Inspirational Ideas

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Concrete solutions for sustainability and animal welfare

Dirty stable floors where manure is difficult to remove lead to increased emissions and is problematic for animal welfare as infection can spread quickly. A number of companies are working on improving existing building solutions to reduce emissions and improve animal welfare.

Construction for sustainability and animal welfare

When striving to reduce emissions from dairy stables, building companies play an important role. An example of this is Den Boer Beton from Delft (NL), a prefab concrete factory and stable construction company. Together with its partners, Den Boer is continuously searching for ways to improve existing solutions.

Usually, low emission floors are smooth so that the manure can be easily removed. However, this smooth surface can lead to slipperiness and serious leg problems for cows. Den Boer's designs strive to take this into account, and not only contribute to the reduction of emissions but they also improve animal welfare. "Our philosophy is that happy cows mean happy farmers – as milk production is better when cows are well looked-after" says Wijnand Van den Berg from Den Boer.

They use cows as the "starting point" in their research, asking themselves "what would the cow want". A cow doesn't want a slippery floor, neither does the farmer. Mr Van den Berg continues "We have developed the 'SleuffloorPlus' a combination of strong and durable concrete and soft rubber tiles to ensure a dry, soft surface with grip which prevent the cows from slipping."

A low-emissions floor

Currently, together with the Dairy Campus of Wageningen UR and Beerepoot Barn Equipment, Den Boer is carrying out tests to optimise this closed, low-emission floor. The stable floor will have even lower emissions, will mean that manure can be removed frequently and will contribute to keeping the cow's feet healthy.

The floor is made from a combination of concrete and rubber and has grooves to catch the urine between the cleanings. A manure scraper is adjusted to the profile of the floor and frequently removes all slurry from the floor.

In fact, this system not only contributes to lower emission and improving animal health, but also ensures a better manure quality as it is fresher for use in a biogas plant.

funded by European Commission

Sjoerd Bokma from the Dairy Campus explains "To reach the optimum emission reduction the slurry has to go quickly to the storage. The longer the slurry is on the floor and in contact with the air, the higher the emissions. Also for further use in a biogas plant this is important. We are testing and adjusting the manure scraper in combination with the floor profiles to get the best results for both emissions and animal behavior. Therefore we are testing the system under several practical conditions, monitoring and making adjustments instantly"

The project is co-funded by the Innovation Fund of the Dairy Campus of Wageningen UR and supported by the regional government. The Innovation Fund Dairy Campus wants to financially support those companies that make an effort to contribute to innovative developments in dairy farming by showing knowledge, skills, ambition and enthusiasm.

EIP-AGRI Focus Group on reducing emissions from cattle farming

This is an example of an innovative idea discussed by the **EIP-AGRI Focus Group on reducing emissions from cattle farming**. The Focus Group explored possibilities for mitigating emissions of methane and ammonia from cattle – and their cost effectiveness.

Contact

http://www.denboerbeton.nl/

http://www.dairycampus.nl/upload_mm/0/6/1/3dc6b69f-af3b-4915-98f7-00eb86b64835_Flyer_Innovatieprogramma_Dairy_Campus_UK.pdf

Photos

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