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Lava Rock

July 2005

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Orchid Growing Tips

Many “Tips” readers have asked about the progress of my experiments with lava rock as a potting medium. While this experiment is still in progress, there are a few generalizations worth passing on. However, this is not a recommendation yet for the average hobbyist. As with all cultural recommendations, make the change on a few plants before wholesale conversion of your collection. If you are currently happy with your culture then do not change them.

Most lava rock sold in the Carolinas is mined in Oregon and is unweathered, meaning it has not had the actions of water working on it for years. My experiments have utilized red lava rock and not the black form. The only advice I was able to get from Hawaiian growers was to not use the black form, although I do not know why. Perhaps it has something to do with heat absorption. The rock is mined, crushed, and packed without regard for size so each bag needs to be sorted for size. It is, however, inexpensive.

Some bags contain more, larger pieces, while others contain more fine material. This is both good and bad, depending on how the rock will be used. It does require grading as none of the low priced lava rock is graded. The largest material, 1.5-2” diameter works well for vandas and bifoliate cattleyas. Cattleyas and phals go in 0.5-1.5” grade and the remaining fraction is used for seedlings and paphs. Typically, there is also lots of dust or very fine material that is attached to the rock that washes away relatively quickly. This fine material does contain significant soluble material and is best washed off first. Lava rock is relatively light with an extremely porous surface, but occasionally some dense rock, which lacks the porous nature required for potting orchids, will be included. Discard this material. Some bags will have almost none of the dense stuff, while others may have lots of it.

Not all of my experience using lava rock has been positive. So what are the advantages of using this medium? First it is inexpensive and readily available. Most important for me, is that it does not decompose at all. In the hot South, many media break down before an orchid reaches its maximum growth in the pot. Bifoliate cattleyas hate to be repotted and grow relatively slowly so this can be a real problem. I also have limited amount of time to repot and would rather spend my “orchid time” doing other things in the greenhouse.

The key to the successful use of lava rock is to remember that the environment provided by lava rock is very different than what the orchid has already experienced. There is more air movement and less moisture than in more typical media. Roots grown in a pot with sphagnum or bark typically shrivel and die in lava rock. The first phals I put in lava rock became badly desiccated until they grew new roots. The second group were immediately placed in lower light and given more water until they began to grow new roots. The most recent group has been the most successful. Phals were removed from the pot and a core of the old material was left around the roots. The phal was then placed in the pot with lava rock already added so that the phal is properly placed relative to the top of the pot. Then

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lava rock is added around the plant and a few pieces placed on top of the old medium. This allows the phal to adjust gradually with new roots emerging from the old medium into the lava rock. So far this is working well.

The most important rule to follow when repotting into lava rock is to remember that it works best when the plant is growing new roots. This generally is when it is warm, so avoid repotting in the winter. While this is generally true for all orchids, it is even more important for orchids planted in a rapidly drying medium, such as lava rock, or if the orchid is mounted.

My bifoliate cattleya growth has excelled in lava rock; perhaps because they prefer drier conditions and are always repotted when they are getting new roots. The greatest surprise has been for paphs. Their requirement for more water suggested that the lava rock medium would not work. Fine, gravel sized lava rock was used and the paphs planted in clear plastic pots so that they could be repotted if new roots were not observed. Rock was placed about a quarter inch higher around the plant than if bark had been used. Slow release Dolomite Lime was placed on the surface along with Nutricote fertilizer. Paphs grew so fast that some of the multiflora types split their pots.

Lava rock holds a surprisingly large amount of water, but still requires more frequent watering. Lava rock also holds fertilizers along with less desirable salts so flush at least once a month. Once lava rock has weathered moss and ferns will grow on the surface prompting me to wonder whether there may be some benefit to letting the rock weather a little before using it in pots. As with all media, it takes time to determine if a particular medium will work under your conditions. Lava rocks requires more time watering, but less time repotting. While it is too early to recommend this medium, it has potential for hobbyists that like to water or hate to repot.

For more on growing orchids in Lava Rock see Growing Phals in Lava Rock, Two years Later