EC / PH GUIDE

FRUIT	Conduct Factor	mS/cm	рН
Banana Black Currant Blue Berry Melon Passion Fruit Paw Paw Pineapple Red Currant Rhubarb Strawberries Water Melon	18-22 14-18 18-20 20-25 16-24 20-24 20-24 14-18 16-20 18-22 18-24	1.8-2.2 1.4-1.8 1.8-2.0 2.0-2.5 1.6-2.4 2.0-2.4 2.0-2.4 1.4-1.8 1.6-1.8 1.8-2.2 1.8-2.4	5.5-6.5 6.0 4.0-5.0 5.5-6.0 6.5 5.5-6.5 6.0 5.5 6.0 5.5
VEGETABLE	Conduct Factor	mS/cm	рН
Artichoke Asparagus Bean Beetroot Broad Bean Broccoli Brussel Sprout Cabbage Capsicum Carrot Cauliflower Celery Cucumber Eggplant Endive Fodder Garlic Leek Lettuce Marrow Okra Onions Pak Choi Parsnip Pea Pepino Potato Pumpkin Radish Spinach Silverbeet Sweet Corn Sweet Potato Tomato Turnip Zucchini	8-18 14-18 20-40 18-50 18-22 28-35 25-30 25-30 18-22 16-20 15-20 18-24 17-25 25-35 20-24 18-20 14-18 12-18 14-18 12-18 18-24 20-24 14-18 15-20 14-18 8-18 20-50 20-25 18-24 16-22 18-23 16-24 20-25 20-40 18-24 18-24	0.8-1.8 1.4-1.8 2.0-4.0 1.8-5.0 1.8-2.2 2.8-3.5 2.5-3.0 2.5-3.0 1.8-2.2 1.6-2.0 1.5-2.0 1.8-2.4 1.7-2.5 2.5-3.5 2.0-2.4 1.8-2.0 1.4-1.8 1.2-1.8 1.2-1.8 1.8-2.4 2.0-2.4 1.4-1.8 1.5-2.0	6.5-7.5 6.0-6.8 6.0 6.0-6.5 6.0-6.5 6.0-6.5 6.5-7.0 6.5-7.0 6.5-7.0 6.5-7.0 6.0-7.0 6.0-7.0 6.0-6.5 5.5-7.0 6.0-6.5 6.0-6.5 6.0-6.5 6.0-6.5 6.0-7.0 6.0-6.5 6.0-7.0 6.0-6.5
HERB	Conduct Factor	mS/cm	рH
Basil Chive Fennel	10-16 18-22 10-14	1.0-1.6 1.8-2.2 1.0-1.4	5.5-6.0 6.0-6.5 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	рН
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.

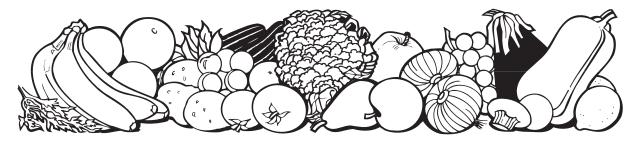
Also, depending on your gauge,

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)

- Top up the nutrient tank with fresh water, pure water is preferable.
- Place the Conductivity probe in the solution and get a reading.
- 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"

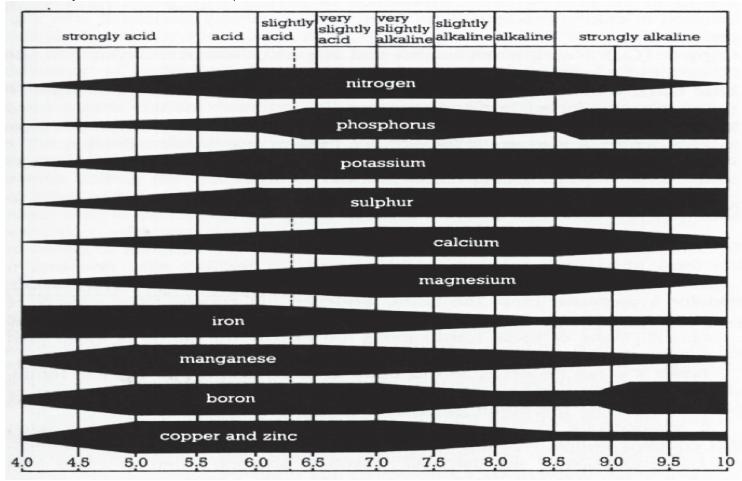
Happy Growing... PTO...





EC / PH GUIDE

Availability nutrient elements at various pH levels.



Optimal element availability at pH 6.25

How to manage?

- Check EC Dilute with water if EC too high, add nutrient if EC too low
- 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)
- 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.

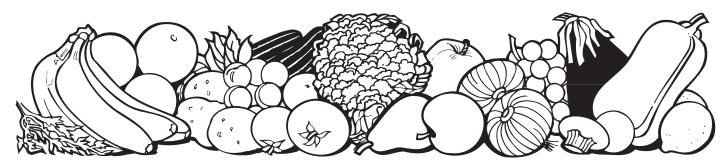
Refreshing the nutrient solution

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	рН	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





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