



Equi-Analytical Laboratories

Spring 2016 Newsletter

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What does moldy hay mean for you?

Sally Flis, Ph.D. - Feed and Crop Support Specialist,
Dairy One and Equi-Analytical

Mold in hay is a year round concern, but harvest is the best time to limit the potential to have moldy hay to deal with for the rest of the year. So far in the Northeast, this looks like a great spring for making hay. Drier soil conditions and light rain results in less potential for mold growth while the hay is growing and promotes faster drying after mowing.

Why are we concerned?

First, before we even feed out the hay, if mold develops during storage there is loss of dry matter and total digestible nutrients (TDN) as mold eats the hay rather than your horse. When you have moldy hay as your feed source, the next concern is the development of respiratory diseases or allergic reactions. Horses are more sensitive than other livestock to mold dust and spores from hay. For example, when horses consume moldy hay, especially in poorly ventilated areas, the inhalation of dust and spores can cause Recurrent Airway Obstruction or heaves to develop. The horse can have a normal temperature and appetite, but will have labored breathing when exercised and in more extreme cases, labored breathing even at rest. Additionally, moldy hay can result in decreased palatability and intake.

How do we end up with moldy hay?

No one goes into the hay season expecting to make moldy hay. Weather, moisture, and to a lesser extent storage conditions, result in the development of moldy hay.

1. Cool and Wet Growing Conditions: First, if weather conditions are wet and cool, mold can develop on the grass before it is even harvested. Second, under these conditions hay can take longer to dry because the soil is wetter, and third, if the soil is wet, the hay will continue to absorb moisture from the soil in the windrow.

2. Rain on Mowed Hay: When hay gets rained on before it can get dry enough and baled, the potential for mold growth increases. The longer it takes to get the hay dry, the more mold can grow in the field before baling. Getting out and raking or tedding hay as soon as possible after a rain to facilitate drying, will limit the potential for mold growth.

3. Baling too wet: When hay is baled with a moisture content greater than 14% or a dry matter content of less than 86%, mold has a greater potential to develop during storage. The potential for mold growth increases as the harvest moisture increases. Treating hay with a preservative, such as propionic acid, at harvest can limit the opportunity of mold growth, but many horses do not like the taste imparted by the acid. If you cannot avoid harvesting hay that has a higher moisture level than desired, there are a few things you can do during storage to help reduce moisture content and the potential for mold growth.

- Store hay under cover to limit the addition of new moisture from precipitation
- Stack in smaller stack - more room between the roof and the bales will allow moisture to move out of the bales
- Leave more space between bales - this will allow for some moisture to move out and also prevent the moisture in wetter bales from moving into drier bales
- Increase ventilation - more air movement will aid in the potential for the hay to continue to dry

4. Feed out method: Hay should be offered in an amount that animals are going to consume in a short period of time (within 24 hours), limiting the potential for the hay to get rained on or other contaminants to develop in the feeding equipment. If you find the hay in your feeder to be moldy, the feeder should be thoroughly cleaned before new hay is added to limit the potential of new mold growth.

Testing and Recommendations

Not all moldy hay is low quality or has visible mold. If you suspect that mold growing in your hay is causing allergic or respiratory problems in your horses it can be tested for mold counts. Conversely, not all moldy hay has to be thrown out, there are some levels of mold spores that are safe or manageable (Table 1).

Table 1.
Feeding risks at various mold spore counts

Mold Spore Count per gram	Feeding Risks and Cautions
Under 500,000	Relatively Low Risk
500,000 to 1 Million	Relatively Safe
1 to 2 Million	Feed with Caution
2 to 3 Million	Closely Observe Animals and Performance
3 to 5 Million	Dilute with Other Feeds
Over 5 Million	Discontinue Feeding

Data from Richard S. Adams, Kenneth B. Kephart, Virginia A. Ishler, Lawrence J. Hutchinson, and Gregory W. Roth. 1993. Mold and mycotoxin problems in livestock feeding. The Pennsylvania State University.

Mold and Yeast Testing Now Available from Equi-Analytical

Starting May 15th the Equi-Analytical Lab began offering Mold and Yeast testing. Mold and Yeast counts are reported as Colony Forming Units (CFU)/gram. When submitting samples for mold and yeast analysis, do not freeze sample as freezing will reduce the counts and not represent the true mold level in the sample. Dry hay samples can be shipped as sampled. If the sample is wet for hay or a wet feed or you are concerned that shipping will take more the 3 days, ship the sample on ice to limit mold growth during transportation. Mold and yeast analysis will be \$25/sample and will take approximately 1 week to process from the date received at the lab.

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Equi-Analytical Laboratories
730 Warren Road ~ Ithaca, NY ~ 14850
Phone: 1-877-819-4110
service@equi-analytical.com

www.equi-analytical.com