



Ask the Plant Guy...

Ask Pinecrest Gardens Horticulturist Craig Morell all about turning your backyard into your very own tropical paradise!

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Water Quality DOES Make a Difference....



Private conservatory at garden of Dr. Jeff Block, South Miami
anchored by a robust *Angiopteris palmiformis* (Elephant fern)

For years I grew plants that were "fussy" and otherwise described by a range of colorful adjectives. Some of them included Cochlostema, Medinilla, certain Licuala species, Gardenias, Vireya Rhododendrons, and a long list of orchids. When I moved from West Palm Beach back to Miami, I found that the plants fared even worse in many cases, even though the climate was proclaimed to be better. I thought the problems with the plants were due to the wetter weather of Miami. Perhaps the problem was the wrong potting mix, so I tried dozens of combinations, looking for yet another miracle of soilless medium technology, or a fix-all fertilizer. None of the "cure-all" methods worked. Over many years, I marveled at some of the Miami growers who could grow these temperamental plants so well. I was puzzled about the reasons for their success until I ran into a few growers in the area where I now live, who explained that it was the good quality water in this area.



Cochlostema odoratissima

In every grower's life, there are epiphanies, and for many reasons. Mine was that the answer to growing many of these unusual plants was better water quality, and it was one of the oldest answers in the world. One of the last clinching proofs of this was my first visit to a small garden near my home, designed and administered most expertly by Dr. Jeff Block, a retired anesthesiologist and highly awarded plant collector. Many of his plants are of better quality and larger size than any I've seen, and one of the main reasons is his commitment to providing the plants with excellent water, mainly reverse-osmosis (RO) water. His irrigation well water is excellent, too, allowing many of his in-ground plants to grow to grand stature. In many venues, be they palms, tree ferns, orchids, bromeliads or begonias, his plants are champion size and growing robustly. The same results can be achieved by using rainwater.



Tacca integrifolia
The White Bat Plant

The main point to be learned is that so many of the interesting plants we love come from rainforest or tropical areas where there is abundant clean rainfall. Using high-pH or calcium-laden water will slow down or cause harm to many plants. Many botanical gardens have installed RO units for their exotic plant collections with very notable results. One of the best examples is the legendary Atlanta Botanical Garden, with a stunning example of the high-altitude ecosystem of Venezuelan Tepuis. Growing these plants requires a rare combination of ultra-clean water, continuously cool moving air, and a great knowledge of the plants. Ron Determan is the expert grower for the Fuqua Conservatory at Garden, and his results are worth the trip. As many veteran growers of exotic plants will report, rainwater or distilled water is the "real" thing, and RO water comes pretty close. There are a few items to consider with using rainwater, though.



A stunning Vireya Rhododendron hybrid

Should you collect rainwater off a galvanized roof, the collected water will have a lot of zinc in it, bad for some plants. Rainwater from a roof loaded with plant debris will also have insects and plant parts in it, and possibly fungi from decaying vegetation. In heavily urbanized areas, smog and pollutants may dissolve in rain, and be a hazard to the plants. Still, rainwater is better than tap or municipal water. Many university extension agents are recommending the use of rainbarrels, a practice I heartily recommend, especially if you have a greenhouse or rare plant collection. I modified the practice by using a small electric sump pump, attached to a garden hose, and dropped into the barrel. Plug in the pump and you get full pressure rainwater through a garden hose for your plants, a practice I found much more useful than toting the water one gallon at a time.

I recommend using rainwater or RO water for your most delicate and sensitive plants, especially in containers. This will help a lot to avoid the buildup of soluble salts from fertilizer, as well as avoid any calcium buildup. Keeping in mind that rainwater or RO water contains neither of these, most any plant will respond to the "improved" water with marked improvements in new growth.



A perfect bed of Begonia imperialis,
with an accent plant of a Vriesia fosteriana hybrid

One thing to note in Dr. Block's collection is the great colors in the foliage and flowers. I have seen these results before, but in the wet areas of coastal Hawaii, where there is a lot of rainfall, along with moving, humid air. Dr. Block has perfectly tuned the climate in his shadehouses by using under-bench misting, along with circulation fans_ to create the climate his plants need. The staghorn ferns , bromeliads, orchids and other epiphytes thrive with the RO mist and dilute fertilizer they receive so consistently. The water quality issue is easy to prove in such a garden, where the difference between success and poor growth is the water quality.

The technology is easy enough to install an RO unit in your home, especially if you wish to grow plants which need the cleanest water they can get, such as carnivorous plants, many rainforest epiphytes, plants in vertical gardens or "green wall" projects, and a host of others. Try a few barrels of rainwater on recalcitrant plants and see what happens, and let the plants show you what you've been missing.

