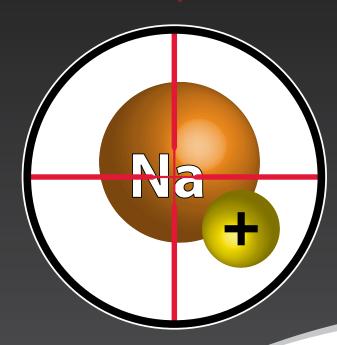
# VERDE-CAL GENERAL GRANDER STATE OF THE STATE

With thCa

With theat Organic Complexing Technology



# Make Sodium "The Mark"

- Leaches excessive amounts of Sodium (Na) and Magnesium (Mg) from soil
- Conditions the soil making fertilizer applications more effective
- Supplies Calcium without raising pH
- Helps loosen compacted, heavy soils
- Quicker response at lower rates

thCa<sup>™</sup> is a trademark of AQUA-AID, Inc.





# Enhanced Gypsum

Calcium Sulfate (gypsum) is combined with thCa™, an organic complexing agent. thCa makes the Calcium (Ca) in gypsum more readily available for soil or plant use without effecting or raising pH.

### FEATURES AND BENEFITS OF USING VERDE-CAL G

- 500 pounds will yield results equivalent to 1 ton of typical gypsum.
- Leaches excessive amounts of Sodium (Na) and Magnesium (Mg) from soil colloids.
- Supplies Calcium (Ca) without raising pH.
- Helps loosen compacted, heavy clay soils.
- Supplies plant available Sulfur (S) in the sulfate form.
- Improves soil aeration and water percolation.
- Ideal for turf, shrubs, and flowers.
- Quicker response at lower rates. Requires 1/4 the rate of standard gypsum per application.

### **APPLICATION RECOMMENDATIONS**

For continued optimal growing conditions, apply VERDE-CAL G at 5 pounds per 1,000 ft<sup>2</sup> or 220 pounds per acre (250 kg/ha) monthly through the growing season, or as needed. Soil test recommendations should be followed.

To correct high sodium or magnesium levels or to loosen clay soils, apply VERDE-CAL G at 10 pounds per 1,000 ft<sup>2</sup> or 435 pounds per acre (500 kg/ha) once or twice per growing season, or as needed. A follow up soil test is recommended and reapply, if needed, at optimal growing condition rate.

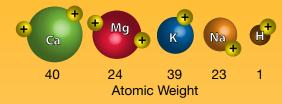
To correct high sodium levels on Greens and Tees or when using effluent water, apply VERDE-CAL G at 8 pounds per 1,000 ft<sup>2</sup> (400 kg/ha) every month during the growing season.



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## CATION COMPARISON

**Basic Cations** 



The soil colloid has degrees of affinity for various basic cations. This bonding increases with larger atomic weight, ion size and amount of charge.

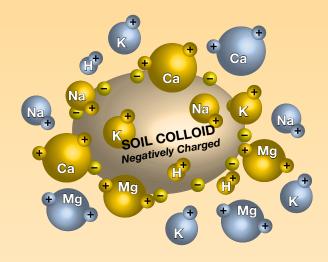
The percentage saturation for each of the cations will usually be within the following ranges for optimum performance:

Calcium (Ca)	65 - 70 %
Magnesium (Mg)	10 - 18 %
Potassium (K)	3 - 6 %
Sodium (Na)	1 - 2 %
Hydrogen (H)	10 - 15 %

The process of cationic exchange begins when water and basic cations (Ca, Mg, K, Na) meet the soil colloid. Based on the soil colloid's degree of cation affinity, Calcium (Ca) will attach to the soil colloid releasing the smaller cations. The released cations (Mg++, Na+, K+, H+) are solubilized in the soil solution and made available to the plant or removed from the soil profile. As hydrogen is released from the soil colloid into the soil solution, acidity is reduced and pH is raised.

### THE CATIONIC EXCHANGE COMPLEX

The mixture of Water, Soil, Colloids and Cations



Exchangeable cations are those absorbed on the colloid. Water soluble cations are those ionized in the soil solution. CEC is determined by the number of negative sights on the colloids.

\* A & L Plains Laboratories, Inc.