

Pass the Salt!

Everyone is aware that too much salt (sodium) in our diet is not good. Ever had a really salty meal and find out you gained two pounds in water the next day? Have you been on a hunt in the grocery store for those low salt products? Whatever bad effects salt has on your body, holds true for plants as well.

Add a high salt fertilizer to your turf's diet and the growth becomes water logged and more prone to disease. Salts come from lots of different sources, not just fertilizers. They occur naturally in many, many soils around the world, some more notorious than others such as the Salt Flats in Nevada, for example. Other sources can be irrigation water, effluent reclaimed water, coastal salt spray, paving de-icing materials or even from mother nature's deposits. Why are salts so bad for your plants? **The problem is that salt CONTINUES to accumulate in the soil.**

Salt in our soils can be devastating. They reduce the amount of water available to the plant by causing water to move out of, instead of into the plant's root cells. This almost always leads to burning, stunted growth and death. Farmers are constantly forced to take land out of production and often build time-consuming (and \$\$) evaporation ponds.

High salts change the soil structure leading to compaction, reduced water and oxygen penetration.

There are options for keeping salt in control and reducing salt damage. Most obvious is to reduce the application of high salt index fertilizers. Read a product's label and look out for the

killers. Every ingredient (N-P-K), wetting agents, pesticides also has its own salt indices. Pesticide chemical burn is usually caused by a high salt index. (Burn potentials can be found in many reference books, as well as on the Internet. Below is a Salt Index sampling).

Product	Salt Index	
Potassium Chloride	116	High
Ammonium Nitrate	104.7	
Urea	75.4	Moderate
Potassium Nitrate	73.6	
Ammonium Sulphate	69	
Calcium Nitrate	53	Low
Potassium Sulphate	46	
Magnesium Sulphate	44	
*18-3-6 The Classic	34	Very Low
Superphosphate	7.8	
*Nitro-30 SRN 30-0-0	2	
Dolomite	1	

If your water supply is the root cause of your salt problems, then the only alternative is to use products that can neutralize the salts. There are two categories of materials that are known to eliminate (neutralize) salts:

1) Calcium containing products

Calcium replaces the sodium in the soil allowing the sodium to leach out so that it no longer has deleterious effects on

plants. Growth Products **Calcium Chelate 8%** is a soluble chelated product that works wonders immediately.

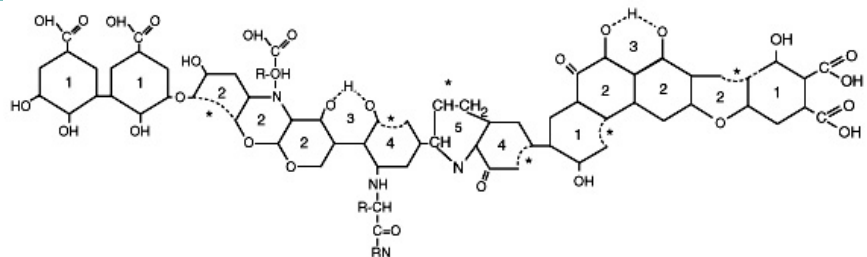
2) Products that have large percentages of active organic carbon.

This would include products containing humic acid and natural L-amino acids that absorb sodium ions. Think of what a carbon filter does with pollutants and toxins in your fish tank: absorbs and holds them so they no longer are dangerous.

A good cultural practice of increasing the organic matter in your soil can ward off the negative effects of salt. Incorporating a few oz. Per 1,000 sq. ft of **Essential® Plus 1-0-1** can protect your turf, trees and shrubs from salt stress and you from stress as well. A big role for a 100% natural "ORGANIC" molecule. These large molecules not only reduce the salinity of the soil, but also help break up compacted soils, help transfer micronutrients to the plant and stimulate microbial activity.

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*18-3-6 The Classic and Nitro-30 SRN are just two examples of Growth Products low-salt fertilizers



Humic Acid – a large and complex organic molecule that reduce salts and break up compacted soils