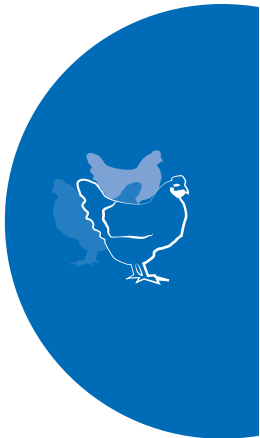


Planet Horizons
Technologies

Physical Water Treatment

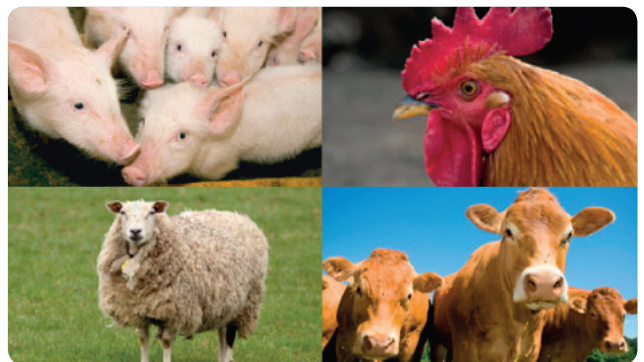
Aqua-4D[®] System

Animal Production



Permanent elimination of biofilm
Increased biosecurity with no chemicals
Quick return on investment

www.animals-biofilm.com



Biofilm : A major health problem in drinking water for animals

Biofilm is a surface layer built up by microorganisms in pipes in contact with water. In animal production, conditions are perfect for accelerated development of biofilm due to a low flow and a warm, non-sterile environment. Pathogens often develop in troughs or stagnant water supplies. Deposits of lime scale, iron and manganese often cause more problems. Biofilm can harbour pathogens, reducing the efficiency of disinfectants, medicines and vaccines. This increases the risks of digestive and pulmonary problems resulting in increased mortality rate, excessive use of expensive cleaning products on a regular basis (acids, disinfectants, vaccines and medication), reducing growth rates and increasing labour and operational costs.



Nipple clogged with biofilm



Classical chemical approach to fight biofilm

Cleaning: The use of lyes and acids generates ongoing costs and the problem reappears rapidly. In addition the ageing of the drinking systems is accelerated.

Disinfection: Only the bacteria at the surface of the biofilm are killed and the usage of chemical products represents a sanitary risk to animals.



Biofilm deposits in drinking systems

Aqua-4D® : The ecological solution for the future

The electromagnetic water treatment with Aqua-4D® improves the solubility of the water and acts directly on the deposits in the drinking systems. Biofilm is detached and completely eliminated in a sustainable manner. In addition, the Aqua-4D® system degrades and prevents deposits of lime, iron and manganese.

Advantages

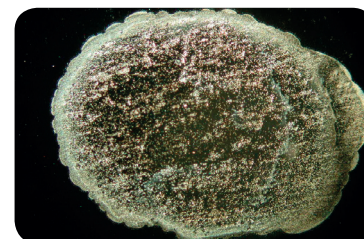
- Elimination of biofilm in water pipes without chemicals
- Elimination and prevention of scaling, iron and manganese deposits
- Extended life of installations
- Improved dissolving of additives and medicines
- General improvement in animal health
- Optimised production with reduced pollution

Savings created with Aqua-4D®

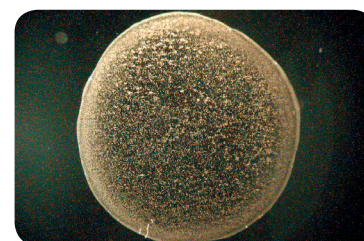
- Reduction of chemical use
- Improved food conversion index
- Reduction in mortality rate
- Increased productivity/weight
- Reduced medication
(less disease and better food assimilation)
- Reduced cleaning costs, materials and labour

6 to 18 months return on investment

Microscopic water analysis of hard water with 0.5 g/L penicillin



Without Aqua-4D®
Irregular border, irregular coarse distribution, tendency to coagulate



With Aqua-4D®
Regular fringe, regular fine distribution, tendency to coagulate massively reduced