

# Did you know?

## Take a breath!

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*MAAAX™ LONGfibe™ cubes are dust free and can help to prevent or decrease the effects of RAO/COPD!*

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*Beside the chewing activity in horses that enhances gastrointestinal health overall, MAAAX™ LONGfibe™ cubes are virtually dust free. But what is dust? “Dust” describes very small particles with a diameter of half a millimeter and less. Sometimes you can see it, but very often the particles are so small, you can only guess. Especially in horse stables, dust is a problem. You can make it visible by waiting until it’s dark and then light up the alley alongside the stables with an flashlight or a laser pointer. You will see loads of dust. Usually, dust in the airways is stopped by the mucus in the upper airway of the horse and secreted over the nostrils as goo.*

*Depending on the dust size, it can be inhaled. But not only dust can find the way into the horse’s lung. Also spores of fungi, virus and bacteria can be taken up into the lungs where it can cause serious damage and strong allergies (Chrishlow et al, 1986, 1087, Burell, 1996).*

*Very often the main dust source is the horses’ bedding (80%) and the forage or hay (20%) that is presented to the horse. Additionally to that, 80 % of toxins such as mold, bacteria and virus in the normal stable environment are attached to dust particles (Clarke, 1986; Bartz, 1992). Therefore we need to handle both: bedding AND forage. That’s why MAAAX™ LONGfibe™ cubes can be the first 20 % on the road to equine respiratory health. As opposed to hay and other feedstuff, they need no soaking because they are already dust free and can be given to horses that suffer from RAO/COPD.*

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### *We recommend further reading:*

BARTZ, J. (1992): Staubmessungen im direkten inatmungsbereich eines Pferdes mit Hilfe eines „personal sampler“ Tierärztliche Hochschule, Fachbereich Vet.Med., Diss., Hannover

BURELL, M.H.; WOOD, L.N. WHITEWELL, K.E.; CHANTER, N.; MACINTOSH, M.E.; MUMFORD, J.A. (1996): Respiratory disease in thoroughbred horses in training: the relationship between disease and viruses, bacteria and environment Vet. Rec., 139, 308-313

CLARKE, A.F. (1986): Air hygiene of stables and chronic pulmonary disease in the horse PhD Thesis, University of Bristol

CLARKE, A.F. (1987): A review of environmental and host factors in relation to equine respiratory disease Equine Vet. J. 19, 435-441  
CRICHLLOW, E.C.; YOSHIDA, K.; WALLACE, K. (1980): Dust levels in riding stables Equine Vet. J. 12, 185-188

Ellis, A./Hill, J.: Nutritional physiology of the horse, Nottingham, 2005.

Frape, D.,: Equine Nutrition and Feeding, 4. Edition. Oxford 2011

NRC National Nutrition Council: Nutrient requirements for horses, 5<sup>th</sup> Edition, 2007.

Geor, R.J., Harris, P.A., Coenen, M. : Equine Applied and Clinical Nutrition, Saunders, 2013