



Plant-Prod® and Plant-Prod Solutions® Conductivity (mmhos)

Plant-Prod®																Plant-Prod Solutions®						
Parts Per Million (ppm) Nitrogen	Hydroponic 6-11-31	Starter 10-52-10	Finisher 12-0-44	Optimum 12-2-14	Balance 14-0-14	Cal Plus 15-0-15	Pioneer 15-15-18	Poinsettia Plus 18-6-20	Hydrangea 20-0-20	Acidic High Nitrate 20-2-20	Super K 20-5-30	All Purpose High Nitrate 20-8-20	Classic 20-20-20	Acid 21-7-7	High N 28-14-14	No-Stretch 15-0-20	Complete 17-5-17	Fusion 17-5-17	pH Buffer 18-6-24	pH Reducer 18-9-18	Fertility Plus 19-2-19	Total Plus 19-8-13
50	0.95	0.34	0.57	0.50	0.41	0.48	0.35	0.42	0.43	0.41	0.27	0.31	0.23	0.21	0.09	0.45	0.38	0.43	0.38	0.37	0.37	0.28
100	1.85	0.66	1.10	0.91	0.85	0.95	0.70	0.81	0.86	0.75	0.50	0.63	0.46	0.41	0.16	0.91	0.71	0.78	0.76	0.72	0.73	0.57
150	2.73	1.00	1.63	1.30	1.25	1.30	1.00	1.18	1.29	1.09	0.73	0.94	0.75	0.61	0.24	1.37	1.03	1.12	1.14	1.06	1.09	0.85
200	3.60	1.30	2.15	1.74	1.62	1.70	1.40	1.55	1.73	1.43	0.96	1.25	0.95	0.80	0.31	1.83	1.36	1.47	1.52	1.40	1.44	1.13
250	4.46	1.64	2.67	2.15	2.01	2.15	1.70	1.91	2.16	1.77	1.19	1.56	1.11	1.00	0.39	2.28	1.69	1.81	1.89	1.74	1.79	1.41
300	5.31	1.96	3.15	2.55	2.35	2.50	2.00	2.26	2.58	2.11	1.43	1.87	1.32	1.19	0.46	2.72	2.01	2.16	2.26	2.07	2.13	1.68
350	6.16	2.29	3.69	2.96	2.72	2.90	2.35	2.61	3.01	2.45	1.66	2.18	1.53	1.37	0.54	3.16	2.34	2.50	2.63	2.40	2.47	1.95
400	7.00	2.60	4.20	3.35	3.08	3.30	2.65	2.96	3.44	2.78	1.89	2.48	1.74	1.56	0.61	3.60	2.66	2.85	3.00	2.73	2.81	2.21
450	7.84	2.94	4.70	3.74	3.44	3.65	2.95	3.31	3.87	3.12	2.12	2.78	1.95	1.75	0.66	4.03	2.99	3.19	3.36	3.05	3.15	2.48
500	8.68	3.26	5.20	4.13	3.81	4.05	3.25	3.65	4.30	3.46	2.35	3.08	2.16	1.93	0.76	4.45	3.32	3.54	3.72	3.38	3.48	2.74
550	9.51	3.58	5.70	4.54	4.17	4.40	3.55	3.99	4.72	3.80	2.59	3.38	2.36	2.12	0.84	4.87	3.64	3.88	4.08	3.70	3.80	3.00
600	10.34	3.60	6.20	4.90	4.54	4.75	3.80	4.33	5.15	4.14	2.82	3.68	2.56	2.30	0.91	5.28	3.97	4.23	4.44	4.01	4.12	3.25

Total soluble salts is a measure, in the form of electrical conductivity, of the amount of fertilizer in solution. Most nutrients or other elements that are soluble will contribute to the conductivity of the solution. The electrical conductivity (EC) increases as the fertilizer concentration is increased.

Electrical conductivity is measured in mhos. The conductivity of fertilizer solutions is sufficiently small that it is measured in terms of millimhos (mmhos, one one-thousandth of a mho) or micromhos (µmhos, one one-millionth of a mho). Conductivity meters measure in either mmhos or µmhos. Since most meters used by our growers are calibrated in mmhos, the data given here on our fertilizers uses the same measurement.

The following table can be used to measure the accuracy of fertilizer injector systems by following these steps:

1. Take a conductivity reading of clear irrigation water.
2. Take a conductivity reading of final fertilizer solution.
3. Subtract the conductivity reading value of clear water from the conductivity reading of fertilizer solution.
4. Compare the answer found in 3 to the corresponding value in the table in order to find the concentration of fertilizer.

Example: Conductivity of clear irrigation water is 0.60 mmhos.
Conductivity of the final fertilizer solution using 20-20-20 is 2.85 mmhos.
The conductivity due to the fertilizer is 2.85 mmhos - 0.60 mmhos = 2.25 mmhos.
For 20-20-20, a conductivity reading of 2.25 mmhos corresponds to a feeding rate of 550 ppm of Nitrogen (N).
Note: The values on this chart were obtained under laboratory conditions using distilled water and a Plant-Prod conductivity meter. The values obtained by the grower under field conditions could therefore vary slightly (+/-10%) from the values listed here.



Plant-Prod® and Plant-Prod Solutions® Nutrient Concentrations (ppm)

Plant-Prod®																												Plant-Prod Solutions®																
Nutrients (ppm)	Hydroponic 6-11-31		Starter 10-52-10		Finisher 12-0-44		Optimum 12-2-14		Balance 14-0-14		Cal Plus 15-0-15		Pioneer 15-15-18		Poinsettia Plus 18-6-20		Hydrangea 20-0-20		Acidic High Nitrate 20-2-20		Super K 20-5-30		All Purpose High Nitrate 20-8-20		Classic 20-20-20		Acid 21-7-7		High N 28-14-14		No-Stretch 15-0-20		Complete 17-5-17		Fusion 17-5-17		pH Buffer 18-6-24		pH Reducer 18-9-18		Fertility Plus 19-2-19		Total Plus 19-8-13	
Total Nitrogen (N)	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200	100	200
Nitrate N	35	69	0	0	100	200	97	195	91	183	90	178	55	109	64	128	55	109	58	116	45	90	61	122	29	59	10	20	6	12	82	163	73	145	73	145	66	131	51	102	64	128	64	127
Ammoniacal N	0	0	71	152	0	0	3	5	9	17	10	22	19	39	36	72	2	4	42	84	5	10	39	78	20	39	63	125	1	2	18	37	27	55	27	55	35	69	49	98	36	72	36	73
Urea N	0	0	29	48	0	0	0	0	0	0	0	0	26	52	0	0	44	87	0	0	50	100	0	0	51	102	27	55	93	186	0	0	0	0	0	0	0	0	0	0	0	0	0	
Available Phosphoric Acid (P ₂ O ₅)	64	127	520	1040	0	0	17	33	0	0	0	0	100	200	33	67	0	0	10	20	25	50	40	80	100	200	33	66	49	99	0	0	30	59	30	59	33	66	50	100	10	21	42	84
Phosphorus (P)	28	55	226	452	0	0	7	15	0	0	0	0	43	87	14	29	0	0	4	8	11	22	17	34	43	87	14	28	21	43	0	0	12	25	12	25	14	29	21	43	4	9	18	36
Soluble Potash (K ₂ O)	180	357	100	200	365	734	116	234	100	200	100	200	120	240	112	222	100	200	100	200	150	300	100	200	100	200	33	66	49	99	134	266	100	200	100	200	134	266	100	200	100	200	69	136
Potassium (K)	149	296	83	166	303	609	96	194	83	166	83	166	100	200	93	184	83	166	83	166	125	250	83	166	83	166	27	54	40	82	111	220	83	166	83	166	111	221	83	166	83	166	57	113
Calcium (Ca)	80	162	0	0	0	0	50	100	41	84	73	146	0	0	0	0	32	64	0	0	0	0	0	0	0	0	0	0	0	0	20	40	17	35	17	35	0	0	0	0	0	0	13	26
Magnesium (Mg)	17	35	0	0	0	0	25	50	20	41	0	0	1	2	11	22	1	2	0	0	0	1	0	1	0	0	0	0	0	0	10	20	6	11	6	11	0	0	1	2	8	15	5	10
Iron (Fe)	1.740	3.450	1.000	2.000	0.830	1.670	0.830	1.670	0.710	1.430	0.670	1.330	0.670	1.330	0.560	1.111	0.750	1.500	0.500	1.000	0.500	1.000	0.500	1.000	0.500	1.00	0.480	0.950	0.350	0.710	1.675	3.325	1.475	2.950	0.590	1.180	0.560	1.110	1.400	2.775	1.325	2.625	1.325	2.625
Manganese (Mn)	0.348	0.690	0.500	1.000	0.415	0.835	0.415	0.835	0.355	0.715	0.335	0.665	0.335	0.665	0.280	0.555	0.250	0.500	0.250	0.500	0.250	0.500	0.250	0.500	0.250	0.500	0.240	0.475	0.175	0.355	0.500	1.000	0.443	0.885	0.295	0.590	0.280	0.555	0.420	0.832	0.397	0.787	0.397	0.787
Zinc (Zn)	0.116	0.230	0.500	1.000	0.415	0.835	0.415	0.835	0.355	0.715	0.335	0.665	0.335	0.665	0.280	0.555	0.250	0.500	0.250	0.500	0.250	0.500	0.250	0.500	0.250	0.500	0.240	0.475	0.175	0.355	0.500	1.000	0.443	0.885	0.295	0.590	0.280	0.555	0.420	0.832	0.397	0.787	0.397	0.787
Copper (Cu)	0.023	0.046	0.500	1.000	0.415	0.835	0.415	0.835	0.355	0.715	0.335	0.665	0.335	0.665	0.280	0.555	0.250	0.500	0.250	0.500	0.250	0.500	0.250	0.500	0.250	0.500	0.240	0.475	0.175	0.355	0.335	0.665	0.295	0.590	0.295	0.590	0.280	0.555	0.280	0.555	0.265	0.525	0.265	0.525
Boron (B)	0.157	0.311	0.200	0.400	0.165	0.330	0.165	0.330	0.140	0.280	0.135	0.266	0.135	0.266	0.056	0.111	0.100	0.200	0.100	0.200	0.100	0.200	0.100	0.200	0.100	0.200	0.096	0.190	0.070	0.140	0.135	0.266	0.118	0.236	0.118	0.236	0.112	0.222	0.112	0.222	0.106	0.210	0.106	0.210
Molybdenum (Mo)	0.052	0.104	0.005	0.010	0.004	0.008	0.004	0.008	0.106	0.214	0.100	0.200	0.100	0.200	0.336	0.667	0.005	0.010	0.075	0.150	0.002	0.005	0.075	0.150	0.002	0.005	0.002	0.004	0.001	0.003	0.100	0.200	0.088	0.177	0.088	0.177	0.084	0.166	0.084	0.166	0.079	0.157	0.079	0.157
Potential Acidity / Basicity (kg CaCO ₃ / tonne)	B 140		A 450		B 245		B 200		B 165		B 165		A 75		A 135		B 25		A 255		A 75		A 211		A 285		A 790		A 445		B 85		A 55		A 60		A 150		A 350		A 165		A 150	
g of fertilizer / L of water (1:100)	58	115	100	200	83	167	83	167	71	143	67	133	67	133	56	111	50	100	50	100	50	100	50	100	50	100	48	95	35	71	67	133	59	118	59	118	56	111	56	111	53	105	53	105
	43 g Calcium Nitrate (GG)	85 g Calcium Nitrate (GG)																																										