



clean air farming

Luftreinhaltung durch
Landwirtschaft

Report of the expert discussion

Animal welfare and immission control - A dream team for the barn of the future

8 December 2021 | online

Introduction

Every sector must and can contribute to air pollution control, including agriculture.

In the last 16 years, the government has made no significant progress in reducing ammonia in Germany. At the UNECE Clean Air Convention in 1999, Germany committed not to exceed the limit of 550 thousand tonnes (t) of ammonia from 2010 onwards. In 2019, Germany is still at 587 thousand tonnes. The Directive on National Emission Ceilings (NEC Directive 2016/2284) which is in force at EU level, additionally stipulates for a reduction of 29 % in 2030 (max. 431 thousand tonnes) compared to 2005 (607 thousand tonnes). This has not been achieved in any year to date. Challenges have been put off.

This has not only done enormous damage to the environment, but has also deprived farms of planning security, as the international agreements on air pollution control are well known.

The coalition agreement of the newly elected government now also provides a clear direction. It literally states:

"The development of livestock is to be oriented towards the area and will be brought in line with the objectives of climate, water and emission protection (ammonia/methane). We want to significantly reduce emissions from ammonia and methane while taking animal welfare into account."

The education and counselling of livestock owners cannot be ignored in the achievement of the aforementioned goal. Many aspects of specialisation have been covered so far. However, less well illuminated, are the synergies that arise when immission control and animal welfare in pig farming are thought together.

This gave rise to the expert discussion. With stakeholders from agriculture and education, it was discussed how this can be thought together. Synergies were presented and made practically

A project by:



Deutsche Umwelthilfe



Clean Air Farming
-LIFE17 GIE/EN/610
Air&Agriculture-
is funded by:



Animal welfare and immission control - a dream team for the barn of the future.

tangible. Further education was conducted, and information was exchanged. This was done under the guiding question:

"How do we jointly achieve a farmer-owned agriculture with more animal- and environmentally friendly, income-securing pig farming methods in Germany?"

During the event, farmers, experts from science, non-governmental organisations and politics exchanged their opinions and views on pig farms with alternative husbandry systems, emission aspects of different husbandry methods and the importance of both aspects for future marketing concepts and producer pricing.

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning
Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

Presentations

Practical report from the barn: With fewer pigs in more animal-friendly barns to effectively minimise emissions and operate economically

Jochen Dettmer, farmer of a NEULAND farm and spokesman of the board of NEULAND e.V.

- More space and structure should be given in the barns for pigs, as this increases the well-being of the animals
- Pigs are kept in groups on NEULAND farms, with outdoor exercise and straw, as well as pasture hutches for mother sows
- NEULAND farms are mostly below the BImSchG limits (Federal Immission Control Act) with regard to the size of the livestock
- NEULAND farms produce very low emissions because the manure is applied or stored directly and nitrogen is bound in the straw
 - Problem: if there are too many animals in a region, a regional burden is created. NEULAND farms can thus also run into difficulties in obtaining a permit
- It is now the duty of the new federal government to define how to proceed further
- Economic efficiency: NEULAND is a prime example. More expensive animal husbandry & higher animal welfare measures are only possible through higher prices; with the help of labelling, transparency is created that is perceived by consumers
- The inertia of the market also causes problems for NEULAND farms
- Background of the NEULAND stock ceilings and measurement results of the Immission values:
 - Clear political statement to give small and medium-sized enterprises the chance to get on board
 - The average of farms has become larger and larger
 - Those who have good production shall survive
 - Measurement results: Final results of the EMIDAT project are still pending, results from Hessen show excellence of open-front barns with good management compared to closed barns
- Explanation of the fodder origin and production at NEULAND farms:
 - Genetically modified fodder has no place at NEULAND
 - No soy components from feed from the developing countries (deforestation is consistently avoided);
At first this was laughed at: how do protein carriers want to be a good substitute; peas, beans, potato protein; in the meantime there are soy from cultivation regions in Europe that partly benefit from climate change (Danube soy)
 - Requirement: 50% of feed must come from own farm

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning

Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

From the sow to the fattener - How can the pigsty of the future ensure animal welfare and immission control at the same time?

Reinhild Benning, agricultural expert and team leader for agriculture at DUH, participant in the Building WG in the Borchert Commission

- Factory farming is not wanted by society
- New government formed in Germany, with Cem Özdemir (Bündnis 90/Die Grünen) as new Minister of Agriculture
- Market is changing:
 - Demand for meat in society is decreasing
 - The food retailer's plan to phase out husbandry levels 1 and 2 by around 2030 in favour of husbandry levels 3 and 4 or organic farming
 - EU directives on national emission ceilings NEC/NERC prompt ammonia reductions
- Compared to other animal categories, pigs are responsible for 20.2% ammonia emissions
- In pig farming, indoor pig housing is the largest source of ammonia emissions (Rösemann et al. 2021)
- National Assessment Framework for Animal Husbandry Procedures (NBT): In 2004, a project was launched on behalf of the Minister of Agriculture Renate Künast, in the course of which more than 140 animal husbandry procedures were evaluated with regard to their environmental and animal welfare impacts. The assessment framework is available as a [database on the web](#), but has hardly been used so far. The results of the evaluation in the NBT show which livestock farming methods have synergies between animal welfare and environmental protection or air pollution control
- Within the framework of the decisions of the Technical Instructions on Air Quality Control (T.A. Luft), movement has come into the debate
- Efforts: Animal welfare and emission control are equally important and should be taken into account in building permits
- Especially in pig farming, it is possible to combine animal welfare and ensure emission control
- LUFA studies show: Open front barn with separate functional areas particularly interesting for emission control
- Pigs have innate cleanliness behaviour that can be trained to reduce the emitting surface per animal and move it to the outside. This greatly reduces ammonia emissions.
- With regard to methane, there is much to be gained in manure management and by reducing the number of animals
- The better faeces and urine are separated, the more emissions can be reduced
- Animal welfare barns do not stink, which is important for farms near villages
- Within the framework of the Borchert Commission, a definition of low-emission animal welfare housing was developed:

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning

Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

- **Working Paper of the AdHoc AG Borchert Commission "Immission Control and Animal Welfare", Authors: Federal Ministry for the Environment (BMU), Board of Trustees for Technology and Construction in Agriculture (KTBL)**
- Separate functional areas are an essential criterion for emission protection and animal welfare

To be supplemented:

- Straw should be compulsory with regard to occupational material and temperature regulation aid for the animals
- Animal welfare in the event of fire must be ensured in addition
- In DUH's view, the working paper "**Immission Control and Animal Welfare**" with these additions can already be used in the *short term* as a guideline for approval authorities for the construction of animal welfare barns

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning
Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

The conversion of animal husbandry must not be at the expense of the farms: Immission control and animal welfare - a cost and producer price analysis

Christian Wucherpfennig, Chamber of Agriculture NRW, Haus Riswick Training Centre

- Pig price trend between 1989 and 2021 remained roughly the same and not very affordable: Unification price 2. until 8.12.2021 = 1.20 EUR
- Disastrous for conventional pig farming
- How could conventional farms be given perspective?
 - Cost compensation options for farmers by:
 - Increase in stocks: total stocks have remained the same, many have ceased to exist
 - Performance improvement
- Consequences for the pigs:
 - Large livestock
 - No littered lying area
 - No separate functional areas
 - No outdoor climate stimuli
 - Boredom
- Example from an organic farm: you can offer vegetable leftovers and especially straw. This has always proven to be "wellness" for the pig: bedding increases well-being.
- Costs for the conversion of the livestock housing:
 - Planned state animal welfare level 1: +15 € per fattener (small improvement)
 - Planned state animal welfare level 2: +30 € per fattener (small improvement)
 - Planned state animal welfare level 3 = husbandry form 4 of the trade:
 - + 75 € per fattener (real improvement)
 - Planned state animal welfare level 3 = husbandry form 4 of the trade:
 - + 250€ / fattener (even more improvement)
- It is not desirable to convert 26 million pig places to organic farming in the future. What is needed a reduction in meat consumption and animal numbers
- Investments to reduce emissions: separate functional areas, optimal drainage, automatic slide gate manure removal, technical manure-urine separation, roofing of the run
- Final economic evaluation is not yet possible, as the measured values for the individual animal husbandry methods are not yet conclusively available. More information can be found [here](#)
- Currently, the organic pig price is decoupled from the conventional, extremely low price to the advantage of the converting farms
- Organic farming, such as Naturland, requires about twice as much working time, so that with half the number of animals the working time remains the same.
- The prices for more animal welfare must be paid by the consumer or taxpayer

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning

Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

Discussion

The working paper of the AdHoc AG Borchert Commission "Immission Control and Animal Welfare" presented at the expert meeting triggered a lively discussion. Participants reported that up to now, the approval of barns with outdoor climate sectors has been very complicated in many cases. In some cases, approval authorities demand data that cannot be provided.

Answers gave guidance to data in the National Assessment Framework for Animal Husbandry, the [LUFA studies from Hessen](#) on open-front barns with separate functional areas and the working paper of the AdHoc-AG of the Borchert Commission, all of which describe the lower immission values of more animal-friendly husbandry methods. The next step would be for the federal government to legitimise the available data in the form of a guideline for licensing authorities.

Participants also pointed to the coalition agreement of the Federal Government, which provides for a testing and approval body for barns and barn facilities (type approval). This is initially about animal welfare, but there was consensus that this should be supplemented by immission control aspects, analogous to the approach of the KTBL assessment framework. It has been mentioned several times that a separation of faeces and urine is a particularly effective measure to reduce emissions. The animals should defecate and urinate mainly in the cooler area provided for this purpose, e.g. in the run, in order to use the lower outside temperatures to reduce the ammonia emission rate compared to e.g. warm housing. Underfloor technology for rapid removal of excrement, if necessary with separation of faeces/urine, was also mentioned as advantageous.

It was also reported that the animals should be given access to different climatic zones so that they have the opportunity to perceive climatic stimuli, which can be seen as an important contribution to animal health and welfare, among other things.

Furthermore, the sensitisation of the population regarding the issue of animal welfare and emission protection was pointed out, as well as the dynamics in legislation. The demand for meat from alternative husbandry systems is increasing and the [Federal Council](#) has called for the further development of the Animal Welfare Ordinance, emission protection and labelling law in congruence with each other. In the public discussion, there are more and more calls for animals to be regarded as sentient living beings and not as mere objects of value creation.

It was mentioned several times that the costs for different barn systems depend on the existing building stock of a farm. With professional advice, it is nevertheless possible to calculate these costs.

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning

Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

Furthermore, the topic of diseases such as African swine fever and avian flu was mentioned during the discussion and which husbandry methods could minimise their dispersion. A case of African swine fever in a pig farm had recently become known, in which the animal keeper himself could have introduced the pathogen into his pig herd after hunting wild boar from another region. All in all, it is important to keep an eye on all transmission vectors. In animal welfare barns with closed systems and predominantly own feed, transport vectors could potentially be omitted. At the same time, the Friedrich-Löffler-Institute (FLI) recommends the installation of nets to prevent the entry of birds and wild animals. In essence, humans are considered to be one of the main factors for long-distance transmission (FLI 2021). Overall, precautionary measures against the transmission of disease agents such as ASF must be taken in all pig farming systems.

Overall, better animal health, lower antibiotic consumption and lower resistance rates were cited as characteristics of more animal-friendly husbandry systems, which can be substantiated using data from the annual BVL reports on antibiotics and zoonoses.

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning
Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

Conclusion

When converting livestock farming, animal welfare must be taken into account. However, it would not be sustainable to think of animal welfare without emission control, both can stand together successfully. During the expert discussion it was explained that there are synergies between animal welfare and emission control. The consistent separation of faeces and urine as well as open stalls have great potential for these synergies. An animal welfare label is desirable that helps to cover the higher costs in the barn due to increased space and labour requirements through higher prices in retail trade. The restructuring of animal husbandry with the necessary higher producer prices could and should also lead to a reduction in livestock.

Thus, the interaction of animal welfare and emission control also serves planning reliability. The conversion of pig farming no longer has to wait. The solutions already exist. Politicians are now called upon to act. The course has been set towards animal-friendly, low-emission, economically better and future-proof agriculture. Legislation that takes animal welfare and emission protection equally into account is possible and necessary. In this context, the licensing authorities and agriculture need clear guidelines. DUH, as a political environmental association, will take the many constructive suggestions from the expert discussion into future talks with the new federal government in order to contribute to a strengthening of farm animal husbandry and at the same time to the achievement of the NERC goals.

Nevertheless, it is important to mention that a change in the entire system is needed to equally ensure animal welfare and emission control. Agriculture, environmental organisations, consumers and political actors must all pull together. Transparency, further training for farmers, organic advisory services and the adaptation of building laws play a major role. The large number of small and medium-sized farms, which would hardly stand a chance if they were to continue as before, will gain new economic perspectives for the future if animal husbandry is restructured in a sustainable manner.

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning

Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de

Animal welfare and immission control - a dream team for the barn of the future.

Documents

- » Presentation by Jochen Dettmer on the expert discussion: Animal welfare & immission control - a dream team for the barn of the future
- » Presentation by Reinhild Benning on the expert discussion: Animal welfare & immission control - a dream team for the barn of the future
- » Presentation by Christian Wucherpennig on the expert discussion: Animal welfare & immission control - a dream team for the barn of the future

Organiser

Deutsche Umwelthilfe e.V.
Federal Headquarters Berlin
Hackescher Markt 4
10178 Berlin

Contact

Johanna Clintworth
Project Assistant Nature Conservation
Tel.: 030 2400867 - 731
E-mail: clintworth@duh.de

Reinhild Benning
Agricultural expert and
Team Leader Agriculture
Tel.: 030 2400867-885
E-mail: benning@duh.de