



## pH Down Sec

For all growing methods: hydroponics and soil

## pH Down

## pH Up

**This new concept in pH control will allow you to adjust your pH, specially in presence of fast growing plants.**

As growers, we always have a wish list of things that would make life easier. On top of the list is a pH buffer that would work so well that you could go on a 2-week holiday and come back to the same pH in your nutrient solution. The problem is that this can be done only with a poor nutrient when there is not much action in your solution and your plants grow at an average rate.

In presence of fast growth, with the removal of a large number of ions and all the complex interactions in the solution, such stability is out of the question. Today we are not helpless anymore, and we can achieve a satisfying stability... as well as other benefits.

A good pH control solution is one that you use only once: when you start your system. Well, we don't claim that we got quite that; not in every situation and with every nutrient. But in the controls that we have done in our greenhouse, using the pH Down in combination with our Flora-series nutrient and Mineral Magic, we have grown plants for weeks without having to readjust the pH. In some of the smaller systems the pH would drift slowly down, and adding a little of our pH Up would bring it back to the desired range. In others, the pH would stay very close to a beautiful 6.0.

There is no such thing as an ideal pH. A high range favors cation intake and a low one favors anion intake. So every chosen pH is a compromise. The usual safe range recommendation is from 5.5 to 6.5. Our advice is to stay on the low side: from 5.5 to 6.2.

### pH regulators in powder form :

#### **Dry pH Down - Pure, concentrated and harmless**

pH regulation is an essential practice for the plant grower: it enables mineral salts availability and chelates stability, two primary conditions for a good absorption of nutritive elements by the plant.

To do so, different brands of acids are manufactured in the industry, some of them very concentrated and more or less dangerous, depending on their formulation.

In several countries, like Switzerland for instance, the law restricts sales and handling of these products. So, to be able to sell them, the storeowner is submitted to a series of mandatory requirements.

Moreover, for stores who do mail orders, sending liquid acids by post is a dangerous and risky matter, sometimes restricted by the postal authorities.

To address both problems our researchers looked for a product that would be as efficient as our traditional liquid pH Down, while eliminating the dangers controlled by the legislator.

Today at GHE we are happy to offer you our "Dry pH Down", a new concept in pH regulation, and a unique product in our industry.

**Dry pH Down is quite a peculiar product : as long as it stays dry it is harmless, easy to handle and non-toxic. But as soon as it is mixed with water, it becomes a potent pH reducer.**

Furthermore, it brings a certain amount of essential nutritive elements to the plant, during all its life cycles:

- Nitrates in a form slowly assimilated by the plant and harmless to the flowering process.
- Phosphates for flowering, but for healthy roots, lush foliage and harmonious growth too.
- Plus some magnesium, sulphur and microelements.

Dry pH Down is a very pure product. It comes in the form of crystals that dissolve perfectly in water, leaving no residue. It is economical and is used, like our liquid pH Up and pH Down, during all the stages of the plant's growth.

The first application of this product is, of course, pH regulation.

But due to its strong concentration and high content in phosphoric acid, it can be used to disinfect and clean growing systems, irrigation lines and substrates. At homeopathic dosage, it can be used as a foliar spray after an insecticide treatment, to clean the leaves while feeding the plant.

#### **pH regulators in liquid form :**

##### **The pH Down - pH Buffer an organically buffered solution**

Unlike the pH regulators generally available on the market, pH Down is not a common acid. It is a precise formula that regulates, feeds, and buffers your nutritive solution all at once.

Together with a balanced blend of acids, we have incorporated buffers to stabilize pH and help control Calcium in hard water situations.

##### **The pH Up contains silicate**

To raise the pH level this solution is especially useful to growers using Reverse Osmosis or demineralized water. This new version contains silicate to improve your plant's environment.

Silicate deficiency can be a limiting factor in hydroponics. Because of its low solubility, it is difficult to put enough of it in the solution. This is why we incorporate it in our products each time it is possible.

#### **How to use the regulators ? powders or liquids?**

To attain the best efficiency of your chelates and ensure the best solubility of your mineral salts, adjust the pH level of your water before adding the nutrients. Adjust again after if needed. Follow the instructions and don't hesitate to contact us when needed.

#### **When to use the regulators ? powders or liquids?**

Regularly use the regulators, particularly in hydroponics, to make sure you have the pH level best adapted to your plants needs.

#### **Which are the advantages to the regulators?**

Adjusting the pH level helps optimize the absorption of mineral salts by your plants.

#### **How long to see the results?**

Helping plants to absorb correctly their food prevents from diet unbalance. Your plants will rapidly grow healthily and vigorously.

#### **Why use the regulators ? powders or liquids?**

Our liquid regulators are unique formulas, and not just more or less diluted acids. The same bottle can be used for the growing as well as for the flowering stages. The pH Down Dry is particularly intended for postal orders as it is harmless as long as it stays dry, thus representing no shipping danger whatsoever. All our pH regulators are very concentrated and reasonably priced.