



# *Bucks Country Gardens*

## **Soluble Salts**

One of the biggest troublemakers to a plant is soluble salts, a variety of chemical materials which dissolve easily into water. These salts may be organic or inorganic and are present (usually in small amounts) in our water, fertilizers and fertilizer residues.

Plant injury due to salts resembles a drying injury; the roots are unable to take up water because the salts in the soil are absorbing the water. The plant may wilt as being dry, but the soil remains wet or moist causing root injury. This may cause the following symptoms: yellowing of the leaves, stunting of growth and leaf-tip burning.

Proper watering can reduce soluble salts. This is achieved by watering the soil heavily so a sizable amount of water drains out the bottom of the pot. This process will help wash soluble salts out of the soil.

Leaching of a plant should be used when salt content is high. Water your plant well and wait several minutes then water again, making sure at least 1/3-1/2 of the water comes through the bottom of the pot thus removing 1/3 to 1/2 of the salt in the soil.

### **PREVENTING SOLUBLE SALT BUILD UP**

1. As a basic rule when watering or when fertilizing, allow water to run through the pot thoroughly.
2. Give your plants good drainage, or, if possible, water them in the sink.
3. Refrain from using the higher salt fertilizers (refer to the salt index) and don't use fresh manure with your plants.

### **SOLUBLE SALT ACTIVITY (SALT INDEX) OF FERTILIZER MATERIALS**

	<b>Fertilizer and Grade</b>	<b>Salt Index*</b>
Nitrate of soda	16-0-0	100
Muriate of potash	0-0-62	115
Ammonium nitrate	33.5-0-0	105
Urea	46-0-0	75
Potassium nitrate	13-0-41	74
Sulfate of ammonia	21-0-0	69
Calcium nitrate	15.5-0-0	68
Sulfate of potash	0-0-1	48
Magnesium sulfate	0-0-50	44
Ammonium phosphate	21-53.8-0	34
Monoammonium phosphate	12.2-61.6-0	30
20%Supershosphate	0-20-0	8
Calcium Sulfate (Gypsum)	- - -	8

The term "salt index" refers to the physiological-drought-inducing effects. This information comes from the Pennsylvania Cooperative Extension Service greenhouse notes, April 1969