Nutrient Concentration Electrical Conductivity (EC) Parts Per Million (PPM)

EC is the measure of the electrical conductivity within a solid material or a liquid solution. In a liquid solution the electrical current is carried by dissolved solids or ions. The conductivity measurement (EC) is directly affected by the number of dissolved solids in the solution and will increase as the quantity of dissolved solids increases. Pure water has an EC of 0, but as you add fertilizer to the water, the EC will climb. EC is measured in Milli-siemens per centimeter (MS/CM). 1MS = 0.7 EC = 7 CF (conductivity factor). EC is the most consistent measure of overall solution strength. EC is the basis for which PPM (parts per million) is determined. Different meters balance their PPM to different EC multipliers. Here is a simple chart to give a reference of EC relating to PPM:

EC	PPM (EC X 700) MILWAUKEE
0.1	70
0.5	350
1.0	700
1.5	1050
2.0	1400
2.5	1750
3.0	2100
3.2	2240

EC	PPM (EC X 500) HANNA
0.1	50
0.5	250
1.0	500
1.5	750
2.0	1000
2.5	1250
3.0	1500
3.2	1600

This chart shows the relating scale of EC to PPM for two major brands of PPM meters. Remember EC is the most accurate and consistent scale. Having too high a nutrient concentration can be harmful to a plant's health, so knowing an acceptable range for each stage of plant growth is helpful.

	EC	PPM (Milwaukee)	PPM (Hanna)
Seedlings	0.2-0.5	140-350	100-250
Early Vegetation	0.6-0.8	420-560	300-400
Full Vegetation	0.9-1.4	630-980	450-700
Early Bloom	1.5-1.9	1050-1330	750-950
Full Bloom	2.0-3.2	1400-2240	1000-1600