



Blue Mountain Minerals

Aglime Quarterly AG FACT

When it comes to Calcium you have choices. Calcium can come from either finely ground limestone or gypsum. You need to decide which is the most economical, and best product for you.



Not All Salt Is Bad

The total salts in soil and water can come from several sources. Salts are often measured by the electrical conductivity (EC). The EC for irrigation water is normally a measure of total salts, but it does not tell us which salts make up the composition. Common units of measure are deciSiemens per meter (dS/m) or millimho per centimeter (mmho/cm), 1 dS/m = 1 mmho/cm. The EC is usually a balance of cations and anions reported as meq/l.

Cations (+)

Calcium Ca
Magnesium Mg
Sodium Na

Anions (-)

Bicarbonate HCO₃
Carbonate CO₃
Chloride Cl
Sulfate SO₄

The predominate cations and anions are listed above. Potassium may be reported but does not usually contribute to salinity issues. Boron and Nitrates may also be reported, these are important for diagnosing toxicities and N requirements. Irrigation water samples should be analyzed to tell us how much individual cations and anions are present. When EC measurements are above 4.0, and sodium levels are high, crops may experience reduced soil water availability for root absorption. Crops grown on saline soils must work harder to take up water. These crops may show symptoms of water stress, even when soils are moist. High levels of sodium in the water or soil can lead to poor soil structure decreasing water infiltration, damaging crops and increasing soil pH which changes nutrient availability.

If leaching sodium with clean water isn't an option, keeping calcium as the dominate salt will help reduce the negative effects of sodium. Remember to keep **Ca > Mg + Na**.

Salt Changes How Water Moves In and Out of the Root

Osmosis happens when a water solution flows through a permeable membrane into an area of higher solute concentration.

Plant roots have a higher level of solutes than the soil that surrounds them (solute  being: sugars, salts water and organic matter). This allows the plant to take up water. When the Sodium (Na)  level in the soil rises, when the levels are close to equal, the plant can no longer take up water. If the soil level is higher, water gets pulled from the plant, leaving it to wilt and eventually die.

