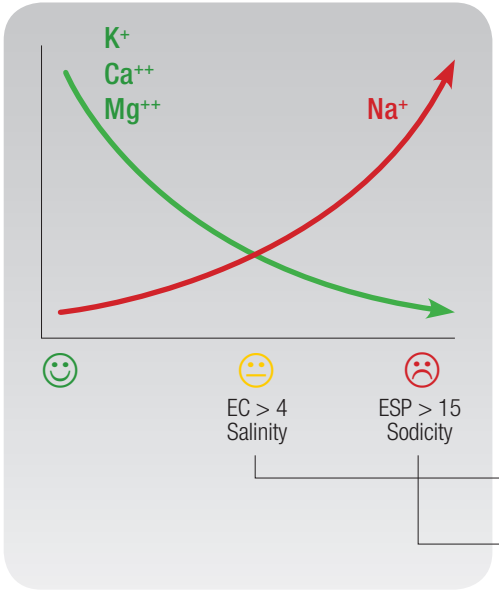
Soil Salinity

1 Causes of salinity:

- Use of Na containing fertilizers
- Intensive irrigation and a high evaporation rate which maintains a high water table. This prevents the leaching of salts which build up and remain around the root zone



2 Salinity process:

- Increase of Na^+ concentration in the soil solution
- Ca^{++} and Mg^{++} precipitation, which is caused by a lack of water (high evapo-transpiration)
- Ca^{++} / Mg^{++} leaching due Carbonates / Bicarbonates in irrigation water
- Na^+ is adsorbed onto the clay-humic complex (CHC) substituting the usual Ca^{++} and Mg^{++}

3 Salinity and sodicity:

- Saline soils: excess of total soluble salts in the soil solution.
  ↗ Electrical Conductivity (EC)
- Sodic soils: excess of exchangeable Na^+ on the CHC
  ↗ Exchangeable Sodium Percentage (ESP) in the soil

4 Consequences of salinity:

To the soil:

- Soil structure degradation
- Clay dispersion and leaching: ↘ workability ↘ porosity
- Quick increase of pH: ↗ micronutrient deficiencies (blockage)
- Toxicity of several heavy metals
- Sterility

To the plants:

- Reduced water absorption
- Abiotic Stress
- Germination problems

To the grower:

- Difficult / impossible cropping
- Yield and quality losses
- Reduced Profit

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PREVENTS & CORRECTS SALINITY AND SODICITY PROBLEMS

COMPOSITION: 3 SYNERGISTIC COMPOUNDS

Calcium (Ca):	7% w/v	Manganese (Mn) EDTA:	0.13% w/v
Sulfur (S):	11% w/v	Zinc (Zn) EDTA:	0.06% w/v
Organic acids:	**23.4% w/v**		

CALCIUM

- Increase Ca^{++}/Na^{+} ratio
- Substitution of Na^{+} on the CHC (clay-humus complex)
- Stability of the CHC
- Available Ca^{++} for plants

SULFUR

- Stimulation of microbial life ($S \rightarrow SO_4$)
- Solubility and leaching of Na^{+} as Na_2SO_4

ORGANIC ACIDS

- Enhancer of CHC (clay-humus complex)
- Enhancer of CEC (Cation Exchange Capacity)
- Neutralization of Na^{+} toxicity
- Lifts the Na^{+} from the clay surface for leaching

Recommendations: Apply SALTRAD TE through drip irrigation, even during the crop cycle (do not apply to the foliage). First dosage use 20 L per ha to remove the salts. Then every week thereafter use 5 L Saltrad TE per ha as prevention. Contact your local supplier for individualised doses

*Irrigate frequently to leach salts

NB: As well as good soil salinity management, it is important to optimise the quality and efficiency of irrigation water. For this, we recommend: LOWER 7 to balance the pH and to neutralize bicarbonates

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