

OBR

Citric Acid Organic Bicarbonate Reducer

• **Powerful and fast acting pH reducer**

• **Nonhazardous and easy to handle**

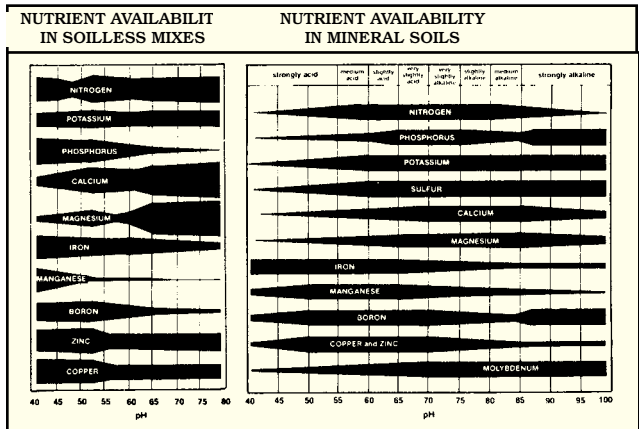
• **Compatible with most water based add ons**

For most crops, irrigation water and the soil should have a pH that is slightly on the acid side, that is 5.5 to 6.5 pH.

This range puts nutrient availability at maximum. Water Alkalinity determines how much acid will be required to move the pH a given amount. Higher levels of Alkalinity require proportionately more acidifier to move the pH down to where it should be. An analysis of the irrigation water to determine both pH and alkalinity is essential to proper use of this product. Bicarbonates and carbonates are the major components of water alkalinity and are generally expressed as PPM CaCO₃ or as meq/L. Use the recommendation of the laboratory or your nutritionist when determining where alkalinity needs to be.

OBR is an Organic Bicarbonate (and pH)

Reducer that is derived from Citric Acid. It has the advantage over harsh mineral based "Hazmat" acids, like Nitric, Phosphoric or Sulfuric Acid, of being nonhazardous and easy to handle, easily dissolves in water and is highly compatible with other water soluble products. While eye protection, gloves and an apron are recommended there is no requirement for special handling and equipment and storage does not require lock and key. It has been known to cause minor skin and eye irritation and should be handled with respect.



These charts are meant as a guide to show how pH levels affects the availability and release of fertilizer nutrients. The use of OBR to reduce alkalinity in the irrigation water will also have an effect on the soil pH when used on a constant basis.

OUNCES OF OBR CITRIC ACID REQUIRED PER 100 GALLONS OF WATER TO NEUTRALIZE "X" PPM CaCO₃*

"X"=PPM CaCO ₃ to Neutralize	meq/L	Ounces OBR required
10	0.20	0.182
25	0.50	0.455
50	1.00	0.910
75	1.50	1.365
100	2.00	1.820
125	2.50	2.275
150	3.00	2.730
175	3.50	3.180
200	4.00	3.640
225	4.50	4.095
250	5.00	4.550

*Use as a guideline only. Follow up adjustments with testing to verify alkalinity.

Example: Your alkalinity is 225 PPM CaCO₃ (4.50 meq/L). You want to reduce the alkalinity to 125.

225-125=100 PPM CaCO₃ to neutralize. Look up 100 PPM in the far left column.

From the table you need to mix 1.820 oz of OBR in 100 gallons of water at HOSE END. If injecting at 1:100, you need to mix 1.820 oz per gallon of stock.



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