

## FERTILIZER SALT INDEX

### WHY IT IS MEASURED?

Since starter fertilizer came into general use, several methods of placement have been used, including starter fertilizer programs using row placement of liquid fertilizer directly on or very close to the seed. The advantage of this process is the availability of the fertilizer to the newly germinated seed. The disadvantage is that this practice may result in injury to the seed or damage to established growth after germination. This type of injury is directly connected with the placement of too much soluble salt in the small zone next to the seed. The extent of damage depends on many variables, soil moisture conditions being the most important. Other factors that can be controlled are locating the fertilizer away from the seed, reducing the amount of fertilizer by dilution and reducing the soluble salt content of the fertilizer.

### HOW IT IS MEASURED?

The tendency of a fertilizer product to injure the seed or plant is estimated in the laboratory by testing the salt index. The salt index is estimated by measuring the amount of electric current that a 0.1% solution will conduct. The higher the soluble salt content, the more current the product will conduct. The salt index of sodium nitrate is used as a standard reference point with a value of 100 and other products are compared with this.

### WHAT THE READINGS MEAN?

The higher the salt index, the higher the tendency of the product to cause injury to seed germination. The salt index supplies no information as to the quality of the product or quantity or quality of plant food. Most starter fertilizer products on the market that are being recommended for placement on the seed have a salt index in the range of 40-50. A product with a salt index over this range will not necessarily result in seed damage, but the tendency of the product for this problem is higher if conditions are not ideal.

Estimated salt indexes for some common fertilizers:

Manure Salts	115	10-34-0	62
Potassium Nitrate	74	7-21-7	60
Potassium Chloride	116	9-18-9	40
Urea	75	Monammonium Phosphate	30
		Diammonium Phosphate	34