



## WHAT COULD BE LURKING IN YOUR HAY?

With large parts of the country receiving heavy rain recently, mould issues could potentially arise especially within hay and stored feed. So in this month's article we look at mould and mycotoxins as well as ways in which we can safeguard our horses against these.

### MOULDS

Moulds are naturally found in soil and plant matter including green grass, dried forages, grain, and feed ingredients but they proliferate in times of high moisture combined with heat and humidity. Moulds can be formed in the field even before harvest and can continue to grow when stored under suboptimal conditions. Moulds formed in fields require high moisture conditions (20-21% moisture) to thrive while storage moulds can multiply at lower moisture levels (13-18%).

As moulds grow, some of them may produce toxic by-products called mycotoxins which are invisible to the naked eye and are therefore easily unintentionally consumed. The presence of mould, however, doesn't automatically suggest the presence of mycotoxins because not all moulds produce mycotoxins. In the same

vein no visual mould does not necessarily mean that the hay is mould or mycotoxin free.

If we were to routinely test all our hay, we would probably find mould and mycotoxin presence regularly as it's almost impossible to be completely free of these contaminants. However, when tested, levels present should be well below those deemed as dangerous or harmful which is generally not commonplace.

For the owner/carer instead of trying to eliminate mycotoxins and mould, efforts should be aimed at minimizing exposure to your horse. Mouldy hay and feed should never be fed to horses. Most horses will avoid mouldy hay because they are not palatable and will smell different, but should a horse inadvertently eat mouldy hay or feed it's unlikely that they would become ill from a single exposure.



# THEIR PERFORMANCE, YOUR SUCCESS

## SIGNS OF EXPOSURE TO MYCOTOXINS

Signs of mycotoxin exposure can be tricky to spot as some present as other ailments, for example, early signs can include lethargy, loss of appetite, colic, and diarrhoea and oftentimes the severity of the signs is determined by the length of exposure. Signs can also differ depending on the type of mycotoxin they have been exposed to. The below list details some of the mycotoxins, where they may occur and signs of exposure in horses;

MYCOTOXIN	FOUND IN	MAY PRESENT AS:
Aflatoxin	Maize, soya meal, lucerne products	Anorexia, loss of appetite, weight loss, brown urine, colic like symptoms, even death in extreme cases
Ochratoxins	Oats, maize, wheat, barley, hay, straw, grass	Kidney damage
DON (Deoxynivalenol)	Grains	Reduced feed intake, weight loss in exercising horses, liver damage, reduced immunity
Fumonisin	Mostly found in grains	Depression, abnormal behaviour head pressing, ataxia, staggers, seizures
Zearalenone	Oats, maize, wheat, barley, hay/straw, grass	Abortions, uterine and internal haemorrhage

## SIGNS OF MOULD EXPOSURE

Mould exposure can be more commonplace than we think, especially as most hays will contain some level of mould spore contamination. Signs include:

- Skin allergies and inflammation;
- Colic and colic like symptoms;
- Respiratory blockage;
- Respiratory disease, coughing and heaves;
- Poor exercise performance.

The nutrient content of hay may also be affected as mould grows. This growth also produces heat, water and carbon dioxide which can all damage hay.

## HOW CAN YOU REDUCE MOULD AND MYCOTOXIN EXPOSURE RISK?

- Buying raw grain material from reputable suppliers that can account for their harvesting and storage controls.
- Avoid feeding any mouldy product to your horse.
- Buy feed products from reputable manufacturers that adhere to strict codes of conduct set out by governing bodies such as AFMA (Animal Feed Manufacturers association). These companies will be testing their raw ingredients for contaminants on arrival at their plant as well as testing their final finished products.
- Some companies will also use mould inhibitors and mycotoxin binders in their finished products to help improve feed safety. These inclusions help to inhibit the growth of mould and help to bind mycotoxins from the gastrointestinal tract before they enter the bloodstream and cause an issue.
- Check large round bales of hay carefully for the presence of mould not just on the outside but inside as well.
- Avoid using hay or feed that feels warm to the touch
- Store all feed and hay in well ventilated and dry areas.
- When storing hay:
  - Allow space above the haystacks for moisture to evaporate
  - Avoid storing hay outside
  - Stack small square hay bales in alternative directions
  - Reduce stack sizes to allow for room between stacks
- Don't buy and store hay for longer than 6 months. Not only will this help the risk of moulds through long term storage, but hay stored for longer periods of time can also have a reduced nutrient value. For example, vitamin content of hay can be expected to drop by approximately 7% per month (Kentucky Equine Research) when stored.

## SOAKING AND STEAMING HAY

As we have discussed even the best hay can have some presence of mould particles and over a long period of time this can influence respiratory health especially when dealing with top performance athletes. It's been shown that soaking hay for just 10 minutes can help to reduce the number of respirable mould particles, longer periods, however, have not been shown to be more effective.



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Often people soak hay to reduce the NSC (sugar and starch content of their hay) and for this a longer period of soaking (30 mins – 1 hr max) is required. This is ideal for those with NSC and weight related issues but for those with higher nutrients needs shorter soaking would allow you to reduce mould and dust particles without effecting nutrient value. The downside to soaking is that long periods of soaking can increase the chance of bacterial content.

An interesting fact is that in some countries the wastewater after soaking is considered a contaminated substance and it is not permitted to tip down municipal drains.

It's also thought that when soaking hay, mould particles are not necessarily removed but merely dampened and

so, should you be able to do so, steaming can be a huge help for horses with respiratory issues.

Steaming reduces respirable particles by up to 98% while also reducing bacteria and mould content. The other advantage of steaming is that nutrient values remain constant and the amount of water used (a precious resource here in SA) is also drastically reduced.

## CONCLUSION

Targeting the complete removal of any trace of mould on your property would most likely be futile and extreme but paying close attention to what is being fed to your horse as well as implementing stringent management and storage practices and controls will go a long way to ensuring your horses safety.

## TESTIMONIALS

We have been using Epol for a few years now and we are loving it. Our school ponies are cool, calm, and collected while still having a beautiful shine and enough energy to perform their tasks. Our show horses look gorgeous as they are all well-conditioned with a healthy glow.

My boy Ditto is just looking the best he ever has. One of my favourite products we use is the Nice 'n Easy. Its super palatable, and it soaks so well.

One very happy client

**Nadia Stieger**



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