

# Foothill News!

## Hydroponics

Dedicated to: Education • Research • Fun!

SPRING 2000

## Join us for Hydroponic fun in 2000!

Well, “tomorrow” has arrived. For a long time now, people have looked to the year 2000 as a kind of leap into the future. All of us here at Foothill Hydroponics will do our part to make 2000 the biggest year yet for Hydroponics—the wave of the future.

We have lots of help, as you will see in this newsletter. Won't you join us, dear friend?

Professor Larry J. Littlefield of the Oklahoma State University is studying the pathology of wheat diseases. He requested our help constructing a state-of-the-art growth chamber to grow wheat seedlings while still being able to remove the plants and microscopically examine the undamaged root structure.

The climate will be controlled to produce optimum growth for the pathogen, rather than the slightly higher optimum temperature for the fastest wheat growth.

Dream Works SKG Studios was shopping in our store for a solution to the problem of keeping living stage plants and trees alive inside a studio with no natural light. We recommended the 5000 kelvin metal halide lamps as the best solution. They simulate the outdoor sunshine light spectrum at midday.

The California Science Teachers Association Convention at Long Beach was held October 7-11 and drew huge numbers of science teachers for the annual event. Foothill Hydroponics was there with a double-sized booth of hydroponic displays.

The fine displays were set up and managed by Tom Bangert, an elementary teacher and hydroponic enthusiast. Hydroponic educational seminars for teachers were taught by Ginger Krelle and Pat Brown, both award-winning science teachers.

They have written a book called “Classroom Hydroponic Plant Factory,” which has three sections. The sections are applicable to elementary, middle school, and high school students, each written by a teacher who works with that grade level.



*Ginger Krelle  
and  
Pat Brown  
created this  
helpful book*

## As seen on TV!

Our good friend, Pat Brown, has won the prestigious Crystal Apple award from the L.A. Channel 4 news team. The segment aired on December 6th, on the 4 o'clock news.

Pat's 6th grade students, from San Dimas, have built an astonishing hydroponic garden in their classroom. The lush green plants look like something out of a science-fiction movie, but they are all real plants grown from seeds by the students.

*We found this feature on Pat Brown at Channel 4 News' web site: <http://publish.nbc4la.com/tvsd/news/crystal/archive/brown/>*



## Where have you bean?

U.S. Dept. of Agriculture-sponsored Hydroponic research is on the Internet. A very interesting website is the one that features hydroponic research into why some varieties of green beans have twice as much calcium as other types.

The work is being done by Michael Grusak of the USDA-Agricultural Research Service's Children's Nutrition Research Center in Houston, Texas.

The work showed that the difference is in how the stomata

(pores) regulate water transpiration from the leaves.

The photo on the left shows the roots of the hydroponically-grown test plants. Note that no media is used, so that complete control of plant nutrients is possible.

Go check out the details at: <http://nps.ars.usda.gov/programs/cppvs.htm>.



Photo by Jack Dykinga

# Teachers meet at Hollywood High

**T**he October Foothill Hydroponics-sponsored seminar, in cooperation with the Los Angeles Unified School District and the California State Agricultural Literacy & Fairs Alliance program, was a success.

A total of 58 teachers received continuing education credit for attending a hands-on training session in how to use classroom hydroponics as a teaching tool. Over 120 local citizens visited the hydroponic displays and attended the hydroponic lectures given by a panel of five experts.

The chairman of the panel was Otto Silberstein, well known for his work with the Hydroponic Society of America Educational Committee. Harmon Davidson of Greenair Products, and Peter Wardenberg of HydroFarm, represented two of the largest manufacturers of hydroponic garden equipment.

They were joined by hydroponic media specialist Vibecke Kjoelhede, cultural specialist Mitch Fadel, and the gracious chemist, Dr. Hesham Ahdab.



About 20 teachers from the training sessions went on a field trip arranged by Vibecke. They will go where few people are ever allowed: on a guided tour of a 30-acre controlled-environment hydroponic food project.

Most commercial hydroponic operations restrict visitors to avoid introducing disease, and to prevent the disclosure of exact cultural methods to potential competitors.

The tour guide made it clear that no touching of any plants would be allowed. He gave a very informative tour, and presented all the guests with a package of delicious tomatoes.

No artificial pesticides are used in the production of the tomatoes. The plants are vigorous enough to withstand some whitefly damage without seriously affecting yield.

These tomatoes may be found packaged under the "BC Hothouse" brand in the supermarket. The Tradiro variety they grow will last for seven days at cool room temperature. This is a special Dutch hybrid greenhouse variety, not widely grown outside of Europe.



## Hydro-Profile

# AquaPlant® Hawaii

*AquaPlant sells the Hydromax line of hydroponic growing trays, as a Foothill Hydroponics dealer in Hawaii!*



**A**quaPlant Hawaii is the name of Tony Pasquariello's exotic indoor plant store in Honolulu, Hawaii. Tony was involved in commercial hydroponics in California for many years, and moved to Hawaii where he came up with the idea of exotic indoor office and house plants using a type of hydroponics known as "hydroculture," which does not use any pumps or plumbing.

The concept has been very successful, with many interior decorators catching on to the possibility of using low-care exotic plants to help decorate, as well as to clean the indoor air of pollutants! Tony also sent us some photos of the family hydroponic vegetable garden. Hydromax trays are used in an innovative "stair-step" arrangement.

*"The AquaPlant® system has been designed for those of you who are tired of experimenting with fertilizers, water schedules, and all the hassles of dealing with soil to keep your plants alive. We've taken the mess and guess work out of plant care and made them almost as simple to maintain as plastic or silk plants.*

*By using a water gauge and crushed rocks our plants can grow in sealed containers, unlike conventional plants which need drainage. The lack of soil and messy drain holes allows you to decorate without fear of damaging valuable furniture. --Tony Pasquariello*

# Mini Hydromax Superstarter

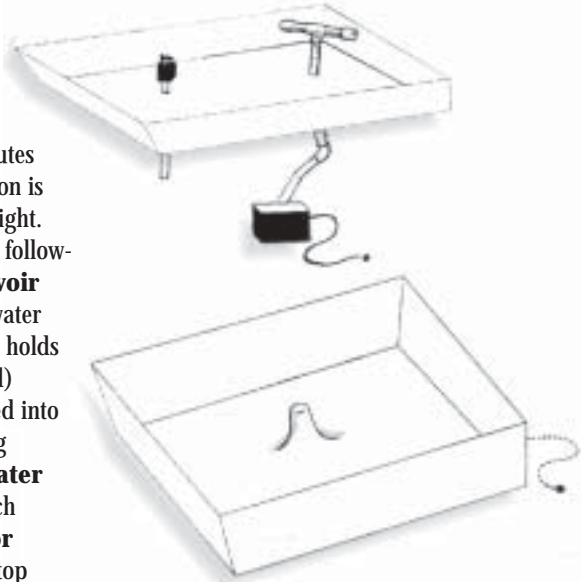
The Mini Hydromax Superstarter is about 10"x20" in size, made of ultraviolet-resistant white ABS plastic, and is non-reactive to nutrient solution.

The pump may be run continuously 24 hours a day, which is the Nutrient Film Technique (NFT) method of hydroponic gardening. This is excellent for cuttings and very fast growing plants.

The "Ebb and Flow" ("Flood and Drain") method can also be used, employing a standard electrical timer (not included in the kit—available in any hardware store) to have the pump operate intermittently. The normal cycle is 30 minutes on, and 90 minutes off. No irrigation is needed at night—only during daylight.

The complete kit consists of the following: **1. Bottom nutrient reservoir** (holds 3 gallons, and houses the water pump and nutrient solution, which holds 2 gallons with the top tray installed) **2. Top growing tray** (fits recessed into bottom tank, and holds the growing media cubes) **3. Submersible water pump** (recirculates the nutrient-rich water) **4. Water Level Indicator** **5. "T" fitting** for water outlet at top tray (also provides aeration of water) **6. "L" fitting** to make the right angle from the pump to the vertical "T" **7. Two short lengths of ½" tubing** (to connect the

pump and fittings together) **8. Capillary matting**, (non-reactive chemically and biologically—filters the water) **9. Three pints of Xtra-Edge** fully balanced 3-part liquid hydroponic nutrient concentrate **10. Humidity Dome**, (6" tall to provide high humidity when required, like when taking root cuttings) **11. Rockwool** (3"x3"x3" tall, wrapped growing media blocks, 10 pieces) **12. Rockwool** (1"



propagation cubes for starting plant—fits inside the hole in 3" blocks) **13. Instruction guide**, supplies catalog and order form, all sealed in a manila envelope.

