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Why is the quality of water important

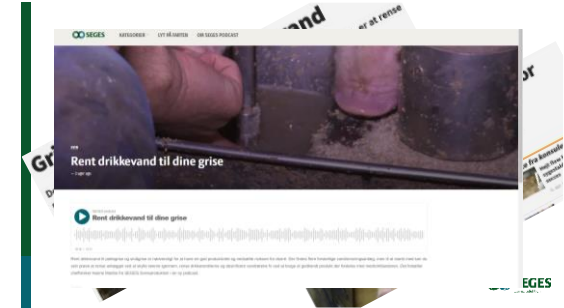
- Drinking water is an important nutrient for pigs
- Clean and sufficient water for all pigs.
- The quality of drinking water for pigs should be the same as for humans

What should you look for?

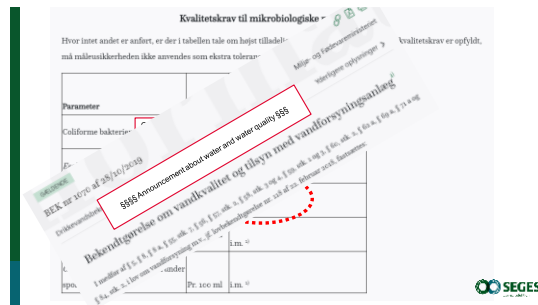
- There are safety limits for the concentration of nitrate, nitrite, ammonium, iron
- *find it here : svineproduktion.dk*
- BUT it is important to know the total number of germs and coli bacteria
- From now on, I will only discuss bacteriological quality of water



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Where is the problems?

- The youngest pigs has the lowest immunity – feeding with bacteria contaminated water is no go.
- Sick pigs are not eating, they are drinking.
- Water for pigs has often bacterias and in severe cases coli-bacteria.
- Pigs are pigs.
- They mess around with manure – plays with the drinkers and thereby they push bacterias back in the water pipes.
- **High temperatures in the farrowing- and weaner section = good growing conditions for germs.**
- **Microfilm – NOT in the water pipes.**
- **It is build up in the pipes.**
- **Especially using water medication and acid-products.**
- **Microfilm reduces the water flow in the pipes.**
- **Microfilm stops the drinkers.**
- **And is depot/storage and growth media for bacteria.**



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Analysis of water

- There are several ways to test the quality of water.
- **Test kit to be used in the stable.**
- **Send water samples to the laboratory etc.**
- **The price analysing for germs and E. coli at an approved laboratory is 350-450 kr.**
- **Find how to sample water for analysis here: Svineproduktion.dk**
- **Where to sample?**
- **Where the small pigs are drinking & where the water flow is slowest**
- **Before entering the weaner section.**
- **After 1 week.**
- **In the farrowing section at the time the pigs starts to drink (7-10 days age).**



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Water analysis

E. Coli bacteria:

- Coli bacteria in the drinking water indicates pollution with manure.
- NO coli bacteria in the pigs drinking water!
- < 100 coli bacteria pr. 100 ml - is OK when swimming at the sea - > 1000 is no go.

Germs:

- Tells us how many total-bacteria in the sample but not which.
- Total germs is measured in drinking water: high germ number shows pollution with bacteria.
- Harmless bacteria are naturally in the surface of lakes and in ground water.
- The public rules for drinking water from private and public supply are:
 - Germ no. max 200 pr. ml (at 22°C) – above boiling is necessary.
 - **Below 200 germs/ml not harmful for humans (or for pigs)**

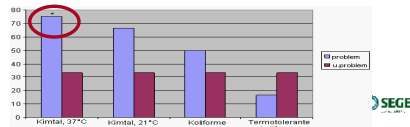


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Former investigations

- **SEGES has earlier made some investigations about water quality and effect on piglets health**
- Look at "svineproduktion.dk" for information about quality of water.

- Report No. 0223 (2002)
- 21 herds with and without problems with diarrhoea.
- Herds with diarrhoea problems had a higher number of germs in the water served for the piglets.



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Former investigations

EAW equipment report No. 578 (2002)

- EAW is produced from a saturated salt (NaCl) solution via electrophoresis
- The salted water is split in to solutions. One activated loaded with negative ions and one with the positive ions.
- The activated solution is called "Anolyt" the other is the "Katolyt" and is not used.
- In the trial "Anolyt" was added the drinking water for the weaners and resulted in removal of coli bacteria and germs in the water – compared to control with no addition.
- The number of germs and coli bacteria was reduced to zero adding 10% EAW (Anolyt)
- Control group: germs: 3,500 – 2.8 mill. pr. ml and > 25 coli bacteria per ml.
- The weaners had better productivity the first 2 weeks.
- BUT it was necessary to remove iron from the water to see effect.



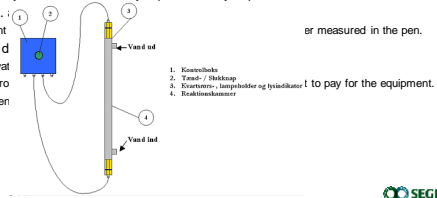
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Former investigations

Report No. 637 (2004)

- **Ben Rad** was installed at the main water supply. The water passes a "pipe" where free hydroxyl radicals is made by a photo catalytic process.

- Germ No.
 - The count
 - Pigs that d
 - Higher wat
 - Higher pro
 - No differen



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The farrowing section

- A cleaned farrowing section has not necessary clean water pipes!
- Stationary water and high temperatures – is not a good cocktail.
- Newborn piglets does not drink water in the beginning, they start 7-10 days of age.
- Take a walk through the farrowing section approx. one week after farrowing and flush the pipes. Use a cloth-peg.
- **BUT** the pipes must be cleaned and flushed before placement of the sows.



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Weaner section

- Dirt in the pipes and high temperatures and, slow water flow.
- One of our technicians found that testing the water flow – it took 3-4 minutes before the water was cold – in a cleaned weaner section.
- **ALWAYS CLEAN THE PIPES AFTER CLEANING THE STABLES**
- Flush the pipes to get rid of the biofilm and dirt.
- Take off and clean the drinking nipples.
- Disinfect using e.g. the medicine-mixer.
- Use a colored disinfectant or add liquid color.
- Then you can see when the disinfectant passes and leaves the system again.
- If possible, leave the disinfectant in the pipes over night – and flush it out till you see no more color.
- AND then control the drinking nipples one more time (risk of more biofilm).



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How to clean the pipes?

Water cleaning equipments

- Today a lot of water cleaning equipment is offered. Most of these are installed centrally. You can buy or lease it. These equipments are...
- Before investing - Ask for documentation for the equipment. The person who has it already to hear about their experience.
- I hear about:
- "EAW"-equipment...
- Equipment...

Cleaning the water centrally – is no guarantee for clean water for the pigs.



TAK og husk!

Vær altid opdateret på den seneste faglige viden

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