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STEAMING VS SOAKING

Steaming or soaking hay is nothing new to the industry. However, despite being studied many times in the past, its still unclear whether steaming or soaking is better for horses.

This article will look into the benefits and disadvantages of both methods to provide a more definitive answer on when these techniques should be used.

The first note to make is, why are these techniques used in horse management? Some of the reasons for soaking or steaming hay are:

- **Assisting in reducing respirable particles**
- **Reducing the nutrient value of hay, such as Non-Structural Carbohydrate (NSC- sugars/starch) within hay**

Focusing on these 2 reasons may give more insight as to which method is right for each individual horse.

Reducing respirable particles

Even the best quality hay contains respirable particles such as bacteria, mould, yeast and fungal spores. All these so-called respirable particles are very difficult to eliminate and over time they can have a huge impact on the performance of the horse.

Respiratory inflammation can affect all horses especially those that are stabled, and this may come from many environmental factors

including dust, air pollutants, and even pollen. Some horses may have respiratory issues with no sign of illness at all.

So which method is better for assisting in reducing such particles within hay?

SOAKING	STEAMING
✗ Dampens down 90% of respirable particles	✓ Reduces respirable particles by 98%
✗ Dramatically increases bacterial content (10 minute soak = 150% increase)	✓ Dramatically reduces bacteria and mould content
✗ Reduces hygiene quality	✓ Improves hygiene quality
✗ Reduces palatability	✓ Improves palatability
✗ Leaches lots of valuable nutrients from the hay	✓ Retains nutrients
✗ Produces a post-soak liquid that is 9 times more polluting than raw sewage	✓ No effluent
✗ Uses 60-100 litres of water	✓ Uses approximately 4 litres of water
✗ Laborious, messy, heavy to handle	✓ Clean and easy

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(Table taken from www.Haygain.co.uk)

Certainly, for horses with respiratory issues steaming would be the most obvious and beneficial method. However steaming can be expensive when compared with soaking. In today's South Africa using vast amounts of water is also not possible/advisable and so the cost of purchasing a hay steamer may be outweighed by the potential for reducing veterinary bills due to respiratory illness as well as being environmentally conscious.

However, if steaming is just not possible then not all is lost. Soaking hay can still be beneficial and soaking hay (fully submerged) for under 10 minutes can reduce the number of respirable particles in grass hay. Longer soaking times do not necessarily result in a greater reduction in respirable particles (Fowler et al 2014).

Some articles have also shown that longer soaking can lead to an increase in bacteria within the hay, so keeping the soaking time short maybe more ideal.

Reducing the nutrient value of hay

This may seem counterproductive, however, for owners of horses with issues such as laminitis, Insulin resistance, Cushing's and even overweight horses, soaking hay is often necessary to assist in good health.

Soaking hay has been shown to reduce the amount of sugars, or Non-Structural carbohydrates (NSC), in the forage. Horses that require a low-sugar and starch diet, will benefit from soaked hay. Soaking some types of hay for an hour, for instance, can reduce NSC by approximately 40% (Fowler et al 2014).

So, if the hay started out with 18% NSC, after soaking the concentration would be around 10.8% which is below the 12% recommended level for feeding horses with laminitis and other veterinary issues as mentioned above. During trials it showed that steaming had no effect on NSC levels.

The level of sugar lost is dependent on many factors including the type of hay and when it was harvested. The best practise for horses needing a low NSC hay is to choose a type of hay known for its lower NSC values and have it tested to ensure its suitable rather than trying to rely on soaking alone. However in a practical situation this is not really possible and so soaking a low NSC hay will have the benefit of ensuring you are reducing levels as much as possible.

What is the correct procedure for soaking?

There are many studies on this and still the results are not 100% clear as it hugely depends on the maturity and type of hay that is being used. However it is suggested that hay be soaked for 60minutes to ensure that not only is the process practical but that NSC levels are reduced without exposing the hay to unnecessary bacteria and mould formation as shown in studies looking at respirable particles.

It has been shown that soaking hay in hot water did not have any real effect on NSC difference but that the sugars dissolved faster which means that soaking could be carried out in 30minutes which is not only more practical but again gives the added advantage of less time sitting being exposed to particles and so this would be the best practise to follow.

To be ultra-careful soaking and steaming could be combined, soaking to remove the NSC levels and steaming to essential "freshen" the hay after.

In addition to removing sugars, soaking also reduces some minerals and nutrients. For example crude protein, calcium, phosphorus, and magnesium concentrations all decrease with soaking. This may be of benefit to certain horses such as those with hyperkalemic periodic paralysis (HYPP), a metabolic genetic disease. It has been shown that consuming a diet containing less potassium assists these horses and so soaking hay is a useful way to do this.

One factor that is important to consider for the average horse in good health is that reducing the NSC content of the hay can decrease its palatability meaning horses are likely to consume less hay. Combine this with the nutrient losses, soaking could be detrimental to horses with high nutrient demands such as performance horses and therefore it's not advisable unless the horse has a specific issue. Steaming has been shown in many studies to actually increase palatability (Haygain, 2019) and so it should be factored into the horses' diet plan. For example if the horse starts to consume more hay each day, he will end up consuming more energy per day.

This can be useful for those needing weight gain but for those that don't it should be noted and hay weighed out to ensure overeating does not happen. Also it may be necessary to reduce concentrates slightly if more hay is being consumed to ensure the horses maintains his weight and temperament.

Conclusion

Both soaking and steaming have their use. However, in certain situations it may not be necessary and so it is important to identify if soaking/steaming hay is needed and from there choose the best process for that specific reason.

References

<https://haygain.co.uk/pages/soaking-versus-steaming> (a full list of references for the table is included on this website) | Owens, T., M. Barnes, V. Gargano, et al. Nutrient content changes from steaming or soaking timothy-alfalfa hay: Effects on feed preferences and acute glycemic response in Standardbred racehorses. *Journal of Animal Science*. In press. <https://ker.com/equine/age-old-question-should-horse-owners-steam-or-soak-hay/> Ashley Fowler, PhD candidate; Tayler Hansen, MS candidate; Brittany Harlow, PhD candidate; and Laura Strasinger, MS candidate, all in UK's Department of Animal and Food Sciences, 2014 <https://thehorse.com/151049/hay-to-soak-or-not-to-soak/>

TESTIMONIALS

HARTBEESPOORT RIDING CLUB

"As a club we love using the Equus Nice n easy. It's so easy to use as a partial hay replacer or to add extra fibre to a diet at specific times of year when fibre support is needed. It works well with other products and its also useful as a maintenance product for my school ponies."

Thank you for a super product.

ANGELA LE GONIDEC

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Thank you

Angela



Kilshane Pettigo is proudly fed Epol Cool Cubes

For an absolutely free consultation with no further obligation contact our professional consultants to schedule a visit to your yard.
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