

Dutch experience with hemp bedding for chicken rearing
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Denmark has a large selection of different types of litter for chickens such as chopped straw from wheat or barley, wood shavings, special products of straw etc. When choosing bedding for chicken rearing, there are many factors that come into play such as maintaining a dry environment, litter to absorb ammonia, promote foot pad health, promote well-being and growth of chickens, reduce incidence of diseases, including of course be free of salmonella and campylobacter. Last but not least the price and economical in use, and thus the amount of manure that must be removed.

Dutch experience

In the Netherlands during 2010 and 2011 has been change in the bedding market for broilers. Out of approx. 450 chicken farms using the 70 of them used hemp litter to a greater or lesser extent from a producer of hemp bedding, according to Dun Agro BV, www.hempbed.eu, which is the largest of two hemp processors in Holland, and supplies of hemp litter for chicken producers.

Hemp

The litter consists of woody shives, which comes from the innermost of hemp stem after you have separated the fibers, which sits at the tip of the stem. Hemp shives are chopped to ca. 0.5 to 2 cm. Hemp shives / litter is especially known for use as bedding for horses, and which has throughout Europe has been a growing market share of hemp bedding for horses in recent years.

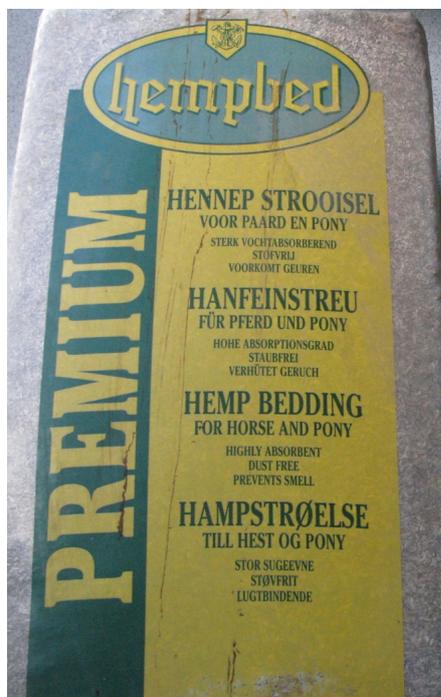


Hemp Bedding Else, Hempbed, from Holland. Photo: Bodil Pallesen, Agrotech

Hemp bedding to chickens replaces typical sprinkle of contents with wood shaving. The feedback from Dutch chicken producers is that Hemp shives are more bulky, ie has a lower density, and lofts are not together, when the chickens are blowing it. Fewer kg. The stable is considerably less manure, was then mucked out. Hemp's diagonal ability to preserve the structure, also means that it preserves a dare overflade. Thus reduced the content of ammonia emission in the stable. It has been observed less incidence of skin infections including dermatitis, and litter is also free from the presence of salmonella and campylobacter.

Roland Gerritsen from DunAgro says, that you deliver to such 3 of the major chicken producers in Holland, who have backed that hemp bedding is tough in use, indoor air in the stable is more dry, and you see less skin damage, fewer injuries pads and no contamination by Salmonella and Cambylobacter. Hemp Sprinkle contents have with these manufacturers outperformed wood shavings. The uptake of hemp litter contents are typically between 0, 4 to 0.5 kg/m², each 6 weeks.

Analysis Reports from Demetris DierGezondheid B.V. on hemp bedding shows that litter is free of salmonella and campylobacter.



Hemp litter may also be purchased in Denmark by hemp producer JorgenHeggelund, www.vittenbjerg.dk that even processing hemp for litter, and is DunAgro's dealer Hempbed in Denmark. Photo: Bodil Pallesen, AgroTech

Case



The brothers Van der Boom in Blijhams new broiler shed with hemp bedding. Photo: Dennis F. Beek.

The brothers Van den Boom, Holland, the NetOp is entered 6 new broiler houses, and is up to a total production of one million broilers per year. The largest unit a production of 370,000 chickens and is located in Blijham. Here is an example - chicken house on approx. 1200 m², which has space to approx. 25,000 chickens at a time. In each house the experimental scatter of contents, including hemp litter. Operations Bode- wes's experience with hemp bedding else is so positive, that it has gone over to use hemp bedding in all 6 boiler houses. Hemp bedding has been able to absorb moisture in the stable value as efficiently as wood shavings and average canola stubble. At the same time litter tough in Bruges. There used approx. 1 ton of hemp litter of contents per house, ie 0.83 kg each. m² density loose hemp bedding else is around. 100 kg/m³. Mon markers Production in an 8 weeks course. The price is interesting, and should be competitive.

Hemp Litter effect on ammonia-Emission

In the project "Hemp as multifunctional crop - high value of seeds, stem and leaf", carried out in collaboration between the Center for Agriculture, Ecology and Agro Tech, hemp skewed the properties as litter also studied. Among other things, has conducted a small scale experiments to measure ammonia emissions and water uptake in hemp litter compared with normal cut wheat straw. Before the experiment was provided with fresh chickens on top of the litter to simulate a stable situation.

The experiment showed that both hemp and chopped wheat straw was able to absorb moisture, thus reducing the conversion of uric acid to ammonia in the barn, which is promoted by high humidity in the barn environment. It is a great advantage to the litter is as dry as possible, since the nitrogen in the manure thus will remain on uric acid form. In addition, a dry litter also prevent pad damage. Hemp Bedding proved good to stay dry, because the structure so it does not coincide.

Moisture content in the media has a major influence on how quickly uric acid hydrolyzed to ammonia and thus the concentration of ammonia in "space". It requires further study, preferably conducted in a chicken shed under natural conditions to quantify ammonia emissions accurately.

Dutch studies (Fleming et al) of the Litter effect on ammonia emissions was conducted in horses in 2008, with litter from respectively wheat straw, wood shavings, hemp shives **hørskæver**, wheat straw pellets and paper waste. Results from these experiments showed that ammonia emissions in hemp shives were lower than in wood shavings, wheat straw (not chopped), flax and paper waste, but not reaching wheat straw pills ability to reduce ammonia emissions. On the other hand fell hemp skewed were not together, and stayed relatively dry, while wheat straw pellets had some drawbacks. The Dutch found that high substrate temperature measured in the experiments with wheat straw pellets could promote the growth of pathological bacteria that could affect animal health.

Foundation for organic agriculture, the European Union through the European Fund for Rural Development and Ministry of Food, Agriculture and Fisheries has participated in financing the project.

Kilder:

Bouke Poels Mon, six old houses with new, fra Poultry ij 41st year - May 6, 2011.

K. Fleming, MSc, E.F. Hessel, Dr. PD., H.F.A. Van den Weghe, Professor. Dr.Ir. (2008) Evaluation of Factors Influencing the Generation of Ammonia in Different Bedding Materials Used for Horse Keeping, Journal of Equine Veterinary Science, Volume 28, Issue 4, Pages 223-231, April 2008

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