

## GOgen

# On-Site Peroxide UltraPure™ generation using only water, electricity and air

## GOgen for water treatment at chicken farms

- ◊ Autonomous - generates powerful oxidant directly at the point of use with only water and electricity as inputs
- ◊ Safe - no handling or storage of dangerous chemicals
- ◊ Highly effective in the treatment of water-borne pathogens
- ◊ Sustainable - breaks down to pure water and oxygen, leaves no unwanted taste or odor behind



GOgen systems produce UltraPure™ hydrogen peroxide from water, electricity and air, do not need any consumables, no toxic gases are generated, and it is a very safe product for the user. Peroxide is obtained by the electrochemical synthesis of water through a patented cell system, a very robust and durable system.

### Peroxide UltraPure™ is converted to water and oxygen after use

The generated hydrogen peroxide is a product with a great oxidizing power, which makes it very reactive against organic matter, and therefore has a broad range of action against microorganisms: it has good bactericidal, virucidal, and even sporicidal power. Anaerobic microorganisms are even more sensitive to the action of these products, since they are not able to synthesize catalase, an enzyme that can break down peroxide. **This high oxidizing power guarantees a fast speed of action.**



### Advantages and benefits

A continuous injection guarantees the total elimination of the biofilm that is present within the hydraulic infrastructure. In that biofilm, a large number of bacteria and viruses are reproduced and reach the drinking troughs of the animals. **In poultry production, water must be considered a factor of production as important as facilities, genetics, nutrition and health.**

Peroxide UltraPure's mechanism of action consists of the oxidation of sulfhydryl groups and double bonds of enzymes of bacteria, causing a conformational modification of the proteins that form these enzymes, with the loss of their function, and therefore, cell death. At the virus level, it can transfer this capacity of denaturation of proteins by acting on those of the capsid, so that it can subsequently act on the genetic material of the virus. At the level of spores, peroxide can transfer its oxidizing power to the disorganization of dipicolinic acid, the molecule that gives the capacity of resistance so important to the vegetative forms of these spores.

Thus, we can say that the disinfectant action of hydrogen peroxide is based on making vulnerable the protective structures of these microscopic forms. Altering the conformation of cell walls or capsids allows access to the interior of these organisms, so that the peroxide:

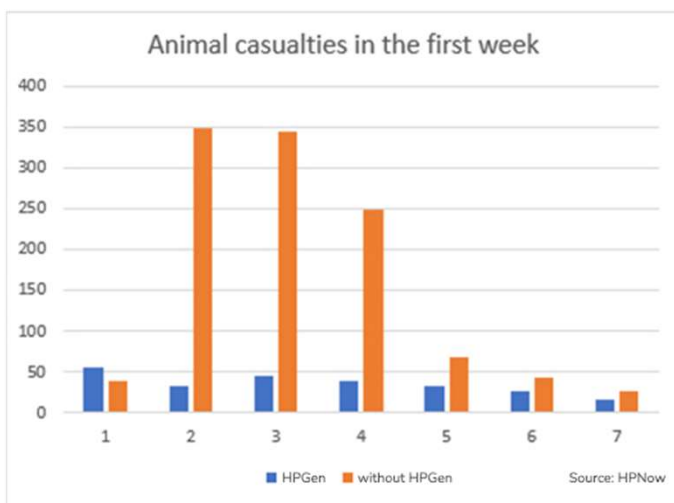
- continues its **oxidizing power** against other structures such as DNA;
- that other molecules alter the normal functioning of these cells;
- or that, even, the mechanical action of the entry of water through the cell membrane causes the **death of bacteria.**

To the use of peroxide as a disinfecting agent, we must add another advantage: that of cleaning. Hydrogen peroxide is very effective for descaling and maintenance of oxygen in pipes and water distribution systems.

Often, in the facilities of a farm, due to the entry of water from wells or other types of poorly controlled sources, due to the use of medication through water, or simply, due to a structure and materials that favor the deposits of particles, points are generated where the accumulation of organic matter facilitates the multiplication of microorganisms. These points are important points to combat since they give the multiplication of pathogens that, hidden under this biofilm, do not react with the usual disinfectants, and can reinfect the water we supply to the animals.

Hydrogen peroxide facilitates the dissolution of some salts, prevents their precipitation, and even, due to the release of oxygen by the peroxide, has a mechanical cleaning effect on surfaces.

**With the application of UltraPure™ hydrogen peroxide produced by our GOgen system, mortality losses in animals are reduced, due to the improvement of its nutritional quality and its usefulness as a therapeutic vehicle.**



*Left: A case study at a chicken farm showed dramatically lower mortality rates among animals during the first week, after the GOgen machine was installed.*

## GOgen | Key Features and Benefits

- ◊ On-site generation of Peroxide UltraPure™
- ◊ Longer life of the water supply system
- ◊ Reduces maintenance of the hydraulic installation
- ◊ Requires only water, air and electricity
- ◊ Improves the general condition of the animals, their health and quality in fattening
- ◊ Improves production through better water quality
- ◊ Improves animal nutrition
- ◊ Environmentally friendly. Does not generate waste
- ◊ No stabilizers, acids, or other additives
- ◊ Very safe concentration. Controlled and monitored remotely



hpnøw  
peroxide made simple

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