

**Sustainable optimization of quality,  
efficiency and cost-effective of spraying liquids**



**HOMBURG**  
holland

 **WaterXTR**<sup>TM</sup>  
BY MAGLIV

**WaterXTR**<sup>TM</sup>

**exactly what is needed**

# WaterXTR™

## Sustainable optimization of quality, efficiency and cost-effective of spraying liquids

The Homburg WaterXTR™ CO<sub>2</sub> injection system treats water intended for spraying liquids. On the one hand, WaterXTR™ regulates and optimizes the pH value, on the other hand, the Hydroxynynamic System of WaterXTR™ ensures that the spray liquid is magnetized for even better coverage and adhesion to the crop.

With the **WaterXTR™** you can use a CO<sub>2</sub> injection to optimize the pH of water to a pH of 5-7 in a sustainable and practical way. Hardness is reduced and the pH value is stabilized.

By acidifying water by CO<sub>2</sub> injection, an optimal pH value of water is achieved which achieves a much better solubility of water-added crop protection liquids and fertilizers. In addition, CO<sub>2</sub> protects the tank, pipes and nozzles against the growth and deposition of fungi, bacteria, algae and minerals.

### Hardness of water

The hardness of the water has a great influence on crop protection liquids. The active substance is “neutralized” by hard water (calcium and magnesium), which eliminates the effect of expensive spray liquids. This is detrimental to the effectiveness of crop protection and/or fertilization.

Category	German degrees	Total hardness
Relatively low hardness	4 - 12 °D	0.7 - 2.1 mmol/l
Hard water	12 - 18 °D	2.1 - 3.2 mmol/l
Very hard water	18 - 30 °D	3.2 - 5.3 mmol/l

**Exactly what is needed: WaterXTR™ can easily be mounted on a HARDI sprayer or HANDLER bulk container.**



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## Effect pH value on stability and effectiveness crop protection

The functionality and efficiency of crop protection and fertilization can be influenced by various factors including the sprayer setting, spraying speed, weather, temperature and products for crop protection suitability for the intended purpose. Often, poor crop protection performance is still caused by the negative effects of an excessive pH value of water.

Water with higher pH values of 7-10 occur more frequently than water with a pH of <7.0. The functionality of alkaline crop protection products and fertilizers is obstructed when mixed in water with undissolved residues calcium, magnesium, bicarbonates, iron etc. In this water, many means dissolve.

This results in a poorer effect due to loss of active substance, especially with multiple mixing of means, an optimal pH value is of great importance. In sensitive chemical compounds, hydrolysis can rapidly result in significant decomposition of active substances between the time of mixing in the tank and the time of spraying.

**WaterXTR™** allows you to optimize the pH of water to a pH of 5-7 in a sustainable and practical way. A pH of 5-6 is recommended for most means.

### In general, it is stated that:

- pH 3.5-6.0: The optimal pH for most chemical means and fertilizers. The chemical means can remain in the tank 12-24 hours.
- pH 6.1-7.0: Acidity is good for a direct application. Tankresolvent not longer than 1-3 hours in tank to avoid degradation.
- pH 7.0 >: Lower pH to optimize effectiveness crop protection/ fertilization.



Name	Stability	Uptake
Reglone	Stable at pH 5-6	
Cantrac	Stable at pH 5-6	
Spotlight	Stable at pH 5-6	5,5
Betanal	Stable at pH 5-6	
Captan	Stable at pH 5-6	
Ethrel	Stable at pH 5-7	5,5
Kenbyo FL	Stable at pH 5-7	
Curzate M	Stable at pH 5-7	5,5
Puma	Stable at pH 5-7	5,5
Lentagran	Stable at pH 5-7	5,5
Rocket EC	Stable at pH 5-7	5,5
Floramite	Stable at pH 5-6	
Topik 240 EC	Stable at pH 5-7	5,5
Tatto C	Stable at pH 5-6	5,5
Focus Plus	Stable at pH 4-6	5,5

*Some chemicals with high pH sensitivity*



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# Resumé:

## The main benefits of pH control / pH neutralization with CO<sub>2</sub>

- CO<sub>2</sub> is a weak acid (non-toxic and non-corrosive)
- Introduces no polluting elements to treated water, Eco-Friendly
- Inexpensive and effective in application compared to chemical additives
- No specific safety training for users needed
- Since CO<sub>2</sub> forms a stable solution, pH regulation and control are stable

## Direct influence of CO<sub>2</sub> on efficacy spraying fluids

- pH regulation and lowering pH-value of water
- Better solubility of pesticides and fertilizers in water
- Reduced evaporation by improved plant uptake
- Improved adhesion spray liquid on plant surface
- Improved uptake spray liquid by plants due to pH balance
- Less degradation of active ingredients due to hydrolysis
- Reduction of algae and mineral deposition (iron, calcium, etc.)

## Indirect influence optimized pH on efficacy spraying liquid

- Reduces foaming
- Better bond of Ca, Mg, Cu and Fe ions
- Protection against



## Homburg WaterXTR™: for a more efficiency and cost-effective protection of your crops

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