



# pH REDUCER

## A CITRIC ACID SOLUTION

- **SOIL AND WATER pH CONDITIONER**
- **CONTROLS ALGAE**

**ALSO CONTAINS NON-PLANT FOOD INGREDIENTS**

50% .....Citric Acid  
 0.0025% .....Wetting Agent  
 pH 1.5  
 Weight per gallon .....8.4 lbs.

**PRODUCT DESCRIPTION:**

pH Reducer is designed for soil and water applications, where the pH needs to be lowered into a more acidic range. Citric Acid solution is an organic based material that is a natural and environmentally sound management tool for lowering alkaline soil conditions.

**SOIL CONDITIONER:**

**Turf Applications:** Many calcareous soils have very high pH ranges (above 7) that make turf grass maintenance difficult. This also tends to tie up many micronutrients, leaving turf grasses chlorotic. USGA spec sands and top dressings usually have a high pH and need to be lowered to an ideal range of 6 to 6.5 pH. Apply at a rate of 2 to 6 oz. per 1,000 sq. ft. on a monthly basis. Some soils contain high levels of minors that are often in an unavailable, oxidized form not available for plant uptake. By applying citric acid solutions, minors can be chelated and made more available for turf grasses. pH reducer can be used in place of sulfuric acid and ammonium sulfate.

**Trees and Ornamentals:** Many plant materials prefer acid soil in the pH range of 5 to 6.5. Soil pH is often above 7 from high calcium levels. By applying pH reducer as a root injection or soil drench, soil pH can be lowered slowly and gently without any detrimental effects to the plant materials. Apply at a rate of 2 to 4 oz. per 1,000 sq. ft. or 1 qt. of pH reducer in 100 gal of water.

**Greenhouse Soil Mixes:** pH reducer is an ideal product to help reduce the pH of many soils and soil less mixes.

**WATER pH REDUCER:**

Many water supplies have very high pH levels, and continuous application of this water will tend to raise the pH of many soils. By adding citric acid solution, hard water levels can be lowered. This will also reduce the possibility of soil pH drifting upwards. The buffer capacity of every water supply differs. Be sure to slowly add citric acid to a tank mix and check with a pH meter or litmus paper until the desired pH is reached. If tank mix is not used the same day it is mixed, be sure to check pH again and adjust if necessary.

**TANK MIX BUFFER SOLUTION:**

Many herbicides and fungicides require an acidic tank mix solu-

**CAUTION:** This is an acidic material. 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.

- **SOIL pH REDUCER**
- **TANK MIX BUFFER SOLUTION**

tion to assure the best efficacy. Be sure to slowly add citric acid to a tank mix and check with a pH meter or litmus paper until the desired pH is reached. **DO NOT FREEZE**

Application Rates		
Application	Rate	Frequency / Notes
Warm & Cool Season Turf Applications	2-6 fl oz in a minimum of 2 gal water per 1,000 F <sup>2</sup> (60-177 ml per 100 m <sup>2</sup> )	Apply Monthly Ideal pH Range 6 - 6.5
Trees & Ornamentals	Soil Drench: 1 quart per 100 gallons of tank mix (250 ml per 100 L water) DBH: 5 gal mix per inch	Repeat the application every 30 days or as needed. Ideal pH Range 5 - 6.5
Greenhouse Growing Media	100 - 150 ppm rate Initial Application: Mix 4 - 6 fl oz per 1 gallon water (118 - 177 ml per 4 L water)	If pH is not sufficiently lowered, continue to adjust pH over several waterings at a rate of 2-4 fl oz per gal water. (60 - 118 ml per 4L water)
Hand Watering	Mix 1/2-3/4 teaspoon pH Reducer per gallon water	Saturate soil with solution

How To Determine Buffering Capacity	
Water pH	Rate / Frequency
Highly Alkaline Irrigation Water	Before adding any other chemicals or fertilizers to tank mix. Begin with the addition of 2 fl oz per 100 gallons of tank mix. Measure pH of water to determine shift. Add another 2 fl oz of pH Reducer until acceptable pH is reached. (60 ml per 400 L water)

**EQUIPMENT & TANK CLEANING:**

**Mixing:** pH Reducer is acidic. It must first be diluted with water prior to mixing with other nutrients or technical materials. pH reducer should not be added in concentrate to highly alkaline materials. Hard and alkaline water sources will leave residues and mineral build up on tanks, lines and irrigation heads. Flush tanks and lines with a solution of 1 gallon citric acid to 100 gallons of water. Follow by flushing with water to rinse out lines to clean out drip irrigation systems.

Manufactured By:

