

## Experiment 11.

Taylor, J. and Moore-Colyer, M.J.S. (2013). The effect of five different wetting treatments on the microbial concentration in hay for horses. *Proceedings of the European Equine Health and Nutrition Congress*. Ghent, Belgium March 2013.

**Introduction:** Poor forage hygiene has long been associated with gastrointestinal tract (GIT) and respiratory disorders in horses. The purpose of this study was to establish the efficacy of five different treatments commonly adopted by horse owners to reduce bacteria, yeast and moulds concentrations within randomly selected UK hay.

**Methodology:** Ten bales of hay were subjected to five different treatments; dry, soaked for 10 minutes in fresh tap water, steamed for 50 minutes in the HG 600 (Haygain) steamer, steamed for 50 minutes in a home steamer and steamed for 50 minutes by pouring a kettle of hot water over hay in a bag. The aerobic bacteria, yeast and mould were cultured according to the technique of Moore-Colyer and Fillery (2012).

**Results:** *The effect of five different treatments on the yeast mould and bacteria contents (cfu/g) in hay for horses.*

(Log 10) cfu/g	Dry	HG 600	Kettle	soaked	Homemade steamer	s.e.d	Sig
<b>Yeast and mould</b>	5.75 <sup>d</sup>	0.7 <sup>a</sup>	3.47 <sup>bc</sup>	4.41 <sup>cd</sup>	2.92	0.673	0.001
<b>% reduction</b>		88	40	24	50		
<b>bacteria</b>	6.60 <sup>c</sup>	2.84 <sup>a</sup>	5.00 <sup>bc</sup>	6.00 <sup>b</sup>	4.28 <sup>ab</sup>	1.007	0.003
<b>% reduction</b>		58	25	10	36		

**Conclusions:** The use of steam was seen to be an effective method for reducing mould counts within hay; however hay steamed in a specifically designed steamer (HG 600), is the most effective way to reduce both mould and bacteria contents thus producing hygienically acceptable forage for horses.