

July 2010 - Watering Orchids at Night?

A Monthly growers advice column by Courtney. Hackneau@comcast.net

This summer has been not only hot, but hot with low humidity. If you provide the proper air movement required to keep your orchids from overheating in this weather, you are also accelerating the loss of water from your orchids. If the orchid's loss of water exceeds its ability to acquire water your orchid experiences water stress, usually indicated by shriveled leaves or bud drop. Some of my orchids that typically love high light that are near the glass even have burned leaves because they do not have enough water in their leaves to keep the leaf cool. Most plants, including orchids, have stomata or microscopic openings on the bottoms of leaves. Stomata open, allowing water to evaporate and cool the leaf. If the orchid does not have enough water it cannot keep its leaves cool.

Over the years there are many experienced growers, many commercial growers of orchids, that told me they routinely violated one of the cardinal rules found in most books on growing orchids. Most books suggest watering orchids early in the morning so that they will be dry by nightfall. Failure to do so, according to the books, will cause rots. During the middle of summer, however, if the humidity is low, I routinely violate this rule.

Whenever nights are warm, I heavily water my orchids near or just after sunset. The object is for them to be soaked all night. The next morning, I water heavily again and often fertilize at this time. When I go out to water in the morning, vanda roots are swollen and green, as are the visible roots of my cattleyas and phals. Rots are very rare and almost always on newly purchased orchids or plants that have already had problems.

My orchids had been looking water stressed, but a week after starting this regimen, bulbs have become plump and new leaves abound. There are even newly branching roots.

If you decide to try this approach keep the days between watering the same as you did before. Apply only water in the evening and fertilize only in the morning. If you live in an area where night temperatures get lower than 60 F be sure you never fertilize at night. In the morning, plants are well hydrated and there is no risk of fertilizer toxicity, even at high levels. Roots are also ready to take up fertilizer as their surface condition has changed from hard and stiff to soft and pliable. If you live in an area with hard water, salts that accumulate on the medium, pots and roots will become soluble overnight, allowing them to be flushed out the next morning.

If you ever visit the tropics where many cultivated orchids originated, it is surprising to read the prohibition to never water at night. In their natural habitat, orchids are soaked at night by rain or dew. Rarely, will you ever find an orchid with rot in nature. In the wild, orchids grow very slowly and are very limited by nutrients. Their leaves are thick and hard; even immature plants.

Bacteria require nutrients to grow and the presence of water laden with nutrients in and on leaves is an invitation for bacterial and fungal invasions that cause rots. Orchids can grow quickly if pushed with lots of fertilizer. However, cell walls are thin and soft on these orchids making it easy for fungi and bacterial invasion. Cells also are loaded with excess nutrients providing fuel to any invader.

Growing under lower nutrient conditions does cause slightly slower growth and causes orchids to put more energy into root growth. This produces a better rooted orchid, less susceptible to disease, even if you water at night.

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 with his permission.

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