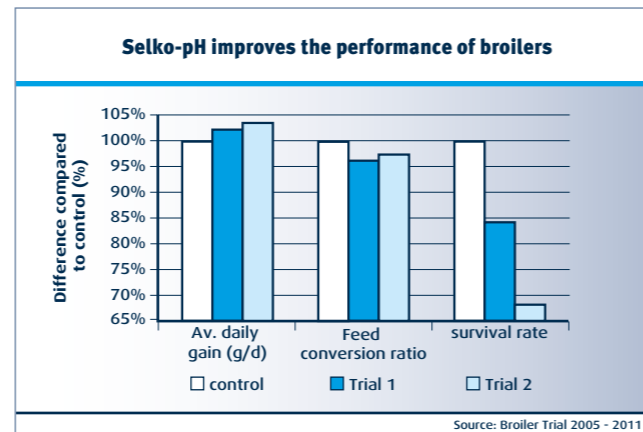
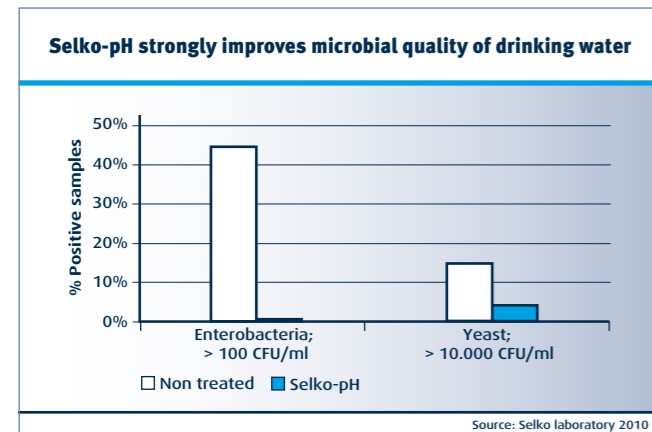


Improved animal performance

Selko-pH improves the microbial quality of drinking water. It reduces the pH in the crop and stomach of poultry and it improves the microbial balance in the gastrointestinal tract. This leads to consistent improvements in weight gain as well as in feed conversion ratio.



* Results before treatment were set to 100%

Customised services

Our aim is to support our customers to maximise the benefits of using Selko-pH products.

- Selko lab service:**
- Customer support and microbial analyses.
 - Evaluation of water quality.
- Dosage equipment:**
- Water application systems.
- Selko-pH regulator:**
- Calculation tool to design optimal application schemes.
- Selko-pH guidelines:**
- Advice for optimal use.

Selko-pH is especially recommended during periods of vaccination, change in diet, high stocking density and deliveries to slaughterhouse.

Health promoter water poultry portfolio				
Product	Selko® Aqua Liquid	Selko®-pH liquid	Forticoat® liquid	Selko®-4Health liquid
Ingredients	• Free organic acids • Low buffered	• Free organic acids • Buffered organic acids	• Free organic acids • Buffered organic acids	• Free organic acids • Buffered organic acids • MCFA
Market	Integrator Farm	Integrator Farm	Integrator Farm	Integrator Farm
Product benefits				
Improves drinking water quality	■	■	■	■
Reduces stomach-pH and supports digestion	■	■	■	■
Reduces Gram-negative bacteria	■	■	■	■
Reduces Gram-positive bacteria	■	■	■	■
Stabilises microbiota	■	■	■	■
Improves litter quality	■	■	■	■
Non-Corrosive	■	■	■	■
Dosage range	0.5 - 1 L/1.000 L	1-2 L/1.000 L	1.5-3 L/1.000 L	0.5-0.7 L/1.000 L



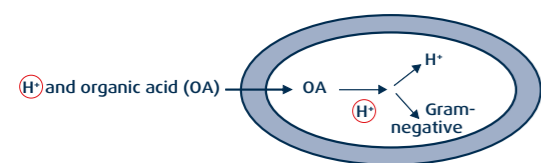
**Well prepared
to reach intestinal health**

Selko-pH

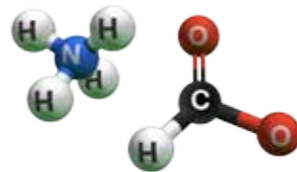
Health promoter water

Selko®-pH is a synergistic blend of free and buffered organic acids. The free acids in Selko-pH make the product particularly effective in reducing Gram-negative bacteria (e.g. *E. Coli* and *Salmonella*) in drinking water. Moreover, digestion is supported by reducing the stomach pH. The buffered acids used in Selko-pH improve the microbial balance in the gastrointestinal tract. The overall result of Selko-pH is a positive effect on chickens' gut health and performance.

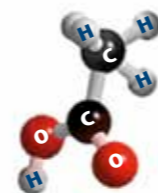
Gram-negative bacteria



Formic acid



Buffered acids



Acetic acid

Three steps to improve gut health and performance

The health status of poultry farms has a strong influence on the farm's financial results. A healthy microbial balance is crucial for optimal feed utilisation and animal performance. The positive effect of Selko-pH on performance is achieved in three steps.

First step: Improves water quality

Water is the most crucial nutrient for animals. The synergistic blend of free organic acids in Selko-pH improves the microbial quality of water by inhibiting the growth of *E. coli*, *Salmonella*, yeasts and moulds. Analyses carried out in the Selko laboratory show that more than 40% of untreated water samples have Enterobacteria levels higher than 100 CFU/ml, whereas samples of water treated with Selko-pH reveal a zero result. Clean water and water systems are critical for maximum effectivity of vaccines and antibiotics applied via drinking water.

Second step: Supports digestion

The synergistic blend of free organic acids in Selko-pH reduces the pH in the crop and stomach of broilers and layers. This leads to improved feed digestion and it maintains a stable microbiota.

Third step: Improves microbial balance

Broilers and layers are especially vulnerable at the start of the production phase, when their intestinal flora is still developing. The buffered organic acids in Selko-pH help to maintain a stable intestinal microbiota and thereby giving these young animals a good start.



Step 1: water

Synergistic blend of free organic acids

- Control *E. coli*, *Salmonella*, yeasts and moulds

Step 2: crop/stomach

Synergistic blend of free organic acids

- Reduces the pH
- Improves digestion

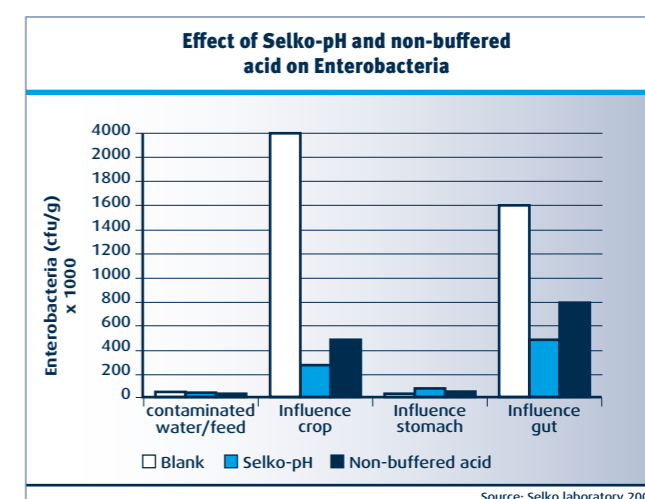
Step 3: small intestine

Buffered organic acids

- Improves microbial balance
- May leave *Lactobacillus* unaffected

Benefits of buffered acids

The buffered acids used in Selko-pH is a fundamental step in maintaining a healthy status of the gut. Compared with non-buffered organic acids, a buffered product is less corrosive and can be applied in a more flexible dosage as the pH level of acidified water will not fall below 3.5 with regular tap water. A pH value around 4.0 is optimal as it completely inhibits undesirable Enterobacteria like *E. coli*. Moreover, due to its buffered state, an important proportion of the acids will become available in the intestine, improving the microbial balance.



Executed in an in vitro gut model at pH 6.5. Blanc is set 100%

