS IN THE TROPICS

HEAT & HUMIDITY

Tropical environments are defined by their heat and humidity! And it is the combination of these climatic factors that present the biggest challenge to off the tracks living in tropical environments.

High heat and humidity make it necessary for horses to offload significant amounts of body heat in order to maintain normal body temperature and avoid heat stress. Failure to maintain normal body temperature results in heat stroke, with disastrous and life-threatening consequences.

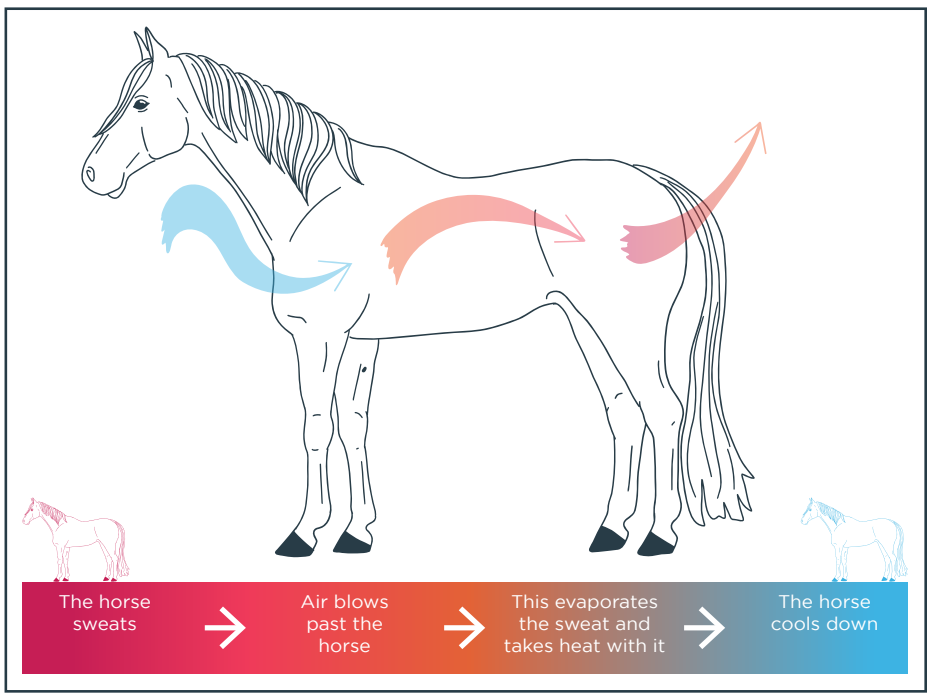
That means for OTTs, **being able to cool themselves down is crucial!**

Horses use a number of methods to cool themselves. The most important cooling system is evaporative cooling. Evaporative cooling happens when the horse creates sweat to wet its own skin, and then airflow allows the sweat to evaporate. As the sweat evaporates, it takes some heat with it and cools the horse.

In tropical, high heat, high humidity climates, horses will sweat A LOT!

The high heat means they have **a lot of extra heat to offload**. And the **high humidity makes it harder for evaporation to occur**, so horses stay hot for longer and sweat more! And being OTTs who seem to sweat a lot anyway, it takes a HUGE AMOUNT of sweat to keep your OTT in the 'cool and safe' range when it is hot and humid in the tropics!

The biggest problem your OTT may run into is that they may stop sweating! And if they do that, they can end up in a life-threatening situation.



HEAT & HUMIDITY (CONT..)

Keeping OTTs sweating

If your OTT doesn't sweat properly they can't offload heat efficiently and they will become, at best, heat stressed. Heat stress then causes your horse to shunt their blood to the skin surface to try and offload heat... in the process, this literally starves your horse's gut and organs and will cause issues like leaky gut, organ damage and systemic inflammation.

And worse, **if your OTT stops sweating altogether it can be deadly.**

Meaning it is critical that your OTT keeps sweating. I want to make a point here of saying that **if your OTT is not sweating, it is not an indication that they have acclimatised to the heat. Instead, it is an indication that something is very wrong with their temperature control system that needs immediate attention**... And the first thing you should do is follow this next piece of advice and give them what they need to sweat!

Keeping your OTT sweating relies on making sure your OTT has all the ingredients they need to make sweat! Sweat is predominantly made from water and electrolyte minerals. If your horse runs out of either of these, they will stop sweating!

When is it safe to exercise?

WBGT

Humidity (%) \ Temperature (deg C)	20	25	30	35	40	45	50
0	15	18	21	24	27	29	32
10	16	19	23	26	30	33	37
20	17	21	24	28	32	37	
30	18	22	26	30	35		
40	19	23	28	33	38		
50	20	24	29	35			
60	21	26	31	37			
70	22	27	33	39			
80	23	28	34				
90	24	29	36				
100	24	31	38				

What does this mean for your horse under these different temperatures and humidities?

WBGT	Summarised EA Guidelines
<28 →	Safe for competition
28 - 30 →	Some precautions necessary
30 - 33 →	Additional precautions incl. holding events in the cooler part of the day required and aggressive cooling necessary
>33 →	Very high risk conditions not compatible with safe competition

Water

Water is simple and obvious... make sure your OTT **has constant access to fresh water** that is so clean, you'd be happy to drink it. Make it easy to access and also try to keep the water as cool as possible by having it in the shade or by changing it on a regular basis.

Electrolytes

Electrolytes are not as simple or obvious... it is deceiving in fact how much electrolyte mineral your OTT loses on a daily basis when living in the tropics!

On a hot and humid day, your horse will probably lose more than 10 litres of sweat... and that is when they are just standing around, doing absolutely nothing except trying to stay cool!

In that 10 litres of sweat, there will be around 120 grams of electrolyte mineral... it's literally handfuls of mineral! And here is the thing... if your horse runs out of these electrolyte minerals, they will stop sweating, because they simply don't have the ingredients they need to make sweat! So **one of the MOST important things** you need to pay attention to when feeding OTTs in the tropics is **making sure they are getting enough electrolytes**.

How to supplement electrolytes

The 3 major electrolytes in your OTT's sweat are sodium, chloride and potassium.

Potassium

Let's start with potassium because in some ways, it is the easy one! Forage is incredibly rich in potassium. **Most pastures and hays will easily contain 15 grams of potassium per kg of dry matter.** If your OTT is eating 10 kg of forage per day, this is equivalent to 150 grams minimum of potassium and **this is PLENTY to meet requirements** and keep them sweating!

Sodium and Chloride

Sodium and chloride on the other hand are usually low to very low in forages. BUT, **sodium and chloride together are just plain old table salt**. So all you need to do is give your horses salt to meet sodium and chloride requirements in order to keep them sweating!

How much salt?!

When it is hot and humid, you should feed at least 70 grams of salt per day... it will depend a little bit on the type of salt you are using, but that is approximately 4 TABLESPOONS of salt daily.

If your horse simply won't eat that much salt, reduce the amount until you find the daily quantity your horse will happily consume.

As well as salt in their feed, you must also give your OTT access to free choice loose salt so they can go and consume more salt when they need it! I can't overstate how very important it is that you both **feed them salt AND give them access to free choice salt**!

And in the tropics, don't use salt blocks as horses simply can't consume enough salt when they are forced to lick it off a block!

Horses cannot live healthy lives in the tropics without enough salt. If you are reading this and your horse doesn't have free choice salt, **go out right now and get that sorted!**

What about working horses?

If horses are in work, they will sweat even more and need extra electrolytes in their diet. When it is hot and humid, horses will lose more than 10 litres of sweat per hour of work, so for every hour of work they do, you need to feed an extra 70 grams of salt.

And, for horses in moderate to hard work, you may also need to use an electrolyte supplement to help your OTT rapidly replace the electrolytes they lose in sweat.

For help with choosing a good electrolyte supplement, watch the Racing Queensland Video 11 – Supplements and Your OTT.

Quick tip:

Hose your horse down before you ride or when they are just standing around in the heat! This provides them with evaporative cooling they didn't have to work for and saves a bit of electrolyte!

And of course hose them off after work for as long as you need to cool them right off! This can take more than 20 minutes of hosing.

Mind protein

Putting enough electrolyte into your horse is super important. But stopping excess electrolyte coming out is also a critical piece of the puzzle. High protein diets will make your OTT urinate a lot! Your horse loses electrolyte in their urine. And the more they urinate, the more electrolyte they lose. So in the tropics, you need to be careful not to overfeed protein.

The main thing to avoid is too much lucerne hay, which is high in protein. As a general rule, keep lucerne to a maximum of 2 kg/day for a 500 kg OTT.

PASTURE IN THE TROPICS

Tropical pasture species (aka: warm season grasses) can present significant challenges for your OTT.

Severe calcium deficiency

The biggest issue with many warm season grasses is that they contain a compound called oxalate. **Oxalate steals calcium from your horse and can cause calcium deficiency** that is so severe your horse is at extreme risk of breaking their legs.

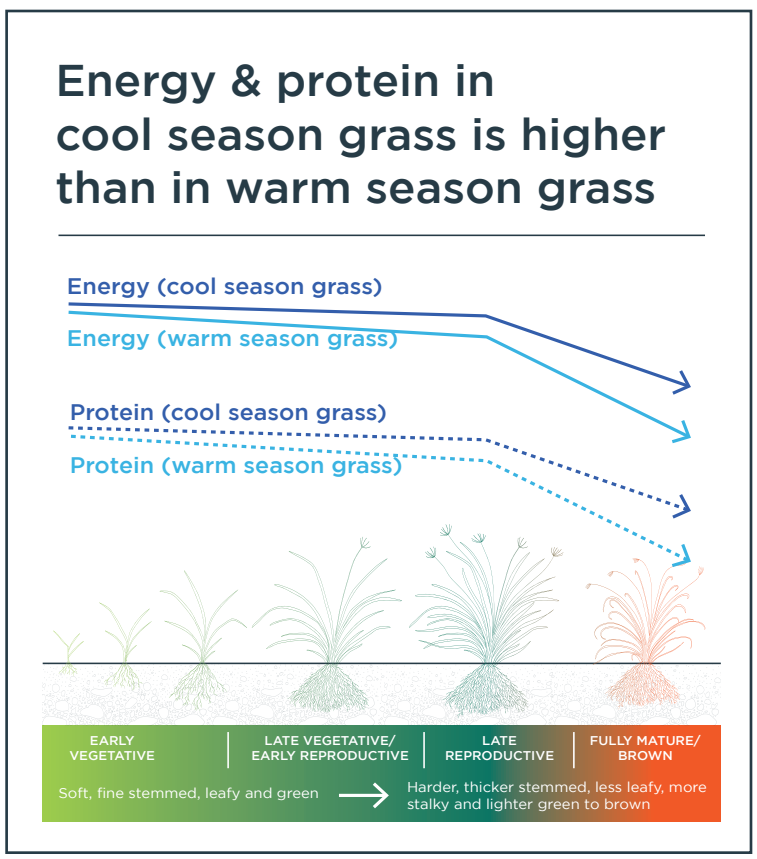
There is an entire Queensland Off The Track Video and eBook devoted to this topic. So please watch 'Video 7 - Keeping Your OTT Safe on QLD Pastures' so that you can identify the high-risk grasses and make sure you are feeding your OTT in a way that is keeping them safe.

Lower energy & protein

Warm season grasses, as both pasture and hay, are also lower in energy and protein compared to temperate (aka: cool season) grasses when at the same stage of growth. Which means, you may need to feed more energy and protein in your OTT's hard feed for them to maintain weight and build muscle.

For some tips on how to do this, Watch Video 3 – OTT Nutrition Into the Future and look for Rule #3 – Feed A Balanced Diet.

There are also some specific diets you can use as a starting place for your OTT in the eBook that goes along with that video.



RAIN, MUD & INSECTS

In addition to being hot and humid, the tropical climate is also often wet... really wet!

And exposure to near constant rain – or standing, sleeping and rolling in pastures that never seem to dry out – set your OTT up to being at risk of skin conditions caused by bacteria or fungi taking up residence on your horse's wet skin! Two of the **most common conditions are rain scald and mud fever, also called greasy heel.**

Rain scald

Constant wet skin and the abrasive nature of mud and insect bites can break down your OTT's usually impenetrable skin barrier, and allow bacteria and fungi to set up residence. These unwelcome microbes then cause the diseases we know as rain scald and mud fever.

Managing your horse's environment, using light rugs when possible and giving them dry areas to escape to is a huge part of preventing insect bites and skin conditions. However, nutrition also has an important role to play.

Horses that are healthy and have a strong immune system are better able to repair damaged skin and fend off these infections before they take hold. And **nutrition plays a crucial role in maintaining healthy skin and a strong immune system.**

The hindgut microbes and immune function

Your OTT's hindgut microbes are very much in the driver's seat of your horse's immune function. **Proper immune function relies on there being a diverse and healthy population of fibre fermenting microbes in your OTT's hindgut!**

Again, there is an entire QOTT video devoted to this topic. Please watch Video 12 – Hindgut Health and Your OTT to learn how to feed in a way that will support your horse's hindgut and their immune function.

Feeding for hindgut health will make your OTT far less prone to these manky tropical skin conditions.

Vitamins and minerals, skin health and immune function

In addition to a healthy hindgut, your OTT also needs a diet that meets all of their vitamin and mineral requirements for healthy skin and a properly functioning immune system. Vitamins like vitamin A and E, as well as minerals like copper, zinc, selenium and iodine are crucial for skin health and immune function!

Fresh green pastures are rich sources of vitamin A and E. But **hay that is older than 6 months will have virtually no vitamin A or E left**. So, if your OTT is kept on a hay-based diet or only has access to dry, browned-off pasture, it becomes very important to ensure your OTT's requirement for these vitamins is met.

As far as minerals go, Australian forages and grains are inherently low in copper, zinc, selenium and iodine, so you ALWAYS need to add these to your OTT's diet.

Using high quality vitamin and mineral supplements, balancer pellets and complete feeds **at their recommended feeding rate** means you will meet your OTT's requirement for the vitamins and minerals they need to keep their skin healthy and their immune system in tip top condition!

For some example diets to use as a starting place, grab the eBook 'Feeding Your Off The Track'. Or for those of you with horses on tropical pastures, use the diets from the 'Keeping Your OTT Safe on QLD Pastures' eBook.

MOULD, MITES & MYCOTOXINS

The heat and humidity of tropical environments create perfect conditions for feed spoilage and infestations. In feed and hay, the warm and wet climate is a fungi's dream, and you can get rapid mould growth and mycotoxin production. The **mould and mycotoxins can then cause multiple health issues for your OTT, including liver damage, loss of appetite and colic.**

Mites and various 6-legged creatures (i.e. insects) also love to take up residence in feeds stored in hot and humid conditions. These critters can **destroy the palatability, nutrient value and safety of your feed ingredients.**

Safe Storage

There are two main ways you can avoid these issues.

1. Minimise Storage Time

Only **buy feeds in the smallest quantities practica**l and try not to store feeds for any more than 4 to 6 weeks.

2. Encourage Airflow

Store any feeds (including hay) in the coolest place you have with as much airflow around it as possible. Use sheds with raised floors or shipping containers kept up off the ground, with air vents or whirlybirds to create some airflow inside.

And **store the hay and feed itself up on pallets** to allow airflow underneath. Also make sure you **properly close the lids or ziplock bags on any supplements,** every single time you use them, to stop moisture getting in.

THE IMPORTANT BITS

Feeding in the tropics can be a challenge, but when done well, your OTT can thrive!

Here are the most important things to remember when feeding in the tropics:

1. **The heat and humidity will make your OTT sweat a lot! They need to sweat to keep their body temperature in a normal, safe range.**
2. **In order to sweat efficiently, your OTT needs plenty of water and electrolytes. So, provide easy access to very clean, fresh and cool water. And to meet electrolyte requirements, provide lots of forage, feed ordinary salt in your horse's daily feeds AND give your OTT free access to loose rock salt.**
3. **If your OTT is grazing, follow the advice given in Video 7 - Keeping Your OTT Safe on QLD Pastures, to prevent severe mineral deficiency on tropical pastures.**
4. **Feed in a way that maximises hindgut health to keep your OTT's immune system firing on all cylinders; plus**
5. **Feed a balanced diet to keep your horse's skin and immune system healthy to reduce your OTT's susceptibility to skin conditions; and finally**
6. **Be mindful of how long and where you store hay and feed, to reduce the risk of feed spoilage and mycotoxins.**

While the rest of us envy you for the beautiful places you live, we don't envy the additional challenges of feeding an OTT in the tropics.

BUT, armed with the knowledge you now have, you can keep your OTT safe, healthy and happy, so you can both enjoy life in the stunning tropics!

ENJOY THE
JOURNEY