



HYDRODYNAMICS INTERNATIONAL

PRODUCT APPLICATION GUIDE & FEEDING SCHEDULE

IMPORTANT SUGGESTIONS WHEN USING OUR PRODUCTS



www.hydrodynamicsintl.com

HYDRODYNAMICS INTERNATIONAL

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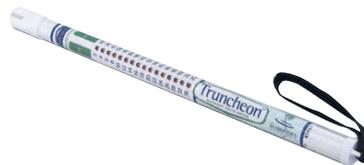
Measuring pH

This is best done with a meter. Kits using liquids are also available. The kits are adequate for plants grown in soil. Growers using re-circulating hydroponic systems such as NFT and Ebb & Flow should use a meter to monitor the solution accurately. Remember that incoming water is usually of a higher pH than the nutrient solution so there tends to be an upward drift in pH. This is corrected by the regular addition of small amounts of pH Lower.

Measuring EC & PPM

The EC or electrical conductivity of a solution is an expression of the capacity of that solution to conduct electricity. Distilled water will conduct virtually no electricity and will therefore

have a conductivity reading of zero. The conductivity increases as salts are dissolved in water. The EC of a nutrient solution is therefore a measurement of its "strength" as indicated by the actual amount of salts dissolved in that solution. Many meters are available with different scales to measure the nutrient solution.



By far the best is the amazing Truncheon meter from New Zealand Hydroponics, which uses flashing lights to show the EC, CF and PPM readings. Truncheons are very accurate, reliable, and come with a three year warranty.

Growing & Hard Water

Hard water is found in many parts of the world and is characterized by high levels of bicarbonate that can cause problems for growers. Hard water usually has a high pH and the bicarbonates need to be neutralized to reduce the pH. Growers will usually add phosphoric acid (pH Lower) to reduce the pH. Normally this is very effective but if the water is hard it will take a large quantity of phosphoric acid to neutralize the bicarbonates and lower the pH. High levels of phosphate will inhibit the uptake of other minerals and major imbalances in the nutrient solution can occur. The best answer is to use a nutrient especially designed for use in hard water areas, like Ionic Hard Water nutrients. Ionic Hard Water nutrients have been specifically formulated

to correct the pH of alkaline water and minimize the amount of phosphoric acid that is required to maintain correct pH levels. Using Ionic Hard Water nutrients will ensure the best possible results when growing plants in hard water areas.

The Nutrient Solution

Ionic nutrients are true hydroponic nutrients and are complete, containing every mineral element needed for plant growth in the most soluble form. The advantage of a complete hydroponic nutrient is that every time you water your plants, you can be sure that the plants are receiving a full profile of essential nutrients in exactly the right proportions.



HYDRODYNAMICS INTERNATIONAL

WEEK 1
CLONE-SEEDLING

WEEK 2

WEEK 3

WEEK 4

WEEK 5

WEEK 6

GROWTH



MINERAL NUTRITION

IONIC
GROW

IONIC
BLOOM

IONIC
BOOST

IONIC
GROW FOR SOIL OR COCO

IONIC
BLOOM FOR SOIL OR COCO

ORGANIC STIMULATORS

GreenFuse
ROOT STIMULATOR

GreenFuse
GROWTH STIMULATOR

GreenFuse
BLOOM STIMULATOR

Nitrozime
MARINE ALGAE EXTRACT

EUROPONIC
FOSSILFUEL
HUMIC ACID

Add Ionic Grow to tap water at the rate of 5 ml per liter or 4 teaspoons per gallon with each reservoir change. Use Ionic at half strength for seedlings and rooted cuttings.

Target: pH 5.8 - 6.0 EC 1.8 - 2.0 mS

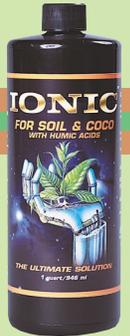
IONIC GROW

Gardening with hard water? Avoid problems by using Ionic Hard Water Formula.



Top off reservoir with fresh water or nutrient solution to target pH and EC. Drain and refill reservoir with fresh nutrient solution every 10 days to 2 weeks.

IONIC GROW FOR SOIL AND COCO



Mix GreenFuse Root at the rate of:
1 ml per liter or 3/4 teaspoon per gallon *REGULAR STRENGTH GREENFUSE
1 ml per 15 liters or 1/2 teaspoon per 10 gallons *GREENFUSE CONCENTRATE
with half strength Ionic Grow and feed daily until strong roots are evident.

GREENFUSE ROOT

Soak seeds overnight in solution of 1-2 teaspoons per quart (5-10 ml per liter) of water. After planting, water with solution of 1-2 teaspoons per quart (5-10 ml per liter) of water.



Add GreenFuse Growth to fresh nutrient solution at the rate of:
1 ml per liter or 3/4 teaspoon per gallon *REGULAR STRENGTH GREENFUSE
1 ml per 15 liters or 1/2 teaspoon per 10 gallons *GREENFUSE CONCENTRATE
with each reservoir change. For soil or coco in containers, use with each irrigation. Mist plants with this solution weekly for extra vigor.

GREENFUSE GROWTH

Add Nitrozime at the rate of 5 -10 ml per liter or 1-2 teaspoons per quart, w
For soil or coco in containers, water with solution of 1-2 teaspoons per quart (5-
For best results, use Nitrozime combined with Agri-2 wetting agent as a foliar s

NITROZIME

Add FossilFuel to fresh nutrient solution at the rate of 5 ml per liter or 1 teaspoon per quart (4 teaspoons per gallon) with each reservoir change. Use weekly as a foliar spray. Treat soil or coco with FossilFuel before planting.

WEEK 7

WEEK 8

WEEK 9

WEEK 10

WEEK 11

WEEK 12

FLOWERING



maintain
nutrient



Add Ionic Bloom to tap water at the rate of 5 ml per liter or 4 teaspoons per gallon with each reservoir change.

Add Ionic Boost to tap water at the rate of 1 ml per liter or 3/4 teaspoon per gallon with each reservoir change. For soil and coco use Boost at a rate of 1ml per liter or 1 teaspoon per gallon with each irrigation.

Ionic Boost replenishes the important elements phosphorus and potassium. These essential elements are quickly depleted from nutrient solutions by flowering plants. Boost keeps your nutrient solution in balance by maintaining the ideal ratio between key minerals.

Target: pH 5.8 - 6.0 EC 1.8 - 2.0 mS

IONIC BLOOM

IONIC BOOST

Add Ionic Grow for Coco or Ionic Bloom for Coco to tap water at the rate of 5 ml per liter or 4 teaspoons per gallon. Use Ionic at half strength for seedlings and rooted cuttings. Water plants with solution from day 1 as needed to keep soil moist. Allow 10% of the nutrient solution to run out of the bottom of the container. Flush medium weekly with fresh water to prevent salt build-up.

Target: pH 5.8 - 6.2 EC 1.60 - 1.8 mS

IONIC BLOOM FOR SOIL AND COCO

- For most plants the ideal air temperature is 72° - 74° F.
- Maintain high humidity to protect plants from wilting while new roots are forming.
- Maintain good air circulation to prevent disease and encourage healthy plant growth.
- When using carbon dioxide, increase nutrient strength by 10%.

FUSE
CONCENTRATE



Add GreenFUSE Bloom to fresh nutrient solution at the rate of:
1 ml per liter or 3/4 teaspoon per gallon *REGULAR STRENGTH GREENFUSE
1 ml per 15 liters or 1/2 teaspoon per 10 gallons *GREENFUSE CONCENTRATE
with each reservoir change. For soil or coco in containers, use with each irrigation.
Mist plants with this solution weekly for extra vigor.



GREENFUSE BLOOM

with each reservoir change.
(10 ml per liter) every week.
spray weekly.



FOSSILFUEL

Combine Nitrozime, GreenFUSE, and FossilFuel for the ultimate in foliar feeding. Set your sprayer to apply solutions as a fine mist. Add Agri-2 to foliar solution at the rate of 5 ml per liter or 1 teaspoon per quart for more effective foliar feeding. Mist plants thoroughly every 7 to 10 days.

CLONEX[®]

ROOTING COMPOUND

CLONEX[®]

CLONE SOLUTION

GreenFuse[®]

ROOT, GROWTH AND BLOOM STIMULATORS[®]

Nitrozime[™]

MARINE ALGAE EXTRACT

Clonex is a high performance rooting compound. It is a tenacious gel which will remain in contact around the stem, sealing the cut tissue and supplying the hormones needed to promote root cell development and vitamins to protect the delicate new root tissue. Clonex has a full spectrum of mineral nutrients and trace elements to nourish the young roots.

Clonex Clone Solution is a clone-specific nutrient formulated using a special blend of minerals, vitamins, wetting agents and root promoters. Used with Clonex Gel, Clonex Clone Solution encourages rapid root development while helping to minimize stress.

GreenFuse - we call this new highly concentrated formula GreenFuse due to the incredible way it empowers the natural growth processes of the plant, unleashing the latent green energy hidden within. GreenFuse, the original and genuine Root, Growth, and Bloom Stimulators from Holland.

Nitrozime is an all natural marine algae extract that contains many of the nutrients and growth hormones that all plants require for vigorous, healthy growth. Nitrozime promotes lush vegetation heavy with oil, earlier flowering, and increased yields. Nitrozime is highly concentrated - a little goes a long way. Recommended for foliar and root application.



EUROPONIC FOSSILFUEL[®]

HUMIC ACIDS

IONIC[™] IONIC[™] IONIC[™]

GROW AND BLOOM FOR SOIL OR COCO BOOST

FossilFuel is made from humic acids that have been fully extracted from leonardite, making it highly soluble and available to plants. Humic acids promote rapid plant growth and increase the size of plants. Use FossilFuel at the root zone and as a foliar spray. FossilFuel may be used on all plants including fruits, vegetables, ornamental plants and grasses.

Ionic Grow & Ionic Bloom are manufactured by a revolutionary process in which a series of tightly controlled reactions create large complex molecules that hold the pure mineral elements bonded together in a highly stable single pack solution. This translucent liquid contains the most precise hydroponic formulation ever achieved. Ionic's formula guarantees quality, continuity and ease of use.

Ionic for Soil or Coco nutrient is a single part formulation that contains soluble mineral salts and crucial organic components, including humates and highly active plant acids. This combination of minerals and organic materials follows the pattern of natural systems and will produce strong and healthy plants.

Ionic Boost is a supplement designed to promote heavy flowering and should be used in conjunction with Ionic Bloom or with any full spectrum nutrient solution of the "bloom" variety. Ionic Boost is specifically formulated to deliver the key elements phosphorous (P) and potassium (K). These crucial ingredients are used in abundance by plants in their flowering cycle and the extra levels provided by Boost can lead to larger flowers and more successful crops.

