

## Watering Tips



Watering is one of the most important aspects of the care of orchids. Although plants may be grown quite successfully under a wide variety of conditions, in many types of mediums, in a glass-house, shade-house or on verandahs, they will not flourish unless the grower understands how and when to water them correctly. This is just a matter of following a few simple rules.

It is a wide spread belief that only slightly acid or rain water should be used for orchids. This is not so. Flourishing orchids can be produced even with water which is sufficiently alkaline to change pink litmus paper slightly blue. Water which is very alkaline may be neutralised and even brought to an acid condition by the addition of dilute hydrochloric acid, which has no effect on plant tissues of the plant.

Bore water is not suitable for the orchids themselves, but growers in outlying areas should not over look the fact that when water is scarce, precious tank water may be saved by the use of bore water for damping down. It is not therefore the water itself which may retard the development of the plants, but the method of applying it.

It is clear that there can be only three degrees of watering:

- (1) Too little
- (2) Too much
- (3) The Right Amount.



Both the first and second will, of course, be damaging to the plants. But the question which springs to mind is: How is the grower to know whether their plants are receiving an adequate or over supply of water? The answer is that the plants themselves will tell you. It is a matter of knowing what signs to look for.

### Underwatering

Look at the leaves of the plant, if they are dark green in colour, dull looking and with the bottom leaves drying and dropping off' then the plants have been receiving too little water. They will be weak and incapable of flowering. This condition is readily seen and easily detected.

### Overwatering

This is the usual fault among growers who deluge their plants with water feeling neglectful if they allow them to dry out at all, and who unwittingly do their plants considerable harm. Apart from too frequent watering, other causes of excessive moisture may be bad drainage, heavy soil or insufficient air circulation around the pots.

### Black Spot and Bacterial Disease Caused by Excessive Moisture

Once again, the leaves will give an indication of the trouble. Continued dampness in the pot will break down the soil and exclude air, killing the active plant life bacteria. This encourages the accumulation of toxic substances and the growth such as those which produce the parasitic fungi known as 'blight' and 'black spot' The foliage may blacken and wilt and black blotches may appear on the leaves. These conditions are very commonly seen along the coast where they attack crops of tomatoes and potatoes. These diseases are in no way connected with the white fleck or mosaic disease. The fungoid diseases are much more fatal, but, fortunately, they are much more easily cured by correcting the conditions (i.e., surplus of water) which have brought them about.



These are not, however, the only signs shown by the leaves of orchid plants to indicate an excess of moisture. If the tips of the leaves are black, this is not a disease, but may be likened to chilblains in that it is brought about by the cold. The roots have become chilled and have produced this effect upon the leaves. Now look to the roots. Continual dampness sours the soil in the bottom of the pot. The roots therefore will be seen to have risen to the surface of the pot, where they form a mat in an attempt to obtain suitable conditions.

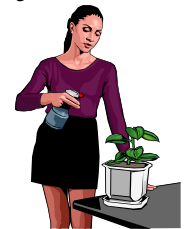
Apart from the marks on the leaves, the actual colour and conditions of the leaves themselves will show excessive watering. They become yellowish and sickly weak because they have become starved of plant foods, particularly nitrogen.

### Overwatering Causes Plant Starvation

To understand this, one must know a little about the root of the orchid. A root consists of a spongy outer casing and a central fibre of conductive tissue which feeds the plant, surrounded by a hairy mass of fibre roots which grow about half as long as the root is thick. These fibre roots are very numerous and they absorb sufficient moisture from a small area in its immediate vicinity. Along with moisture it should also draw in plant food. But it would soon exhaust the amount of food in that small area. If, however, the pot is allowed to dry out a little, the roots will draw moisture from further afield and bring with it the plant food which is waiting to be used. It is useless to provide plants with nourishment if at the same time they are overwatered, for very little of the plant food supplied will reach the plant itself. Roots also need air. Only when the potting material begins to dry out can the air circulate. The roots indicate the health of the plant. They should be firm and whitish with a green or brown tip.

If plants are watered correctly they will remain healthy under adverse conditions.

The bulbs will be clean and full, the leaves glossy green and erect and flowering all that could be desired.



### How to Avoid Errors in Watering

The actual method of watering employed is not of great importance. It may be done by immersion or by means of a set sprinkler. Probably the best method is to water the plants several times at intervals of ten minutes with a watering can or hose. It is vitally important that the plant should be watered thoroughly and for this reason it is better to water at intervals rather than continuously as it is easier to determine whether the plants have received enough water. Except when drenching to remove salts, care should be taken to avoid the running off of large quantities of water. This simply is a waste of water, and washes the plant foods from the soil.

### Factors Affecting Frequency of Watering

Once the soil in the pot has been thoroughly saturated, skill and judgment are needed to know when to repeat the process, remembering the dangers that follow from overwatering. A great deal depends on individual conditions which vary from one house to another.

#### Factors requiring consideration are-

**The arrangement of the shadehouse.** Is it draughty, letting in drying winds, or is it well ventilated?

**The nature of the soil.** Is it porous, allowing for quick drainage and evaporation of water, or heavy, retaining the moisture for some time?

**The degree of dampness of the benches, pots, and floors.** If these are damp there will be little evaporation and the soil will dry out slowly. Under these conditions thorough watering needs to be carried out at intervals of a fortnight or even longer.

**The weather.** This naturally has an important bearing on the matter. If it is hot and windy, drying out the soil quickly, the plants should be watered once a day.

**The size of the pots.** Large pots dry more slowly than small ones. Group the pots, if possible, according to size. Then by examining one or two of each group, it will be obvious whether the entire group is ready to be watered.



The amount of watering is also related to the plant's growth cycle. Orchids require most water when the new growth starts. When the plant matures give less water until the buds appear, at which stage the plant should not be allowed to dry out. After flowering comes a resting period when watering should be reduced. Newly potted plants should be misted with a fine spray. Avoid watering until sign of new growth appear, eg, an eye or new roots.

Always remember, however, that orchids are equipped by nature to withstand dryness, as this is a constant threat under their natural conditions. Any mistake will soon become apparent and less harm will have been done by underwatering for a short time than would have been done by overwatering.

**The most important points to remember are:**

1. Never allow the plants to be thoroughly dry for any length of time
2. Avoid overwatering
3. If in doubt, postpone watering until the next day
4. Wise watering will produce healthy plants and numerous flower spikes.



These notes have been used at our Cultural and New Grower's Meetings. They are from various sources and we thank the authors. All articles are supplied in good faith and the Bribie Island Orchid Society and its members will not be held responsible for any loss or damage.