clean air farming
Luftreinhaltung durch Landwirtschaft

A look into practice: emission-reduced pig farming in Brandenburg

At the Prignitzer Landschwein GmbH & Co KG pig farm, emissions reduction and animal welfare go hand in hand.
The farm's manager Ralf Remmert has turned it into a model and a best practice by rethinking conventional pig farming, and setting the grounds for the so-called "Neudorf Concept".. The key principles of this concept" are freedom of movement and structure. In practice, a barn allows the pigs to move within different areas for different activities (resting, feeding, rooting and defecation). In the dropping area, a so-called "pig toilet" separates the urine from the droppings via a conveyor belt. The piglets learn how to use the pig toilet early on from the sow.

Facts:

- Neudorf is a town in Brandenburg
- Former GDR breeding facility
- New stable built in 2019
- Semi-enclosed system
- 350 ha of agricultural land
- Livestock: 1,250 sows, 5,500 rearing piglets, 6,500 fattening pigs
- 14 staff members
- Boar fattening facility since 2009
- No tail-docking since 2015
- Regional marketing & own but-

How the pig toilet works: the urine can drain through the small slits in the conveyor belt, it is collected under the floor and transported into an airtight slurry tank. The solid phase, on the other hand, falls through the belt into a separate pit. The separation is so precise that the liquid phase can be spread using crop protection sprayers equipped with a liquid fertiliser system. The solid phase is first used to produce energy in the neighbouring biogas plant. The remaining residue is then used as farm manure on the company's own farmland, where the animal feed is cultivated. By separating the solid and liquid phases in the biogas plant, climate-damaging methane emissions, which occur during storage, can be reduced.

Targeted ammonia reduction through a mix of measures

The solid/liquid separation measure alone has reduced the farm's ammonia emissions by 80%. In addition, phase-adapted feeding with reduced protein content has ensured a 20% reduction in ammonia emissions compared to normal feeding. The farm mixes its own feed for this purpose. No soy is purchased as a source of protein. Instead, essential amino acids are mixed into the structural feed according to requirements. Structural feeding also keeps the animals busy. According to the farm manager,

Measures implemented to reduce NH3 emissions:

- Separation of urine and faeces (-80%)
- N-adapted phase feeding (-20%)
- Free ventilation and microclimate areas

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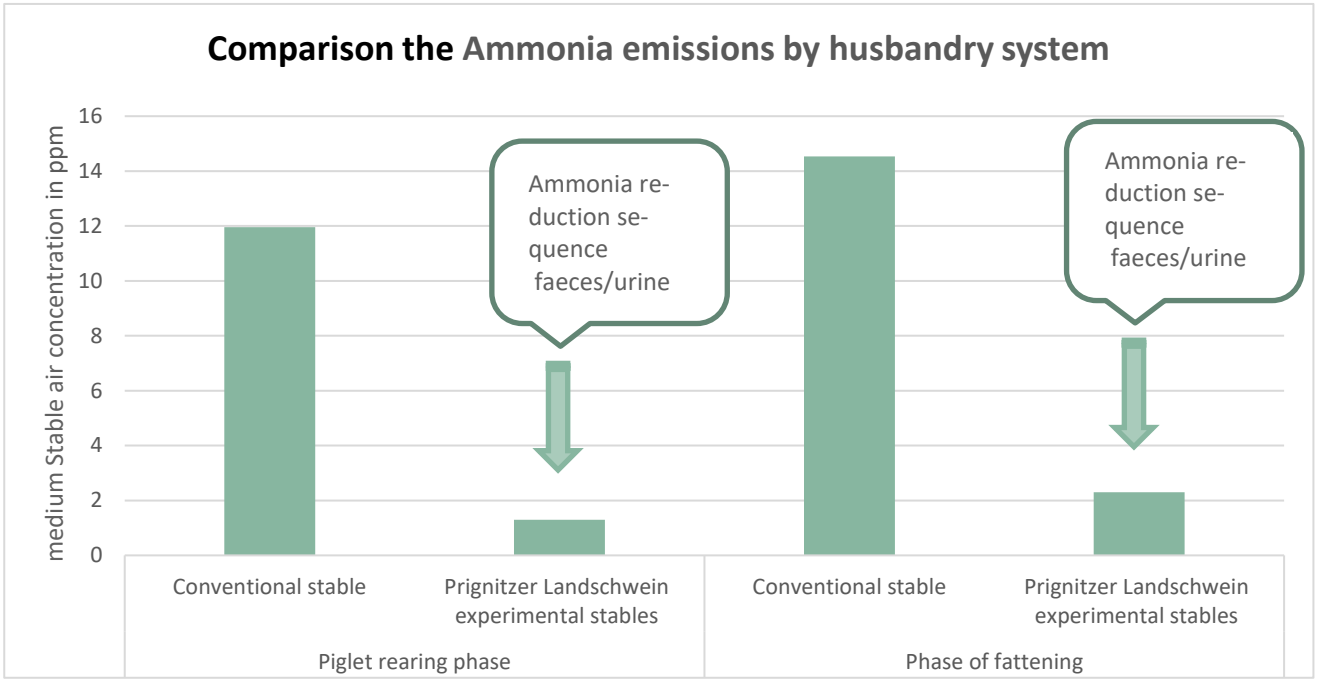
the *pig feels most comfortable when it has its trunk plate on the ground and digs for feed.* This is also shown by the intact curly tail. Since 2015, the farm has stopped docking the animals' curly tails. *We avoid any manipulation of the animal, because with the curly tail you take away a well-being indicator*, says Remmert. The results of the measures are clearly perceptible. The air in the demonstration barn is fresher, which also pleases the pigs. With a concentration of 1.5 - 3 ppm, the value is significantly lower than in conventional stables, where values over 15 ppm are normal. Modern sensors document the success of the innovative housing concept (see figure).



* Dinter 2019: Investigations in the rearing and fattening of uncupaced pigs with special regard to animal welfare. Report commissioned by the State Animal Welfare Commissioner, Ministry of Justice and for Europe and Consumer Protection of the State of Brandenburg (unpublished).

Ralf Remmert is convinced that tackling emissions and animal welfare does not necessarily require expensive and ultramodern technical solutions. One example is his ventilation concept: although energy-intensive ventilation can regulate the temperatures in the barn, a smart barn concept with different climate zones is much more cost-effective and better for the temperature-sensitive animals. To keep warm in the otherwise cool barn, the pigs can retreat into the protected and thermoregulated lying area.

Adapted authorisations to encourage innovative farming practices

For farm manager Ralf Remmert, turning his farm into a model was a rocky road. The approval procedure for the new barn took 3 years. Innovative husbandry concepts still have a hard time to assert themsleves, because the process of approving is based on old barn concepts. The financing was also a challenge and the bank and insurance company had to be convinced to give the new concept a chance. Yet the project was worth the effort, as the concept is now

slowly paying off. The expenses for the additional animal welfare are remunerated through regional marketing. Ralf Remmert's products are available in retail stores as part of Rewe’s brand "100% Regional". The price for regional meat, including boar meat, is around 2 euros per kg above the price for conventional meat and close to prices for organic meat. The cooperation with the Eberswalde Group as a processor of pork is an important part of the regional added value, as is the one with the nearby slaughterhouse in Perleberg, which spares the animals the stress of a long transportation. The company also sells its products through its own butcher's shop in nearby specialist shops.

Slaughtering directly on the farm as the next step

The “Neudorf husbandry concept” also consists of stress-reducing measures for the animals, including a consistent husbandry within the family from birth to slaughter (birth-to-finish concept). To round off his husbandry concept, Ralf Remmert would like the slaughtering to happen close to the animals’ natural habitat.

For a better dissemination of the concept and its benefits in terms of emissions reduction and animal welfare in pig husbandry, the farm would like to share its experiences and results with the world, and especially with other farmers.

Politics too have a role to play: Ralf Remmert demands more clarity, honesty and transparency, as well as a greater effort to support farmers, and *provide more instruments to accompany them on the road to change*.