

Sand Ingestion

By Dr John Kohnke BVSc RDA

Horses on sparse pastures under drought conditions have a higher risk of ingesting sand and soil as they search for food or rip up plants by the roots as they graze. Some horses inadvertently pick up sand as they eat hay or feed off the ground. It has been observed that individual foals and weanlings may purposely eat sand between meals when confined to yards, particularly when not fed at a regular time. Often a single horse in the group may develop a 'pica' or desire to eat soil or sand for seemingly no underlying medical reason.

It has also been observed that horses in hard training may dig holes in an outside yard and seek out and consume handfuls of clay based soils. Many of these have been shown to have gastric irritation and ulcers, presumably consuming soil to help coat the stomach wall or in an instinctive attempt to buffer gastric acid.

Seasonal Occurrence

Diarrhoea due to sand and impaction colic can be a serious problem in horses grazing on areas with sandy soils. Often sand-induced diarrhoea and symptoms of colic occur 7-10 days after the break of the season or heavy rain after a dry period when new, poorly rooted grass covered with fine sand is emerging.

Often, sporadic cases of sand colic last for about 6 weeks after rains. Fine beach-like sand is more likely to be ingested on plants and mix with intestinal residues to settle and compact more readily as compared to coarse river sand. Under sparse grazing conditions, sand ingested when grazing can irritate the large intestinal lining, leading to low grade colitis and diarrhoea, which often contains gritty sand.

Studies have indicated that horses harbouring large numbers of immature (hypobiotic) resting stages of Small Strongyles or Small Redworms (Cyathostomes) in the hindgut wall have a higher incidence of sand colic as intestinal movement (motility) is reduced, increasing the risk of sand accumulation. Infestation of Small Redworms is increased in horses grazing short contaminated pastures, providing a higher risk of these horses developing sand impaction colic, particularly after the break of the season which also favours worm larval activity and increased risk of ingesting larvae and their migration to resting stages in the hindgut wall.

Diagnosis

Horses which are not 'doing as well' despite supplementary feed, regular worming and teeth care, especially under the drought conditions, are likely to have a build-up of sand in the caecum and hindgut. Symptoms include **low grade diarrhoea, gut discomfort, colic, reduced appetite and a dull dry coat**. The weight of the sand can also reduce blood perfusion in the gut lining, leading to severe colic. In severe cases, painful colic and occasional peritonitis and death from a ruptured hindgut can result. Confirmation of sand impaction is a job for your vet using ultrasound, rectal or X-ray examination.

Monitoring Sand Ingestion

Are you concerned that your horse may be eating sand?

You can check the bottom of the water trough or tub to see if sand is being washed out from the mouth as a horse drinks. You can place a 20 litre white bucket of water in a yard and check the next day for evidence of a layer of sand on the bottom. Alternatively, collect about 5 balls of fresh manure - place in a bucket, add 1 litre of water and break them up with a stick to wash out the sand. Let the mix stand for 30-60 minutes, or overnight to allow the sand to settle out. If you find more than 1 teaspoonful of sand which has settled out, it indicates that excess sand is being ingested as a horse feeds, especially if it is fine, beach-like sand. Consult your vet for advice.

Removal of Sand

Although drenching of horses grazing on sandy soils with 3-4 litres of paraffin oil once a month has been historically recommended to remove sand, studies indicate that paraffin oil, even in larger doses, is not very efficient at softening hindgut deposits and expelling the sand. Many herbal remedies, and feeds such as bran mashes, drenches of milk and honey or even 1kg of stewed pears mixed into feed, have little scientific evidence to indicate that they provide a sufficient laxative effect to remove sand.

Psyllium husk mucilloid has been shown to be a more efficient method when mixed with a coarse form of poorly digested roughage in a feed in removing impacted sand which accumulates in the caecum and large bowel of horses grazing short pastures on sandy soils or eating hay from the ground in sandy yards. However, feeding small amounts of psyllium husk every few days or once a week has no benefit in removing sand and actually encourages hindgut microbes to digest the psyllium fibre and reduce any beneficial effect.

General Feeding Rate

A supplement of a minimum of 70-100g psyllium husk per 100kg body weight, or up to 1g/kg bodyweight for horses grazing sandy areas, given for **2 consecutive days once per month**, mixed with coarse roughage, is recommended to remove sand accumulated in the hindgut. Any other dosing program and low doses have little or no effect in removing sand safely and efficiently. Where a horse has a history of 'sand' colic or is a 'hoovering' type which grazes close to the ground, or fossicks for morsels in a yard, especially under the current drought conditions, a feeding rate of 70-100g/100kg body weight given daily, plus coarse roughage, for 3-5 days once per month may be necessary to shift larger sand deposits.

Handy Hint

Be Aware of Sand Accumulation.

Horses grazing short pastures, or eating hay off the ground in sandy holding yards, can ingest significant amounts of sand which may accumulate in the caecum and large intestine. 'Hoovering' type, hungry or fossicking horses confined to small paddocks or yards are most likely to be affected, including horses harbouring large populations of 'resting' larval stages of Small Strongyles (Small Redworms) in the hindgut that can slow bowel motility, resulting in higher risk of sand retention.

How to Mix Psyllium Husk into Feeds

Psyllium husks form rapidly into a sticky mucilage when mixed with water, or added to a damp feed. The best way to get horses to eat it before it turns 'gluggy' is to mix the measured amount into 6 times its volume of rough cut white chaff - wheaten chaff is less digestible as compared to oaten chaff - slightly dampened with 50mL molasses-water per 4 litres of feed containing the measured amount of psyllium husk. Feeds containing oat hulls or sunflower hulls can also be fed mixed with psyllium husk. Feeding dampened 'stemmy' hay or even clean straw may provide a suitable 'scavenging' roughage to assist sand removal. Limit coarse hay in miniature horses to half a biscuit per feed to reduce the risk of obstructive or impaction colic - always dampen hay before feeding it to minis for this reason.

Handy Hint

A 50-70mL 'slurp' of **Kohnke's Own Energy-Gold™** oil with garlic oil flavouring will also encourage horses to eat psyllium husks. The Energy-Gold can be mixed into the feed for a couple of days to help horses get accustomed to the taste. Oil does not activate psyllium husk so that it does not become sticky and 'gluggy' during the time a horse takes to consume the full feed.

Handy Hint

If a horse has a likelihood of ingested sand on sparse pastures, it is important to ensure that the horse is wormed regularly to control Small Strongyles because large populations of resting stages as small cysts in the large bowel wall can reduce the motility or movement of the large bowel and increase the risk of sand accumulating in horses grazing on sandy pastures.



How much sand is being removed?

If you check the droppings 36-48 hours after the first dose of psyllium husk and coarse roughage, the balls of manure should be covered by a thick, slimy coating of mucus - if not, you haven't given enough psyllium.

To check if sand has been eliminated, you can:

1. Pick up a small amount of the mucus covering the manure balls between your thumb and forefinger and check for a 'gritty' feel.
2. Visibly check for sand (or gravel) passed in the droppings.
3. Place a shovel full of manure in a bucket of water, swish it around to wash out the sand, tip off the water slowly and check for sand.

Preventing Sand Ingestion

1. Prevent sand ingestion - provide feed or hay in a bin or trough
2. Avoid grazing short pastures on sandy areas if possible, especially after heavy rain or flooding until light rain is able to wash off the sand splashed onto the leaves.
3. Provide trace-minerals and vitamins, such as **Kohnke's Own Cell-Vital®** or **Cell-Provide®**, in a small feed to reduce 'cravings' for sand and help correct low or inadequate levels in the diet.
4. If a horse in training eats soil when confined to a yard, supplement with **Kohnke's Own Gastro-Coat™** daily to help maintain salivation and digestive function. Feeding a quarter of a biscuit of dampened lucerne hay or 4 litres of lucerne chaff 30 minutes before exercise, also helps to maintain natural a mucilage protective coating and buffer on the stomach wall.

Psyllium husk are sourced from part of the seeds of plants in the Plantago genus. Photo source: Stan Shebs



The information in this fact sheet, or part thereof, downloaded from the website www.kohnkesown.com, can be used in newsletters and other horse/pony club or association bulletins, provided that the source of the fact sheet is acknowledged as courtesy of the author, Dr. John Kohnke BVSc RDA, from the website www.kohnkesown.com. The information cannot be used for magazine publication unless permission is sought from the author by email info@kohnkesown.com prior to publication.

Kohnke's Own®

©Copyright 2013

FREECALL 1800 112 227 - www.kohnkesown.com - email: info@kohnkesown.com