

FEEDING YOUR OTT IN DROUGHT CONDITIONS

BY DR. NERIDA MCGILCHRIST



INTRODUCTION

Drought... It's almost a way of life for us Aussies, and yet, despite it being so common, it remains a significant challenge for us to feed horses during drought.

As drought takes hold, pasture reserves disappear, water dries up and quality hay becomes scarce, expensive and sometimes near impossible to find.

Feeding horses and keeping them healthy during droughts can feel difficult.

They always seem hungry!

They often seem bored.

And it can be hard to keep them healthy and in good condition.

While, unfortunately, there is nothing I can teach you that will make droughts 'easy', let me guide you on the three most important things you should focus on when feeding your OTT during drought.

And at least that way you can feel some sense of certainty that you are doing the most important things for your horse.

You have three main priorities when feeding during a drought.

These are, in order of importance:

1. Meeting your horse's daily nutrient requirements
2. Preventing nutrition-based diseases; and
3. Keeping your horse mentally occupied and happy

Let's look at each of them in detail...



Nerida

xx

1

MEETING YOUR HORSE'S DAILY NUTRIENT NEEDS

WHEN PASTURE RUNS OUT

The biggest change to your horse's diet as you head into drought will be changes in forage quality and availability. If your horse is grazing, pasture will initially brown off and in severe or prolonged droughts, pasture disappears altogether.

If your OTT is normally kept on hay, you may find that the availability of your usual hay becomes scarce and you will be forced to use a lower grade or a different type of hay.

So most of feeding in a drought comes down to managing your horse's diet around the forage you are able to source. And making sure you are balancing the diet and topping up any nutrient requirements not met by whatever forage your horse happens to be eating.

Sounds easy... but sometimes it's not. So let me give you some specific examples to help demonstrate what I mean.

Example #1 – Good quality hay substituted for pasture

Early in droughts you can usually still find good quality hay OR if you are well prepared and have the storage space, you hopefully have a reserve of good quality hay stashed away for a non-rainy day! So initially, as your pasture disappears, you will just need to substitute in hay to replace the pasture.

To give you two specific scenarios...

1. Your OTT is normally a good doer and exists on pasture and a balancer pellet. So as the pasture availability drops, you simply substitute in good quality hay.
2. Your OTT is either in work or needs a bit of extra feed to maintain condition, so you feed 3 kg/day of an extruded hard feed together with pasture. As the pasture disappears... you keep the hard feed the same and substitute in good quality hay.

Remember that horses need A LOT of hay to meet their daily nutrient needs AND to keep their gut and their mind healthy.

WHEN PASTURE RUNS OUT (CONT..)

As a guide, in these two scenarios, as pasture disappears, you would need to feed between 10 and 15 kg of hay per day for a 500 kg horse.

Example #2 – Low quality hay substituted for pasture

In prolonged droughts there is often only low-quality hay available and beggars sometimes can't be choosers so you just have to feed what you can get.

But low-quality hay will be lower in energy and protein than your pasture or any better quality hay you have been feeding to this point. So as you substitute in the low-quality hay, your horse's daily energy intake will drop... which means they will start to lose weight (Tip: make sure you watch the QOTT Video 'Body Condition Scoring your OTT'). And this means you will need to balance up the diet with other feed ingredients.

What do I mean?

Well, to prevent excessive weight loss, and really this is what feeding well during a drought is mostly about, you will need to bring in some other higher energy feeds to make up your horse's daily energy shortfall. Higher energy feeds that will help your horse hold weight include complete feeds, high energy fibres like lupin hulls, sugarbeet pulp and copra meal, grains like oats, extruded barley and Australian ricebran and oils.

There are some specific diets below that you can use as a starting point to help your OTT hold weight on low quality hay.

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.

Here are some scenarios for feeding where only low quality hay is available:

Scenario 1 - Good Doer in Light work

Your OTT is normally a good doer and normally exists on pasture and a balancer pellet. So as the pasture availability drops, OR your better quality hay supplies dwindle, you substitute in poor quality hay, because it's the only hay you can get.

You could make up the energy shortfall by continuing to feed your balancer pellet and adding something like 1 kg/day of lucerne chaff, 1 kg/day of high energy fibres like copra meal, lupin hulls or sugarbeet pulp and half a cup of oil.

Diet Option 1 – Balancer pellet + high energy fibres + oil

1 kg/day	Balancer pellet (Pryde's Premium 250)
125 ml/day	Flaxseed oil/Canola oil
1 kg/day	Lucerne chaff
200 g/day	Sugarbeet pulp
500 g/day	Lupin hulls (Pryde's EasiFibre)
300 g/day	Copra meal
10-15 kg/day	Drought sourced low quality hay
Free Choice	Salt

Alternatively, you could drop the balancer pellet and switch to just the lower quality hay and 2 kg/day of a high quality complete feed, 1 kg/day of lucerne chaff and half a cup of oil.

Diet Option 2 - Complete feed + oil

2 kg/day	Complete Feed (Pryde's EasiResponse)
125 ml/day	Flaxseed oil/Canola oil
1 kg/day	Lucerne chaff
10-15 kg/day	Drought sourced low quality hay
Free Choice	Salt

WHEN PASTURE RUNS OUT (CONT..)

Scenario 2 - Normal OTT in Moderate work (or poor doer)

Your OTT is in moderate work (or is a poor doer) and needs a bit of extra feed to maintain condition, so you normally feed 3 kg/day of an extruded hard feed together with pasture.

Again, you are forced to feed a low quality hay, so to help your horse hold condition you increase your complete feed to 3.5 kg/day and you add 1 kg/day of lucerne chaff and 1 kg/day of some high energy fibres like copra meal, lupin hulls or sugarbeet pulp (feed all three for extra points on fibre diversity!), plus half a cup of oil.

Diet Option 1 – Complete feed + high energy fibres + oil

3.5 kg/day	Complete Feed (Pryde's EasiResponse)
125 ml/day	Flaxseed oil/Canola oil
1 kg/day	Lucerne chaff
200 g/day	Sugarbeet pulp
500 g/day	Lupin hulls (Pryde's EasiFibre)
300 g/day	Copra meal
10-15 kg/day	Drought sourced low quality hay
Free Choice	Salt

In all of these situations you will need to adjust the amount of oil and high energy fibre or complete feed you are feeding to manage body condition. If your OTT is losing weight, increase the amounts fed. If they happen to be gaining weight, you will need to reduce the amounts fed.

How do you know if your OTT needs more or less feed?

Go watch the QOTT video on body condition scoring and use your horse's body condition as your guide to adjust the amount of feed you are providing.

Forage Variety

Hay of any kind almost feels like a luxury in some droughts, BUT, whenever possible, try to find multiple different types of hay for your OTT, to try and maintain some level of forage variety in the diet. The forage variety will give both nutrient and fibre variety which gives your horse a wealth of health benefits.

For a lot more detail on buying hay and hay quality, you can watch the QOTT video 'Buying Hay – What to Buy and What to Look For'.

Mind wastage!

If you are feeding hay free choice, be mindful of wastage. Round bales fed on the ground can have wastage as high as 50%, which, when hay is scarce and expensive, is something you definitely want to avoid. Free choice hay is a wonderful thing for OTTs, but find ways to feed it safely that will minimise wastage. Big bale hay nets or hay feeders, or both, are super effective for reducing hay wastage and the nets have the added benefit of slowing hay intake down!



Image courtesy of Gutzbusta

WHEN PASTURE RUNS OUT (CONT..)

How much hay do you need?

Working out a hay budget is super useful during drought, so you know either how much hay you need to buy OR how much hay you can feed based on the hay you have available.

In an ideal situation, a 500 kg OTT should be fed between 10 and 15 kg of hay per day, which is a big $\frac{1}{3}$ to $\frac{2}{3}$ of a bale of hay per day.

Per week, that is 70 to 105 kg. Or in small bales (which usually weigh around 25 kg each) it's around 3 to 4.5 bales per week.

Per month, this is 300 to 450 kg which is 12 to 18 bales.



What if I can't find enough hay?!

Good question! I also struggle with what to do in these situations!

If you can't find enough hay to feed these amounts, you can substitute in other feed ingredients as **partial** hay replacers. Feed ingredients that can be used as **partial hay replacement** include:

High Energy Options

- Hay cubes
- Chaff
- Lupin or soybean hulls
- Sugarbeet pulp
- Copra meal

Low Energy Options

- Straw
- Oat hulls
- Sunflower seed hulls; and

You can also use safe and palatable browse (trees and shrubs) if you happen to have it available!

Remember that some of these ingredients are **high in energy**, so they are most useful when your OTT is struggling to maintain weight.

And some are **low energy**, so they are best used when your horse just needs fibre and bulk in the diet to fill them up!

You must ALWAYS feed hay!

It is REALLY important that you still feed SOME hay, even if it is just straw... because the long stem fibre, the chewing required to eat it and the saliva production it generates are all so important for your OTT's physical and mental health.

Feeding 1% of your OTT's bodyweight in hay per day is the absolute, **only when you're desperate**, **minimum amount of hay** you should feed per day.

WHEN PASTURE RUNS OUT (CONT..)

This is equivalent to 1 kg of hay per 100 kg of bodyweight, which is 5 kg of hay per day for a 500 kg OTT, or approximately one fifth of a bale. Per week this is 35 kg or around 1.5 bales of hay. And 150 kg or 6 bales of hay per month.

If you are feeding these tiny amounts of hay, you **MUST, must** make sure you are using other ingredients to provide additional fibre and a lot more energy or your OTT will lose significant amounts of weight and be at high risk of disease.

Here are two diets to show you how you would need to feed to keep your OTT healthy under these extreme, minimal hay conditions. One for a good doer and one for a poor doer or a horse in work.

Diet 1 – Good Doer with Minimal Low Quality Hay

1 kg/day	Balancer Pellet (Pryde's Premium 250)
125 ml/day	Flaxseed oil/Canola oil
1 kg/day	Lucerne chaff
1 kg/day	Oaten chaff
250-500 g/day	Sugarbeet pulp
0.5-1 kg/day	Lupin hulls (Pryde's EasiFibre)
0.5-1 kg/day	Copra meal
5 kg/day	Drought sourced low quality hay
Free Choice	Salt

Diet 2 – Poor Doer or OTT in Light to Moderate Work with Minimal Low Quality Hay

2-3 kg/day	Complete Feed (Pryde's EasiResponse)
125 ml/day	Flaxseed oil/Canola oil
1 kg/day	Lucerne chaff
1 kg/day	Oaten chaff
250-500 g/day	Sugarbeet pulp
0.5-1 kg/day	Lupin hulls (Pryde's EasiFibre)
0.5-1 kg/day	Copra meal
5 kg/day	Drought sourced low quality hay
Free Choice	Salt

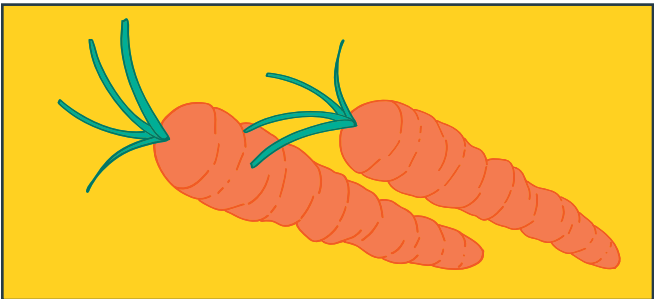
3 More Things

There are 3 more things I want you to keep in mind when it comes to nutrition during a drought. These are:

1. Always feed a balanced diet. Whenever possible have a nutritionist check your diets or use an online nutrition calculator to make sure your combination of feed ingredients is actually meeting your OTT's daily nutrient requirements. Varying hays can throw some odd curve balls at your horse so you want to make sure you're covering all their nutrient bases.
2. Always make sure there is salt and clean, fresh water available; and
3. Be extra conscious of vitamin E. It is one vitamin your OTT will struggle to get enough of during drought, especially when they have no access to green pasture for prolonged periods of time. And vitamin E deficiency will lead to muscle loss which is something we want to try and avoid. If you want to make extra sure your horse is getting enough vitamin E, put a 1000 IU human vitamin E capsule into their daily feed.

A Carrot A Day

Vitamin A is another vitamin that can end up in short supply when green pasture is not available for prolonged periods of time. Feeding your OTT a carrot or two a day gives them a rich source of beta-carotene which they can then convert for themselves into vitamin A when they need it.





2

PREVENTING NUTRITION BASED DISEASE

Your next priority when feeding during drought is to prevent diseases that can occur due to drought. Outside of nutrient deficiencies, the main concerns, from a nutritionists perspective during drought are gastric ulcers, 'sand colic' and colic in general. Let's look at each of these briefly.

GASTRIC ULCERS

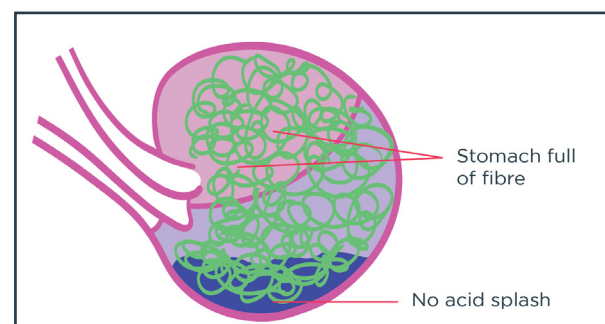
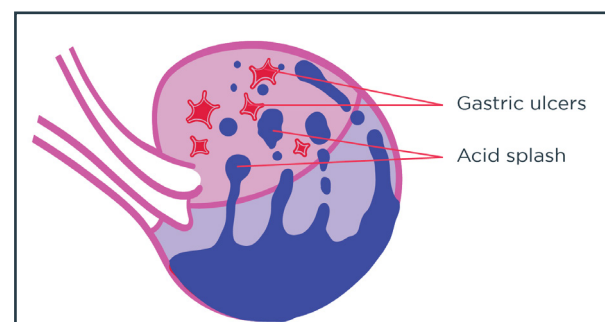
Squamous gastric ulcers are the ulcers that occur in the top part of the stomach. The major factor that causes these ulcers is acid splashing from the bottom part of the stomach up to the top part... where the acid then literally burns holes through the lining of the stomach. This acid splash is able to happen any time your horse's stomach becomes empty.

During drought, with horses that are relying on hay for their forage, they can, and often will eat their daily hay allocation quite quickly, meaning they spend long periods of every day not eating... Which means their stomach will often be empty and they will be at high risk of ulceration.

To prevent this ulceration, find ways to extend the amount of time it takes your OTT to eat their hay so you keep their stomachs full and the acid can't 'splash'.

As a general rule, you should try to avoid your OTT going any longer than 4 hours without forage.

Small hole hay nets, hay bags and hay balls are all excellent options for extending the time it takes your OTT to eat their hay.



SAND COLIC

As grazing animals, horses normally eat a lot of dirt! With a recent study by Jurjanz et al 2021 estimating an intake of more than 0.5 kg of soil per day!

And normally this isn't an issue... because all the fibre going through their gut just picks up all that dirt and moves it out of the gut.

But during drought, two things change... the amount of soil a horse eats will increase because they are often eating hay off bare ground AND picking around in the dirt to find dropped feed or roots and leaves to munch on.

AND when pasture isn't available and hay is limited, **their fibre intake is reduced**. So there is less fibre to shift the dirt out of the gut.

So we've got more dirt going in and potentially less coming out... and this means it can accumulate and cause irritation to the gut wall, which can frequently lead to diarrhea and sometimes lead to colic.

I find in the early stages of sand or dirt accumulation in the gut, horses just become irritable and grumpy, I assume because they are in pain. So keep an eye on your horse for changes in behaviour as it **may** be an early sign of trouble brewing in the gut.



How do you avoid this?

Well, first things first, **try to limit the amount of soil your horse is eating** by feeding hay off surfaces like black rubber matting that you can sweep or blow dirt off regularly.

For example if you are feeding out of a hay net, put rubber matting under the net to catch any hay they drop. Or feed out of canvas backed hay bags that will keep the hay off the ground for your horse.

Then, **feed as much hay as your hay supply allows**. The more hay you can move through your OTTs gut, the less chance they have of sand and dirt accumulating in there.

Finally, you can feed psyllium husk at a rate of 1 gram per kg BW/day (500 grams per day for a 500 kg OTT) for 5 days in every month to help reduce the amount of sand or dirt that may be accumulating in your OTTs gut during drought.

Psyllium is inherently unpalatable and it has the weirdest texture, so try mixing it with 200 grams of 'just damp' wheat bran, 250 grams of lucerne chaff and a bit of your OTTs favourite feed to help with palatability. If your OTT loves carrots, a grated carrot works a treat in that mix too!

DO NOT WET the psyllium too much or it will turn into a guggy mess that your horse definitely won't eat!

Alternatively, you can use a commercial psyllium pellet that is designed specifically for sand and dirt removal. Your horse may find these more palatable.

If your horse has sand colic or other symptoms like diarrhea, you will need to work with your veterinarian to use a combination of psyllium husk and magnesium sulphate to help shift any sand or dirt that has accumulated in your horse's gut.

GENERAL COLIC

Changing hay, poor quality hay, drinking from dams with poor water quality and high intakes of grain based hard feeds are four known risk factors for colic. And during drought, these risk factors are all exacerbated.

Here are some tips to reduce the risk of colic during drought:

1. **Introduce new hay into the diet as slowly as possible.** Try not to change hay sources abruptly. Whenever possible, as you are running out of one supply, try to source your new supply and introduce it slowly as you finish up your horse's previous hay.
2. **Buy the best quality hay you can find and avoid mouldy hays.** For details on this please watch the QOTT video on buying hay.
3. **Provide access to clean water.** If your OTT is watered from a dam with questionable water quality, try, where possible, to provide an additional source of water so your horse can choose where it drinks. If the water quality in your dam is very questionable it would be best to fence the dam off so your OTT can't access it.
4. **Don't feed too much grain.** While droughts often force our hand with what we need to feed, to minimise the risk of colic, don't exceed 1 kg of grain based hard feed per 100 kg of bodyweight, which is 5 kg/day for an average sized 500 kg OTT. And with the exception of oats, never feed raw grains!





3

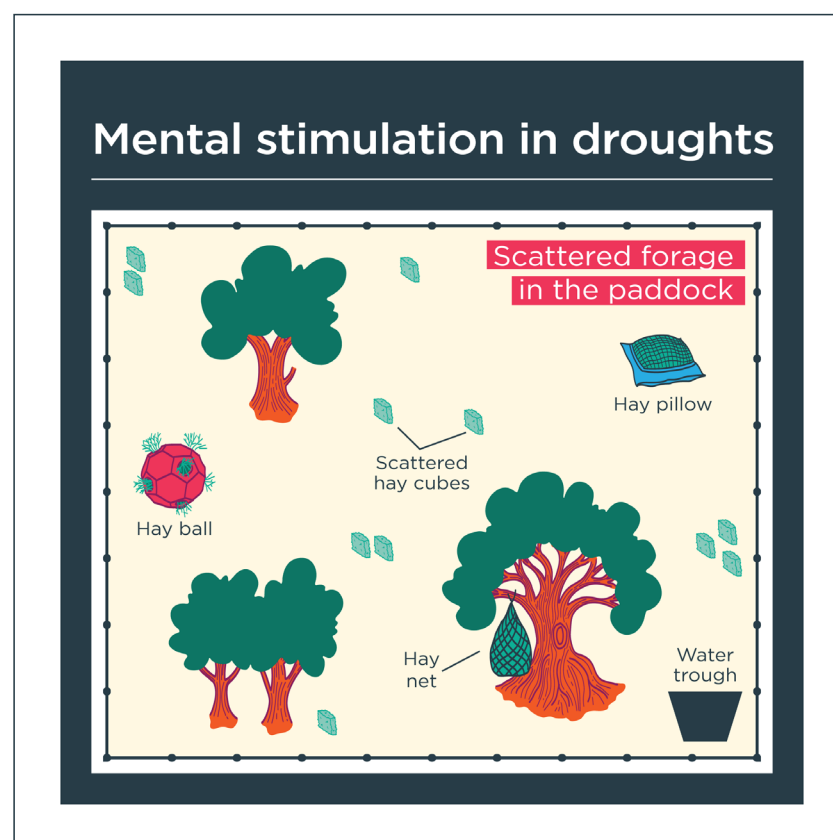
KEEPING YOUR OTT MENTALLY OCCUPIED & HAPPY

Your third and final priority when feeding during drought is to keep your horse as mentally occupied with eating, and therefore, as happy as you can.

Here are three very quick tips to help you achieve this:

1. **Feed hay at ground level.** The head down 'grazing' position is the most natural and calming position for a horse to be in, so when you can, always feed at ground level. And it keeps your horse's lungs as clear and healthy as possible which is super important during drought when dust and dusty hay are putting extra pressure on their lungs!
2. **Keep your OTT eating.** Horses are happy when they are chewing, so have your OTT eating for as much time every 24 hours as possible. **Having hay available 24/7 is ideal.** But if you are needing to restrict hay intake, to make your hay supplies last, small hole hay nets, hay bags and hay balls, or ideally a combination of all 3, will help you limit hay intake but extend the amount of time it takes your horse to eat it.
3. **Give your horse opportunity to 'forage'.** To alleviate boredom and encourage movement, try to recreate some form of foraging behaviour for your OTT. Put a hay bag in one position in their paddock or yard, a hay net in another position, a hay ball somewhere else and all away from water.

This helps give them motivation to move and means they have to go looking, even if only a tiny bit, for their food. And for extra fun for both of you, try to hide or just broadly scatter hay cubes around their paddock so that they have to go and find them.



Make sure everyone can get to food!

If you have multiple horses in the same paddock, it is really important that you take care to make sure they can all safely feed from hay feeders to avoid the horse or horses lower in the pecking order from missing out.

THE IMPORTANT BITS

To quickly recap, during drought, remember to:

- 1. Make sure your diets are balanced and your horse's daily nutrient needs are met as you substitute in varying quality hay to the diet.**
- 2. When hay quality is low, be sure to top up energy intakes with higher energy ingredients to prevent excessive weight loss.**
- 3. Feed plenty of hay and feed it out of slow feeders to reduce your horse's risk of gastric ulcers.**
- 4. Feed hay off a clean surface, feed lots of hay and use psyllium husk when needed to reduce your OTT's risk of sand colic.**
- 5. Change from one batch of hay to another slowly, make sure your OTT always has access to clean water and limit grain intake to reduce the risk of colic.**
- 6. And finally, feed at ground level and get creative with how you feed. Use hay slow feeders in different places and scattered hay cubes to recreate some foraging behaviour. This helps to alleviate boredom and keeps your horse happily chewing for longer periods of time to ensure your OTT stays mentally happier and healthier.**

Droughts are always going to be challenging. But hopefully the information shared here helps you to feel a little more prepared and more confident in knowing what to focus on when feeding your OTT when you next find yourself dealing with skies that will not rain!

ENJOY THE
JOURNEY