Killing Orchids: Dealing with the Inevitable

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I have grown orchids for what seems like a long time, 17 years. My collection started as meagerly as you could imagine; single, standard-size, lavender Cattleya hybrid that was simply labeled "blue." I got it at a farmer's market in Syracuse, New York, for $10.00. I grew that plant for about a year before it flowered. Once it did, all hope was lost. I began to purchase orchids with a vengeance. After all, "I now could grow and flower them." My collection swelled dramatically from that lone orchid. That lasted just over two years. An unexpected freeze dropped it back to one plant in a single night. Since then, the number of plants in my collection has varied between a low just under 20 and a high of several hundred. The collection now stands at around 75. I have been fortunate to have had the opportunity to grow orchids in climate-controlled growth chambers, greenhouses, outdoors, under lights and on windowsills. Throughout, I have managed to kill a lot of orchids. I feel qualified to offer reassurance to the beginner who has some apprehension. I would advise you not to worry. It might take some practice to get really good at it, but you can kill orchids!

Along with pests and diseases, root loss due to over or under watering is one of the main causes of orchid deaths. At first you will probably kill them mostly by accident. You will repot something at exactly the wrong time. You will both overwater and underwater. You will heavily fertilize a plant that is salt-intolerant. You will give shade lovers too much sun and sun lovers too much shade. This is unavoidable. Some mistakes will be made because you just didn't know any better. Others will occur because you followed well-intentioned advice which was inappropriate for your conditions. Much of orchid growing depends on your experience.

Experience takes time. You can't get everything you will need to know from reading. That is not to say that reading is not important. It most certainly is! However, while it is possible to illustrate clearly what sunburn looks like and to list most of the conditions which cause it, there will always be some peculiarity of your environment that was not discussed. This is the one that will get you. Until you happen to run into that one unusual, and perhaps rare, condition, you will have no way of knowing you are putting a plant into danger. Then all of a sudden sunburn will strike. You will probably be able to identify the cause, but it is doubtful that you could have anticipated it. This is experience. As the saying goes, "it must be seen to be appreciated." The more experience you have, the more mistakes you will have made, the more problems you will be able to anticipate and avoid. Nonetheless, reading and talking to other growers is very important. Learning what has worked for other people is only one of the benefits. This also exposes you to considerations which may not have occurred to you otherwise. There are hundreds, perhaps thousands of good articles on orchid culture. There are bound to be a fair number of these that apply directly to the type of orchid to which you are attracted. By all means, read all of them that you can get your hands on. Unfortunately, you may find there may not be complete agreement among the experts, except concerning general cultural requirements. This is not to say that an expert won't offer very specific and possibly emphatic advice. Moreover, usually that advice will be entirely accurate, if your conditions are exactly the same as those of that particular expert. Believe me, they almost certainly aren't! Your only recourse is to balance all advice against your experience with your own conditions. Find out why the advice is given. Determine the cause-and-effect basis for the advice. Then analyze how that relates to your situation and conditions. Modify the advice as necessary and apply it. You won't go too far wrong. The important thing is

to understand the "why" of it rather than the "how" or "what". Above all, be prepared to make mistakes. It is difficult to predict the effect of every environmental condition that you will encounter. It is often possible to gain a feel for what is going on in retrospect. Often you won't be able to remember much about past conditions by the time you observe an effect. It is impossible to observe and remember every fact that might have an effect on growth. It is likewise unreasonable to expect to be able to take daily measurements of every environmental variable that might be important. Still, it's much better to do something rather than nothing.

My advice is to keep some sort of journal. It should be just detailed enough to keep your interest but not so detailed that it becomes a chore. Don't get caught up in forcing yourself to make "standard entries" or to adhere rigidly to a specific set of observations. Your perception of what is meaningful will change over time. Use the journal as a scratch pad to record things that you notice about a particular plant, the general weather conditions, anything out of the ordinary or anything which you suspect might be important. Eventually, you will begin to recognize which factors are most important, how the individual conditions influence the plant and how these factors are related. You will probably find agreement with the general principles that you read about. The specifics will be unique to your conditions, your plants and your growing style.

For the fine points, you're mostly on your own. Your success will depend on how closely you observe, on how much experience you have. Experience has its downside, though. As you kill fewer plants by accident, your collection will grow in size and finally exceed carrying capacity. Everyone's does eventually. The carrying capacity for your collection is the number of plants that can be grown well, given your resources. Some resources are, more or less, infinite. For example, you can probably supply far more water than any collection of orchids will ever need. There are also resources that are finite. They are available in limited quantities. Examples of this type of resource are light (within a defined space), space and money. These types of resources can become limiting to growth as they are spread over an ever-increasing number of plants. For example, there might be space to squeeze one more orchid into a windowsill growing area that is already at capacity for light. The result will be that some plant(s) will get a little less light. Sometimes this small amount of change will be enough to push one or more plants into decline. At this point, light is limiting to growth. The collection is above carrying capacity. Of course it's never as simple as that. Changes in air circulation affect the rate of drying and the amount of COT available to the plant. Other factors may come into play. Even though the changes are nominal, a plant that is near the edge anyway might be pushed over. At some point it will become impossible to squeeze any more plants into the available space and light. If money is not a limiting condition, you can expand the space that you have available. You could add some lights to a window area, build another growth chamber, add to the greenhouse or even build another greenhouse. Even with quite a lot of money, your collection will still exceed carrying capacity. One limiting resource that is often overlooked is the amount of time you have to devote to your collection. Though there are ways to become more efficient, sooner or later you will hit the wall. You won't be able to spend adequate time with your plants. If you ignore this limit, your orchids will suffer. You will experience an increase in the number of plants that you lose from disease or poor culture. It takes time to discover the outbreak of a pest in time to prevent damage. It takes vigilance to monitor the state of each plant. If you don't have enough time to do this kind of preventive maintenance, you will kill a lot more plants than necessary. The worst part of losing plants this way is that it is a random process. You most favorite orchids go just as easily and as often as those you could live without. A good rule of thumb is that you should be able to give each plant a casual examination at least every third day and a detailed inspection twice a month.

To bring your collection back into balance once it has exceeded carrying capacity you will have to learn to kill (i.e., remove from your collection) orchids intentionally and reliably. While killing orchids by accident, inattention or carelessness is easy, it takes skill to do it deliberately. It requires a certain amount of dedication and discipline to develop a true executioner's spirit. Although a great deal has been written on growing orchids properly, there is little advice available on when and how to kill them appropriately. I will attempt to remedy that at least in part. Probably the most emotionally difficult way to eliminate an orchid is actually to kill it. Nonetheless, there are some plants that are so inferior that they must be destroyed. Others, suffering from poor health, might take an unacceptable share of the available resources to recuperate. Some may never recover no matter what is done. A plant may become infected with virus. Cultivate the ability to put this type of plant in the garbage can. Next there are those plants that just don't measure up to personal preferences. They aren't bad enough to simply discard. They aren't good enough to keep. Terminate these plants by giving them to someone who wants to try growing an orchid. They might as well have something that is less than exquisite on which to practice. More often than not, they will succeed in growing the plant, and you will have expanded that person's horizons. You will also have developed a valuable resource. Once hooked, this person will gladly take those plants which no longer interest you.

Another category covers those plants that are good enough to keep but for which there is no room. Sell these, usually at a high discount to ensure that they move. This partially covers the costs of new acquisitions. An alternative is to make them gifts to experienced orchid-growing friends. Unfortunately, most of their collections are probably at or above carrying capacity as well. An additional option is to use the plants in experiments designed to expand your skill in managing your collection. For example, when you think it is time to move the orchids outside for summering, set these out first as a test. When you decide to try a little more sun to see if you can boost growth even further, these are the plants to use. You can push these plants beyond any limit to determine more closely just where that limit is. Obviously some of these plants won't make it, but their loss provides enough value in information to make it worthwhile. The knowledge gained might help prevent the loss of the 1% or so that are truly irreplaceable. In my opinion, only the smallest percentage of the orchids available will be so good that their loss is tragic. If you look honestly at any large group of plants, you will find that, though each plant may be unique, most are relatively interchangeable. You can obtain another, equally good or even better, very easily. It would be catastrophic to kill one of these precious finds.

Sacrificing a few lesser plants in experimentation is a small price to pay if it keeps even one of these exceptionally superior orchids alive. Obviously, the extraordinary orchids are the ones of which you keep multiple divisions. You will want to grow enough copies of these plants to insure against their complete loss. As these plants grow larger and begin to take up more space, variety will become increasingly important. After all, no matter how good an orchid is, you wouldn't want a collection composed of 100 identical plants. Disposing of these plants is probably the most perplexing problem of all. They are so good that you really would like to hang on to them, but you absolutely have more than enough divisions for safety. Plants such as these can usually be sold at a fairly good price. If they are really very excellent you might consider donating a division or two to a breeder or the national collection in Washington, D.C.

How do you determine which plants fit into which group? The exact balance that you determine will be strictly personal. My experience has shown three things. First, strict adherence to rules based on objective measurements does not work. For example, one rule that I tried to follow was "If it fails to bloom two years in a row, it's gone." Another was "If the flower doesn't last more than four weeks, its history." These were logical, but there were too many exceptions. Second, subjective guidelines are not much better. I developed a way to rank orchids based on plant size, growth habit, frequency of bloom, size, number and

quality of flowers, all estimated subjectively. These types of schemes are every bit as difficult to adhere to as vigorous objective standards. Third, no matter what your tastes and conditions are today, they will change. The composition of your collection will evolve to reflect your tastes and environment as these will change over time.

Orchids with virus are not worth keeping. Their steady decline cannot be stopped and they may contaminate other orchids. The only thing I have found that works is a very simple principle. I must accept that my time, abilities and resources are limited. I established a rigid restriction on the maximum size that my collection can attain. This limitation is not based on space occupied nor the number of plants in the collection. The sole criterion is the health of the plants taken as a whole. As long as I can grow all the plants well, there is no need to cull. The control comes into play whenever a resource becomes limiting to good growth. As soon as even one orchid suffers, the limit is reached and something has to go. I evaluate all the available plants in the collection and select those that can be removed. Exactly what I scrap depends on which factor is limiting and on the contribution of the individual plant. If I am running out of space I may go for the larger plants. However, the largest plant that I have is one that I refuse to include in the culling process. If it is time that is limited, I might target those plants that take the most time to care for properly. Again, there are plants that I would keep, no matter how much time they required. However, I force myself to reduce the collection to the extent necessary.

Eventually, with practice and dedication you will be able to kill enough orchids to maintain your collection at somewhat less than the absolute maximum possible. I try to keep about 10% of the available space free to "try out" new plants. Almost every orchidist has the never-ending craving for just one more. Resign yourself to the quest for the one that is just a little better. Keep looking, keep culling and don't fret too much over the ones you kill. It really can't be helped.

Ed's Note: I thought this article may give you some ideas on how to make more room to shop for new plants! (hint hint ...)