



pH REDUCER

100% ORGANIC CITRIC ACID SOLUTION

- **Lower pH the Natural Way**
- **Safe Alternative to Corrosive Acids**
- **Chelates Insoluble Soil Micronutrients**

GUARANTEED ANALYSIS:

CONTAINS NON-PLANT FOOD INGREDIENTS

Citric Acid 50%
 Wetting Agent 0.0025%
Derived From: Citric Acid, Yucca schidigera
 Weight per gallon (liter) 8.36 lbs. (1.0 kg)
 pH 1.5

PRODUCT DESCRIPTION:

This organic pH Reducer is a safe alternative to phosphoric and sulfuric acids. Use pH Reducer to lower the pH of soilless media and water, or as a buffer in the mixing tank. It has the extra benefit of chelating micronutrients that may be unavailable in the soil. pH Reducer contains a natural wetting agent to help the citric acid penetrate the soil quickly.

APPLICATION RECOMMENDATIONS:

pH Reducer needs no mixing or agitation and will not settle out of solution. When using a variable proportioner, it can be siphoned directly out of its original container. Growth Products solutions are ideal for any type of fertigation systems.

Use pH Reducer with all types of: Bedding Plants, Perennials, Cut Flowers, Plugs, Woody Ornamentals, Nursery Crops, Trees, Foliage Plants and Container Plants.

HOW TO DETERMINE THE BUFFERING CAPACITY:

The buffering capacity is different for every water supply and soil. The buffering capacity is the ability to resist change in pH. Bringing about a pH change in a weakly buffered medium/water will require less pH Reducer than in a highly buffered medium/water. Remember that it is better to begin by adding too less pH Reducer than to add too much.

Acidifying Alkaline Irrigation Water: As a starting point, add 2 fl oz of pH Reducer to 100 gallons of tank mix before any other chemicals have been added. Measure the pH of the water to determine its shift. Add another 2 fl oz of pH reducer until an acceptable pH is reached. Some water sources may require several additions of pH Reducer.

Adjusting Medium pH: Begin by mixing 4 fl oz pH Reducer with one gallon water (100 PPM rate) and moisten a sample of growing medium. Let stand 24 hours and take pH reading. Adjust rate of pH Reducer accordingly. Do not exceed 6 fl oz pH Reducer (150 PPM) per gallon per irrigation. Instead adjust medium pH, with 2-4 oz pH reducer over several waterings.

Hand Watering: Mix 1/2 - 3/4 teaspoon pH Reducer per gallon of

- **Wetting Agent Penetrates Soil**
- **Acidify Water with Alkaline pH**
- **Adjust Soilless Media pH**

water. Saturate soil with mix.

STORAGE & HANDLING:

Storage: All Growth Products horticultural products can be stored in normal warehouse areas. pH Reducer has an acidic pH of 1.5. Always store in its original container and keep sealed.

Mixing: pH Reducer is compatible with other technical chemicals, including fungicides and insecticides, however, read all chemical labels to be sure an acid pH will not effect the performance of the chemical.

Fluid Ounces of Acid per 1,000 Gallons of Water to Neutralize CaCO ₃				
PPM CaCO ₃ to be Neutralized	pH Reducer Citric Acid 50%	Sulfuric Acid 33%	Phosphoric Acid 75%	Nitric Acid 61%
10	3.27	2.10	2.12	3.12
25	8.19	5.24	5.30	7.80
50	16.39	10.48	10.60	15.60
75	24.58	15.72	15.90	23.40
100	32.78	20.96	21.20	31.20
125	40.97	26.20	---	39.00
150	49.17	31.44	---	46.80
175	57.36	36.68	---	54.60
200	65.56	41.92	---	62.40
225	73.75	47.16	---	70.20
250	81.95	52.40	---	78.00
275	90.14	57.64	---	85.80
300	98.34	62.88	---	93.60

CAUTION: Keep out of reach of children. In case of contact with eyes, flush immediately with copious amounts of water. Contact a physician. Do not take internally.

Condition of Sale and Warranty: Growth Products, Ltd. warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. Handling, storage and use of the product by Buyer or User are beyond the control of Growth Products, Ltd. and Seller. Risks such as crop injury or other unintended consequences resulting from, but not limited to, weather or soil conditions, presence of other materials, disease, pests, drift to other crops or property, or failure to follow label directions will be assumed by Buyer or User. IN NO CASE WILL GROWTH PRODUCTS, LTD, OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT.

Manufactured in the USA By:

