

## TUNE UP PLUS CONDUCTIVITY CHART

This table can be used to measure the accuracy of a fertilizer injector.

PPM-N	20-10-20+	20-0-25+	20-12-28+	28-14-14+	35-5-10+	40-2-5+	7-35-27+	4-20-34+	0-23-37+
50	0.30	0.35	0.23	0.15	0.080	-	0.72	1.48	-
100	0.60	0.69	0.46	0.30	0.16	-	1.44	2.96	-
200	1.20	1.39	0.92	0.60	0.30	0.16	2.88	5.92	-
250	1.50	1.74	1.15	0.75	0.38	-	3.60	7.40	-
300	1.80	2.09	1.38	0.90	0.46	-	4.32	-	-
350	2.10	2.44	1.61	1.05	0.54	-	5.00	-	-
400	2.40	2.79	1.84	1.20	0.62	0.64	5.72	-	-
450	2.70	3.14	2.07	1.35	0.70	-	6.48	-	-
500	3.00	3.49	2.30	1.50	0.78	-	-	-	-
550	3.30	3.84	2.53	1.65	0.86	-	-	-	-
600	3.60	4.19	2.76	1.80	0.94	-	-	-	-
650	3.90	4.54	2.99	1.95	1.02	1.28	-	-	-
700	4.20	4.89	3.22	2.05	1.10	-	-	-	-
750	4.50	5.24	3.68	2.20	1.18	-	-	-	-
800	4.80	5.59	3.91	2.35	1.25	-	-	-	-

Electro-Conductivity (EC) is a measure of soluble salt content in a solution. The higher the salt content, the higher the EC reading. *Remember! The above readings are for the fertilizer only!* When taking a reading, know that it contains not only the EC of the fertilizer, but also the reading of the water source you use. To get a true fertilizer EC reading, subtract the EC of your water source from the EC meter reading.

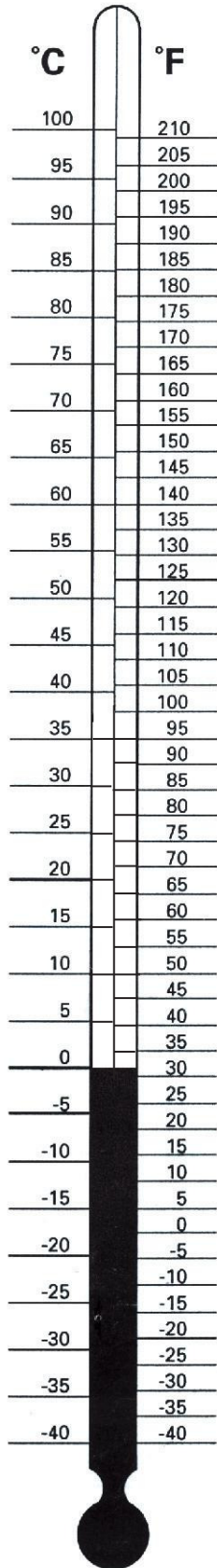
The above readings were taken under laboratory conditions, using De-ionized Water and a Professional Gardener EC Meter. They are for general use only, and individual greenhouse conditions and tap water may vary the results.

## Fertilizer Application Rates

### Pounds of Fertilizers Required To Supply a Given Rate of Nutrients

Fertilizers	Nutrient Blend			Pounds of Nitrogen Required per 1000 ft <sup>2</sup>					
	N	P	K	0.25	0.40	0.50	0.75	1.00	1.25
Turf Master Organic	10	4	4	2.50	4.00	5.00	7.50	10.00	12.50
Turf Master Organic	16	4	10	1.56	2.50	3.13	4.69	6.25	7.81
Turf Master Organic	18	1	15	1.39	2.22	2.78	4.17	5.56	6.94
Turf Master Organic	24	2	12	1.04	1.67	2.08	3.13	4.17	5.21
Turf Master Organic	10	20	4	2.50	4.00	5.00	7.50	10.00	12.50
Turf Master Organic	4	4	14	6.25	10.00	12.50	18.75	25.00	31.25
Turf Master Organic	7	2	28	3.57	5.71	7.14	10.71	14.29	17.86
Turf Master Organic	12	4	8	2.08	3.33	4.17	6.25	8.33	10.42
Turf Master Organic	19	3	10	1.32	2.11	2.63	3.95	5.26	6.58
Milorganite	6	2	0	4.17	6.67	8.33	12.50	16.67	20.83
Turf Master Inorganic	32	4	8	0.78	1.25	1.56	2.34	3.13	3.91
Turf Master Inorganic	28	4	8	0.89	1.43	1.79	2.68	3.57	4.46
Turf Master Inorganic	18	18	18	1.39	2.22	2.78	4.17	5.56	6.94
Turf Master Inorganic	16	4	4	1.56	2.50	3.13	4.69	6.25	7.81
Turf Master Inorganic	16	32	6	1.56	2.50	3.13	4.69	6.25	7.81
Turf Master Inorganic	30	2	14	0.83	1.33	1.67	2.50	3.33	4.17
Turf Master Inorganic	12	6	12	2.08	3.33	4.17	6.25	8.33	10.42
Turf Master Inorganic	16	20	0	1.56	2.50	3.13	4.69	6.25	7.81
Turf Master Inorganic	20	10	10	1.25	2.00	2.50	3.75	5.00	6.25
Turf Master Inorganic	40	3	3	0.63	1.00	1.25	1.88	2.50	3.13
Turf Master Inorganic	43	0	0	0.58	0.93	1.16	1.74	2.33	2.91
	Nutrient Blend			Pounds of Phosphorous Required per 1000 sq.ft					
	N	P	K	0.25	0.50	0.75	1.00	1.25	1.50
Turf Master Organic	10	20	4	1.25	2.50	3.75	5.00	6.25	7.50
Turf Master Organic	16	32	6	0.78	1.56	2.34	3.13	3.91	4.69
Turf Master Organic	11	52	0	0.78	0.96	1.44	1.92	2.40	2.88
	Nutrient Blend			Pounds of Potassium Required per 1000 sq.ft					
	N	P	K	0.50	1.00	1.50	2.00	2.50	3.00
Turf Master Organic	4	4	14	3.57	7.14	10.71	14.29	17.86	21.43
Turf Master Organic	7	2	28	1.79	3.57	5.36	7.14	8.93	10.71
Turf Master Inorganic	3	0	33	1.52	3.03	4.55	6.06	7.58	9.09
Turf Master Inorganic	15	5	30	1.67	3.33	5.00	6.67	8.33	10.00

Temperature Conversion – Table A		
From	To	Multiply By
Celsius	Fahrenheit	(X 1.8) + 32
Fahrenheit	Celsius	- 32 (x 0.5556)



Distance/Length Conversions – Table B		
From	To	Multiply By
Centimetres	Inches	X 0.3917
	Yards	X 91.44
Inches	Centimetres	X 2.540
Feet	Centimetres	X 30.480
	Metres	X 0.30480
	Inches	X 12
	Yards	X 0.3333
Yards	Metres	X 0.9144
Metres	Feet	X 3.281
	Inches	X 39.37
	Yards	X 1.0936
Kilometres	Feet	X 3280.99
	Yards	X 1093.66
	Miles	X 0.6214
	Metres	X 1000
Miles	Feet	X 5280
	Yards	X 1760
	Metres	X 1609.3
	Kilometres	X 1.6093

Area Conversions – Table C		
From	To	Multiply By
Metres <sup>2</sup>	Hectares (100m X 100m)	X 0.0001
	Inches <sup>2</sup>	X 1550
	Feet <sup>2</sup>	X 10.77
Inches <sup>2</sup>	Centimetres <sup>2</sup>	X 6.452
Feet <sup>2</sup>	Centimetres <sup>2</sup>	X 929.0304
	Inches <sup>2</sup>	X 144
	Metres <sup>2</sup>	X 0.0929
Yard <sup>2</sup>	Feet <sup>2</sup>	X 9
	Metres <sup>2</sup>	X 0.8361
Hectares	Metres <sup>2</sup>	X 10,000
	Kilometres <sup>2</sup>	X 100
	Acres	X 2.471
Acre	Feet <sup>2</sup>	X 43,560
	Yards <sup>2</sup>	X 4840
	Metres <sup>2</sup>	X 4047
	Hectares	X 0.4047
	Kilometres <sup>2</sup>	X 247.097
Kilometres <sup>2</sup>	Miles <sup>2</sup>	X 0.386
	Hectares	X 0.01
	Acres	X 0.004047
Miles <sup>2</sup>	Hectares	X 259
	Kilometres <sup>2</sup>	X 2.590
	Acres	X 640

Volume Conversions – Table D1 (Capacity)		
From	To	Multiply By
Cubic Inch	Cubic Centimetre	X 16.387
Cubic Feet	Cubic Inches	X 1728
	Cubic Metres	X 0.02832
	Litres	X 28.32
	Gallons (US)	X 7.481
	Gallons (Imperial)	X 6.229
	Bushel	X 0.80357
Cubic Yards	Cubic Feet	X 27
	Cubic Inches	X 46.656
	Bushels	X 21.696
	Cubic Metres	X 0.7646
	Gallons (US)	X 201.97
	Gallons (Imperial)	X 168.17
	Litres	X 764.6
Gallons (Imperial)	Cubic Centimetres	X 4546
	Cubic Feet	X 0.16054
Gallons (US)	Cubic Centimetres	X 3785
	Cubic Feet	X 0.13368
	Cubic Inches	X 231

Solution Conversions – Table E		
From	To	Multiply By
Litres/Hectare	Gallons/Acre	X 0.09
	Quarts/Acre	X 0.36
	Pints/Acre	X 0.854
Pints/Acre	Litres/Hectare	X 1.17
Millilitres/Hectare	Fluid oz./Acre	X 0.015
Millilitres/100 metres <sup>2</sup>	Fluid oz./1000ft <sup>2</sup>	X 0.0314
Grams/Hectare	Ounces/Acre	X 0.015
Grams/100 metres <sup>2</sup>	Ounces/1000ft <sup>2</sup>	X 0.327
Kilograms/Hectare	Pounds/Acre	X 0.89

Parts Per Million (PPM) Conversion Table F		
From	To	Multiply By
Grams/litre	PPM	X 1000
Milligrams/litre	PPM	X 1
PPM	Grams/litre	X 0.001
PPM	Pounds/million gallons	X 8.34

Volume Conversions – Table D2 (Liquid)		
From	To	Multiply By
Millilitres	cc	X 1
Ounces	Millilitres	X 29.57
	Teaspoon	X 6
	Tablespoon	X 2
Teaspoon	Millilitres	X 4.93
	Ounces	X 0.167
Tablespoon	Millilitres	X 14.785
	Ounces	X 0.5
	Teaspoon	X 3
	Cup	X 16
Cup	Millilitres	X 237.56
	Ounces	X 8
Pints	Millilitres	X 473.2
	Ounces	X 16
	Cups	X 2
Quarts	Millilitres	X 946.24
	Litres	X 0.94624
	Ounces	X 32
	Cups	X 4
	Pints	X 2
Gallons (US)	Imperial Gallons	X 0.8327
	Cups	X 16
	Pints	X 8
	Quarts	X 4
	Fluid Ounces (fl. oz.)	X 128
	Litres	X 3.785
	Millilitres	X 3785
Gallons (Imperial)	US Gallons	X 1.20094
	Litres	X 4.546
Litres	Cubic Inches	X 61.024
	US Gallons	X 0.22642
	Imperial Gallons	X 0.2200
Ounces, Fluid	Cubic Inches	X 1.8046
	Litres	X 0.02957
	Millilitres	X 29.6
Pound/Gallon	Grams/Litre	X 119.84
Grams/Litre	Pound/Gallon	X 0.00834
1 lb./1000 gal	Grams/Litre	X 0.117

Weight Conversion – Table G		
From	To	Multiply By
Ounce	Grams	X 28.3495
Grams	Milligrams <sup>1</sup>	X 1000
	Kilograms	X 0.001
	Ounce	X 0.035274
	Pounds	X 0.00225
Pounds	Grams	X 453.6
	Kilograms	X 0.4536
	Ounce	X 16
	Ton (Short)	X 0.005
	Ton (Long)	X 0.000446
	Ton (Metric)	X 0.000454
Kilograms	Grams	X 1000
	Ounces	X 35.2734
	Pounds	X 2.2046
	Ton (Metric)	X 0.0001
	Ton (Short)	X 0.0011
	Ton (Long)	X 0.00098
Ton (Short)	Pounds	X 2000
	Ton (Long)	X 0.893
	Ton (Metric)	X 0.9135
Ton (Long)	Pounds	X 2239.642
	Ton (Short)	X 1.1198
	Ton (Metric)	X 1.0162
Ton (Metric)	Pounds	X 2204
	Kilograms	X 1000
	Ton (Short)	X 1.1023
	Ton (Long)	X 0.984

<sup>1</sup>When the Specific Gravity (SG) = 1, 1 mg = 1 ml. This conversion is commonly used when very small amounts of dry weights are needed. For example, 15 mg of chemical is needed for a small amount of solution. Using this rule of thumb, 15 mg = 15 ml. Therefore, instead of using a scale to weigh out the chemical, you can use a 15 ml measuring spoon. *Be extremely careful using this guideline when the chemical or growth regulator is effective in small dosages! If there is any question, WEIGH the material on the appropriate scale.*

Liquid Density– Table H		
Liquid Weight Pound/gallon (lb/gal)	Specific Gravity (SG)	Conversion Factors*
7.0	0.84	1.09
8.0	0.96	1.02
8.34 (Water)	1.00	1.00
9.0	1.08	0.96
10.0	1.20	0.91
10.65	1.28	0.88
11.0	1.32	0.87
12.0	1.44	0.83
14.0	1.68	0.77

\* Divide the conversion factor into the calculated flow rate for water (5.0 GPM) to get the nozzle flow rate needed for the desired solution.

For Example:  
Liquid weight is 10.65 lb/gal and the water flow rate is 5.0 GPM. Therefore the nozzle flow rate for that liquid is 5.68 GPM (5.0 GPM divided by 0.88).

Pressure Conversions – Table I		
From	To	Multiply By
Atmosphere	PSI (lbs./sq <sup>2</sup> )	X 14.7
	Kg/cm <sup>2</sup>	X 1.03
	Kilopascal (kPa)	X 101.325
Pounds/Square Inch (PSI)	Atmospheres	X 0.06805
	Kilopascal (kPa)	X 0.1451
	Kg/cm <sup>2</sup>	X 0.0701
Kilopascals (kPa)	Atmospheres	X 0.0099
	PSI (lbs./sq <sup>2</sup> )	X 6.893
	Kg/cm <sup>2</sup>	X 0.0102
Kg/cm <sup>2</sup>	Atmospheres	X 0.9709
	Kilopascal (kPa)	X 98.301
	PSI (lbs./sq <sup>2</sup> )	X 14.272

Sprayer Conversions – Table K	
Acres treated per swath	<b>Boom length X Row length</b> 43,560 sq. ft/acre
GPM (per nozzle)	$\frac{\text{GPA X MPH X } W^1}{5940}$
GPA	$\frac{5940 \text{ X GPM (per nozzle)}}{\text{MPH X } W^1}$
MPH	$\frac{5940 \text{ X GPM}}{\text{GPA X } W^1}$

<sup>1</sup>W = Nozzle spacing in inches (for boom spraying) or spray swath in inches for boomless spraying.