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PIG EDITION

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Water is the most important thing for the pig

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The conditions must be in order. So should the feed. But water also has a lot of functions in the body of the pig, so it should also be all right. The legislation in Denmark states that all pigs, more than two weeks old, must have permanent access to sufficient fresh water.

As regards the quality, it should be pursued that the water is of the same quality as the water consumed by humans. And it should not only be measured by the water boring but the measurement should also include the piping to the valve.

The function of the water

The water inside the pig has many functions:

- Transport and solvent medium for nutritive and waste substances
- Where chemical reactions take place
- Impact on the passage of the feed through the alimentary canal
- Maintenance of the electrolyte balance and lubricant in joints
- Regulation of body temperature

Obviate contamination of the water by:

- **Cutting off blind pipes or furnish them with a drain cock**
- **Mounting drain cocks at the end of all the piping**
- **Flushing the pipes before a new batch of weaners is stocked**
- **Cleaning unclean water tanks**
- **Covering open water tanks**

Source: Info Svin, Water and water quality

How much is enough?

The water content in a pig varies according to the age and fat percentage of the pig. But around 70 per cent of the full-grown pig is water. Foetuses and young pigs consist of approx. 80 per cent water. The water content of the pig is relatively constant from day to day, but to some extent it depends on consumption and loss of water. And it is not only drinking water or water from the



feed which can replace the amount of fluid being segregated with the manure, urine, milk and through vaporization.

How much water the pig needs to consume thus depends on the weight of the pig, dry solids content of the feed, protein and salts, how much feed the pig eats, the milk production, the temperature of the environment and the health status.

How much water the various animal categories need appears from the table.

The pigs' need for water

Animal category	Water need, litre per day
Piglets (incl. sow milk)	1 - 2
Weaners	1 - 5
Porkers, 15 - 45kg = 324m ²	4 - 8
Finishers, 45 - 100kg = 324m ²	6 - 10
Gestant sows	12 - 20
Nursing sows	25 - 35
Boars	8 - 10

Lack of water

There can be many reasons for the pigs consuming too little water and in that way risk suffering from lack of water. Below is listed some of the reasons:

- Does the valve supply water at all?
- The water must be clean and fresh
- The function and output of the valve must be in order
- Bad water quality (taste and bacteria contamination)
- The pigs are sick
- Feed subject to inaccuracies (e.g. too high dosing of salts)
- Incorrect dosing of vitamins and minerals
- Demixing of the feed

Water quality

The water quality should not only be measured by the water boring. The water could be contaminated on the way to where it is tapped.

»One has to pay attention to substances like

Disinfection of the water system

- *Flush the pipe so deposits and residues are removed.*
- *Disconnect the water supply and dismantle all nipple drinkers.*
- *Remove the film around the openings on all the nipple drinkers.*
- *Attach nipple drinkers, connect the water supply and disinfect the piping system by means of a medicator which is connected to the piping system.*
- *A mixture of hypochlorite and water could for instance be added. When you can smell chlorine in the water at the end of the piping system, the entire piping is full of disinfectant. The mixture must remain in the piping for at least four hours after which it is drained off. It is a good idea to add a little bit of food colour to the disinfectant, as you then know when the piping is completely clean.*
- *The piping is flushed with clean water.*
- *The biofilm on the inside of the pipes must be removed, if any.*

Today, there are many products for cleaning water. Make sure to have documentation for the effect of the product and ask your adviser!

Source: Info Svin, Water and water quality

nitrate, nitrite, ammonium, iron and the total number of germs and coliform bacteria in the water,« says Senior Project Manager Hanne Maribo from Danish Pig Production.

She points out that there is a risk of contamination of the water in the water pipes of the pig house. Research proves that the number of coliform bacteria in the water is significantly higher in herds with diarrhoea problems than in herds where there are no problems.



»Bacteria can enter the aqueous system through the nipple drinkers, e.g. when the section is being cleaned, through dust in open water tanks and through computerdose systems,« she says.

And one has to pay special attention to newly weaned pigs. Here the temperature inside the section is high and the water flow is low.

»At batch production, the drinking water in the pipes can be up to 14 days old, before the pigs start drinking. Therefore, it is a good idea to drain off the old water in the pipes and disinfect them once in a while, before the newly weaned pigs are stocked,« says Hanne Maribo.



Photo: Egebjerg International A/S

The same applies for the piglets' nipple drinkers in the farrowing section. Here you however have to drain the water off again approx. 14 days after farrowing, as this is the time where the piglets start drinking. Use perhaps a clothes peg!

It is very important that no disinfecting residues remain in the pipes. Both on grounds of the pigs and cross-compliance!

Analysis of the water

If you doubt the water quality in the pig house, a water sample could be taken from the section in question.

»Often, an analysis of the germ and coliform bacteria content in the water is sufficient,« says Hanne Maribo.

She also calls attention to the fact that one often sees a higher bacterial count and maybe a higher content of coliform bacteria in the drinking water in the weaning section compared with the finisher and gestant sections.

If the analytical finding points to a contamination of the piping system, one should consider cleaning and disinfection of the piping. Usually, you can do it yourself, but it is a good idea to consult the laboratory, the adviser and/or the veterinarian.