

February 2012 - How Much Fertilizer?

From Courtney Hackney's Monthly Column of Growing Tips

During the past year, I have subjected most of my orchid collection to a large-scale experiment regarding fertilizers and media. How much fertilizer does an orchid actually need to grow well and produce large flowers? For the entire year of 2011, fertilizer was applied at very low levels and only during the growing season, March-September. Fertilizer was applied (0.07 teaspoons/gal) weekly for three weeks followed by a week of just water to flush any mineral buildup.

My water is fairly high in dissolved solids and on the basic side. Peters Excel 15-5-15 Cal-Mag provides additional magnesium and nitrogen in the form of nitrate and ammonia, both of which are immediately available to plants. This fertilizer also decreases the pH, which is ideal for my water. Most fertilizers add nitrogen in the form of urea, which requires bacteria and decomposing media before it is available to orchids. Because I grow mostly in lava rock, urea is useless.

What I learned this year is that applications of fertilizer much lower than recommended at a much greater frequency can produce excellent growth and large flowers if there are adequate roots. During my experiment, cattleyas well established in pots with a large root system bloomed with as large and as many flowers as they did with higher nutrients. They also produced nice new pseudobulbs at least as large as previous bulbs.

However, cattleyas that were recently repotted or those that had less developed root systems, often did not bloom or produced smaller flowers. Recently repotted cattleyas grew new roots under this fertilizer regimen, but not nearly as many as cattleyas that had large root systems. This is problematic for newly repotted cattleyas because new roots are important if the orchid is going to regain its previous flowering characteristics.

There were a few cattleyas in the collection that were still in organic media, albeit mostly old decomposing media. In general, these were doing OK as long as the medium was not soft and holding water. Several of these were bifoliate that are poor candidates for repotting unless they are in the process of getting new roots. Occasionally, I miss that period and leave them in the old medium.

This year begins a new experiment. One issue with using lava rock is the space within that allows large "Cucaracha" (roaches) to live in the pots. They emerge at night and eat new roots, flowers and even new growths. The latest experiment is to cover the lava rock with a thin layer of Aliflor. Aliflor is a round artificial rock-like medium. I still have a totally inorganic medium, Aliflor and lava rock, but roaches cannot move to the pot surface where new roots are found. This allows the addition of Nutricote fertilizer because the small Nutricote pellets do not fall through to the bottom of the pot. Over the years, Nutricote has provided a well- balanced and continuous level of nitrogen and other nutrients.

Repotting has begun early this year as warm conditions have caused new roots and growth earlier this year. The sun is already getting stronger so new growth now will just allow an orchid to grow more this year.

Jacksonville Orchid Society member Dr. Courtney Hackney, Retired Emeritus Professor of Biology at the University of North Florida, is a noted author and acknowledged "orchid expert." He published a column of orchid advice that ran for many years, and we are presenting select articles here with his permission.

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