

2012 CATALOG



COMMERCIAL



American Hydroponics provides crop performance products and services for people to grow crops successfully, for fun or profit in any environment with an emphasis on conserving water and resources.

Our Vision: We are committed to providing the tools, systems and knowledge for resource-efficient, community-supported agriculture. We envision food production once again at the heart of community where food safety, nutrition and support for local farming practices are once again paramount to a healthy community. We support 'shake the hand that feeds you.'

What's NEW for 2012...

We have many hydroponic systems in operation all over the world using our NFT system designs. Historically, to enjoy the versatility and benefits of a sliding bench NFT system with an open collector, instead of gluing fittings on PVC channels, our HDPE channels required bending the downstream and upstream ends with special tools and a heat gun to form permanent 'lips' to prevent leakage. Once completed, the channel is virtually indestructible. Unfortunately the most frequent complaint was that our growers despised the lipping process as too time consuming and tedious, plus HDPE has a tendency to 'relax' and the bends occasionally leak. A laborer could lip roughly 100 channels in an 8 hour period. But when a system required 5000 channels, the process was daunting and had to be improved.

It has taken many years but we finally figured out how to make our channels 'lipless' (without bends) and not leak. Now our channels are ready to install right out of the shipping pallets. One 1/4" fill hole is required to be drilled per channel and you are ready to grow. Nothing could be easier. No fittings, no bending lips. Channels are easy to install, easy to maintain and easy to clean.

Drip Cap:

To prevent any possibility of leakage, we designed a plastic drip cap that installs on our table frame and directs all nutrient to the collector and back to the reservoir. Nothing gets by it, it's brilliant.

Vented End Cap:

For growers that require their plants grow larger root systems, we developed an end cap with a window so you can visually inspect your feed lines as well as allow adequate airflow down your channels.



Covered Collector:

We began manufacturing covered collectors for all of our NFT systems early last year. The co-extruded triple wall pipe we use is white on the outside to reduce heat gain and black on the inside to discourage algae growth.

Our collectors are now modular. They are 10' long and include end caps and a drain fitting. This design change allows nutrient rich water to exit much faster thereby reducing heat gain. These collector modules facilitate ease of setup. Not only are they easy to set up, they are durable and easy to clean which is very important with a well run system. They are also easy to fix and replace if need be.

What We Offer:

The most important aspects of a well designed NFT system are ease of installation, simplicity, durability and adaptability. Table frames need to be strong but lightweight, easy to level and easy to walk in between. Channels need to be unbreakable, stackable, easy to clean and moveable. Markets shift and successful growers adapt quickly by growing what markets demand. Different plant spacing is usually what is required which is why moveable channels in the system design is essential. Collectors need to deter algae growth, be leak free and hassle proof and easy to clean. Feed manifolds should never clog and be easy to turn on/off and adjust. Focus must be on moving plants quickly through the system, NOT on fiddling with a poorly designed system. The system design we offer is the result of feedback from many growers worldwide. We paid attention to their suggestions for improvement and implemented them into the best sliding bench NFT system available.





***“In June 2004** the two 12' x 125' NFT system purchased from American Hydroponics was delivered and installed in our greenhouse. The installation went very smooth and easy due to the clear and detailed design. All the elements of the system were easily identified and fitted.*

The system was fully operational in September 2004, and the first shipment of Cos and Lola-Rosa lettuces was delivered to market the same month. Nowadays we are growing not only lettuces but also herbs like Basil, Parsley, Coriander and Dill.

The system is very reliable and is operating without any failures.

From the beginning of our relationship, we have enjoyed full cooperation and support from American Hydroponics in general and from Michael Christian in particular. All questions are answered immediately demonstrating very high skills, professionalism and experience in NFT systems. The outcome of all this is a very successful operation of the system in Israel.”

—Yossi Rotem
Ramla, Israel

If you are considering either...

Supplementing your income or generating a livelihood with hydroponics.

We can help! American Hydroponics has been designing and manufacturing hydroponic systems since 1984. We have personal commercial growing experience, have provided numerous systems and support for many growers worldwide and have learned that nothing takes the place of ‘doing it right the first time.’

Of all the ways to supplement your income or generate a livelihood in the world, running a hydroponic operation can be a profitable and satisfying experience. In this brochure, there are pictures and comments by numerous successful growers who are doing just that. You can be one of them.

Let us help guide you through this process to see if operating a hydroponic operation is a “fit” for you, your family, lifestyle and ambitions.

We offer 4 packages to help you assess your market as well as provide visibility to the real costs of doing business to see if it’s a fit for you. We look at:

A: What is the best crop to grow (highest value, least effort)

B: Maintaining a niche market (how close are you to markets, how big?)

C: Estimating project costs (greenhouse, hydroponic systems, installation)

D: Estimated operating costs (business practices, energy costs, labor, marketing, supplies, how much time you are willing to devote to the enterprise)

E: Revenue expectations (production volume, realistic price for produce) f. Return on Investment (break even scenario’s and profit picture)

After you have done your homework with one of our packages, *and* if it all “pencils out,” and you want to go to the next step, we provide the knowledge, system technology and growing/business support to make sure you start off right. See our custom package offers on the following pages.

If it doesn’t “pencil out,” with a minimal investment in one of our packages, you will have learned how to use valuable business tools, operate a small hydroponic growing system for your own personal needs, prevented a large capital loss, and exercised skills in taking care of your future. You can’t lose.

“The technical support at American Hydroponics is outstanding!

They quickly and concisely answer my questions and address any problems I have. We are better growers with the support of American Hydroponics.”

—D. Deforest
Sioux City, Iowa

Here are the ways we can help you...

If you have already done the research, have funding and are ready for a quote, call 800.458.6543 and ask for a Commercial Specialist. We will work with you to design a system that suits your needs.

If you are interested in exploring hydroponic crop production as a business opportunity, we provide 4 packages. Below are the packages, what is included in them and the prices.

Package #1

- Book: Hydroponic Crop Production
- Book: Hydroponic Food Production
- This is a do-it-yourself package with the best books in the business to educate yourself in the field of commercial hydroponic agriculture.

Price of Package #1: \$145*

Explore hydroponic crop production as a business opportunity with the assistance of an experienced planner.

Package #2

- Book: Hydroponic Crop Production
- Book: Hydroponic Food Production
- This includes up to 1 hour of focused dialogue with one of our professional planners.* (This expert service will save you time and money.)

Price of Package #2: \$445*

Explore hydroponic crop production as a business opportunity with the assistance of an experienced planner... AND purchase an introductory hydroponic system, learn to grow and begin taking produce to potential markets to confirm the market is interested in purchasing your produce and willing to pay your asking price.

Package #3 & 4 (You will get hands-on experience with these 2 packages.)

- Book: Hydroponic Crop Production*
- Book: Hydroponic Food Production
- Water Analysis (send us a pint of your water so we can show you what's in it.)
- This includes up to 2 hours of focused dialogue with one of our professional planners, as well as 6 months of grower support.*
- 612 Herb/Lettuce system complete (144 plant sites) or...
- 210 Tomato /Vine Crop system complete (20 plant sites)

Price of Package #3: (Herb/Lettuce) **\$1945***

Price of Package #4: (Tomato/Vine crop) **\$1845***

Package #5 - Educational Package

- Book: ABC's of NFT
- Book: Hydroponic Crop Production
- Book: Fresh Culinary Herb Production
- Book: Hydroponic Strawberry Production
- Book: Hydroponic Tomato Crop Production
- Book: Hydroponic Food Production
- DVD: Hydroponics Explained

Price of Package #5: \$349.95

*Does not include shipping and handling. If you later purchase a complete commercial hydroponic system from us, we will credit you the entire cost of your package (excluding shipping) as a way of saying thanks for putting your trust in us.

*Hydroponic Crop Production is included with the 210 Vine Crop System.

Once you have determined that...

- The numbers pencil out and a hydroponic operation makes good business sense.
- Your local markets like your produce and are willing to commit to purchasing from you at your asking price.
- You have access to the resources required to begin construction of a facility or install a system.... It's time to set a date and begin the construction/installation process.



Here is how we help you set up a hydroponic operation.

We provide consulting from our facility in Northern CA. We help coordinate the greenhouse construction with you or your contractor and the greenhouse manufacturer. After the greenhouse is erected, we help either you or your contractor with installation details for the hydroponic system. If you would like a personal onsite visit, please ask about our onsite support program. All grower support for your hydroponic system begins the day you start growing and lasts for one full year. After one year with us, you will be competent with the skills required to manage a successful growing operation. As your skill and competence grows, your yields increase which is where you realize a greater return on your investment.

For a hydroponic enterprise to gain and hold a competitive advantage in the marketplace we teach you how to....

- Run your business with best business practices in place.
- Grow with quality and consistency. This is key to maintaining market share, brand loyalty and public/community identity.
- Maximize the volume of produce by increasing crop turns while holding operating costs steady.

Grower support from American Hydroponics is key to achieving high density crop cultivation. Maximizing crop turns and quality are key to your success. This is where our expertise lies and this is what we teach.

When you purchase a hydroponic system from American Hydroponics, you will be accessing the best support and knowledge available to gain and maintain a competitive advantage.



***“The staff and management at American Hydroponics** helped us make the transition from a media based system to NFT channels, resulting in a huge savings in water usage and labor. When confronted with a problem special to tropical hydroponics, **they thoroughly research the problem and use their resources around the world to come up with a solution.** They are willing to admit if they don’t know an answer and will dig to the bottom of it rather than try to impress me with an answer that is not appropriate for my situation. It is for this reason that I believe they will soon be the industry leader in tropical hydroponics—they are willing, even eager to learn. My hat is off to this enthusiastic staff and the excellent seminars they present.”*

—Val Eylands, Blue Harbor Plantation
Roatan, Honduras

American Hydroponics offers low cost introductory systems to gain hands-on experience





612 Herb/Lettuce Recirculating Hydroponic System

Grow fancy lettuce, baby lettuce, basil, cilantro, parsley, arugula, watercress, head lettuce, bok choy, chives, mazuna, etc.

If you're new to hydroponic growing and want to grow one of these crops, we have designed this beginning package especially for you to get hands-on experience with a very well thought out, easy to assemble and operate, hydroponic system.

The 612 Herb/Lettuce hydroponic system allows you to:

- 1 Acquire hands-on experience with hydroponics by actually growing in the system.
- 2 Take your produce to potential markets, put it in their hands and give them the taste test. In this way, they will know you're serious. This will give you a solid indication of how much they'll be able to buy from you so you will know how large an operation with which to begin.

This Herb/Lettuce system is capable of growing 72 heads of lettuce or basil bunches per week.

612 Herb/Lettuce System \$1595*

The 612 Herb/Lettuce system measures 6' wide x 12' long x 3' tall and includes everything you need to start growing:

- (8) 12' NFT finishing channels (2" x 4") w/ holes on 7.75" centers (144 plant sites)
- (2) 12' NFT nursery channels (2" x 4") w/ holes on 2" centers (144 nursery sites)
- All necessary plumbing, submersible pump, float valve and drain valve for recirculation of nutrients
- Venturi for maximum aeration of the nutrient solution
- ABS plastic 35 gallon reservoir with lid
- Sturdy galvanized table frame
- Industrial grade conductivity meter
- pH control kit
- (5) sheets Oasis™ horticubes and (1) starter tray for propagation
- 250 premium fancy lettuce seeds
- 2 Part Evolution Solution™ crop specific nutrients (lasts 6 months)
- Book: "Fresh Culinary Herb Production"
- Video: "Hydroponics Explained"
- Complete setup and growing instructions

*Does not include shipping and handling, please call for quote.



210 Tomato/Vine Crop Recirculating Hydroponic System

Grow Tomatoes, peppers, cucumbers, eggplant, straw - berries, peas, any long term plants, etc.

If you're new to hydroponic growing and want to grow one of these crops, we have designed this beginning package especially for you to get hands-on experience with a very well thought out, easy to assemble and operate, hydroponic system.

The 210 Tomato/Vine Crop hydroponic system allows you to:

- 1 Acquire hands-on experience with hydroponics by actually growing in the system.
- 2 Take your produce to potential markets, put it in their hands and give them the taste test. In this way, they will know you're serious. This will give you a solid indication of how much they'll be able to buy from you so you will know how large an operation with which to begin.

This Tomato/Vine crop system is capable of growing 250 lbs of tomatoes in 6 months.

210 Tomato/Vine Crop System \$1495*

The 210 Tomato/Vine Crop system measures 2' wide x 10' long x 18" tall and includes everything you need to start growing:

- (10) Dutch Buckets measuring 10"x12"x9" (20) plant sites for tomatoes, peppers, (10) plant sites for cucumbers
- All necessary plumbing, submersible pump, float valve and drain valve for recirculation of nutrients
- ABS plastic 35 gallon reservoir with lid
- Sturdy galvanized table frame
- Industrial grade conductivity meter
- pH control kit
- 2" Rockwool Mini-Blocks and starter trays for propagation
- High quality seeds: strawberry starts need to be acquired locally.
- Vine twine and vine clips
- 2 Part Evolution Solution™ crop specific nutrients (lasts 6 months)
- Hydroponic Crop Production book
- Complete setup and crop-specific growing instructions

*Does not include shipping and handling, please call



The 2012 NFT Herb/Lettuce Complete System

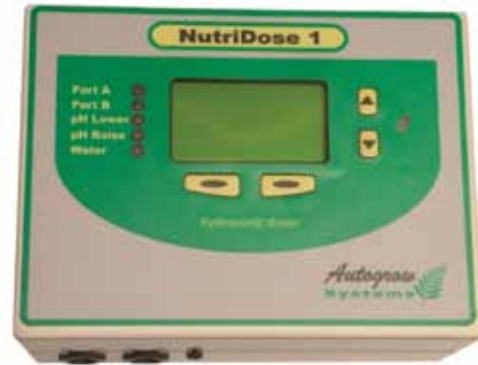
The 2012 NFT Complete System is a huge step up from the popular 612 Production unit. Not only is it a high-performance hydroponic system that features 576 plant sites and 576 nursery sites, it also comes with it's own 3Tray propagation system and a NutriDose 1 Controller.

Using the Nutrient Film Technique (NFT), the 2012 NFT Complete System is designed for commercial growers who are just getting started with hydroponics or taking a step to the next level. If you are ready to experience the future of commercial hydroponics this is the system for you.

This system is ideal for growing: basil, cilantro, parsley, arugula, watercress, fancy lettuce, head lettuce, bak choy, mazuna, etc. System comes complete with *everything* you need to get started.



2012 System in Greenhouse



Nutridose

2012 NFT Complete System \$8695*

The 2012 NFT Complete System Includes:

- Thirty-Two 2"x4" finishing channels constructed of FDA-approved, recycled HDPE plastic with 18 holes per channel (total of 576 plant sites)
- Eight 2"x4" nursery channels with 576 nursery plant sites which allows you to rotate new seedlings into the system while not taking up as much room giving you higher yields for the given space (with 6 week crop turns you can harvest 288 plants per week)
- Freestanding galvanized steel table frame
- NutriDose 1 mk 2 Controller with Peristaltic Pumps
- Nutrient and pH stock tanks
- 3-Tray Propagation system
- Commercial Truncheon Conductivity Meter
- Oakton pH Meter
- (4) Gallons of pH down
- 150 gallon ABS reservoir
- All plumbing with an easy drain bypass
- Submersible pump
- (6) Batches of 18lb nutrient
- (350) Basil Bags
- (40) Sheets of Oasis cubes (6,480 cubes)
- System carries a full two-year warranty, one-year pump.

*Does not include shipping and handling, please call

Basil in our own 2012 system at the factory



Nursery channels in foreground



Just starting with different stages of growth



Sample System Cost Projections

Now it's time to take a closer look. To help visualize your hydroponic system, we have provided details of our growing modules, one system for lettuce and herbs. For your planning purposes, we have also listed costs for the system and it's components.

Oaxaca, Mexico (10 varieties of lettuce)



The following page has an NFT system designed to fit into a 30x132 greenhouse. This is just an example of a standard greenhouse size as we can design an NFT system to fit almost any size structure. 30' wide bays are ideal so we can place (2) tables with a 4' walkway.

Oaxaca, Mexico (isle view)



Herb/Lettuce Recirculating Hydroponic System

Grow fancy lettuce, baby lettuce, basil, cilantro, parsley, arugula, watercress, head lettuce, bak choy, chives, mazuna, etc.

NFT (nutrient film technique) technology is the best system ever invented for quick turn crops: Our tried and true NFT hydroponic systems are composed of growing modules that fit in most greenhouse configurations. These modules consist of:

Proprietary heavy duty growing channels, are durable one piece 2"x4" flat bottomed extrusions made from FDA approved food grade high density polyethylene (hdpe). They are 12' long, easy to handle, stack and clean.

Table frames are free standing, light weight and made from super strong galvanized tubing. They are available in (3) lengths; 5', 10', and 20' long, by 12' wide. They arrive with predrilled bolt holes, bolts and braces, user friendly instructions. They are easy to assemble and disassemble.

Our NFT system design utilizes a unique method that optimizes crop production and plant rotation called Crop Turn Technology (CTT). Many of our growers are experiencing between 20-26 crop turns per year. With our system, we teach growers how to achieve levels of production that are unparalleled in the industry. Irrigation System: Each growing module includes a fill manifold with feed tube, ball valve, (to regulate nutrient flow) and union (to easily disconnect from system). The collector is covered and modular, allowing easy movement of channels in and out of the system and quick drainage back to the nutrient tank.

For a custom quote call 800.458.6543



Nutrient Controller: Utilizes in ground insulated nutrient reservoir that grower supplies controlled with an on-demand NutriDose controller. Includes nutrient stock tanks, pH stock tanks, peristaltic pumps, irrigation pump, float valve and venturi for aeration.

Growing Supplies: Includes 6 months supply of custom nutrient formula, Oasis or Rockwool propagation cubes, pH adjusters, EC meter and pH meter.

Nutrient Management and Grower Support: We analyze your source water and design nutrient's specific to your water and crop, if necessary, we will recommend water treatment. You receive our grower support from system installation all the way through your first year.

Biological Control Package: Sticky traps, Pyganic, Rootshield, Companion and Dyna-Mite for basic pest and fungus management. We also have available Integrated Pest Management packages.

Complete system for a 30'x 132' greenhouse
\$45,000 Grower provides primary nutrient tank.





Micro Greens



Spring Mix



Bunch Seedling



Single Seedling

Herb/Lettuce Propagation Systems

Thriving seedling propagation is the heart of high performance systems

The 812 (8'x12'), 412 (4'x12') and 3-Tray (4'x4') propagation systems are specifically designed to generate fast seedling growth to keep up with the demand of our high performance, high density plant growing systems. We recommend purchasing the heat mat package for optimum seedling performance. The propagation packages include everything except 3/4" plywood and 2x6 as they are less expensive to purchase locally.

The 812 holds 8,800 seedlings.

The 412 holds 4,400 seedlings.

The 3-Tray holds 1,200 seedlings.

Our proprietary heavy-duty white propagation trays are designed to hold (2) sheets of Oasis cubes (324 per tray) or Rockwool cubes (400 per tray) each.

These versatile trays can also be filled with perlite or

Sure-To-Grow mats for broadcast seeding to grow mesclun or spring mix greens. Irrigation can either be flood and drain or set up for wicking.

These systems come complete with galvanized table frame, propagation trays (22 trays for the 812, 11 trays for the 412, 3 trays for the 3-Tray), feeder manifold, reservoir, all plumbing, pump and timer. High quality heat mats with controllers are optional.

812 System	\$2,050.95
812 Bottom Heat system	1,022.36
412 System	1,359.95
412 Bottom Heat system	512.78
3-Tray System	589.95
3-Tray Bottom Heat system	253.79



“After our initial purchase of channels from American Hydroponics we tried other brands but found American Hydroponics the best. We have since tripled our greenhouse space and the strength and simplicity of the channels make them the only choice for us. In addition, American Hydroponics offers complete customer service and products for a successful hydroponic operation.”

—Utsalady Farms
Camano Island, Washington



“Thanks to the support and dedication of the American Hydroponics team, in just under 2 years I have been able to go from startup to full production of 21 crop turns per year. Michael and the rest of the team at American Hydroponics have been there to support me and troubleshoot any problems I’ve had quickly and accurately. The system itself has performed perfectly for two years straight now; it is well engineered and constructed to withstand the stress of commercial production. It’s been great to know that any questions I have will be answered very quickly... that’s been very helpful while going through the adventure of starting a new company from scratch.”

—Randy Butts, Eden Farms
Lebanon, IN

American Hydroponics offers custom nutrient support

With any type of intensive horticulture, isolating the variables and controlling them is the name of the game. Nutrients are a crucial variable, but do not need to be. We take away the guesswork by creating a nutrient and pH adjuster specific to your crop, environment and source water. In this way, you achieve the highest quality and yield.



Evolution Solution

Crop-Specific Nutrients

Evolution Solution Crop-Specific Nutrients are the best in the business, period. All of our formulas were designed in concert with New Zealand's leading agricultural chemist, Grenville Stocker who is instrumental in the development of hydroponics in New Zealand.

These formulas embody the latest breakthroughs in horticultural science. Designed for growers to push the envelope of plant performance, these nutrient formulas are currently in use by thousands of growers worldwide.

Benefits:

- Your plants get exactly what they need
- Higher crop productivity, health and quality
- Our periodic analysis ensures continuity and plant health over different seasons
- Less mineral accumulation which makes it unnecessary to drain and refill your reservoir as frequently, resulting in water and nutrient conservation, saving you money and increasing your productivity.

How do these formulas work?

Each of our crop-specific formulas start with a time-tested nutrient formula that is well-balanced, complete and designed specifically for the needs of your crop and its seasonal nutritional requirements.

An accurate source water analysis is key to success with Crop-Specific Nutrient Formulation. Our analysis identifies the exact elemental contents of your source water. We customize a formula that takes into account the existing mineral levels in your source water and harmonizes them with your formula and specific plant requirements in your situation.

We can interpret tissue, nutrient, and mineral analysis during plant growth to determine exactly what minerals need to be replaced more frequently. Your pH adjuster is taken into account as an integral part of the formula. After the analysis, we then subtly adjust the formula once again to get it "spot on."

We take all the guess work out of your nutrient formula!

Evolution Solution Packages

Clean source water is key to a successful hydroponic operation.

We analyze your water.

- If your water is acceptable, we recommend a Crop-Specific formula to suit your crop and season.
- If your water has minerals, we custom formulate to your source water and crop.
- If your water is unacceptable, we recommend treatment and then custom formulate for you.

Complete Nutrient Formula* Includes an A bag and a B bag in each box. Mix bag A in 30 gallons of water and bag B with 30 gallons of water for a nutrient stock concentrate. Draw equal parts of A and B stock to add to your reservoir for a diluted working solution.

*We guarantee analysis of these complete formulas.

Complete formulas come in these size boxes:

8 Kg (17lbs)* Makes approx 1250 gallons of EC 2.0 working solution @	\$ 59.95
20 Kg (44lbs)* Makes approx 3150 gallons of EC 2.0 working solution @	\$ 99.95
60 Kg (132lbs)* Makes approx 9,450 gallons of EC 2.0 working solution @	\$199.95

*Please ask for prices on pallet discounts.

Trace Element Formula Packages* To save you shipping costs, we can blend a custom Trace Element formula to which you add Calcium Nitrate, Potassium Nitrate, Mono-Potassium Phosphate, Magnesium Sulfate, Potassium Sulfate that you purchase locally.

*We do not guarantee analysis if you do your own mixes.

We measure Trace elements (Te's) to the gram. Includes: Fe, Mn, Cu, Zn, B, Mo, & VitaLink (vitamin additive). For custom formulas we include a user friendly recipe for exact proportions of all ingredients.

Bulk Trace Element Batches (you must have a scale to weigh ounces/grams) Includes mixing proportions and instructions.

Te 5 (15lbs) * Make 500 gallons of stock solution @	\$195.00
Te 10 (30lbs) * Make 1000 gallons of stock solution @	\$320.00
Te 15 (45lbs) * Make 1500 gallons of stock solution @	\$425.00
Te 20 (60lbs) * Make 2000 gallons of stock solution @	\$555.00

*Please ask for prices on pallet discounts. (Prices are subject to change depending on complexity of formula)

Ask about our blanket order service. We can ship your custom formula on a regular basis so you never run out and never have to worry about it being right.

Evolution Solution Nutrients

Specially formulated for fast growing flowering annuals!

These nutrients were specifically formulated to meet the demands of commercial soil and hydroponic flower growers in New Zealand. They were reformulated by American Hydroponics and are now the best powdered nutrients for flowering annuals you'll find anywhere!

Beginning hobby growers do well by purchasing liquid nutrients. Most liquid nutrients are well mixed and easy to use. Hobby growers are getting good results with liquids. But professional growers demand more.

Professional growers know that even though liquid hydroponic nutrients have cool labels, they are expensive, contain colored water, have additives to prolong shelf life, don't last very long and cost a lot to ship. These growers are thinking, "Why pay for shipping water when you can use your own water and mix potent nutrients for *one-tenth* the cost?"

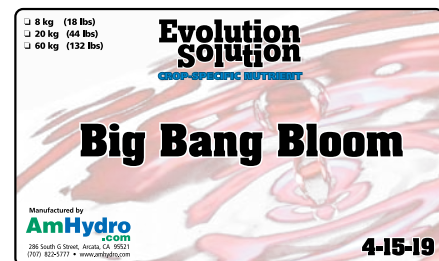
This is the nutrient for professional growers who demand that best and who know that 'mixing your own' is the best. See for yourself.

Gro Magnon™ (Grow 9-5-17) and **Big Bang Bloom**™ (Flower 4-15-19) are premiere tried and true 2 part dry formulas each containing 2 bags of dry mineral powders with high quality minerals measured to the gram.

Simply mix each bag with water in separate containers for your concentrates, and then use equal parts of each to reach the desired EC in your reservoir.

Preferred by professional growers, these formulas are the best in the business. We use them all the time in soil and hydroponics.

Gro Magnon™ and **Big Bang Bloom**™ 8 Kg (17lbs) **\$59.95**
20 Kg (44lbs) **99.95**
60 Kg (132lbs) **199.95**



Hydroponic Controllers (ND1) mk2

(the key to optimum crop production is automated dosing)



The Nutridose 1 has a simple menu that allows you to program the nutrient EC and pH set points, calibrate the sensors and set irrigation timings. A heater can also be installed in your reservoir and the controller acts as the thermostat. It can also be used to periodically switch on an irrigation pump for a drip irrigated or flooddrain system.

- Easy to operate, user friendly
- Reliable fail safe dosing—two year warranty
- Doses both EC and pH lower or raise and also measures nutrient temperature
- Units can be changed to EC or CF
- Direct drive of peristaltic pumps
- Auxiliary output may be used as an irrigation output
- Can operate a water heater off of a power relay. The controller acts as a thermostat.
- Auxiliary output may alternatively be used to add water to lower EC during specified time periods can help to avoid tip-burn in lettuce etc.
- Optional solar sensor may be added to provide solar integration for irrigation triggering or to auto-synchronize dawn/dusk times.
- Serviceable—easy to unplug wiring and swap out circuit board (no need for costly technician to visit site)
- Includes controller, all tank fittings, triple peristaltic pumps, EC/pH probe and instructions
- Two year warranty

Nutridose 1 with Remote Sensor Module

w/peristaltic pumps **\$3,295.95**

Nutridose 1

PC interface package **\$600.00**

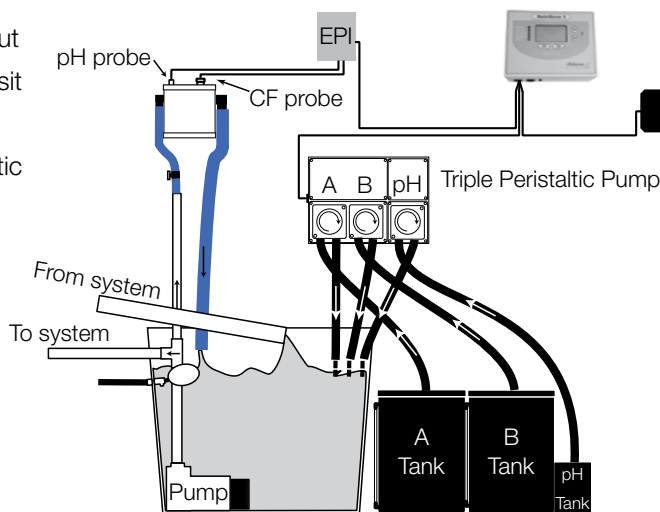
Hand feeding a nutrient tank is hit and miss. Erratic pH and EC spikes affect nutrient ions, locking them out, creating imbalance and chemical mischief in your nutrient tank. With the NutriDose 1, pH and EC are continuously being adjusted, incrementally... a little at a time, all the time, day and night. This keeps nutrients in perfect balance which is what plants require for optimum performance. Optional PC interface to CompuGrow software for data logging capability.



PC Interface Package



Triple Peristaltic Pumps





“Knowing we wanted to build a greenhouse and grow hydroponically, we were faced with a huge question -- what company could help us attain our goals? After researching, we came across American Hydroponics. Wow, what an awesome year it’s been. We contacted AmHydro, set up a meeting, explained to the staff what our intentions were and where we really wanted to be headed. We started off with their 612 NFT system, built our greenhouse, and now we have made the next step to go full commercial.

Communication is key in any business, and this company delivered and still keeps on.... questions answered, solutions found, whether technical in the growing or the constructing. Even though we are miles apart, they have been “hands on”. We look forward to our continuing relationship with American Hydroponics in helping our business grow and succeed.”

—Chris and Marji, Latitude 45
Boring, OR

Nutrient Additives

Aminoactin™ is an advanced chelating agent containing a blend of select L-amino acids, vitamins and proprietary bionutrients. Chelated minerals are more easily translocated throughout the plant to where they are most needed. Aminoactin™ is especially useful in making Calcium available to the plant.

Increasing the availability of Calcium will prevent common problems such as BER, (blossom end rot) in tomatoes and tip burn in lettuce. Aminoactin™ will help prevent minerals from forming insoluble precipitates thus reducing hard water mineral deposits on fittings and pipes.

Aminoactin™ contains fundamental metabolites which ensure strong cell walls and sturdy lush green plants. This enables a plant to produce more sugars resulting in more energy to improve the overall taste, yield, and quality of your crop. Aminoactin™ will also increase your plant's ability to tolerate stress factors such as high salinity, temperature extremes, drought and low humidity, over watering and attack's of pests and disease.

Aminoactin™ is available in three sizes (very concentrated—one gallon treats 1500 Gallons).

1 Gallon **\$92.16** 2.5 Gallon **\$189.10** 5 Gallon **\$320.75**

(Please ask for bulk pricing and shipping on 30 and 50 gallon drums)



Nutrient Additives

CytoActin™ is a highly concentrated seaweed bio-blend containing high quality Ascophyllum nodosum extract. Growers around the world have utilized the benefits of kelp on plant growth for decades. The most biologically active and nutritionally complete seaweed extracts in the world are derived from Ascophyllum nodosum. Ascophyllum nodosum contains a wide range of naturally occurring plant nutrients (macro & micro), trace minerals, hormones, carbohydrates, amino acids and vitamins.

The seaweed in CytoActin™ contains an extremely high ratio of Cytokinins. Cytokinin is a naturally occurring plant hormone, which promotes cell division, differentiation, lateral growth, cell enlargement, bud formation and production of chlorophyll. Application of Cytokinin can cause the release of lateral buds from apical dominance thus promoting bushier plants with an increase in flowering sites. Increasing the chlorophyll production enhances the rates of photosynthesis and overall energy production throughout the plant. The amino acids contained within CytoActin™ also have a positive effect on chlorophyll content. An increase in chlorophyll production enhances the uptake of iron and magnesium, both integral components of chlorophyll synthesis.

Cytoactin™ is available in three sizes (very concentrated—one gallon treats 1500 gallons).

1 Gallon **\$83.95** 2.5 Gallon **\$173.12** 5 Gallon **\$292.00**

(Please ask for bulk pricing and shipping on 30 and 50 gallon) drums)



Nutrient Additives

Companion® Microbial Inoculant contains beneficial *Bacillus subtilis* GB03, a naturally occurring bacteria that colonizes and lives on plant roots and root hairs. GB03 is extremely persistent and able to withstand stressful conditions like heat, drought, and cold. Companion is 100% natural, and contains no chemicals. Because *Bacillus subtilis* GB03 excretes IAA-like substances, Companion encourages healthier, stronger, denser root mass. The product is easy to use, a valuable tool for resistance management. Why? A naturally occurring beneficial like *Bacillus subtilis* GB03 will crowd out less desirable microbes, (pythium, fusarium) in what amounts to a game of “survival of the fittest.” GB03 quickly adapts to its environment, and reproduces more quickly than other microbes. Companion has no special storage requirements. It has a shelf life of (3) three years, so you’ll always be sure that every ounce of Companion is consistent in microbial quantity and quality! One gallon treats 768 Gallons.

1 Quart **\$49.95**

1 Gallon **\$143.95**

2.5 Gallon **\$236.00**

(Please ask for bulk pricing and shipping cases of gallons)



Nutrient Additives

Vita-Link™ Like humans, plants require essential vitamins to maintain health, vitality and fight off stress and disease. Vitamins are necessary co-enzymes used by plants for growth and development. Vitamins are responsible for activating non-active proteins (apoenzyme) involved in the biochemical production of ATP (adenosine triphosphate). The production of ATP is necessary as the basic energy plants require for thriving growth. Approved by the EPA for improving growth and development through improved nutrition in all agricultural crops. Use at the rate of 1 gram per 30 gallons of water.

- Improves harvestable quality of yields
- Improves root development
- Utilizes nutrients more efficiently
- Reduces breakdown of chlorophyll
- Positive impact on soil microbiology
- Field tests show an 8% average production increase in 9 commercial crops.

Vita-Link™ Ingredients: ascorbic acid, biotin, pyridoxine, HCL, thiamine hydrochloride, thiamine, mononitrate, riboflavin, folic acid, nicacinamide, pantothenic acid and inert carriers.

1lb **\$63.95**

5 lbs **\$165.95**

10 lbs **\$285.95**

20 lbs **\$505.95**

(Please ask for bulk pricing and shipping pallets of 20 lb bags)



Nutrient Additives

Dyna-Mite Leaf Sheen is a concentrated foliar plant care product designed to alleviate or remove plant stress factors and boost plant vitality under light conditions. Regular use removes accumulated debris that can be toxic to plants and encourage pest and disease outbreaks. In addition, the natural plant oils in Dyna-Mite Leaf Sheen bond with the leaf surface to form a protective layer reducing water and nutrient loss.

- Nano-surface technology
- Removes toxins and other contaminants from leaf and flower surfaces
- Helps retain moisture and nutrients
- Promotes enhanced plant health and vigor
- Improves harvest quality and weight
- Contains natural plant extracts
- Non-toxic, food grade active components
- Safe for plants
- Clean plants are less susceptible to pests and disease
- Spray right up until the day of harvest

60 ml **\$29.95**

200 ml **\$59.95**

1 Liter **\$239.95**



“Great product. First and foremost, it helped controll a powdery mildew problem we had and killed aphids on direct contact. We found that dipping the entire plant into a dynamite solution when transplanting into NFT channels worked very well. It also gave the plants a nice shine for about two weeks. We found that the effective rate of application was 2-3 weeks before it wore off. My favorite thing about it is that it is made from all natural plant extracts. I would recommend trying.”

— Pierre Sleiman
GoGreen, California

Nutrient Additives

Essential Plus is perfect for today's horticultural market, which requires a versatile and effective product for use on a broad range of propagation materials. As an organic, it is safe for workers to handle, has a zero REI, and is not subject to environmental legislation. Essential Plus is a reliable product that provides consistent results from seed to finished product.

Natural Rooting Substance Essential Plus provides a safe alternative to the propagation of cuttings with chemical hormones like IBA and NAA. Essential Plus is a true organic solution containing several unique ingredients with auxin-like activities known to stimulate callus formation and rooting on softwood and hardwood cuttings. Essential Plus contains humic acid derived from Leonardite, kelp extract, and a proprietary plant extract, all of which promote rooting. Side by side trials with IBA have proven that Essential Plus produces faster rooting and greater root mass than IBA.

Though being a biostimulant is an added benefit, Essential Plus promotes other aspects of plant physiology, including photosynthesis, hormonal activity, respiration and ion uptake during the plant's growth cycle. It contains a safe, non-phytotoxic wetting agent derived from the yucca plant, which assures quick penetration into soils that are often difficult to wet.

Germination Essential Plus contains two ingredients that speed up seed germination. They quickly soften the seed coat, allowing water penetration and faster, more uniform germination even on tough seed coats.

32 oz **\$19.95**

1 gal **\$67.95**

2.5 gal **\$178.95**





Thank you for requesting information from American Hydroponics. I hope we have provided value for you by answering many of your questions and sharing pictures and testimonies of successful hydroponic enterprises around the world.

Having been a part of this industry for the past 28 years and after having talked to so many of you about what it takes to be successful with a hydroponic operation, I have learned a few things that I would like to share with you.

The notion that hydroponics is as easy as picking dollar bills off of plants is long gone. That was a notion that failed back in the 1970s when hydroponics was the “answer” to food production. It failed in the US because it did not have the competent growing support it has today.

Today, with many thousands of acres in hydroponic food production worldwide, among those who know... hydroponics systems are primarily used with CEA, controlled environment agriculture.

And without going into the grim statistics of fresh water pollution, energy cost spikes, urban sprawl, and population growth... it is wise to get creative with our food production models, and grow local.

The reality is that hydroponic plant cultivation *is* farming... it just doesn't look like what most people think farming is. And farming has the same features as always... the farmer grows a crop, sells it to people who either consume it or to people who sell it to people who consume it. It's all about nourishing other human beings.

A couple things you can be sure of...human beings have to eat *and* human beings have to eat. No way around it.

I'm guessing that there is something about growing plants that you really enjoy and the thought of supplementing your income or making a living with something you really enjoy sounds appealing. It may also be appealing to be able to grow very clean produce with minimal water, space and no dangerous pesticides. If any of this is true for you, you are on the right track.

I am well aware that most of you who are not in the farming business do not have enough information yet to really know what you would be getting into or if you can make a decent living with a hydroponic enterprise.

This is why we have provided 4 introductory packages. They are designed for you to become familiar with the industry, start thinking with a business plan and actually grow in a system. We have found time and again that there is no better way than hands-on experience. It is the lowest cost method we can think of to make sure you are well informed before you invest in a large operation and put your family and ambitions on the line.

We enjoy setting people up to have the greatest chance at being successful with hydroponic crop production. We work with you to make sure you are up to speed, have done your homework and are ready to jump into a fascinating farming experience... one you can succeed at... one that will take care of you, your family and your customers needs on into the future.

Any questions? Feel free to call me.

A handwritten signature in black ink, appearing to read 'Michael Christian', written in a cursive style.

Michael Christian

Reference Pricing for Components

Pricing for individual or bulk hydroponic components, nutrients, pumps, seeds, and test equipment. Consult with American Hydroponics for complete system costs.

All pricing is in US \$ and subject to change without notice. Does not include shipping and handling.

2"x4" NFT Channels 12' lengths with 1-3/4" holes on 7.75" centers, made from 100% virgin HDPE (10K feet minimum order for custom lengths and custom hole size and centers. Call for pricing)

02001 12 foot lengths			per foot
02080A	Up to 2000'	per foot	\$2.45
02080B	2000-4999'	per foot	\$2.20
02080C	5000-9999'	per foot	\$2.00
02080D	10,000'+	per foot	\$1.80

		price each
02082	End caps w/ view window	\$1.00
30002	Mounting Clips (plastic) attaches channel to 1" sq tube	\$5.00
02078	Drip Cap	per foot \$0.95
22018	Micro Tubing 16"x1/4"	\$0.12
23002	Grommets (no leaks when attaching feeder tubes)	\$0.50

2"x4" Nursery NFT Channels are manufactured in 12' lengths with holes on 2" centers.

02081	All lengths (per foot)	\$2.75
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Growing Media

	price each
10001 Oasis 1" per case	\$109.95
50111 RW AX2540 starter plug 1x1 cs	\$189.95
50119 RW Mini Blocks 2x2x1.5 cs	\$229.95
50123 RW Delta4block 3x3x2.5 cs	\$209.95
87091 Sure to grow 10/20 .25 pad"	\$0.75
87095 Sure To Grow Roll - 135'	\$49.95

Evolution Solution Nutrients

2-part dry (complete)	8kg/18 lbs.		20kg/44 lbs.		60kg/132 lbs.	
Fancy Lettuce (10-4-21)	88112	\$59.95	88113	\$99.95	88120	\$199.95
Pepper (10-3-17)	88145	\$59.95	88146	\$99.95	88331	\$199.95
Tomato (10-4-17)	88110	\$59.95	88111	\$99.95	88432	\$199.95
Spinach (10-5-17)	88116	\$59.95	88117	\$99.95	88398	\$199.95
Gro Magnon (9-5-18)	88100	\$59.95	88101	\$99.95	88124	\$199.95
Big Bang Bloom (4-15-19)	88531	\$59.95	88533	\$99.95	88535	\$199.95
Basil (9-5-19)	88114	\$59.95	88115	\$99.95	88169	\$199.95

(pallet prices are available for bulk orders)

Trace Element Mix (for growers supplying bulk ingredients)
Bulk TE Mixes are available, call for a quote

pH adjusters

88030 pH Down Solution (10% solution)	1 gallon	Phosphoric Acid	\$19.95
60004 pH Up Solution (10% solution)	1 gallon	Potassium Hydroxide	\$19.95
88521 Phosphoric Acid 75%	5.72 gallons		\$179.95

Introductory Systems

93000	312 Herb/Lettuce System (3'x12' - 5 channels)		\$1,295.00
93001	612 Herb/Lettuce System (6'x12' - 10 channels)		\$1,595.00
93026	210 Tomato/Vine Crop System (2'x10' - 10 buckets)		\$1,495.00
n/a	220 Tomato/Vine Crop System (2'x20' - 20 buckets)	Coming soon	n/a
93002	2012 Herb/Lettuce System Complete (20'x12' - 40 channels)		\$8,695.00
n/a	4012 Herb/Lettuce System Complete (40'x12' - 80 channels)	Coming soon	n/a

Propagation Systems

94017	812 Propagation system (8'x12' - 22 trays)		\$2,050.95
94033	412 Propagation System (4'x12' - 11 trays)		\$1,359.95
94046	3Tray Propagation System (3'x3' - 3 trays)		\$589.95
30186	812 Bottom Heat Package		\$1,022.36
94034	412 Bottom Heat Package		\$512.78
94047	3Tray Bottom Heat Package		\$253.79

Herb/Lettuce NFT modules

91057	5'x12' Herb/Lettuce Module (Finishing)		\$695.95
94019	10'x12' Herb/Lettuce Module (Finishing)		\$1,286.95
94018	20'x12' Herb/Lettuce Module (Finishing)		\$2,534.95
91058	5'x12' Herb/Lettuce Module (Nursery)		\$906.95
94020	10'x12' Herb/Lettuce Module (Nursery)		\$1,696.84
94025	20'x12' Herb/Lettuce Module (Nursery)		\$3,354.95

pH and EC meters and Automatic Controllers

95021	Nutri-dose I Mk2 pH/EC Doser/Controller w/peristaltic pumps		\$3,295.95
95015	Nutri-dose I PC Interface Package		\$600.00
95048	Sensor Solar/Temp/RH - ND1		\$279.95
95014	Triple Peristaltic Pump Kit for Nutridose Controllers		\$1,099.95
99117	Peristaltic pump cam hose (price per 18" piece)		\$18.74
83050	pH Probe		\$47.95
83065	CF Probe		\$128.95
83015	Commercial Truncheon Conductivity Meter		\$144.95
83161	Oakton Waterproof pH Meter - pHTestr 30		\$159.95
88024	pH 4/7 Calibration Solution (16 oz bottles)		\$19.95
88000	CF 27.7 Calibration Solution (16 oz bottle)		\$12.95

Stock Tanks, Controls and Venturis

03025	A & B Black PE Stock Nutrient Tank 30 Gallon w/lid		\$188.49
03026	A & B Black PE Stock Nutrient Tank 50 Gallon w/lid		\$278.92
54015	Acid Tank 1 gallon		\$10.95
03027	Acid Tank 5 gallon		\$72.33
25052	Kerrick Float Valve (all plastic and stainless)		\$58.95
27012	Plastic Float Valve (all plastic)		\$12.95
25050	Venturi 1" x 3/4" (to oxygenate reservoir)		\$10.95
25051	Venturi 1 1/2" x 3/4" (to oxygenate reservoir)		\$12.95
83048	Water Meter 3/4"		\$139.95

Pumps

Sta Rite 2" suction /2" out		
83143	Pump Max-e-Pro 1/2 hp 45gpm	\$563.07
83146	Pump Max-e-Pro 3/4 hp 65gpm	\$603.07
83144	Pump Max-e-Pro 1 hp 82gpm	\$703.07
83138	Pump Max-e-Pro 1.5HP 110gpm	\$735.07
83140	Pump Max-e-Pro 2 hp 125gpm	\$803.33
83145	Pump Max-e-Pro 3 hp 150gpm	\$989.73
Submersible		
83007	Rio 2100 (692 gallon per hour)	\$94.95
83093	Rio 14HF 11gpm/4'	\$54.00
83083	Rio 20HF 16.5 gpm/4'	\$75.00
83084	Rio 26HF 22.5 gpm/4'	\$90.72
83139	Rio 32HF 30 gpm/4'	\$96.11

Snap Fans

62000	Fan Snap 12inch	\$309.95
62001	Fan Snap 16inch	\$344.95
62003	Fan Snap 20inch	\$435.95
62004	Fan Snap 24inch	\$608.95
62005	Fan Snap 28inch	\$797.95

Miscellaneous Growing items

10003	Vinyl 1/4" micro tube (500')	\$49.94
30232	Tomato vine clips (1000/case)	\$25.00
30230	Tomato truss hooks, "J" style (1000/box)	\$30.00
30231	Tomato truss support, "C" style (1000/box)	\$15.00
87048	Tomahooks with twine (100/box)	\$46.00
83068	22" x 14" Propagation Mat	\$33.24
83069	22" x 44" Propagation Mat	\$91.17
83021	22" x 96" Propagation Mat	\$136.17
83022	Thermostat controller (Single Stat)	\$64.55
83023	Thermostat controller (Quad Stat)	\$89.58

Test Services

96004	Water analysis	\$75.00
40007	Custom Nutrient Formulation	\$125.00
40006	Water analysis with custom nutrient formulation	\$200.00

Dutch Buckets

55000	Bato Bucket - Beige	(elbows sold separately)	\$5.40
55001	Bato Bucket - Black	(elbows sold separately)	\$5.40
55002	Bato Bucket Elbows		\$0.50

Nutrient Additives

Aminoactin™

88080	Aminoactin™	1 gal	\$92.16
88081	Aminoactin™	2.5 gal	\$189.10
88082	Aminoactin™	5 gal	\$320.75

Cytoactin™

88083	Cytoactin™	1 gal	\$83.95
88084	Cytoactin™	2.5 gal	\$173.12
88085	Cytoactin™	5 gal	\$292.00

Companion™

88040	Companion™	1 qt	\$49.95
88041	Companion™	1 gal	\$143.95
88094	Companion™	2.5 gal	\$236.00

Vitalink™

88086	Vita-Link™	1 lb	\$63.95
88087	Vita-Link™	5 lb	\$165.95
88088	Vita-Link™	10 lb	\$285.95
88089	Vita-Link™	20 lb	\$505.95

Essential Plus™

88487	<i>Essential Plus Quart</i>		\$19.95
88483	<i>Essential Plus Quart Case/12</i>		\$199.95
88488	<i>Essential Plus 1 Gallon</i>		\$67.95
88484	<i>Essential Plus Gallon Case/4</i>		\$229.95
88489	<i>Essential Plus 2.5 Gallon</i>		\$178.95
88485	<i>Essential Plus 2.5 Gallon CS/2</i>		\$299.95
88486	<i>Essential Plus 30 Gallon Drum</i>		\$1,599.95

TKO Phosphite™

88499	<i>TKO Phosphite - 1 Gallon</i>		\$59.95
88492	<i>TKO Phosphite - 2.5Gal</i>		\$119.95
88497	<i>TKO Phosphite 2.5 Gal Case/2</i>		\$239.90

Silguard™

88493	<i>Silguard - Gallon</i>		\$39.95
88494	<i>Silguard Gallon - Cs/4</i>		\$155.80
88495	<i>Silguard 2.5 Gallon</i>		\$89.95
88496	<i>Silguard 2.5 Gallon Cs/2</i>		\$177.90

Dyna-Mite™

80110	<i>Dyna-Mite - 60ml</i>		\$29.95
80111	<i>Dyna-Mite - 200ml</i>		\$59.95
80112	<i>Dyna-Mite - 1L</i>		\$239.95