

Equine Research Centre

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"Bedding in the horse stable... a breath of fresh air"

By Susan Raymond, Equine Research Centre

The health and well being of horses depends on healthy lungs. Poor air quality can contribute to various respiratory disorders in horses and in the people who care for them.

Bedding Choice

Your choice of bedding will depend on a combination of personal preference, cost effectiveness, local availability and type of horse housed. Bedding should be dust and mould free, absorbent, supportive and easy to use and dispose of. A barn with proper ventilation and floors with good drainage are as important as your choice of bedding.



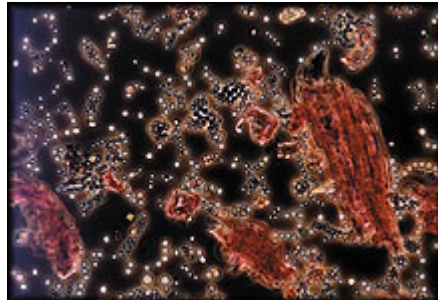
Dust

Dust in the stable can be an irritant, infectious or allergenic. Each particle can play more than one role. Dust can be divided into two groups, "nuisance dust" and allergens. "Nuisance dust" includes plant particles that can irritate the respiratory tract. Allergen sources include mould spores, pollen and mites. The chance of a dust particle inducing disease as an irritant

or an allergen is dependent upon the amount retained in the respiratory tract. Deposition and clearance of particles are dependent on the size, shape and type of particle that is inhaled. The smaller dust particles have a higher chance of reaching the lower airways.

Mould

There are many types of mould living in the field where our crops are grown (i.e. straw). The spores from these types of mould ("field fungi") are usually large and do not have a good chance of getting into the lower airways. The mould spores that are more dangerous are small. The highest exposures to these mould spores are associated with bedding that has



been processed, packaged or baled damp and with deep litter management. The high moisture content influences the fungi in the bedding and metabolic activity of the organisms causes the temperature to rise. The moulds that thrive in this high moisture and heat are very prolific. The spores from these moulds are very small and when inhaled can travel deeply into the lungs.


Ammonia

Ammonia is an irritant and is a recognised concern of stable management. The source of ammonia is the horse's urine and faeces. Ammonia is released by the action of bacteria that degrade organic matter. Ammonia inhibits the ability of the defence mechanisms in the airways to remove particles from the lung. Ammonia can also increase mucus production. Ammonia can be particularly high when stalls are being mucked out. If the horse is left in the stall during mucking, it will be subjected to high levels of ammonia and high levels of dust. The more absorbent a bedding is, the lower the levels of ammonia will be. Take action if you smell ammonia in your barn.

Barn Management Tips

- wet all hay that is fed indoors and feed close to ground level or feed a good quality, low dust alternative forage product
- remove the horse from the barn when mucking
- sprinkle the barn aisle with water when sweeping or raking
- use a quality bedding and muck out daily (avoid deep litter systems)
- consider barn ventilation for all seasons
- increase turnout time with shelter

How does your Bedding Rate?

	Low Dust	High Absorption	High Cushion Support	Management ease	Composting Rate	Low Palatability	Cost	Comments
				✓	Fast		Low	Can shift & expose bare floor if not bedded deep enough or if horse is very active in stall
	✓	✓	✓	✓	Slow	✓	Med.	Do not use treated wood or certain hard wood (black walnut, yellow poplar). Kiln dried pine shavings recommended
	✓	✓	✓		Fast	✓	High	
	✓	✓	✓	✓	Med.	✓	Med.	Variability between products Avoid glossy paper Requires regular mucking out or can become packed down
	✓	✓	✓	✓	Med.	✓	Med.	Variability between products
	✓	✓	✓	✓	Med.	✓	Med.	Variability between products

	✓				N/A	✓	Med/ High	Variability between products
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From: <http://www.erc.on.ca/bedding.htm>