

## Scientific Information regarding Cardboard Animal Bedding

### Extract from World Equine Veterinary Association Congress

The World Equine Veterinary Association aims to develop and maintain international relations between various specialists of the horse world, to improve healthcare and well being of the horse.

To do this, equine clinicians and researchers around the world meet every two years to discuss the latest findings in research and clinical practice.

Following is a report on some of the interesting research presented previously.

#### ***Cardboard is a Good Bedding Material for Reducing Dust and Allergens in Stables***

In spite of the need for a permanent minimum-dust environment for horses suffering from chronic obstructive pulmonary disease (COPD), many owners fail to maintain suitable long-term management regimes and many affected animals continue to show signs of respiratory problems.

Researchers in the UK and Belgium have conducted a trial to assess the suitability of a new commercial cardboard bedding product for horses with COPD. The airborne dust level and concentration of

common aeroallergens were measured and data was compared to values obtained for more traditional bedding types such as wood shavings and straw.

Total airborne dust concentration and concentration of aeroallergens in cardboard bedding was significantly lower than those of wood shavings and straw.

This result suggested that cardboard bedding would be a useful alternative to traditional beddings to minimise dust and airborne allergens in stables.

C Roberts, I Sbaï, S Vandemput, T Art and P Lekeux, *The Use of Cardboard Bedding as Part of a Minimum-Dust Stable Regime for Horses with COPD*, Centre for Equine Studies, Animal Health Trust, Newmarket and the Laboratory for Functional Investigation, University of Liège, Belgium.

### **ASABE Technical Library**

#### ***Evaluation Of Approaches For Composting Horse Manure And Commercial Cardboard Bedding***

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**Citation:** Paper number 044068, 2004 ASAE Annual Meeting. @2004

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Studies on composting horse manure and a commercial cardboard bedding, based on full scale, pilot, and simulation experiments, are described. Chemical, physical, and kinetic data on composting materials that allows rational design and operation of composting systems are summarized.

Results showed a compost mix of 45.1 lb horse manure and 9.5 lb bedding had desirable chemical and physical properties for composting.

At the start of the full-scale composting process moisture contents were 56% and C/N ratios were about 33. On day 90, the end of windrow composting, moisture content had dropped to 48% and C/N ratio decreased to 17.3.

From the full-scale studies with non-aerated windrows the compost mix was shown to compost significantly and without odor.

Sizing of composting system for various horse stable sizes were done for both windrow and block composting systems using a computer simulation program that incorporated the pilot scale kinetic data.

Results for a 1000 head horse stable were found to be 0.81 acres based on a composting time of 180 days, 28 days windrow composting and 152 days curing.

Compost generated by the facility would be 5.5 ton per day @ 44% moisture. Mass reduction would be 80% base on wet weights.

The finished compost looks to be favourable as an organic amendment for potting soils, topsoil manufacture, or direct land application.

