

foothillnews!

Hydroponics

Dedicated to: Education • Research • Fun!

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Is the Castor Bean coming to the U.S.?

The castor bean plant produces an oil containing valuable hydroxy fatty acids used in high-quality lubricants, paints, plastics, soaps and cosmetics. They can yield up to 1000 lbs. of oil per acre in temperate climates.

American farmers do not grow this crop because the bean also contains a powerful toxin called ricin.

Thomas McKeon and Grace Chen (shown below), of the USDA Agricultural

Research Service, have produced about a dozen genetically-engineered castor seedlings that do not produce the ricin toxin. They are confident that they can eventually engineer a castor plant that produces organic epoxy oils, with a potential \$300 million market in the United States alone.

*Source: ARS Agricultural Research Journal
- January 2001*



Photo: Brian Prechtel/Ag Research Journal

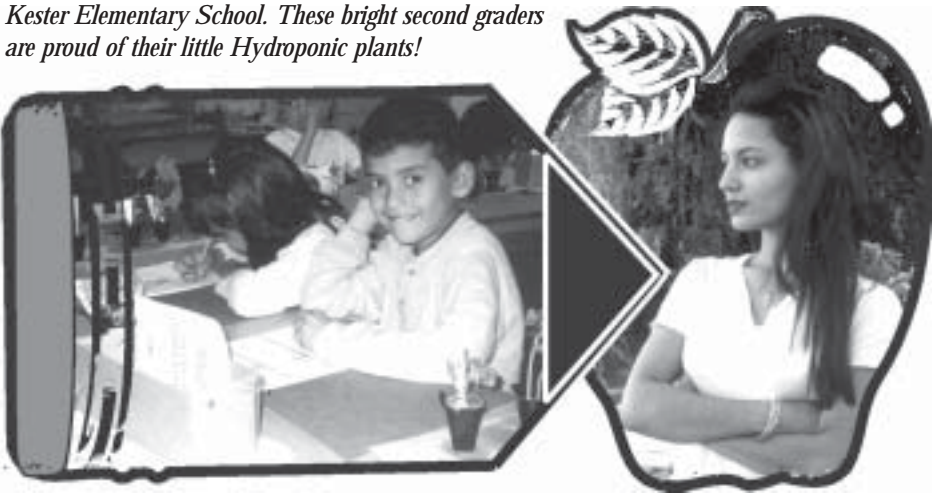
School News

Congrats to teacher Kathleen Diver of El Roble Intermediate School, in Claremont. She received a \$400 grant to cover the costs of Hydroponic books and supplies for her class.

Placentia-Yorba Linda School District increased their inventory of Hydroponic supplies, including Hydromax Jr. Super Starter and full-spectrum metal halide lighting.

J.H. Frances Polytechnic High School recently purchased full spectrum fluorescent lighting, and both Aeroponic and Ebb-and-Flow Hydroponic systems for their agricultural program.

The photo below shows students of Teacher Lila Daha at Kester Elementary School. These bright second graders are proud of their little Hydroponic plants!



Lila Daha



Dr. Otmar "Otto" Silberstein continues to promote Hydroponic education through his participation in the Hydroponic Society of America. We recently sent 50 of our little Hydroponic Starter Guides so he could pass them out to interested students and teachers.

Plants in Pillows?

We have the fantastic new **Poly-Wool** Hydroponic rooting media which is like the stuff inside pillows. It comes in a square 6" x 6" and about 1/8" thick.

It can be stuffed inside containers and is very pleasant to handle, with no loose fibers or dust.

Poly-Wool is 100% inert.



Hydroponic Cultural Tips

Keep the nutrient solution temperature between 70° and 80°F, and also the same for the root zone itself. If the roots get above 85°, they will definitely show signs of stress, such as yellowing leaves or root tip browning. The browning indicates death! The roots then become susceptible to fungal infections.

This problem is compounded by not changing the nutrient solution every week. By draining the whole reservoir and refilling with fresh water and nutrients, the floating bacterial population is greatly reduced.

The bacteria themselves are usually not bad. The problem is they also consume oxygen. The higher the temperature the more oxygen they consume, the same as the roots. At the very same time, the amount of dissolved oxygen the solution holds goes down drastically above 80°, thereby causing a near anaerobic environment for the roots.

NEW XTRA-EDGE HARD WATER MICRO NUTRIENT

We have finally finished formulating our newest liquid hydroponic nutrient concentrate. It is specifically designed to be used with the typical very hard water found in most of the southwestern United States.

Hard water is defined as having over 300 PPM of dissolved minerals, mostly calcium and magnesium carbonates.

The new formula also contains almost zero nitrogen, so it can be used for final ripening of produce, to reduce leaf nitrate levels. It has an advanced trace element package including 0.02% lithium, which provides a stimulatory effect on many fast-growing plants.

It also features elevated potassium levels for firm sweet tomatoes and strong disease resistant growth.

HYDROMAX 2000 AEROPONIC SYSTEM

The Hydromax 2000 Aeroponic/Deep Flow NFT system will soon be available in a smaller Hydromax 1000 size.

The 2000 model is undergoing upgrades and, as always, is available in 2-inch (28-plant) or 3-inch (20-plant) net pot plant holders.

The price on the Aeroponic 2000 system is \$219.95, including submersible water pump, lower 26-gallon tank, PVC mister stand assembly, drain valve, pH test kit, net pots, rockwool and three quarts of Xtra-Edge liquid nutrients.



A TEENAGE HOUSEPLANT?

Harold and Judy Coates recently stopped by the store to purchase some hydroponic nutrient. Judy remarked that the "Alaska" palm tree that she purchased in a Hydroculture container in 1986 was still thriving in the Spring of 2001.

We don't run into too many 15-year-old houseplants, but yes, it is possible!



“Bathtub Gardening” makes a big splash in 1939!

[The following is excerpted from Popular Mechanics magazine, May, 1939.]

Scarcely five years have slipped by since word leaked out that Dr. William F. Gericke of the University of California had discovered a sensational method of growing vegetables and flowers without the use of soil.

Within that brief span, hydroponics—“labor of water,” as this brilliant professor called his new method of feeding plants—has caught the popular fancy as has no other scientific development of recent years. Literally by the bale, letters have poured into the university asking for instructions on how to mix the mysterious plant nutrients. Farmers, nurserymen, greenhouse growers, amateur gardeners and indoor “bathtub horticultur-



ists” tackled the new way of growing plants with enthusiasm.

. . . . One of the truly astonishing fields for hydroponics has been its use in schools, where thousands of teachers, particularly in the western states, are using liquid culture as a method of visualizing botany.

The trays can be lifted out of the tanks day after day to let the youngsters see how the root system develops parallel to the plant growth. [Rolland] Langley is also the pioneer in this field, being the originator of a small leakproof window-box hydroponics kit

complete with tank, tray, excelsior, rice hulls, and the plant nutrients. The latter are so arranged that when plants develop “the yellows,” or any other ailment, the class can give them the proper “medicine” and note the improvement. . . .

PASE sets the pace

The third annual PASE Conference, held recently at Dorsey High School, in Los Angeles, was a huge, colorful, educational and FUN success!

PASE (The Partnership for Agriculture and Science in Education), brought together a marvelous mix of teachers, experts, hobbyists, activists and industry members. The weather was perfect and the setting was gorgeous.

Nearly 200 sponsors, partners and exhibitors treated the hundreds of attendees to fascinating and informative workshops,

ranging from Apple Poetry and the Junior Master Gardening program to Vermicomposting and Zucchini.

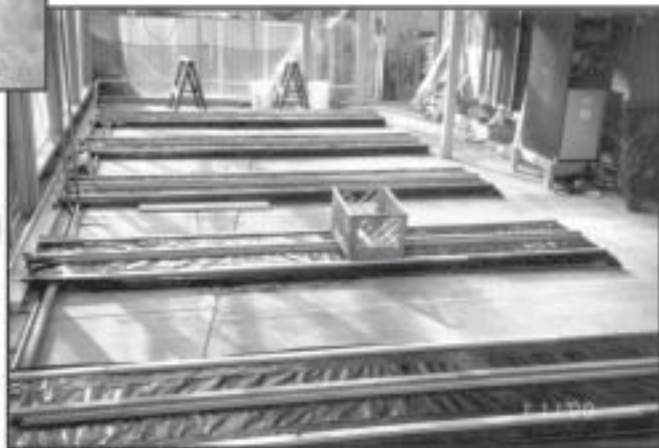
Keynote speaker, Martha Deichler, explained how her school, Vista Square Elementary, in Chula Vista, California, gives 700 K-6th grade students a chance to experience gardening in the school’s 40-ft. by 90 ft. garden.

Add in the “Make and Take” workshops and the excellent cafeteria lunch (with entertainment by the Dorsey High School Jazz Band!), and you have one great day of exploring, learning and sharing.

In search of **TOMATO!**

Alan Parker continues his successful Tomato project. He uses Perlite in bags, with three plants per bag.

The reservoir is sunk into the ground to maintain a constant temperature of the nutrient solution. He has definitely perfected his cultural techniques, and gets enormous yields of pesticide-free fruits!



Oh, *Elliche!*

Elliche Ellia recently inquired about switching over her Beverly Hills greenhouse to Hydroponics.

She enjoys both vegetables and flowers grown in her lush greenhouse!

