Food, water and hygiene – essential elements for life

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Every day, feed manufacturers and their nutritionists are monitoring production farms to help them reach the most efficient and healthy feed mix.
Great investments are made to allow the animals to grow as well as possible. These investments are also necessary to keep the poulry sector healthy, both financially and with regard to animal welfare.

In addition to a correct feed mix, hygiene also plays an increasingly important role in modern farming. These days more and more professional companies are hired to implement, monitor and manage the hygiene at company level.

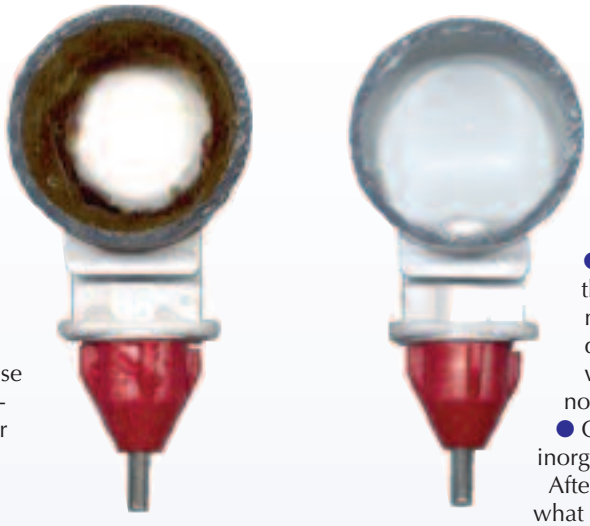
Unfortunately, a lot of productivity is already being lost when housing day old chicks. And if the basis is not good enough, it will be impossible to reach the best results with these chicks. A lot is being written about the quality of the drinking water, where they often look at the presence of so called inorganic compounds, like iron and lime. In a few cases it is also recommended to check the quality of the water once a year.

Bacteria in water

A few agencies use a standard total germ count of 100,000cfus/ml. However, only few farms comply with this recommendation. One of the reasons for this is that it would be necessary for them to contract out. This is not the right approach, and it shows that they forget that water is the most important nutrient, since an animal drinks more water than it eats food.

With regard to the standard germ count, which we consider to be already high, Intracare works with a maximum germ count of 1,000cfus/ml. It is certainly true that all additives, like medicines, food supplements and/or organic acids, leave a residue in the watering line, which is a perfect breeding ground for all types of micro-organisms and which promotes the formation of a biofilm, which is a slimy mass.

Unfortunately, all too often medicines/antibiotics are applied via the water as a preventative measure, even when there is no direct reason for doing this, and this will remain a costly solution.



A drink line filled with biofilm, left, and after cleaning, right.

We need to tread carefully here, even if we only want to avoid resistance to these kinds of products in the future.

Apart from the risk of disturbing the water delivery, it is also the case that a large amount of the additives which are added later on to the contaminated watering system, will react with this biofilm. In this way they will lose their effectiveness and will no longer be beneficial for the animal.

- Loss of effectiveness of the additive.
- Loss of productivity.
- Loss of animal welfare.

Experience has shown that there are great advantages in applying additives through the drinking water, compared to mixing it with dry feed, for example the additives are absorbed more quickly.

What they forget to mention, however, is that this method should only be used in combination with a clean watering system.

Also note that some products may even contaminate the system, making it necessary to clean the system after application. A small test can be carried out to see if your additive can contaminate your system.

- Pour water with its additive from the stalls into a clean glass.
- Place this glass on the windowsill (approximately 20°C) for three days. If a film develops, you can be sure that your product contaminates your watering system.

To clean your system and keep it clean, take the following steps to check if the water in your stalls is of the right quality:

- Take a water sample directly at the well/source.
- Check the water for its organic and inorganic qualities, using a recognised laboratory.
- Also take a water sample from the watering line at the last cup, nipple or tower, draw off the water directly and do not let it flow for a while, because your chicks would not do that either.
- Check the water for its organic and inorganic qualities.

After these steps you will know exactly what quality the incoming water has and what quality water your chicks are drinking.

If the water from the source already has a germ count that is far too high, you have two options:

- Condition the water, for example with Hydrocare at 25ml per 1,000 litres of water.
- Dig a new well or use water from the water company.

Before starting a new manure round clean the complete watering system with Hydrocare (2-3%). For housing chicks use a dosage of 50-100ml of the same product per 1,000 litres of water in the first week.

Your investments are minimal, while at the same time realising maximum results. Hydrocare reacts with organic components and, therefore, also with medicines. In order to prevent this reaction we advise you to stop using the product 12 hours before applying an additive and give only water instead.

Preventive treatment

By simply adding 50-100ml of Hydrocare per 1000 litres of water after the use of any additive, the intervention can strip away and prevent the formation of biofilm and deposits.

Repeat the process with a dosage of 50 -100ml of the product per 1000 litres of water for only 24 hours.

Or, on at least one day per week, add 100ml Hydrocare per 1000 litres of

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water, which birds can drink without any negative effect.

It is important to remember that sometimes drinking systems can have moulds in them. In this case you need to be very careful when treatment take place when animals are present.

These moulds may release toxins which can be very harmful to the animals. It is necessary to destroy all the moulds as soon as possible and remove all organic compounds.

In order to stop the risks of toxins:

- Give a dosage of 250ml sodium hypochlorite (15% active chlorine) per 1000 litres of drinking water for five days.
- Treat with Hydrocare as described above.

Cleaning when no animals are present

Systems which will be cleaned must have a good functioning air release when using Hydrocare.

When a reservoir is used:

- Close the water input of the reservoir.
- Empty the entire drinking system.
- Determine the water content of the whole drinking system.
- Fill the reservoir with as much water as the content of the drinking system plus an extra 25%.

Fig. 1. The factors required for good cleaning.

- Add 2% Hydrocare in the reservoir.
- Fill the drinking system and open the end of the lines.
- Wait until you see a fizzing reaction of the liquid on the floor and close the lines directly.
- Activate all nipples or cups and allow the cleaning mixture to contact these surfaces as well.
- Flush the lines after a contact time of 10 hours with clean water.

When a medicator is used:

- Connect the can of Hydrocare with the medicator directly and switch the medicator on the dosage rates of 2%.
- Fill the drinking system and open the end of the lines.
- Wait until you see a fizzing reaction of the liquid on the floor and close the lines directly.
- Activate all nipples or cups and allow the cleaning mixture to contact these surfaces as well.
- Flush the lines after a contact time of 10 hours with clean water.

Various products are being promoted claiming they will remove the biofilm and/or eliminate its harmful effects.

Compared to Hydrocare, products based on acids and chloride have no cleaning function at all (see Table 1).

Do note that several products are based on hydrogen peroxide and silver, but this product is the only one proven to be effective and stable.

Intracare is the manufacturer of Hydrocare also has strong cleaning and disinfecting prperties and the great advantage that it is tasteless, odourless and colourless and, therefore, shows no drops in water intake, if the prescribed dosages are adhered to.

Add the fact that there is no sedimentation and that your watering system is never affected, and it is obvious why you should decide for a high quality product.

Various companies in more than 40 countries are supplied by Intracare to get the support they need for their water quality. ■

Table 1. Product properties for a range of disinfectants.

	Hydrocare	Hydrogen peroxide	Peracetic acid Hydrogen peroxide and acid	Chlorine	Iodine	Quats	Organic acid
pH stability	fair	fair	poor	fair	fair	good	poor
Stability after dilution	long	short	fair	short	short	short	fair
Temperature sensitivity	almost none	high	high	very high	high	fair	fair
Effect on biofilm/ cleaning capacity	excellent	fair	excellent	poor	poor	poor	poor
Concentration	low	high	low	high	high	high	high
Feasibility of fully automatic metering	excellent	excellent	not possible	excellent	possible	not possible	excellent
Corrosiveness	low	fair	very high	very high	high	low	high
Carcinogenicity (promotion of cancer)	no	no	yes, residual products	yes, residual products	no	no	no
Influence on flavour	no	no	yes	yes	yes	yes	yes
Influence on odour	no	no	yes	yes	yes	yes	yes
Skin tolerance	good	good	poor	poor	good	good	poor
Protein breakdown	good	fair	fair	poor	good	poor	fair
Germicidal effect	excellent	poor	excellent	good	fair	fair	poor
Biodegradability	good	good	good	poor	good	reasonable	good