



Tom Naoki Araki is owner and general manager of Floricultura Araki in Brazil.



There are 6 vase color options, but only one size for all species.



Water and nutrient tanks at Floricultura Araki.



After the growth chamber phase plants are washed and selected for transplant.

# HYDRO CULTURE

## Text and Photos by Mauricio Mathias

The success that Floricultura Araki's small hydroculture vases have found in the market has been mostly due to two factors. One is in its cultivation, done in the traditional way, not requiring any extra steps. It takes place in plastic greenhouses, using peat as substrate. The other being the form in which the plants are sold and kept at the consumer's home or office, the true "hydro" phase. A 3-inch plastic vase has been specially designed to fit a peat pellet, where the plant roots receive water and nutrients by capillarity through a wick.

The result is a final product that is at the same time practical and durable. When well taken care of, plants last for at least one year. The average annual per capita consumption of flowers and ornamental plants in Brazil is around US\$5. It is believed that the short shelf-life of some plants is one of the main reasons of such

low figure. After all, there is nothing more frustrating than buying (or giving) plants that don't last. To make matters worse, in this tropical country the most popular flowers cultivated in Brazil are temperate species.

Inspired by similar systems seen on visits to the United States, Araki's line of hydroculture business was started five years ago, combining a long-known system with foliage species that are well adapted to the local climate, marketed in plastic vases of innovative and stylish design. Nearly 30 types of plants, such as dieffenbachia and ficus are sold, all suited to the interior environment of homes and offices.

Agronomist Tom Araki, in charge of production gives more details: "Our total production takes place in 30 acres of plastic houses, and even though hydroculture only takes up 1% of this area it is responsible for 7% of our revenue. In its first year it was hard to introduce it in the market, but after

the second year things really took off".

Floricultura Araki was founded in 1967 by Tom's father, Katsuya Araki, in the town of Itaquaquecetuba. Being only 25 miles from the city of São Paulo, Brazil, it is now surrounded by city sprawl. Counting over 20 million people in its greater metropolitan area, this is not only the world's fourth largest city, but also Brazil's financial and commercial heart. What this means in practice are thousands of offices, all potential buyers of low-maintenance plants that don't take up much space. Araki's main business is potted plants grown in regular substrate, the main crops are lilies (seven species of *Spathiphyllum*), of which he sells over 1 million pots yearly. Next are orchids and other types of flowers and foliage.

A consulting agronomist visits every 15 days, giving advice on issues that range from the tissue culture lab to production. Araki also belongs to the local flower growers' association, Aflord, which offers



*Left: Phalaenopsis orchid crop is ready for sale. Below: Violets (Saintpaulia) grow in peat pellets. Right: Three strips in the bottom of the vase called stoppers prevent the peat from being in direct contact with the water. Three internal lateral grooves make water replacement easier. Water goes straight to the bottom instead of through the peat.*



help with pest control and crop fertility. Aflord supplies the company with a standard fertilizer formula or other requested formula. At times the farm employs up to 60 workers, 10 of them temporary labor for the peak season. Six supervisors coordinate different areas or crops in this farm that, in spite of its size, still is basically a family operation where Tom's mother, sister and wife also work.

### Cultivation Phase

The company started its own lab 20 years ago. This is where the cultivation process begins. Most of the plants are obtained by either cloning or sowing and then placed in a grow room. There they are grown under artificial light, and hormones are added to the media for both rooting and shoot development. Depending on plant species and other factors this can be the longest phase, lasting up to six months in the case of cloning. Once they are ready, plants are graded by size before they are taken to the acclimatization greenhouse.

In this fan-and-pad-equipped house they are transplanted into peat pellets, which are kept in trays. A gentler climate is maintained at this stage in order to favor rooting. Light is less intense due to the use of white plastic and a shade cloth. Once plants have properly rooted into their new medium they are taken to the houses where they will complete their cycle.

Hydroculture plants are grown under the same environment as the regular pot plants, receiving the same care as other crops. Trays are watered with micro-sprinklers, and fertilizer is applied via irrigation. Total cultivation time may vary between 3 to 4 months after transplanting. In addition, foliage allows more flexibility in the harvest stage than flowers. If for any reason they get past their ideal time to be sold, you can always prune leaves and roots and wait for them to grow back.

Jiffy peat pellets are imported from Canada in a compact and dry form. They are hydrated by soaking in water for 24 hours,

expanding and softening. The peat only receives the standard fertilizer formula and comes wrapped in a cloth that prevents it from coming loose. The plastic vases are made in Brazil, and the same type is used for all plants. Two modifications have been made since they were introduced in the market. A stopper was added to its bottom, so that the peat pellet doesn't sit in the water, and three lateral grooves on the inner wall make it easier for the water to reach the bottom without going through the pellet.

It is only when the cultivation phase is over, however, that the plants are set into these individual vases and prepared for shipping. Then a cloth wick is attached to the bottom of the peat pellet, which will absorb the water from the vase to the pellet. It is only from this phase on that the product can be correctly called hydroponic.

After the wick is in place, a half-inch layer of water is added to the bottom of the

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vase, and the product is ready. In general, each store receives a mix of approximately the same number of species, no one type predominates unless a specific request has been made in advance.

During the first six months after purchasing his hydro-vase, all that the customer has to do is replace the water that has been taken up, once the bottom of the vase is dry. Because the fertilization in the peat will be enough until then, it is only after this period that any fertilizer is necessary. Liquid fertilizer, of the type commonly found in stores, can then be applied once a month. It just doesn't get any easier than that, and most likely it's convenience that's the product's main attraction in the hustle and bustle of modern life.

## Marketing

Hydroculture vases are sold through a number of channels, the main one being chains of roadside restaurants beside major highways going in and out of São Paulo. A good example of such a restaurant is the Frango Assado chain, with a total of 12 stores in the state. Their branch at Dutra

Highway (the country's busiest highway, connecting São Paulo to Rio de Janeiro) is managed by Juarez Oliveira. He reports that the hydro plants have become very popular. "Most of our buyers are families, and they usually take 1 or 2 plants home. We have had very few complaints. These plants require very little care. This also comes in handy for us since they don't demand much maintenance while they are in our store. All we have to do is to replace the water once it is empty, which has been once a week on average. That's all. The return on square foot of store floor is also interesting due to the shelving that takes little room. Floricultura Araki replaces the plants weekly, and the store keeps 30% of the revenue."

These stores products are constantly exposed not only to millions of weekenders but to clients from all parts of the country passing through. Plants are left on consignment and displayed in Araki's own shelves, usually near the checkout counters. Araki's website ([www.araki.com.br/hydrocultura/catalogo2.htm](http://www.araki.com.br/hydrocultura/catalogo2.htm)) lists 77 points

of sale, plus wholesale and supermarket chains as well.

## Outlook

Tom Araki explains that the first year's exponential growth in sales has already leveled off, the average now being 8% of yearly increase.

"In 2005 it was 10% because we started selling in supermarkets, and we expect this to be the growth rate in the future. However, we have not adopted an aggressive marketing campaign yet. Hydroculture's main advantage for us is that during its cultivation phase we have 56 plants/ft<sup>2</sup> compared to an average of 1.86 vases/ft<sup>2</sup> in traditional cultivation. We still have internal space in order to expand, and another 7.5 acres to build on." 🌿

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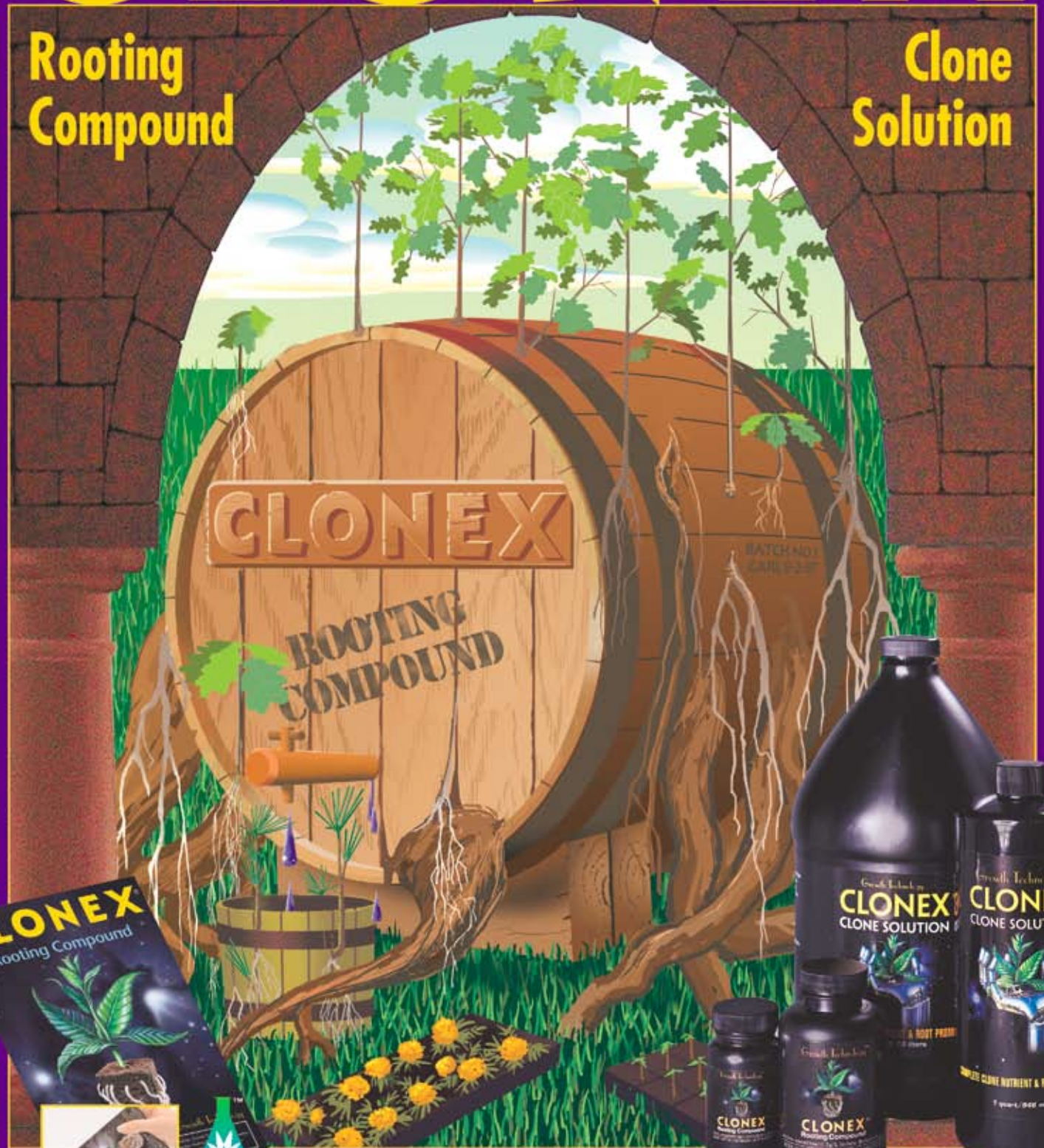
Clockwise from top: Dracaena grow in individual pellets. Paquila (Bombaceae) are grown in regular substrate pots. Araki sells more than 1 million pots of Spathiphyllum (also called peace lilies or white anthuriums) every year. Violets (Saintpaulia) grow in peat pellets. Cloned plants can spend up to six months in the growth chamber.



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