



pH Reducer

Citric Acid Solution

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

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

CONTAINS NON-PLANT FOOD INGREDIENTS

50%	Citric Acid
0.0025%	Wetting Agent
pH	1.5
Weight per Gallon	8.36 lbs.

Product Description:

This natural pH Reducer is a safe alternative to phosphoric and sulfuric acids. Use pH Reducer to lower the pH of the soilless media and water, or as a buffer in the mixing tank. pH Reducer 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, pH Reducer 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 little 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 to 3/4 teaspoon pH Reducer per gallon of 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 CaCO3

PPM CaCO3 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