

How to Keep Pig Barn Smells and Emission Down

03 December 2014

DENMARK - Environmental regulations for pig farmers in Denmark are becoming tighter and tighter. New rules are being introduced to restrict not only the amount of slurry and waste and the amount of nitrates spread on the field but also over the odour produced by the pig farms. Speaking at the recent International Pig Seminar in Herning at the Agromek Exhibition, Anders Leegaard Riis from the Danish Pig Research Centre said that the farmers now face regulations governing the specific ammonia deposition to sensitive areas of nature, general requirements for ammonia reduction, the Best Available Techniques (BAT) and odour requirements in relation to neighbours. The Danish government has now set down limits for "odour units" that are allowable according to the proximity and the size of the neighbouring properties. For example a new pig unit of about 500 sows with nearly 20,000 finishing pigs would not be allowed to be built closer than 440 metres from a single house, 850 metres from an estate of more than six houses and 1110 metres from an urban zone. Each zone also has its own measurable limit of odour using BAT and these limits are reappraised each year. The measurements for existing pig units are not as strict as those for new units being built, but still require the farming to keep a tight rein on emissions. In general the government is seeking a reduction in waste ammonia of 30 per cent for finishing pigs and sows and 20 per cent for weaning piglets. If pig production is near to a sensitive nature area the farm or farms are restricted to just 0.7 kg of nitrogen per hectare for single farms, 0.4kg per hectare for two farms and 0.2 kg for three or more farms. Mr Riis said that the farms are able to achieve a reduction in ammonia emissions through adjusting feeding techniques, design of the pig barn, in particular the design of the flooring and also through the use of cleaning and cooling technology on the slurry. "One of the cheapest things to do to reduce ammonia is to reduce the raw protein content in the feed," Mr Riis said. For finishing pigs, a reduction of raw protein content in the feed can reduce ammonia emissions by 13-22 per cent. With the addition of Benzoic acid to the feed at a maximum of one per cent there can be a reduction of ammonia of up to 10 per cent. For weaning piglets, Mr Riis said that there is no possibilities to reduce ammonia emissions through a reduction in the raw protein content in feed but the addition of Benzoic acid can have some effect. For sows the reduction of raw protein content in feed can reduce ammonia emissions by eight to 16 per cent. The use of part solid floors and good pig barn management can help to reduce ammonia emissions by between 17 and 34 per cent and they can also reduce odour by a third. Using a cooling system on the slurry that can also feed heat back into the pig units can also have the ability of reducing ammonia by around 10 per cent. The Danish farming systems are also looking at using acidification of the slurry to reduce ammonia and using biological and chemical air cleaning systems (pictured) to reduce both the ammonia content and the odour. Mr Riis said that by using a partial air cleaning system and cleaning 20 per cent of the air in both summer, when full ventilation is used in the pig barn, and in the winter when the ventilation to the barn is restricted a bot 60 per cent of the total air used during the year is cleaned. However, he added that using new technologies including acidification and cleaning and cooling systems add costs to production and while they may have an effect in reducing the amount of ammonia produced they might not have a significant impact on the odour around the farm. - See more at: <http://www.thepigsite.com/swinenews/38368/how-to-keep-pig-barn-smells-and-emission-down#sthash.tNCdVuRe.dpuf>