



**pHixer**<sup>®</sup>

Specialist water conditioner with **pH color indicator** maximizing **the effectiveness** of spray applications.

[www.icl-sf.com](http://www.icl-sf.com)

**ICL** Specialty  
Fertilizers



## How to increase the efficiency of spraying solution?

For the successful growing of your crops you have to take into account a variety of different factors. Beside climatic conditions (temperature, humidity, sunlight intensity, etc.), soil's pH and nutrient levels are very important. Another important factor is the water quality used for foliar applications. When we talk about water quality used for foliar application we are usually referring to its pH, level of salts (often expressed as the conductivity - EC) and the bicarbonate content. All these parameters can influence the efficiency of the spraying solution.

### Why is pH important?

The term pH refers to the concentration of hydrogen ion (H<sup>+</sup>) in an aqueous solution. The pH indicates the acidity degree of a solution, expressed on a negative logarithm scale from 0-14, where 0 is the expression of a highly acid and 14 to a very alkaline pH. The value 7 is a neutral pH.

We know that the best pH range for foliar applications is around 5.

There are several pathways for foliar uptake, but the most common ones are: cuticular penetration and stomatal infiltration.

pH affects the ionic status of some nutrients and also that of the leaf's cuticle. Softening the cuticle layer, foliar spraying solution will be absorbed faster and the stomata's aperture will facilitate the rapid movement of nutrients into the tissues.

Thus the pH of the foliar spraying solution plays an important role in foliar nutrition, especially in situations of high temperature (when stomata are closed), crops with waxed leaves or high level of bicarbonates in the water.

Hard water, containing a high level of calcium and magnesium ions, can interact with different phosphorus or sulphur based fertilizers, forming complexes which will precipitate and therefore will reduce the efficiency of spraying solutions.





# ICL Specialty Fertilizers introduces pHixer

**pHixer, the latest specialist water conditioner that adjusts spray tank water to an optimum pH level with a built in pH color indicator for ease of use.**



## What is pHixer?

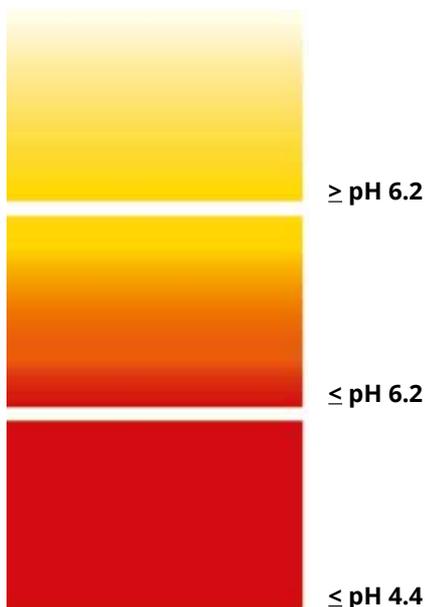
pHixer is a polybasic acid and sequestrants based chemistry used during spraying to ensure water is at ideal pH for application. For precise application it contains a color changing indicator which shows when the correct pH has been reached.

pHixer is a buffer product, which is not only acid based, but it will prevent calcium and magnesium ions to form complexes which may precipitate, buffering the spraying water to an optimum pH level.

## Benefits of pHixer

- 1 Advanced water conditioner that can solve both pH and water hardness issues
- 2 The built in indicator allows precise and accurate application and ensures optimum pH for spraying
- 3 Cost effective, safe and easy to use
- 4 It will prevent calcium and magnesium ions to form complexes which may precipitate

## Color indicator scale for the final pH



## Directions of use

pHixer contains a built-in pH indicator that turns spray water pink at an optimum pH level around 5.

1. Establish the general pH and hardness of your spray water in your area.
2. From the application rate table, calculate how much pHixer should be added.
3. Add pHixer, based on the recommended dosages, once tank is half or 2/3<sup>rd</sup> full. While continuously agitating, add foliar fertilizers, according to your normal spraying program, and then fill up the tank. Therefore, for fine tuning, you may need to adjust the pH by adding few ml of pHixer into the final solution.
4. It's always recommended to check the final pH with a pH meter since the color of the final solution might be influenced by the others products.

## Application rate

Water Hardness Rating	Total hardness concentration in (mg/l) as CaCO <sub>3</sub>	Application rate ml / 100 L of spray water
Soft	0-50	40-50 ml
Medium	50-100	50-60 ml
Medium Hard	100-200	100-180 ml
Hard	200-300	180-200 ml
Very Hard	> 300	200-220 ml



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