

Anolytech[®]

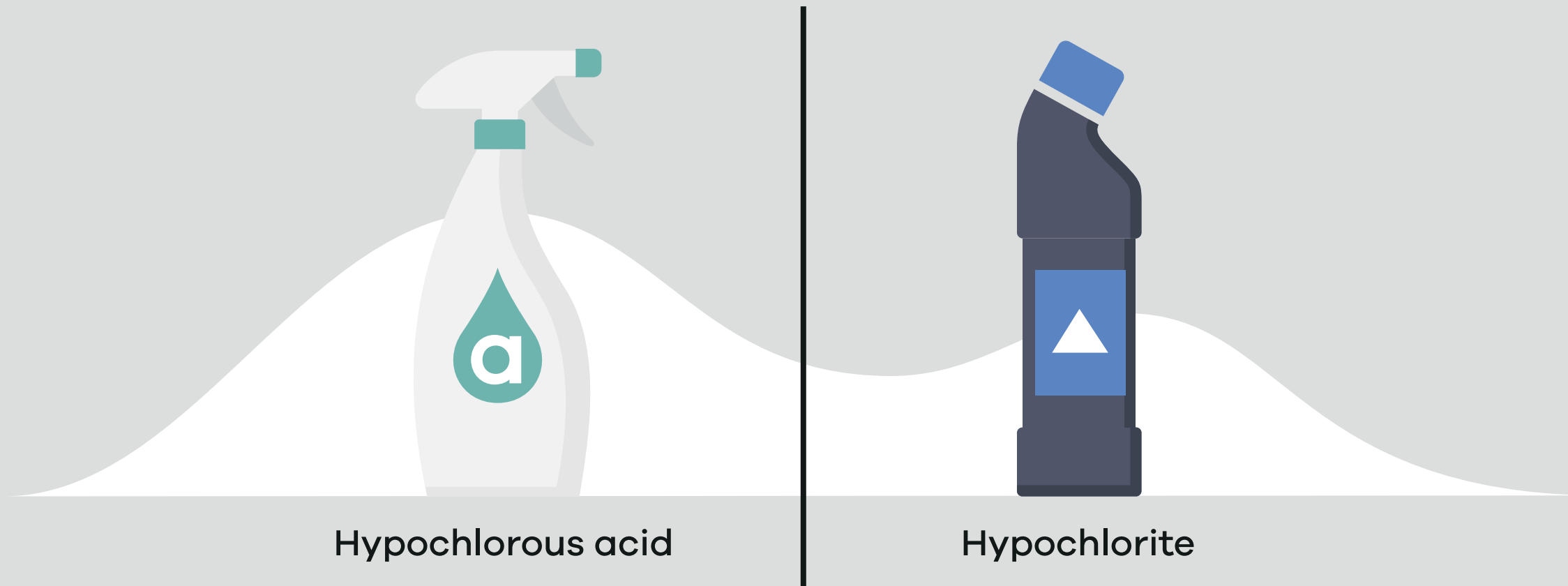
SUSTAINABLE DISINFECTION

Stefan Fischlein

Founder and inventor of the Anolytech method

Anolytech[®]

What is chlorine?

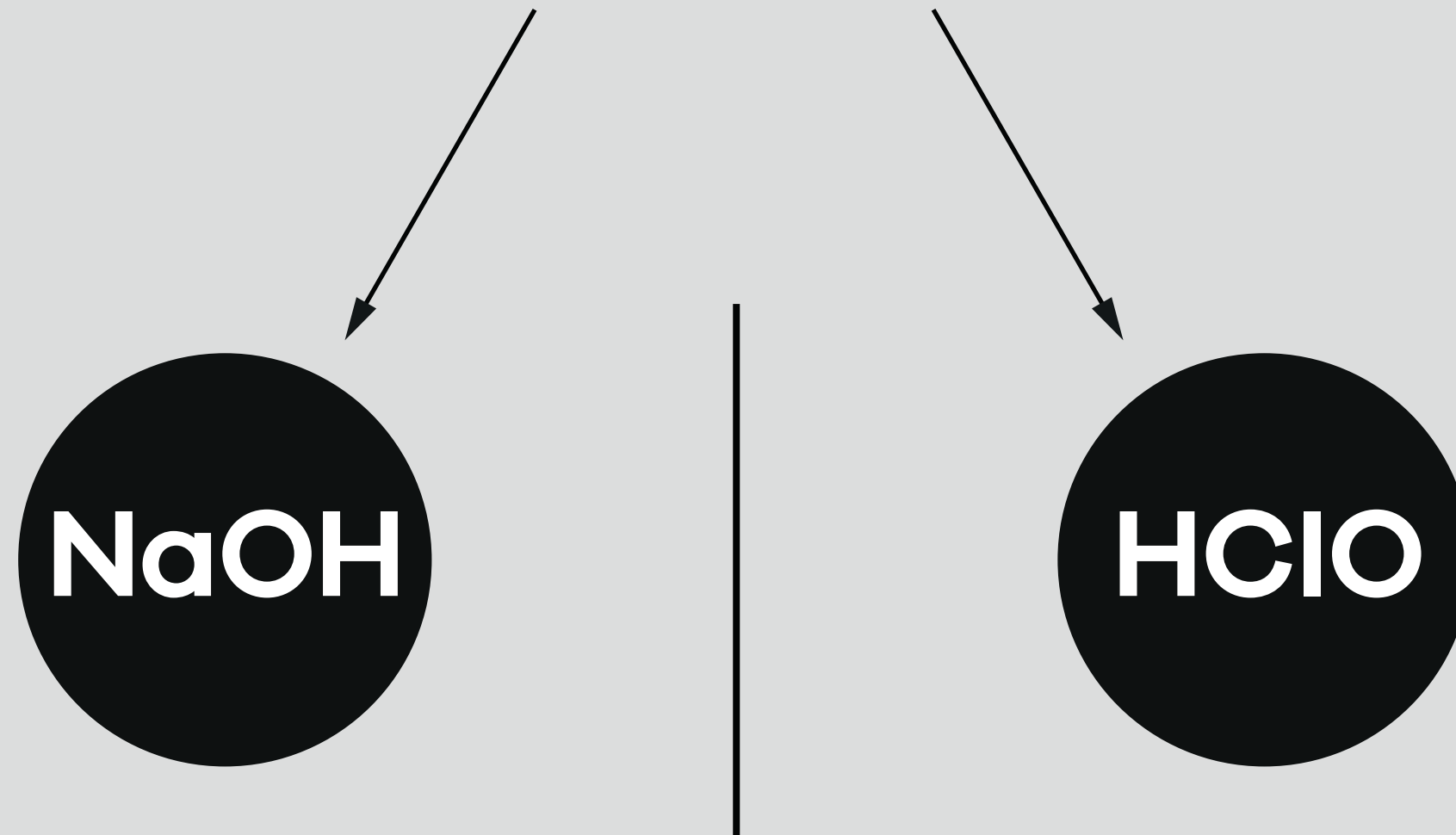


The pH value is important

The highest content of hypochlorous acid in AnoDes is achieved through superior pH-control where Anolytech proprietary technology ensures a high accuracy, pH 6,2-6,8 independent of incoming water.



NaCl + H₂O + Current



Nature's own disinfectants

Nature's own disinfectants is part of the human immune system and animals. Hypochlorous acid effectively kills 99.9% of all bacteria, viruses, fungus, mold and spores.

EN-standards

EN1500, EN14476, EN13727, EN13624,
EN17272, EN13623, EN13610, EN13697,



The water where the animals drink

The drinking water where the animals actually drink, for example a metal nipple, they add bacteria that spread in the water system and around the tap. If you do not disinfect the water there will be a steady growth of unwanted bacteria no matter how much you clean the surface.



Water samples from farms

We have taken 231 water samples at animal producers farms with incoming potable water. The samples where the animals drink their water showed another result:

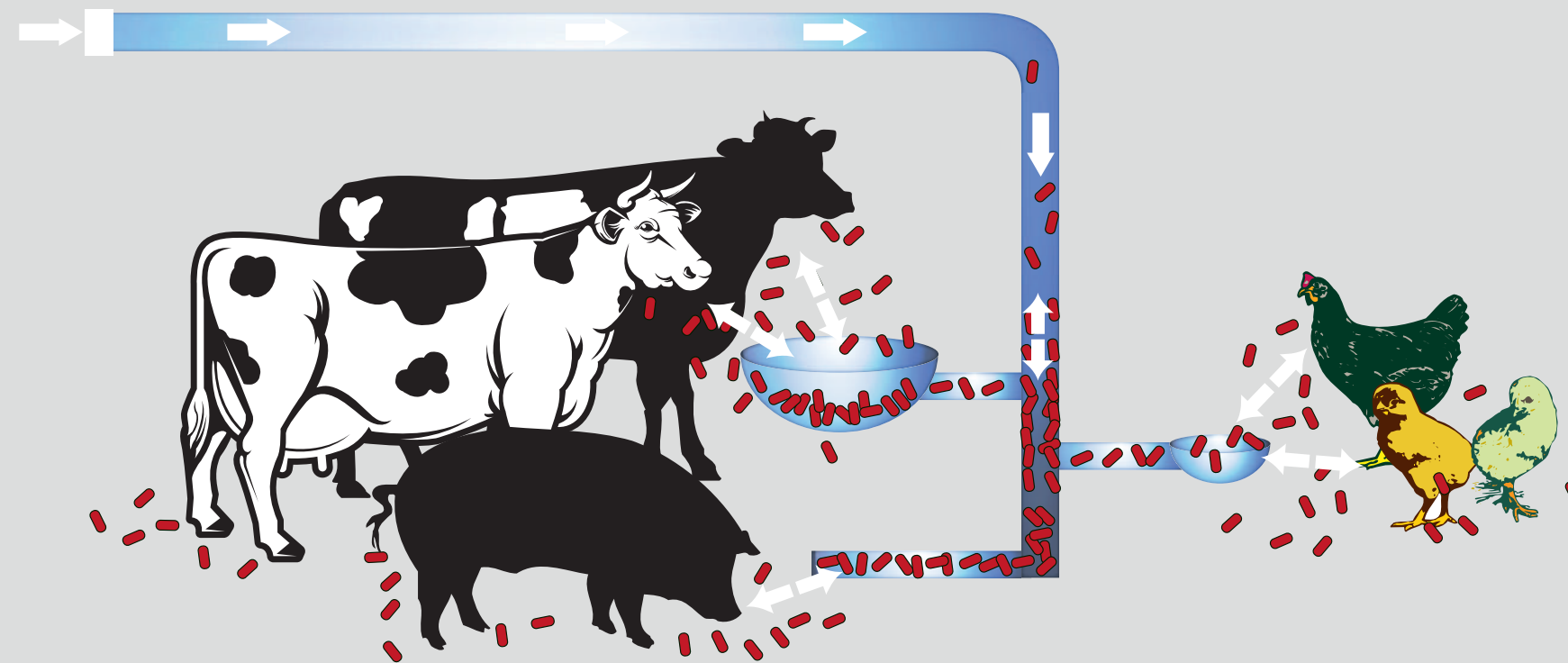
62% had unusable water
29% had unusable water with remark
9% had serviceable water *

* The water samples were taken by Anolytech in the stables where the animals drink. Analyzed by Alcontral Laboratories.



The animals infect each other

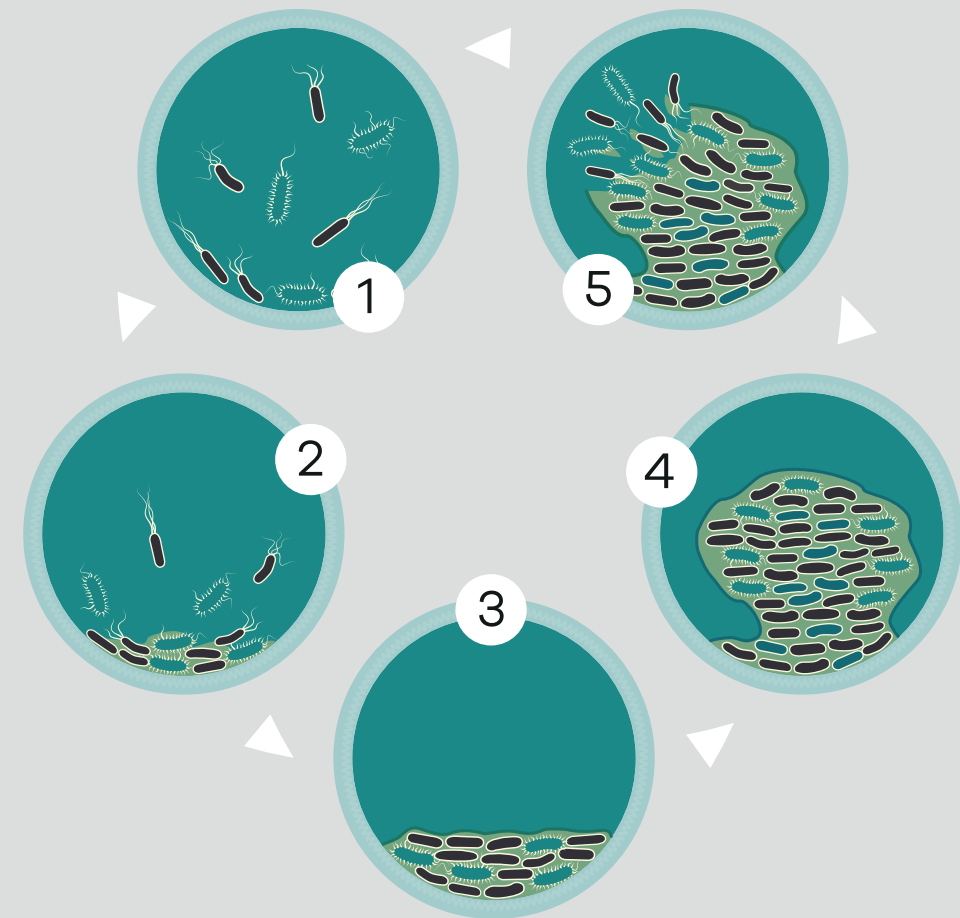
Bacteria creep up into the tubes where 5% of the bacteria are free-swimming, 95% are in the biofilm and constantly leaks back into the water.



Cross-contamination of water in stables

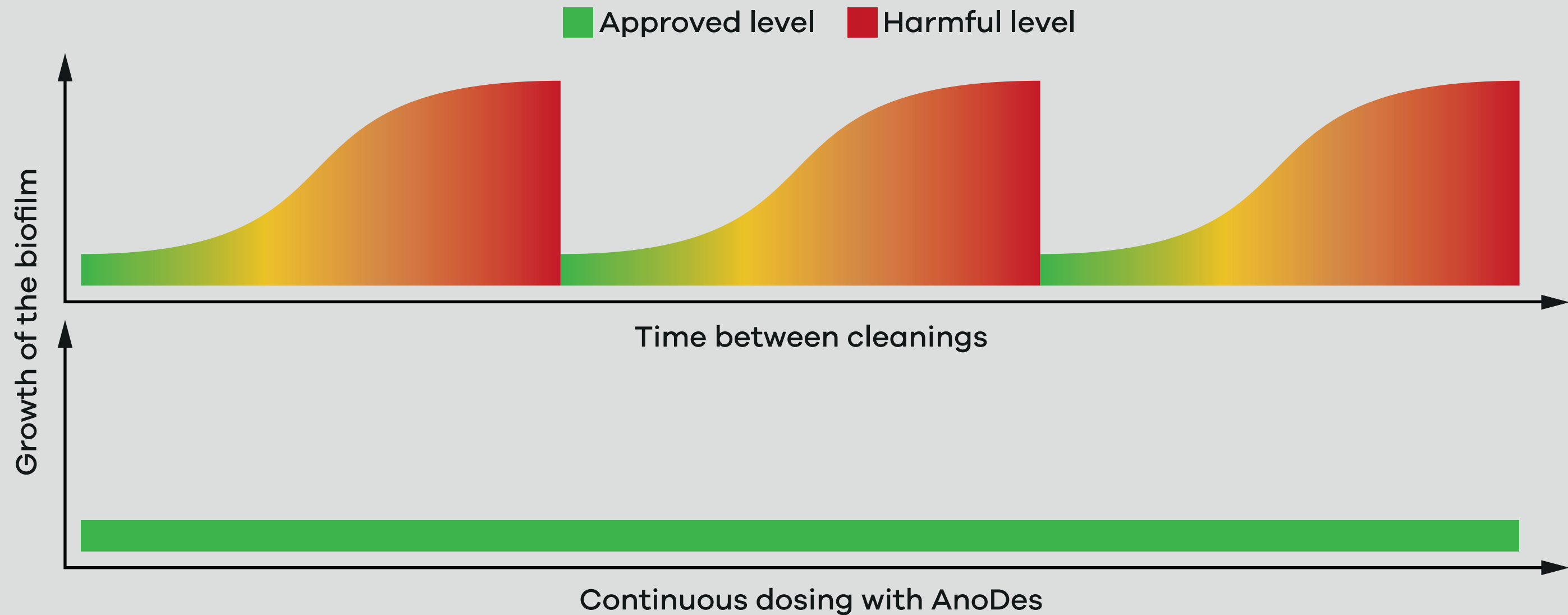
The biofilm serves as a breeding ground for microorganisms

When the biofilm is formed, it works as a protection for bacteria where harmful microorganisms can survive and develop.



Stages of the biofilm development

Continuous dosage vs point interventions



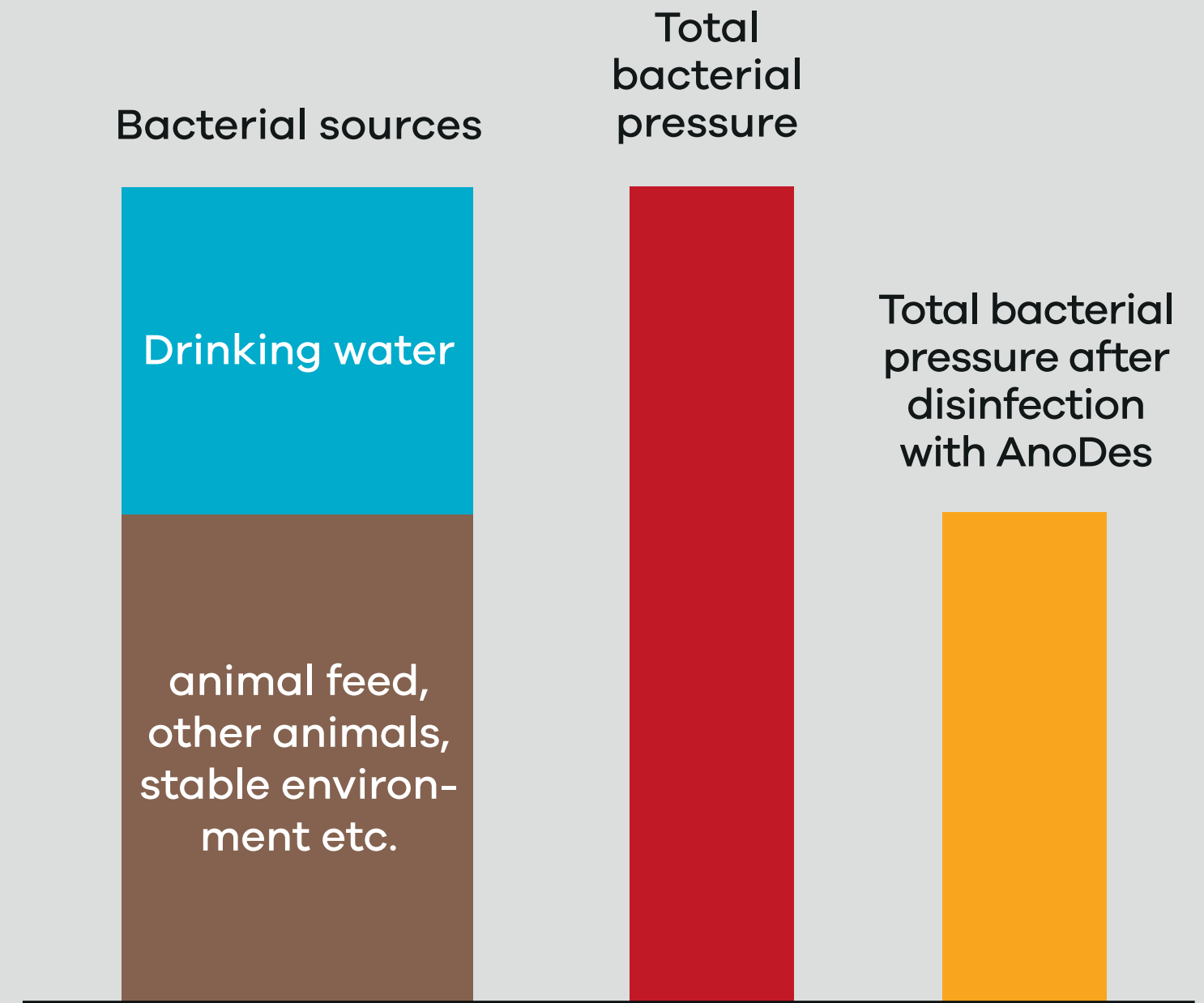
Bacteria-free drinking water = better animal health

By removing the added burden that bacteria generate in the drinking water it improves productivity and animal health.



Feed supply

Today, there is a great focus on feed quality and hygiene. But don't forget that the drinking water is 30-50% of the feed supply.



Approved in the EU for PT 1-5

The product is approved for use according to the ECHA biocide list Article 95 for product type area (PT) 2-5

PT1 – Disinfectants for human hygiene.

PT2 – Disinfectants and algicides not intended for used directly on humans or animals.

PT3 – Disinfectants for veterinary hygiene.

PT4 – Disinfectants for surfaces that come in contact with food and animal feed.

PT5 – Disinfectants for drinking water for animals.

EGTOP

The EU's expert group, EGTOP, for organic production approves the use of "electrolysed water" in organic production where hypochlorous acid is produced on site with an equipment of the type Anolytech provides.



Anolytechs concept

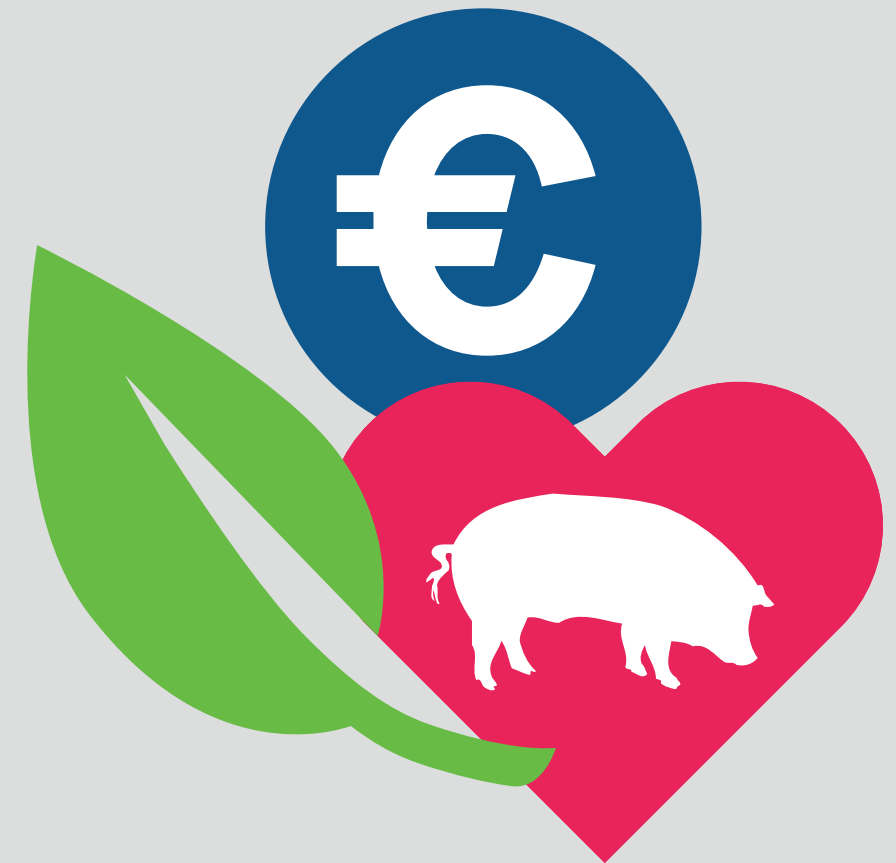
The production equipment dispenses a low and continuous dosage of Anodes directly in the incoming water. With our technology growth of bacteria between point inserts will be avoided.

The system also ensures that growth of bacteria in places that are difficult to keep clean, like nipples and tubes, will not occur.



**Approx. 500 Anolytech machines
are installed today - 98% at animal
production farms**

Economy - Erik Aagaard



Conditions:

- +/- 0.1 Fe/kg today corresponds to DKK 5.25/pig
- 1% dead equates to DKK 4.50/pig. Or one dead pig is worth about 450, depending on the settlement model.
- The kg regulation is today DKK 6.54 per kg in the range of 30-40 kg.

Examples: 800 sows and 4000 penplaces for piglets – 28.000 piglets pr year

- 34.940 liters of water daily
- 3,180 kr per month
- 106 kr a day
- 3.03 kr per m³ liter of water
- 38,160 kr per year
- 47.70 kr per year sow or 1.36 kr. per piglet

At 28,000 piglets and an extra cost of 38,160 kr.

- The feed consumption should decrease by 0.025 FE/kg – or
- The mortality rates should decrease by 0.3% or 85 pigs pr year – or
- The sales weight should increase by 208 grams, corresponding to an increase in growth of 4.2 grams per day on all piglets.

Example: 7.000 piglet a time – 47.000 piglets pr year

- 19.145 liters of water daily
- 2.120 kr per month
- 71 kr a day
- 3.69 kr per m³ liter of water
- 25.440 kr per year
- 0,54 kr per piglet

At 47,000 pigs and an extra cost of 25,440 kr.

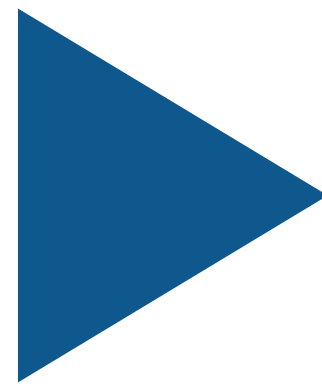
- Should feed consumption decrease by 0.01 FE/kg – or
- Mortality rates should decrease by 0.12% or 56 pigs pr year – or
- The sales weight should increase by 82 grams, corresponding to an increase in the growth of 1.68 grams daily on all piglets.

Cost savings

- Water cleaning when the stable is empty
- Water disinfection
- Disinfection after washing with soap
- Working hours
- Safety in daily work

Why invest

- At the sows we have seen fewer acute deaths and less diarrhea in the farrowing pen and sows that provide more give higher weight at weaning.
- In piglets, we see better growth, less diarrhea and fewer deaths.
- There is also a generally declining medicine consumption.
- Bacteria-free drinking water increases water uptake.
- A saving on disinfectants.
- Everyone who invests in a machine has an effect.
- It is a good insurance for having a stable production.
- This will make it easier to phase out zinc.





Questions?