EC / PH GUIDE

FRUIT	Conduct Factor	mS/cm	pH
Banana	18-22	1.8-2.2	5.5-6.5
Black Currant	14-18	1.4-1.8	6.0
Blue Berry	18-20	1.8-2.0	4.0-5.0
Melon	20-25	2.0-2.5	5.5-6.0
Passion Fruit	16-24	1.6-2.4	6.5
Paw Paw	20-24	2.0-2.4	6.5
Pineapple	20-24	2.0-2.4	5.5-6.5
Red Currant	14-18	1.4-1.8	6.0
Rhubarb	16-20	1.6-1.8	5.5
Strawberries	18-22	1.8-2.2	6.0
Water Melon	18-24	1.8-2.4	5.8

VEGETABLE	Conduct Factor	mS/cm	pH
Artichoke	8-18	0.8-1.8	6.5-7.5
Asparagus	14-18	1.4-1.8	6.0-6.8
Bean	20-40	2.0-4.0	6.0
Beetroot	18-50	1.8-5.0	6.0-6.5
Broad Bean	18-22	1.8-2.2	6.0-6.5
Broccoli	28-35	2.8-3.5	6.0-6.8
Brussel Sprout	25-30	2.5-3.0	6.5
Cabbage	25-30	2.5-3.0	6.5-7.0
Capsicum	18-22	1.8-2.2	6.0-6.5
Carrot	16-20	1.6-2.0	6.3
Cauliflower	15-20	1.5-2.0	6.5-7.0
Celery	18-24	1.8-2.4	6.5
Cucumber	17-25	1.7-2.5	5.5
Eggplant	25-35	2.5-3.5	6.0
Endive	20-24	2.0-2.4	5.5
Fodder	18-20	1.8-2.0	6.0
Garlic	14-18	1.4-1.8	6.0
Leek	14-18	1.4-1.8	6.5-7.0
Lettuce	12-18	1.2-1.8	6.0-7.0
Marrow	18-24	1.8-2.4	6.0
Okra	20-24	2.0-2.4	6.5
Onions	14-18	1.4-1.8	6.0-6.7
Pak Choi	15-20	1.5-2.0	7.0
Parsnip	14-18	1.4-1.8	6.0
Pea	8-18	0.8-1.8	6.0-7.0
Pepino	20-50	2.0-5.0	6.0-6.5
Potato	20-25	2.0-2.5	5.0-6.0
Pumpkin	18-24	1.8-2.4	5.5-7.5
Radish	16-22	1.6-2.2	6.0-7.0
Spinach	18-23	1.8-2.3	6.0-7.0
Silverbeet	18-23	1.8-2.3	6.0-7.0
Sweet Corn	16-24	1.6-2.4	6.0
Sweet Potato	20-25	2.0-2.5	5.5-6.0
Tomato	20-40	2.0-4.0	6.0-6.5
Turnip	18-24	1.8-2.4	6.0-6.5
Zucchini	18-24	1.8-2.4	6.0

HERB	Conduct Factor	mS/cm	pH
Basil	10-16	1.0-1.6	5.5-6.0
Chive	18-22	1.8-2.2	6.0-6.5
Fennel	10-14	1.0-1.4	6.4-6.8
Lemon Balm	10-16	1.0-1.6	5.5-6.5
Marjoram	16-20	1.6-2.0	6.0
Mint	20-24	2.0-2.4	5.5-6.0
Parsley	8-18	0.8-1.8	5.5-6.0
Rosemary	10-16	1.0-1.6	5.5-6.0
Sage	10-16	1.0-1.6	5.5-6.5
Thyme	8-16	0.8-1.6	5.5-7.0
Watercress	4-18	0.4-1.6	6.5-6.8

FLOWER	Conduct Factor	mS/cm	pH
African Violet	12-15	1.2-1.5	6.0-7.0
Begonia	14-18	1.4-1.8	6.5
Cannas	18-24	1.8-2.4	6.0
Carnation	20-35	2.0-3.5	6.0
Chrysanthemum	18-25	1.8-2.5	6.0-6.2
Cymbidium	18-25	1.8-2.5	5.5
Dahlia	6-10	0.6-1.0	6.0-7.0
Dracaena	18-24	1.8-2.4	5.0-6.0
Fichus	16-24	1.6-2.4	5.5-6.0
Gerbera	20-25	2.0-2.5	5.0-6.5
Gladiolus	20-24	2.0-2.4	5.5-6.5
Palm	16-20	1.6-2.0	6.0-7.5
Rose	15-25	1.5-2.5	5.5-6.0

Conductivity Factor (CF) is a measure of the electrical conductivity of a nutrient solution read in mS/cm (millisemen per centimetre) and multiplied by 10 to read whole numbers. It reads the concentration of ions in the solution, effectively giving us a “Saltiness” factor.

The Conductivity Factor in the chart shows a low reading for young plants, and a high reading for mature plants in the fruiting/flowering cycle.

Also, depending on your gauge,

1mS/cm = 10 CF = Approx 640 PPM (parts per million)

For the following you will need; Conductivity meter, pH meter or test kit, pH up, pH down, nutrient concentrate.

Regarding the usage of conductivity and pH metres, we recommend the following steps to be performed daily (2-5mins)

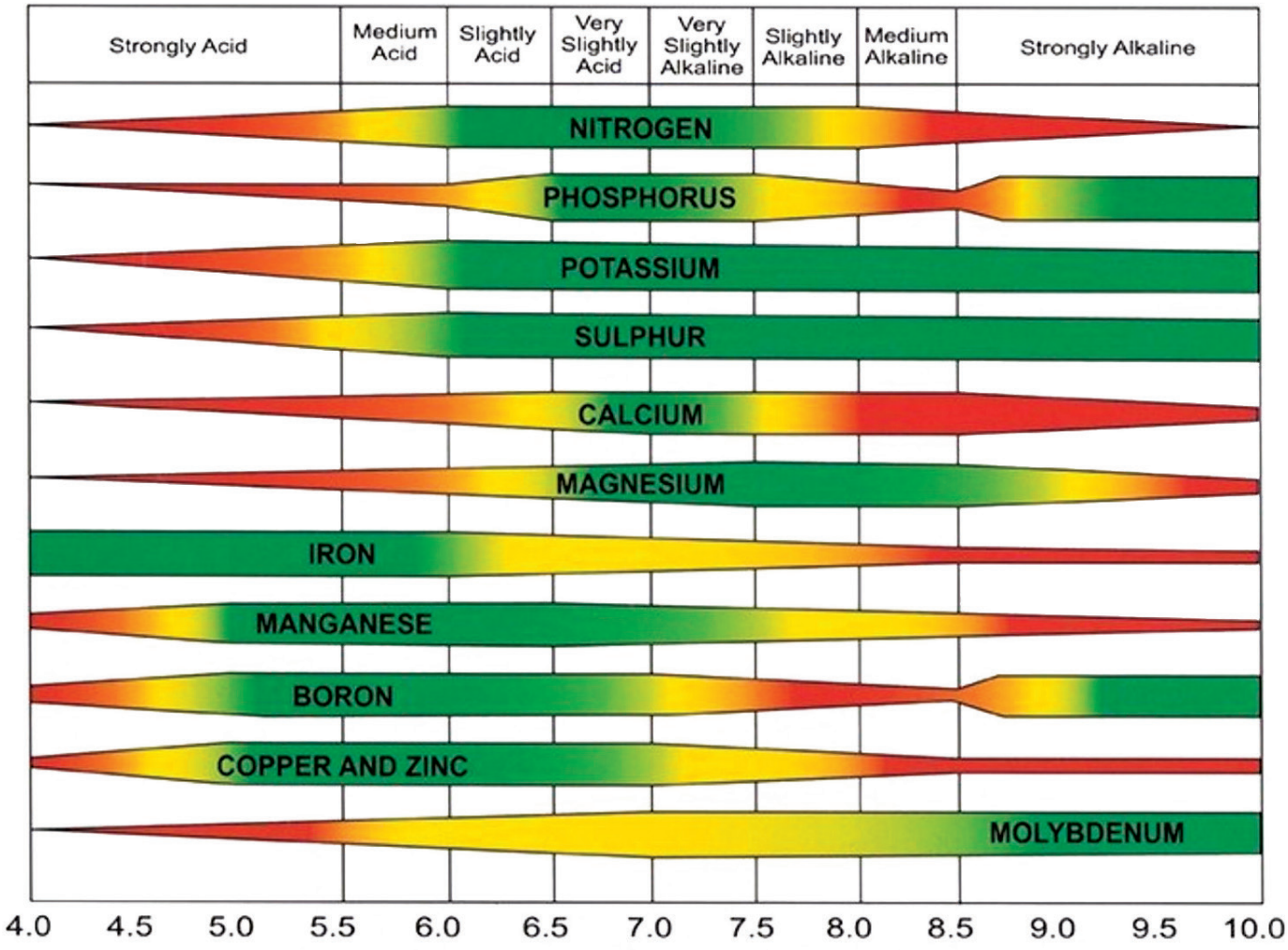
1. Top up the nutrient tank with fresh water, pure water is preferable.
2. Place the Conductivity probe in the solution and get a reading.
3. Slowly add nutrient solution to the pure water until the desired conductivity is reached, as per this chart. If you go over dilute with pure water.
4. Now using the pH meter, add pH up or pH down to the nutrient tank to get the desired pH value. Let the pH move within the range. Don’t be too precise, as movement within the given range will “unlock” elements within the nutrient tank solution.
5. Dump ALL nutrient solution after 2 weeks and make a fresh batch, as there will be a high total salt build up in the solution. Also the nutrient blend or balance will be out, giving rise to possible toxicities or deficiencies.
6. Every 2 weeks we recommend recalibrating both the electronic Conductivity and pH meters. See the sheet on “Calibrating and Cleaning your gauge”

Happy Growing... PTO...

HYDROPONIC XPRESS

EC / PH GUIDE

Availability nutrient elements at various pH levels.



Optimal element availability at **pH 6.25**

How to manage?

1. Check EC Dilute with water if EC too high, add nutrient if EC too low
2. Check pH If it is in the range 5.8 – 6.5 for Grow don't touch. Bloom 6.3 – 6.8 don't touch. If pH too low add pH up. If pH too high add pH down. (1 drop at a time, then test)
3. Dump every 2 weeks. Important – Check daily EC and pH – Check at same time of day. Light and temperature can affect pH greatly – Water temperature 22 – 24°C optimal. Add air pump / stone and water heater as required.

Refreshing the nutrient solution

Water must be added daily to refresh and replace water consumed by the plants. RAIN water is the best. Elemental ratios will vary beyond their limits over time, causing deficiencies and toxicities.

Sodium Chloride (table salt) will also increase in concentration with the constant addition of make up water, and nutrient adjustments resulting in toxicities.

Cooler months (below 30oC) optimal EC / pH

Week	mS/cm	pH	Cycle	Hrs light
0-2 weeks	1.0mS/cm	ph 5.8-6.5	Grow	18 Hours
2-4 weeks	2.0mS/cm	pH 5.8-6.5	Grow	18 Hours
4- 12weeks	3.0mS/cm	pH 6.0-6.8	Bloom	12 Hours