

Gold Range NUTRIENT

STD = standard strength, AGR = aggressive strength.

Measurements below are based on 1 Gallon of pure water.

Dutch Master always uses a 0.5 conversion factor from EC to PPM.

| | | Week 1 | | Week 2 | | Week 3 | | Week 4 | | Week 1 | | Week 2 | | Week 3 | | Week 4 | | Week 5 | | Week 6 | | Week 7 | | Week 8 | | |
|-------------------------|-----|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-------|
| | | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | FINAL |
| Nutrient Strength | | 0.8 | 1.0 | 1.1 | 1.5 | 1.5 | 2.0 | 1.9 | 2.5 | 1.9 | 2.5 | 2.0 | 2.7 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 1.9 | 2.5 | 0.5 | | |
| Electrical Conductivity | EC | 0.8 | 1.0 | 1.1 | 1.5 | 1.5 | 2.0 | 1.9 | 2.5 | 1.9 | 2.5 | 2.0 | 2.7 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 1.9 | 2.5 | 0.5 | | |
| Centifarad | CF | 8 | 10 | 11 | 15 | 15 | 20 | 19 | 25 | 19 | 25 | 20 | 27 | 22 | 30 | 22 | 30 | 22 | 30 | 22 | 30 | 19 | 25 | 5 | | |
| Parts Per Million | PPM | 400 | 500 | 550 | 750 | 750 | 1000 | 950 | 1250 | 950 | 1250 | 1000 | 1350 | 1100 | 1500 | 1100 | 1500 | 1100 | 1500 | 1100 | 1500 | 950 | 1250 | 250 | | |
| Gold Range NUTRIENT A | ml | 1.9 | 3.4 | 4.2 | 7.2 | 7.2 | 11 | 10.2 | 14.7 | 9.5 | 12.9 | 9.8 | 14 | 11 | 15.9 | 11 | 15.9 | 11 | 15.9 | 11 | 15.9 | 9.5 | 12.9 | 0 | | |
| Gold Range NUTRIENT B | ml | 1.9 | 3.4 | 4.2 | 7.2 | 7.2 | 11 | 10.2 | 14.7 | 9.5 | 12.9 | 9.8 | 14 | 11 | 15.9 | 11 | 15.9 | 11 | 15.9 | 11 | 15.9 | 9.5 | 12.9 | 0 | | |
| Gold Range ADD.27 | ml | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | |
| Gold Range ZONE | ml | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Gold Range SILICA | ml | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |

NUTRIENT ONLY (NO ADDITIVES - TARGET EC / PPM / CF VALUES AS ABOVE)

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|----|-----|-----|-----|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|-----|------|---|
| Gold Range NUTRIENT A | ml | 5.3 | 6.8 | 7.6 | 10.6 | 10.6 | 14.4 | 13.6 | 18.2 | 9.8 | 13.2 | 10.2 | 14.4 | 11.3 | 16.3 | 11.3 | 16.3 | 11.3 | 16.3 | 11.3 | 16.3 | 9.8 | 13.2 | 0 |
| Gold Range NUTRIENT B | ml | 5.3 | 6.8 | 7.6 | 10.6 | 10.6 | 14.4 | 13.6 | 18.2 | 9.8 | 13.2 | 10.2 | 14.4 | 11.3 | 16.3 | 11.3 | 16.3 | 11.3 | 16.3 | 11.3 | 16.3 | 9.8 | 13.2 | 0 |

Grow Products (Lights = 18 hours on, 6 hours off) Flower Products (Lights = 12 hours on, 12 hours off)

Gold Range ONE

STD = standard strength, AGR = aggressive strength.

Measurements below are based on 1 Gallon of pure water.

Dutch Master always uses a 0.5 conversion factor from EC to PPM.

| | | Week 1 | | Week 2 | | Week 3 | | Week 4 | | Week 1 | | Week 2 | | Week 3 | | Week 4 | | Week 5 | | Week 6 | | Week 7 | | Week 8 | | |
|-------------------------|-----|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-------|
| | | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | FINAL |
| Nutrient Strength | | 0.8 | 1.0 | 1.1 | 1.5 | 1.5 | 2.0 | 1.9 | 2.5 | 1.9 | 2.5 | 2.0 | 2.7 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 1.9 | 2.5 | 0.5 | | |
| Electrical Conductivity | EC | 0.8 | 1.0 | 1.1 | 1.5 | 1.5 | 2.0 | 1.9 | 2.5 | 1.9 | 2.5 | 2.0 | 2.7 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 1.9 | 2.5 | 0.5 | | |
| Centifarad | CF | 8 | 10 | 11 | 15 | 15 | 20 | 19 | 25 | 19 | 25 | 20 | 27 | 22 | 30 | 22 | 30 | 22 | 30 | 22 | 30 | 19 | 25 | 5 | | |
| Parts Per Million | PPM | 400 | 500 | 550 | 750 | 750 | 1000 | 950 | 1250 | 950 | 1250 | 1000 | 1350 | 1100 | 1500 | 1100 | 1500 | 1100 | 1500 | 1100 | 1500 | 950 | 1250 | 250 | | |
| Gold Range ONE | ml | 5.7 | 9.5 | 11.4 | 22.7 | 22.7 | 36 | 34.1 | 49.2 | 24.6 | 36 | 26.5 | 39.7 | 30.3 | 45.4 | 30.3 | 45.4 | 30.3 | 45.4 | 30.3 | 45.4 | 24.6 | 36 | 0 | | |
| Gold Range POTASH+ | ml | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 0 | |
| Gold Range ADD.27 | ml | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | |
| Gold Range ZONE | ml | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Gold Range SILICA | ml | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |

NUTRIENT ONLY (NO ADDITIVES - TARGET EC / PPM / CF VALUES AS ABOVE)

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|----|------|------|------|----|----|------|------|------|----|------|------|------|------|------|------|------|------|------|------|------|----|------|---|
| Gold Range ONE | ml | 18.9 | 22.7 | 24.6 | 36 | 36 | 49.2 | 47.3 | 62.4 | 36 | 47.3 | 37.8 | 51.1 | 41.6 | 56.8 | 41.6 | 56.8 | 41.6 | 56.8 | 41.6 | 56.8 | 36 | 47.3 | 0 |
|----------------|----|------|------|------|----|----|------|------|------|----|------|------|------|------|------|------|------|------|------|------|------|----|------|---|

Grow Products (Lights = 18 hours on, 6 hours off) Flower Products (Lights = 12 hours on, 12 hours off)

ADVANCE

Measurements below are based on 1 Gallon of pure water.

Dutch Master always uses a 0.5 conversion factor from EC to PPM.

| | | Week 1 | | Week 2 | | Week 3 | | Week 4 | | Week 1 | | Week 2 | | Week 3 | | Week 4 | | Week 5 | | Week 6 | | Week 7 | | Week 8 | | |
|-------------------------|-----|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-------|
| | | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | STD | AGR | FINAL |
| Nutrient Strength | | 0.8 | 1.0 | 1.1 | 1.5 | 1.5 | 2.0 | 1.9 | 2.5 | 1.9 | 2.5 | 2.0 | 2.7 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 1.9 | 2.5 | 0.5 | | |
| Electrical Conductivity | EC | 0.8 | 1.0 | 1.1 | 1.5 | 1.5 | 2.0 | 1.9 | 2.5 | 1.9 | 2.5 | 2.0 | 2.7 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 2.2 | 3.0 | 1.9 | 2.5 | 0.5 | | |
| Centifarad | CF | 8 | 10 | 11 | 15 | 15 | 20 | 19 | 25 | 19 | 25 | 20 | 27 | 22 | 30 | 22 | 30 | 22 | 30 | 22 | 30 | 19 | 25 | 5 | | |
| Parts Per Million | PPM | 400 | 500 | 550 | 750 | 750 | 1000 | 950 | 1250 | 950 | 1250 | 1000 | 1350 | 1100 | 1500 | 1100 | 1500 | 1100 | 1500 | 1100 | 1500 | 950 | 1250 | 250 | | |
| ADVANCE A | ml | 1.9 | 3 | 3.8 | 6.4 | 6.4 | 9.8 | 9.1 | 13.2 | 9.1 | 13.6 | 9.8 | 15.1 | 11.4 | 17.4 | 11.4 | 17.4 | 11.4 | 17.4 | 11.4 | 17.4 | 9.1 | 13.6 | 0 | | |
| ADVANCE B | ml | 1.9 | 3 | 3.8 | 6.4 | 6.4 | 9.8 | 9.1 | 13.2 | 9.1 | 13.6 | 9.8 | 15.1 | 11.4 | 17.4 | 11.4 | 17.4 | 11.4 | 17.4 | 11.4 | 17.4 | 9.1 | 13.6 | 0 | | |
| Gold Range POTASH+ | ml | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 0 | |
| Gold Range ADD.27 | ml | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | |
| Gold Range ZONE | ml | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Gold Range SILICA | ml | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |

NUTRIENT ONLY (NO ADDITIVES - TARGET EC / PPM / CF VALUES AS ABOVE)

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|----|-----|-----|-----|-----|-----|------|------|------|------|------|----|------|------|------|------|------|------|------|------|------|------|------|---|
| ADVANCE A | ml | 4.5 | 5.7 | 6.4 | 9.1 | 9.1 | 12.5 | 11.7 | 15.9 | 13.2 | 17.8 | 14 | 19.3 | 15.5 | 21.6 | 15.5 | 21.6 | 15.5 | 21.6 | 15.5 | 21.6 | 13.2 | 17.8 | 0 |
| ADVANCE B | ml | 4.5 | 5.7 | 6.4 | 9.1 | 9.1 | 12.5 | 11.7 | 15.9 | 13.2 | 17.8 | 14 | 19.3 | 15.5 | 21.6 | 15.5 | 21.6 | 15.5 | 21.6 | 15.5 | 21.6 | 13.2 | 17.8 | 0 |

Grow Products (Lights = 18 hours on, 6 hours off) Flower Products (Lights = 12 hours on, 12 hours off)

Foliar Spray Application

Measurements below are based on 1 Quart of water.

| | | Week 1 | Week 2 | Week 3 | Week 4 | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
|-------------------------|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gold Range LIQUID LIGHT | ml | 30 | 30 | 60 | 60 | 60 | 60 | 60 | 60 | - | - | - | - |
| Gold Range SATURATOR | ml | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | - | - | - | - |

(EC, CF, PPM Not Applicable)

Do not adjust pH. Spray plants twice per week.

Do not adjust pH. Spray plants twice per week, do not spray after the end of week 4 in flower.

DUTCH MASTER GROWERS TIPS

- For further information and the most accurate results, please use the online Nutrient Calculator found on our website at www.dutchmaster.com.au. Our online Nutrient Calculator is fully interactive, adjustable and allows you to dial in all the parameters of your growing needs making plant nutrition very simple, easy and accurate.
- All Black Bottle product usage instructions are the same as the equivalent Gold Range product usage instructions. Therefore, mixing directions for Black Bottle SILICA and Gold Range SILICA are the same.
- If you are running a larger reservoir than 1 gallon, then multiply Feed Chart recommended nutrient and additive millilitres accordingly. Therefore, if your reservoir is 25 gallons, multiply recommended millilitres by 25 to achieve correct dosing.
- For 3 week grow periods, remove week 4 on the Feed Chart. For 2 week grow periods, remove weeks 4 and 3. For longer grow periods, add week 4. For longer or shorter flowering periods, add or remove week 6.
- The recommended EC / PPM / CF values shown on this Feed Chart are calculated based on 0.0 EC / PPM / CF base water. If your water value is greater than 0.2 EC / 100 PPM / 2 CF, then continue to use all additives at recommended dosage rates as per this Feed Chart but then only add the required amount of nutrients to achieve final EC / PPM / CF recommended on this Feed Chart. This will take your tap water EC / PPM / CF value into account and help to protect you from overfeeding your plants and possible burning of the leaves.
- For young / immature plants or those with grow periods of 2 weeks or less, use the 'Standard' feed recommendation on the Feed Chart.
- For those using the Deep Water Culture (DWC) method, Aeroponics, NFT, dirt or soil-less mediums, beginners or for those that wish to run a more conservative nutrient strength, use the 'Standard' feed recommendation on this Feed Chart.
- The conversion factor used on this Feed Chart from EC (electrical conductivity) to PPM (parts per million) is 0.5. Therefore, 1.0 ms/cm EC equals 500 PPM and 10 CF. Dutch Master always uses a 0.5 conversion factor with all Feed Charts and our Online Nutrient Calculator. Please see conversion chart showing all relevant conversion measurements including several meter types.
- Always try to start with a fresh reservoir / tank of nutrient solution when raising or lowering EC / PPM / CF from week to week. Therefore, when going from week 1 in grow (lights on 18 hours, off 6 hours) to week 2 in grow, ideally dump old nutrient solution and make up fresh nutrient solution at the new recommended EC / PPM / CF as per the Nutrient Calculator or Feed Schedule. It is important to dump old grow nutrient solution when switching to the first week of flowering nutrient solution.
- Always add all permitted additives (Gold Range ADD.27, Gold Range SILICA, Gold Range ZONE etc.) to reservoir / tank water before adding your main nutrient in equal parts of A and B. This will allow you to accurately gain the correct EC / PPM / CF of final mix. If you over shoot your intended level EC / PPM / CF, then slowly add water to your reservoir until your reading is down to your desired EC / PPM / CF. pH adjustment is always performed last.
- Never mix multi-part nutrients neat / concentrated. Always add part A and part B separately to water to avoid precipitation (fallout) of crucial elements (typically calcium and sulphur). If precipitation occurs, it could cause deficiencies in your plants as it renders these important elements unusable. Dutch Master Gold range ONE is a single part nutrient (therefore 1 part for grow and 1 part for flower) that has been specially formulated NOT to fall out.
- Typically, a nutrient or additive labelled 'grow' is used for plants in their vegetative stage (lights on 18 hours, off 6 hours). A nutrient or additive labelled 'flower' is used for plants in their flowering or bloom stage (lights on 12 hours, off 12 hours).
- The correct pH is one of the most important factors to growing healthy, happy, vigorous plants. If you get the pH of your nutrient solution incorrect, your plants will suffer and yields will diminish – sometimes drastically. pH is measured on a scale from 1.0 to 14.0. Pure water has a pH of approximately 7.0 and is considered pH neutral. pH below 7.0 is considered to be acidic and pH higher than 7.0 is considered to be alkaline. The pH level of your hydroponic nutrient solution or soil will determine how well your plants are able to absorb nutrients. If the pH level is out of the proper range, the growth rate of your plants will slow down or stop and nutrient deficiencies will often occur. There are several means of checking the pH level of your hydroponic or soil garden. pH Meter: used to measure the pH of water, hydroponic nutrient solution, hydroponic media, and soil. pH Test Kit: used to measure the pH of liquids like water or hydroponic nutrient solution. Soil pH Meter: used to measure the pH of soil. Soil Test Kit: used to measure the pH, nitrogen, phosphorus and potassium levels of soil. There are also soil pH test kits available that just measure the pH level of soil. The correct pH range when growing in a hydroponic system using inert mediums, therefore - mediums with no nutritional value (perlite, coco coir, expanded clay, rockwool, vermiculite, etc) or no medium at all (aeroponics, deep water culture, NFT etc) is 5.5 to 6.3. Therefore, you would set your pH to approximately 5.5 when mixing fresh nutrient solution and allow it to 'float up' to no higher than approximately 6.3 before re-adjusting. The correct pH range when growing in soil or soilless mediums (dirt, sunshine mix, promix etc) is 5.9 to 6.5. Again, set the pH to approximately 5.9 when mixing fresh nutrient solution and allow it to 'float up' to no higher than 6.5 before re-adjusting. Remember to adjust the pH of your nutrient solution AFTER you have added all additives and nutrients etc to the mix. Typically, the pH of your final nutrient solution will slowly rise as the plants deplete the chemicals within it. Again, there are many varying factors as to what the perfect pH is – plant strain, grow system, medium etc. If your pH shifts drastically, then this is usually a sign that your plants are under stress of some sort (root rot, heat stress, insect attack etc) and immediate investigation is advisable.
- Remember, many things can make a difference to the EC / PPM / CF of nutrient solution required by your plants; method of grow (system used), state of growth, root conditions, temperature, humidity, strain, CO2 levels, different formulations, starting EC / PPM / CF of water and of course lighting and cycle lengths. If in doubt as to what the correct nutrient solution EC / PPM / CF is for your specific application, it is advisable to start on the lower side and build up nutrient strength slowly whilst keeping a close look at your plants to avoid overfeeding. If overfeeding (nutrient too strong) occurs, you will notice 'tip burn' on your leaves. If left, the 'tip burn' will spread down the leaves doing irreparable damage to your plants, so it is best to catch it early. Either dilute your solution with fresh water and re-adjust pH or, in severe cases, dump nutrient solution, flush your pots with 1/4 strength nutrient solution and then make up a fresh pH adjusted solution at approximately 1/2 strength and feed accordingly until 'tip burn' is under control. Resume feeding your plants with a weaker nutrient solution than the one that caused the 'tip burn' originally.
- Always flush your system (plants root zones) with a weak nutrient solution – typically ¼ strength nutrient. This will actually remove more excess fertilizer than plain water. Frequency of flushing will depend on many factors, however, every 2 – 3 weeks is a good rule of thumb - especially if running a high EC / PPM / CF. Check the EC / PPM / CF of the reservoir, growing medium and runoff nutrient solution at the same time of day, each time. If the EC / PPM / CF measured runoff of nutrient or pot soil sample becomes too high, it's time to flush to maintain optimal growth.
- Keep the reservoir full at all times if possible. The smaller the reservoir, the faster it will deplete and or change in EC / PPM / CF and pH. It is preferable to use a larger reservoir to minimize unwanted EC / PPM / CF and pH changes in nutrient solution and reduce constant adjustments.
- Constant EC / PPM / CF and pH monitoring of your nutrient solution is highly recommended and best performed with affordable electronic meters available from most hydroponic shops. Regular maintenance / calibration of your meters with calibration fluids will ensure accurate readings. Always perform dual-point calibrations on your meters where possible. Remember to change meter batteries regularly as flat batteries are a major cause of inaccurate readings.
- Plants generally use water at a faster rate than nutrients so it is important to 'top up' your reservoir with pH balanced water. Some growers 'top up' with a weak nutrient solution (approx 1 EC / 500 PPM / 10 CF) every two to three days.
- Aeration of nutrient solution is highly recommended. Aquarium air pumps blowing through air stones are best, readily available and quite cheap. You can aerate either individual pots and or reservoirs with positive results.
- Optimal nutrient solution temperature is between 18 – 24 degrees Celsius or 64 – 75 degrees Fahrenheit. Nutrient solution will hold more oxygen at 18 / 64 than 24 / 75. Never allow your nutrient solution to go above 29C / 85F as the solution will hold little oxygen and roots are easily damaged above this temperature. Heat damaged roots are susceptible to wilts, rot and fungus gnat attacks.
- Submersible aquarium water heaters are a cost effective method of thermostatically heating your water temperature in your reservoir / tank. Remember, never operate water heaters in empty reservoirs as they may burn out and could even shatter.
- Nutrient deficiencies in plants can occur based around many variables. If a deficiency occurs, first check the irrigation fittings on the 'nutrient deficient' plants to confirm they are receiving a full dose of solution feed. Next, check the medium around the entire plant to ensure the nutrient solution is penetrating the entire root zone and all roots are wet. Also check that the roots have not grown into the drainage fittings creating stagnant solution in the bottom of your pots. If all above checks out well, then check that the pH sits within an acceptable level (typically 5.5 – 6.5) depending on medium. If you still can't find the problem, then dump the nutrient solution and replace with fresh pH balanced solution and also foliar spray a weak nutrient solution (typically 1/3 strength of root feed EC / PPM / CF) mixed with 60 ml / 2 oz of Gold Range SATURATOR on the leaves. The foliar spraying will help to correct any deficiencies much quicker than root feeding alone.
- The conversion from EC (electrical conductivity), typically measured as ms/cm (milliweimens per centimeter), to TDS (total dissolved solids) displayed in PPM (parts per million), can be both technical and quite confusing. EC is THE standard and should be used whenever possible by all to avoid confusion, however, nutrient meter manufacturers around the world insist on confusing the situation with the use of varying conversion factors. All TDS electronic meters that give PPM readings measure nutrient strength in EC and then convert the EC using a tiny micro-processor inside the meter to PPM. The problem here is that different meter manufacturers use different conversion factors. For example, Hanna uses a conversion factor of 0.5, Eutech uses 0.64 and the Truncheon uses 0.7. If you are about to buy a meter for the first time or need to replace your old one, BUY A METER THAT DISPLAYS EC. Remember, Dutch Master always uses the 0.5 conversion factor when quoting PPM.
- **Growers beware – extremely high EC / PPM / CF nutrient levels (typically higher than 2.8 EC / 1400 PPM / 28 CF in pure water) should only be used by the most experienced growers who are totally in tune with their plants and are capable of recognizing and rectifying the symptoms of over feeding with excessively strong nutrient solution!**

DUTCH MASTER CONVERSION CHART

| EC ms/cm | Dutch Master 0.5 ppm | Hanna 0.5 ppm | Eutech 0.64 ppm | Trunccheon 0.7 ppm | CF 0 |
|---------------------|---------------------------------|--------------------------|----------------------------|-------------------------------|-----------------|
| 0.1 | 50 ppm | 50 ppm | 64 ppm | 70 ppm | 1 |
| 0.2 | 100 ppm | 100 ppm | 128 ppm | 140 ppm | 2 |
| 0.3 | 150 ppm | 150 ppm | 192 ppm | 210 ppm | 3 |
| 0.4 | 200 ppm | 200 ppm | 256 ppm | 280 ppm | 4 |
| 0.5 | 250 ppm | 250 ppm | 320 ppm | 350 ppm | 5 |
| 0.6 | 300 ppm | 300 ppm | 384 ppm | 420 ppm | 6 |
| 0.7 | 350 ppm | 350 ppm | 448 ppm | 490 ppm | 7 |
| 0.8 | 400 ppm | 400 ppm | 512 ppm | 560 ppm | 8 |
| 0.9 | 450 ppm | 450 ppm | 576 ppm | 630 ppm | 9 |
| 1.0 | 500 ppm | 500 ppm | 640 ppm | 700 ppm | 10 |
| 1.1 | 550 ppm | 550 ppm | 704 ppm | 770 ppm | 11 |
| 1.2 | 600 ppm | 600 ppm | 768 ppm | 840 ppm | 12 |
| 1.3 | 650 ppm | 650 ppm | 832 ppm | 910 ppm | 13 |
| 1.4 | 700 ppm | 700 ppm | 896 ppm | 980 ppm | 14 |
| 1.5 | 750 ppm | 750 ppm | 960 ppm | 1050 ppm | 15 |
| 1.6 | 800 ppm | 800 ppm | 1024 ppm | 1120 ppm | 16 |
| 1.7 | 850 ppm | 850 ppm | 1088 ppm | 1190 ppm | 17 |
| 1.8 | 900 ppm | 900 ppm | 1152 ppm | 1260 ppm | 18 |
| 1.9 | 950 ppm | 950 ppm | 1216 ppm | 1330 ppm | 19 |
| 2.0 | 1000 ppm | 1000 ppm | 1280 ppm | 1400 ppm | 20 |
| 2.1 | 1050 ppm | 1050 ppm | 1334 ppm | 1470 ppm | 21 |
| 2.2 | 1100 ppm | 1100 ppm | 1408 ppm | 1540 ppm | 22 |
| 2.3 | 1150 ppm | 1150 ppm | 1472 ppm | 1610 ppm | 23 |
| 2.4 | 1200 ppm | 1200 ppm | 1536 ppm | 1680 ppm | 24 |
| 2.5 | 1250 ppm | 1250 ppm | 1600 ppm | 1750 ppm | 25 |
| 2.6 | 1300 ppm | 1300 ppm | 1664 ppm | 1820 ppm | 26 |
| 2.7 | 1350 ppm | 1350 ppm | 1728 ppm | 1890 ppm | 27 |
| 2.8 | 1400 ppm | 1400 ppm | 1792 ppm | 1960 ppm | 28 |
| 2.9 | 1450 ppm | 1450 ppm | 1856 ppm | 2030 ppm | 29 |
| 3.0 | 1500 ppm | 1500 ppm | 1920 ppm | 2100 ppm | 30 |
| 3.1 | 1550 ppm | 1550 ppm | 1984 ppm | 2170 ppm | 31 |
| 3.2 | 1600 ppm | 1600 ppm | 2048 ppm | 2240 ppm | 32 |
| 3.3 | 1650 ppm | 1650 ppm | 2112 ppm | 2310 ppm | 33 |
| 3.4 | 1700 ppm | 1700 ppm | 2176 ppm | 2380 ppm | 34 |
| 3.5 | 1750 ppm | 1750 ppm | 2240 ppm | 2450 ppm | 35 |

Gold Range NUTRIENT

Gold Range NUTRIENT is designed to be a premium, all inclusive, powerful 2 part nutrient system. Simply add to your reservoir with Dutch Master Gold Range additives as shown on the Dutch Master Online Nutrient Calculator for the best results possible! Gold Range NUTRIENT is jam packed full of the finest, high quality US & British Pharmaceutical grade minerals and B vitamins! Benefits: No need to use P/K based bloom boosters or nitrogen based kelp/seaweed boosters or cal/mag boosters! Suits all types of systems and media / substrates. No deficiencies... truly the best a plant can get!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized, interactive feeding program to suit your needs.

To use Gold Range NUTRIENT, simply follow these easy guidelines!

1. Fill your tank to 2/3rds of its capacity.
2. Add any permitted additives such as Dutch Master Gold Range ADD.27 / MAX first (DO NOT use MAX if you are using Gold Range ADD.27), then add Gold Range ZONE and Gold Range SILICA one at a time, stirring to mix before adding the next one. Please remember Gold Range NUTRIENT is very powerful and you should be very careful when you add any phosphorus boosters, Pk 13 / 14 or nitrogen boosters (kelp, seaweed or guano etc). If using Gold Range POTASH+ with Gold Range NUTRIENT, be sure to watch your leaf tips for 'tip burn' as this is a very powerful combination that should be used only by experienced growers!
3. Add the correct amount of Gold Range NUTRIENT part A for your tanks final or total capacity (according to the online [Nutrient Calculator](#)), stirring to mix.
4. Add the correct amount of Gold Range NUTRIENT part B for your tanks final or total capacity (according to the online [Nutrient Calculator](#)), stirring to mix.
5. Never mix part A and part B undiluted! Always add separately to water.
6. Never mix Grow and Flower parts together. Always mix Grow A only with Grow B and Flower A only with Flower B.
7. Grow must be used in the vegetative cycle and Flower must be used in the bloom cycle.
8. Top up your reservoir or tank to its final level or volume and check the strength using a TDS (PPM or EC) meter. If required, add more Gold Range NUTRIENT (one part at a time) in small equal quantities, until you arrive at the correct nutrient strength. If your nutrient solution is too strong then add fresh water until you arrive at the correct nutrient strength.
9. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info.
10. Do NOT use any Calcium / Magnesium supplements as our nutrients are choc full of them!
11. Feed according to your systems normal requirements.

Gold Range ONE

Gold Range ONE is a single / one part premium nutrient system. Simply add either grow or flower to your reservoir with Dutch Master Gold Range additives – nothing could be easier! Gold Range ONE has a unique, proprietary calcium / sulphur binding technology that maintains perfect solution solubility, unlike all other 1-part brands that end up with a white sludge due to chemical combination and 'fall out' that creates massive nutrient deficiencies within your plants! Benefits: Ease of use! Good for use in every type of system and media / substrates! No deficiencies... ever!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range ONE, simply follow these easy guidelines!

1. Fill your reservoir or tank to 2/3rds of its capacity.
2. Then add any other additives such as Dutch Master Gold Range ADD.27 / MAX first (DO NOT use MAX if you are using Gold Range ADD.27), then add Gold Range POTASH+, Gold Range ZONE and Gold Range SILICA one at a time, stirring to mix before adding the next one.
3. Add Gold Range ONE to your reservoir (according to the online [Nutrient Calculator](#)), stirring to mix.
4. Never mix Grow and Flower parts together. Grow must be used in the vegetative cycle and Flower must be used in the bloom cycle.
5. Top up your reservoir or tank to its final level or volume and check and adjust final nutrient strength using a TDS (PPM or EC) meter. If required, add more Gold Range ONE in small quantities, stirring between each addition until you arrive at the correct nutrient strength. If your nutrient solution is too strong then add fresh water until you arrive at the correct nutrient strength.
6. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info.
7. Do NOT use any Calcium / Magnesium supplements as our nutrients are choc full of them!
8. Feed according to your systems normal requirements.

ADVANCE

Dutch Master ADVANCE is a premium 2 part nutrient system designed with the budget conscious grower in mind! Formulated by our in-house Plant Sciences team, ADVANCE utilises the same high quality US and British Pharmaceutical grade elements found in our 'top of the range' Gold Range NUTRIENT to ensure purity and minimal heavy metals. Simply add to your reservoir with Dutch Master Gold Range additives as shown on the Dutch Master Online Nutrient Calculator for the best results possible! Suits all types of systems and media / substrates. No deficiencies... ever!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use ADVANCE, simply follow these easy guidelines!

1. Fill your reservoir or tank to 2/3rds of its capacity.
2. Add any permitted additives such as Dutch Master ADD.27 / MAX first (DO NOT use MAX if you are using Gold Rang ADD.27), then add Gold Range POTASH+, Gold Range ZONE and Gold Range SILICA one at a time, stirring to mix before adding the next one.
3. Add the correct amount of ADVANCE part A for your tanks final or total capacity (according to the online [Nutrient Calculator](#)), stirring to mix.
4. Add the correct amount of ADVANCE part B for your tanks final or total capacity (according to the online [Nutrient Calculator](#)), stirring to mix.
5. Never mix part A and part B undiluted! Always add separately to water.
6. Never mix Grow and Flower parts together. Always mix Grow A only with Grow B and Flower A only with Flower B.
7. Grow must be used in the vegetative cycle and Flower must be used in the bloom cycle.
8. Top up your reservoir or tank to its final level or volume and check and adjust final nutrient strength using a TDS (PPM or EC) meter. If required, add more ADVANCE (one part at a time) in small equal quantities until you arrive at the correct nutrient strength. If your nutrient solution is too strong then add fresh water until you arrive at the correct nutrient strength.
9. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info.
10. Do NOT use any Calcium / Magnesium supplements as our nutrients are choc full of them!
11. Feed according to your systems normal requirements.

Gold Range ADD.27

Gold Range ADD.27 is a tank additive and the worlds first 'nutrient activator' that has been clinically proven and field tested to ADD considerably to your achievements! Dutch Masters new anti-stress 'Protein Based Chelation Technology' is the next generation in tank additives that does more than just add minerals, vitamins and aminos – it actually makes them work for you! Benefits: Deliver as close to 100% of your nutrients to your plants as possible – no wastage, better results! Reduce day to day stress! Works in all types of systems with all media / substrates – truly universal!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range ADD.27, simply follow these easy guidelines!

1. Fill your reservoir or tank to 2/3rds of its capacity.
2. Add Gold Range ADD.27 according to the online [Nutrient Calculator](#) or at the rate of 3 ml to every 1 litre of made up nutrient solution or 11.4 ml to every 1 gallon of made up nutrient solution from the beginning of week 1 in grow right through until the end of flower.
3. Add any other additives such as Gold Range POTASH+, Gold Range ZONE and Gold Range SILICA after Gold Range ADD.27.
4. Add your primary nutrient such as ADVANCE, ORIGINAL, Gold Range ONE or Gold Range NUTRIENT, stirring well to mix. Please note – Gold Range POTASH+ is not to be used with Gold Range NUTRIENT as Gold Range NUTRIENT provides allthe phosphorus the plants need during flowering.
5. Top up your reservoir or tank with water to its final level or volume and check the nutrient strength using a TDS (PPM or EC) meter. If required, add more nutrients until you arrive at the correct nutrient strength. If your nutrient solution is too strong then add fresh water until you arrive at the correct nutrient strength.
6. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info.
7. Feed according to your systems normal requirements.
8. DO NOT use MAX if you are using Gold Range ADD.27 because Gold Range ADD.27 is the next level of technology and contains all the ingredients of MAX with new ground breaking discoveries that makes Gold Range ADD.27 the most advanced tank additive ever produced! Your nutrient is now supercharged and ready to go!

Gold Range POTASH+

Gold Range POTASH+ is a tank additive that contains multiple suites of various 'bloom boosting' elements and has proved itself to be a 'best seller' in the worldwide hydroponics industry with added next generation 'synergistic micro-element binding technologies' giving your plants the ability to reach their maximal genetic flowering capacity! Only the finest US & British Pharmaceutical phosphorus and EDTA micro-elements are used! Benefits: Larger, more colourful blooms! Maximizes weight and size! Use with all brands of nutrients (except Gold Range NUTRIENT) in all types of systems with all media / substrates!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range POTASH+, simply follow these easy guidelines!

1. Fill your reservoir or tank to 2/3rds of its capacity.
2. Add Gold Range POTASH+ according to the online [Nutrient Calculator](#) or at the rate of 1.5 ml per litre or 5.7 ml per gallon of final tank volume / size before you have added your primary nutrient.
3. Add any other additives such as Gold Range ADD.27, Gold Range Zone or Gold Range SILICA stirring between each addition.
4. Add your primary nutrient such as Gold Range NUTRIENT, Gold Range ONE, ADVANCE, ORIGINAL, stirring well to mix. Please note – If using Gold Range POTASH+ with Gold Range NUTRIENT, be sure to watch your leaf tips for 'tip burn' as this is a very powerful combination that should be used only by experienced growers!
5. Top up your reservoir or tank with water to its final level or volume and check the nutrient strength using a TDS (PPM or EC) meter. If required, add more nutrients in until you arrive at the correct nutrient strength. If your nutrient solution is too strong then add fresh water until you arrive at the correct nutrient strength.
6. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info.
7. Feed according to your systems normal requirements.

Gold Range ZONE

Gold Range ZONE is a tank additive that has been formulated to provide the optimal 'Root Zone' conditions by applying the most modern water cleansing technologies available today! Used by countries all over the world, Gold Range ZONE will provide you with a root system to be proud of and we all know that a healthy root zone equates to healthy plants and yields! Benefits: Less system maintenance required! Keeps media clean and reusable! Use as a maintenance right through grow and flower or as a troubleshooter when your root zone needs to be perfect! Absolute root zone optimization!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range ZONE, simply follow these easy guidelines!

- LIGHT STRENGTH:

Use this schedule from the day you plant out into your system, to the day you harvest for worry free gardening! Recommended for continual use right through grow and flower when water temperature is below 21C / 70F. Add Gold Range ZONE at the rate of 5 ml / 1 teaspoon per 20 litres / 5 gallons of final tank level or volume, with all other additives and before adding your primary nutrient. Check and adjust final nutrient strength using a TDS (PPM or EC) meter. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info. Feed according to your systems normal requirements.

- MEDIUM STRENGTH:

Use this mid range strength whenever your water temperature reaches or exceeds 23C / 74F. Your root zone can quickly get out of balance when your water temperature reaches or exceeds this mark. Using Gold Range ZONE at this strength, before problems occur, will optimize your root zones condition until your water temperature falls back into the safe area below 21C / 70F. Add Gold Range ZONE at the rate of 9 ml / 2 teaspoons per 20 litres / 5 gallons of final tank level or volume, with all other additives and before adding your primary nutrient. Check and adjust final nutrient strength using a TDS (PPM or EC) meter. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info. Feed according to your systems normal requirements.

- AGGRESSIVE STRENGTH:

Use this strength at first signs of a 'less than optimal' root zone. Using Gold Range ZONE at this strength is very effective at quickly re-establishing optimal root zone conditions. Once your plants have regained their vigour, return to using medium strength Gold Range ZONE for the remainder of your growing and / or flowering cycles. Add Gold Range ZONE at the rate of 12 ml / 2 ½ teaspoons per 20 litres / 5 gallons of final tank level or volume, with all other additives and before adding your primary nutrient. Check and adjust final nutrient strength using a TDS (PPM or EC) meter. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info. Feed according to your systems normal requirements.

Gold Range SILICA

Gold Range SILICA is a tank additive that provides that much needed silicon that cannot be supplied in 'stand alone' nutrient formulations. Silicon plays an extremely vital role in cellular structure, strength and the health of your plants. Most plants grown in hydroponic systems or even soil can be deficient of this essential element, creating a less than ideal framework for your success! Benefits: Stronger, healthier more vital plants! Capable of supporting larger blooms! Use in all types of systems and with all media / substrates! Can be combined with any nutrient and additive brand!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range SILICA, simply follow these easy guidelines!

1. Fill your reservoir or tank to 2/3rds of its capacity.
2. If you are using Gold Range ADD.27, Gold Range POTASH+ or Gold Range ZONE then add this next according to the Usage Instructions.
3. Add Gold Range SILICA to your tank according to the online [Nutrient Calculator](#) or at the rate of 0.5 ml per litre or 2 ml per gallon of final tank level or volume.
4. Add your primary nutrient such as ADVANCE, ORIGINAL, Gold Range ONE or Gold Range NUTRIENT, stirring well to mix. Please note – Gold Range POTASH+ is not to be used with Gold Range NUTRIENT as Gold Range NUTRIENT provides all the phosphorus the plants need during flowering.
5. Top up your reservoir or tank with water to its final level or volume and check the nutrient strength using a TDS (PPM or EC) meter. If required, add more nutrients until you arrive at the correct nutrient strength. If your nutrient solution is too strong then add fresh water until you arrive at the correct nutrient strength.
6. Adjust pH to approximately 5.5 for Rockwool, Perlite, Clay, Vermiculite, Aeroponics, DWC, NFT, Hydro or Coco users or 5.9 for dirt or soilless systems such as Promix or Sunshine mix. See [Growers Tips](#) for more info.
7. Feed according to your systems normal requirements.

Gold Range LIQUID LIGHT

Gold Range LIQUID LIGHT is the foremost advancement in foliar / leaf feeding your plants! It's a well known scientific fact that foliar feeding is many times more efficient and productive than root feeding. In fact, Dutch Master proved it at a leading Vancouver University using 'real time fluoroscopy'! Aminos and carbs barely get in to roots whereas they flood into the leaves! Benefits: The only university proven effective way to deliver carbs & aminos right to where they are needed most – the leaves! Instant visual results within days! Indoor & outdoor with any type of system in any medium / substrate! For maximum results, just add water and Gold Range SATURATOR and spray the leaves with the lights on for a minimum of 3 hours!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range LIQUID LIGHT, simply follow these easy guidelines!

1. Add 60 ml / 2 oz of Gold Range LIQUID LIGHT together with 60 ml / 2 oz of Gold Range SATURATOR to 1 litre / 1 quart of water in a spray bottle. For a 500 ml / ½ quart spray bottle add 30 ml / 1 oz of Gold Range LIQUID LIGHT and 30 ml / 1 oz of Gold Range SATURATOR and for a 250 ml / 8 oz spray bottle add 15 ml / ½ oz of Gold Range LIQUID LIGHT and 15 ml / ½ oz of Gold Range SATURATOR. Gold Range SATURATOR is an advanced delivery agent that transports Gold Range LIQUID LIGHT right inside the leaves of your plant. Remember, Gold Range LIQUID LIGHT will not work as effectively without Gold Range SATURATOR.
2. *** IMPORTANT *** Do NOT adjust pH.
3. Gently shake the spray bottle with the solution in it to make sure it is well mixed.
4. *** IMPORTANT *** Ensure your lights are ON and will be for at least the next 3 hours.
5. Make sure your lights are a minimum of 18 to 24 inches from the tops of your plants then spray your plants until the leaves are evenly coated with the spray solution and a small runoff occurs. **MAKE SURE YOU AVOID SPRAYING THE GLOBES / BULBS.** You only need to spray the top surface of the leaf because Gold Range SATURATOR will deliver everything inside the leaf. If you needed to raise your lights to spray, you may lower them back down after 30 minutes, as all the solution will be absorbed into the leaf within this time.
6. Spray your plants with Gold Range LIQUID LIGHT and Gold Range SATURATOR spray solution using the above measurements and methods twice per week (or every 3rd day) from the beginning of your grow cycle and right up until approximately the end of the 4th week of flowering.
7. Left over solution may be stored in the spray bottle, in a dark, cool environment, for up to a week. However, it is preferable, for optimal results, to mix fresh solutions just prior to spraying.
8. **DO NOT** use FOLITECH or MAX-FX if you are using Gold Range LIQUID LIGHT as Gold Range LIQUID LIGHT is the next level of foliar spray technology that contains all the ingredients of FOLITECH and MAX-FX with new ground breaking discoveries that makes Gold Range LIQUID LIGHT the most advanced foliar spray ever produced!
9. Spray half strength Gold Range LIQUID LIGHT on very young plants (typically 1 – 2 weeks old). It is preferable to spray Dutch Master Gold Range A.P.S on cuttings (undiluted with 60 ml / 2 oz of Gold Range SATURATOR) whilst establishing an initial root system.

Gold Range SATURATOR

Gold Range SATURATOR is a foliar / leaf spray 'Delivery Agent' that introduces a radical next generation technology that creates a unique 'Dual Action Delivery'. Gold Range SATURATOR takes the nutrients or supplements you spray on your plants and delivers them deep inside the active leaf tissue where it is explosively released with 'high energy uncoupling', saturating the leaf cells with your foliar payload! Benefits: Spray your plants with the lights on or off (if using with Gold Range LIQUID LIGHT, then ensure lights are left on for at least 3 hours after spraying leaves)! Suitable for use with all brand foliar products! Correct nutrient deficiencies immediately by spraying 1/3 strength nutrients! Doubles the power of Gold Range LIQUID LIGHT! Spray indoors or outdoors!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range SATURATOR, simply follow these easy guidelines!

1. Add 60 ml / 2 oz of Gold Range SATURATOR together with the required amount of foliar product (according to product usage directions) you wish to spray, to 1 litre / 1 quart of water in a spray bottle. For a 500 ml / ½ quart spray bottle add 30 ml / 1 oz of Gold Range SATURATOR and for a 250 ml / 8 oz spray bottle add 15 ml / ½ oz of Gold Range SATURATOR.
2. *** IMPORTANT *** Do NOT adjust pH.
3. Gently shake the spray bottle with the solution in it to make sure it is well mixed.
4. Your lights can be switched on or off and should be a minimum of 18 to 24 inches from the tops of your plants. Spray your plants until the leaves are evenly coated with the spray solution and a small runoff occurs. **MAKE SURE YOU AVOID SPRAYING THE GLOBES / BULBS.** You only need to spray the top surface of the leaf because Gold Range SATURATOR will deliver absolutely everything inside the leaf using the top surface only. If you needed to raise your lights to spray, you may lower them back down after 30 minutes, as all the solution will be absorbed into the leaf within this time.
5. Left over solution may be stored in the spray bottle, in a dark, cool environment, for up to a week. However, it is preferable, for optimal results, to mix fresh solutions just prior to spraying.

Gold Range REVERSE

Gold Range REVERSE is a foliar / leaf spray that has been designed to ease the burden on growers whose worst enemy is an awful seed nightmare! Simply spray 7 days into flower and then again 10 days later – too easy! Modern science allows REVERSE to achieve this remarkable feat by its beneficial effects on the Mesophyll layer of the plant. This layer is responsible for most of a plants energy production (photosynthesis) and more importantly is the starting point of all the metabolic pathways. Reverse helps a plant to express its natural genetic balances. Benefits: No mixing with water, just add SATURATOR and spray!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#) and use the online [Nutrient Calculator](#) for an individualized interactive feeding program to suit your needs.

To use Gold Range REVERSE, simply follow these easy guidelines!

1. As a preventative aid, spray your plants the first time as required (usually approx 7 days into flower cycle) and once again 10 days later OR can be used at the first sight of trouble by spraying with Gold Range REVERSE immediately and once again 10 days later.
2. **DO NOT DILUTE WITH WATER** - Pour the amount of Gold Range REVERSE you need into a spray bottle. Typically 500 ml / ½ quart is enough for one application for the average sized garden.
3. *** Important *** Add Gold Range SATURATOR at the rate of 10 ml / 2 teaspoons per litre / quart only! A 500 ml / ½ quart spray bottle will require 5 ml / 1 teaspoon of Gold Range SATURATOR and a 250 ml / 8 oz spray bottle will require only 2.5 ml / ½ teaspoon of Gold Range SATURATOR.
4. Gently shake the spray bottle with the solution to make sure it is well mixed.
5. *** Important *** - you must spray the solution within 15 minutes of adding Gold Range SATURATOR!
6. Make sure your lights are a minimum of 24 inches from the tops of your plants then spray your plants until the leaves are evenly coated with the spray solution and a small runoff occurs. **MAKE SURE YOU AVOID SPRAYING THE GLOBES / BULBS.** You only need to spray the top surface of the leaf because Gold Range SATURATOR will deliver absolutely everything inside the leaf using the top surface only. If you needed to raise your lights to spray, you may lower them back down after 30 minutes, as all the solution will be absorbed into the leaf within this time.

Gold Range REPLICATOR

Gold Range REPLICATOR is a naturally formed, gentle cutting gel formulated as a specialized cut stem sealant, designed by our Plant Sciences team, that nurtures your newly taken cuttings in a revolutionary and nutritious cocoon. This cocoon ensures successful rooting by providing a specialized environment - soaking the cut end of the stem in a nutritious bath of selected British & US Pharmaceutical grade mineral elements and phyto-nutrients. Benefits: Your cuttings are encouraged to produce roots naturally, not artificially with harsh hormones! Amazing strike rate! Easy to use!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#). To use Gold Range REPLICATOR, simply follow these easy guidelines!

1. Soak rockwool cubes / slabs in undiluted Dutch Master Gold Range A.P.S. Do not adjust pH!
2. Allow the cubes / slabs to fully soak with Gold Range A.P.S solution, remove and gently squeeze out any excess.
3. Pour the amount of Gold Range REPLICATOR you need into another small bottle. Typically a small, empty and clean medicine bottle can be used. To avoid contamination discard remainder gel after use.
4. After taking your cuttings in your preferred manner (typically a diagonal cut across the stem with a sterile, sharp blade generally using side branches from a mother plant, retaining 2 – 4 sets of leaves per cutting), then simply dip the bottom 10mm / ½ inch of the cut end of the stem into Gold Range REPLICATOR.
5. Pre-poke snug holes into rockwool cubes / slabs or similar rooting medium and carefully push cuttings into pre-formed holes. Your cuttings must be a firm fit into the rockwool cubes / slabs or similar rooting medium.
6. For best results, place cuttings into a propagation tray with a vented clear lid on a thermostatically controlled heat mat.
7. Maintain moist cubes / slabs with undiluted Gold Range A.P.S and also lightly spray cuttings every one to two days, as required, with Gold Range A.P.S and Gold Range SATURATOR (add 60 ml / 2 oz of Gold Range SATURATOR to 1 litre / 1 quart of undiluted Gold Range A.P.S).
8. At the first sign of roots, 'harden off' cuttings by allowing more airflow in propagation tray.
9. When multiple roots begin to appear from the bottom of your cube / slab – They are ready to plant out into your main grow system!

Gold Range A.P.S

Gold Range A.P.S is a major leap forward with advancements in the arena of striking cuttings! Ready to use straight out the bottle, Gold Range A.P.S is the first 'Cutting Specific' multi-purpose nutrient and foliar / leaf spray designed to carefully nurture your precious babies! Use as an initial 'cube / slab soak' to perfectly pH balance and fertilize your rockwool or simply add SATURATOR and foliar / leaf spray for guaranteed success! Benefits: Makes rockwool conditioning so simple! Ready to use straight out the bottle – no dilution required! Root and foliar feed with one product – too easy!

USAGE INSTRUCTIONS:

For best results, see our [Growers Tips](#). To use Gold Range A.P.S, simply follow these easy guidelines!

1. Pour the amount of Gold Range A.P.S you require into a container large enough to hold and soak your rockwool cubes / slabs.
2. Allow the cubes / slabs to fully soak with Gold Range A.P.S solution for a few minutes then remove and gently squeeze out any excess.
3. Pour the amount of Gold Range REPLICATOR you need into another small bottle. Typically a small, empty and clean medicine bottle can be used. To avoid contamination discard remainder gel after use.
4. After taking your cuttings in your preferred manner (typically a diagonal cut across the stem with a sterile, sharp blade generally using side branches from a mother plant, retaining 2 – 4 sets of leaves per cutting), then simply dip the bottom 10mm / ½ inch of the cut end of the stem into Gold Range REPLICATOR.
5. Pre-poke snug holes into rockwool cubes / slabs or similar rooting medium and carefully push cuttings into pre-formed holes. Your cuttings must be a firm fit into the rockwool cubes / slabs or similar rooting medium.
6. For best results, place cuttings into a propagation tray with a vented clear lid on a thermostatically controlled heat mat.
7. Maintain moist cubes / slabs with undiluted Gold Range A.P.S and also lightly spray cuttings every one to two days, as required, with Gold Range A.P.S and Gold Range SATURATOR (add 60 ml / 2 oz of Gold Range SATURATOR to 1 litre / 1 quart of undiluted Gold Range A.P.S).
8. At the first sign of roots, 'harden off' cuttings by allowing more airflow in propagation tray.
9. When multiple roots begin to appear from the bottom of your cube / slab – They are ready to plant out into your main grow system!

DUTCHTM MASTER

THE FUTURE OF HYDROPONIC NUTRIENTS



**Gold Range
NUTRIENT
GROW A**



**Gold Range
NUTRIENT
GROW B**



**Gold Range
NUTRIENT
FLOWER A**



**Gold Range
NUTRIENT
FLOWER B**



**Gold Range
ADD.27
GROW**



**Gold Range
ADD.27
FLOWER**



**Gold Range
LIQUID LIGHT**



**Gold Range
SATURATOR**



**Gold Range
ONE
GROW**



**Gold Range
ONE
FLOWER**



**Gold Range
POTASH+**



**Gold Range
ZONE**



**Gold Range
SILICA**



**Gold Range
REVERSE**



**Gold Range
A.P.S.**



**Gold Range
REPLICATOR**



**ADVANCE
GROW A**



**ADVANCE
GROW B**



**ADVANCE
FLOWER A**



**ADVANCE
FLOWER B**