

Orchids for Beginners

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General Information

Keep it simple - There are many kinds of orchids and they often require different conditions to grow well and bloom. In the beginning it best to keep things simple. Start with a few orchids and grow from there.

Patience - Orchids are slow growing when compared to other common plants. When growing orchids you will need to be patient. Your care of the orchid will only show slowly over time. Some orchids go through a noticeable period of dormancy during the growing season. Many orchids slow their growth during the colder times. You should adjust the watering and fertilizing during this period.

Local Knowledge - There are many books about growing orchids but most are written to describe growing conditions in temperate locations. You can get some information from publications, but I found it best to work with other local growers and ask their advice. Orchid growers have their own special language so you will have to ask a lot of questions. I got "It depends" as an answer because growing orchids is very specific to the orchid you are growing and where you are growing it. Your questions will need to be specific. I got the best information and knowledge from repeated interaction with other orchid growers. This was accomplished by joining an orchid society.

Know the orchid you are growing.

- Is it a **species** plant or a **hybrid**?
- Is it a **seedling** or a **clone**?
- Is it **sympodial** or **monopodial**?

A **species** orchid is a term used by growers to describe an orchid that has been propagated between members of its own genus and species. They tend to require more specific conditions to grow well.

A **hybrid** orchid is a term used for orchids that have been crossed with other orchids outside its species. Sometimes they are crosses between plants that are not in the same genus (transgenic hybrids). They usually have been breed to enhance a particular quality like flower color or size. They are often quite vigorous and easier to grow.

A **seedling** orchid is a plant produced by pollination (sexual reproduction) of the orchid's flower. It usually occurs when someone manually pollinates a flower to achieve a certain cross. However natural pollination still regularly occurs if the specific

pollinator is present. It can be a line-breeding (pollen and ovary from the same species or line) or a cross-breeding (pollen and ovary from unrelated or different species). Seedlings from the same seedpod often have genetic variations due to the nature of sexual reproduction. The same as siblings from human parents may look and act differently unless they are identical twins.

A **clone** is an orchid that has been produced by asexual reproduction. Often it is done in a laboratory using special procedures and produces many plants from a single individual. These plants are genetically identical. These plants tend to be just like the original plant. However, even with this process sometimes mutations occur and runts can appear in the group.

A **sympodial** orchid grows laterally. New plants grow from older ones in a progression laterally often in more than one directions at a time. This type of growth causes a plant to grow out of a pot requiring it to be repotted.

A **monopodial** orchid grows taller. The plant grows taller often producing roots from its stem as it grows. These plants often produce keiki that can grow to full sized plants identical to the original plant.

Specialized Roots – Many orchids grow naturally on trees (Epiphytes) or rocks (Lithophytes). These plants have developed specialized roots to handle the harsh growing conditions. They have roots that have a thick outer coating, called velamen, that absorbs water and nutrients. These orchids do best when they have good ventilation and are allowed to dry out between watering.

A few orchids developed in leaf litter or directly in the soil. These orchids have a thinner coating surrounding their roots. They often prefer moist growing media and do best if they do not completely dry out. These benefit from regular watering.

Growth Factors

- **Temperature**
- **Light**
- **Air Movement**
- **Water**

Temperature - In Hawaii, temperature equates mostly to elevation. The higher the elevation the cooler the temperatures run. There can be exceptions to this rule. Cloudy conditions also add to cooler temperatures. This is important because some orchids require cool temperatures to grow well and bloom. Some orchids do best with sunny dry conditions. So climate and elevation should be a consideration when selecting the orchids you plan to grow.

Light – Very important in the growing and blooming of orchids. All orchids need sunlight. Without sufficient light, orchids may grow but may not bloom. It is a rule of thumb that you should provide the maximum light without burning to orchids.

Some orchids tolerate more shade than others, but all should get direct sunlight. Most orchids require the direct sunlight filtered to reduce its intensity. Under ideal conditions normal sunlight would be filtered to between 50% and 70% of its full intensity. In nature this would be done by leaves of trees and plants growing with the orchids. Because orchids developed as understory plants they do best in these conditions.

Plants that have large flat leaves usually want less intense light than plants with skinny upright leaves.

If you are growing your orchids under the eave of your house, a lanai or under a tree, your orchids will probably do best if they are on the east, south or west facing sides. Morning light seems to work the best for orchids that prefer shade. For greenhouses, use of the appropriate shade cloth will help your plants grow well. Try to provide the maximum amount of sunlight to the greenhouse by removing trees or structures that obstruct the light.

Air Movement – Plant growth is enhanced by good air circulation. It is an often overlooked factor in growing orchids. Good air circulation helps to reduce heat stress by cooling the surface of the leaf and prevents leaf sun burn. It helps to speed up evaporation of surface moisture after watering. This helps prevent fungal diseases by reducing the fungi's ideal environment. You can improve air circulation by not overcrowding your plants and by keeping your plants off the ground.

Water – Over-watering is said to be the cause of more orchids plants dying than any other cause. Both amount and frequency of watering is critical for good plant growth. The rule of thumb for watering is "When in doubt if you need to water, don't water".

Orchids benefit by using large volumes of water. Wet all the roots. Soak the plant roots and pot to flush any residual fertilizers. I think of it as "filling the pot".

The frequency of watering depends on the plant's needs and the kind of media you use. Many orchids grow best when they are allowed to thoroughly dry out between watering. It is often better to have an orchid plant dry than to over water. There are some exceptions.

Orchid growing media (from most water holding capacity to least):

- Sphagnum Moss
- New Zealand Pine Bark
- Rocks or gravel

- No media

The choice of media used should be related to the moisture preference of the orchid plant and the need to support the plant while growing.

Fertilizing and Plant Health

Fertilizing – Good nutrition for your orchid plant is essential when getting it to bloom. Orchids should be regularly fertilized. The mantra is “Weakly – Weekly”. I recommend using orchid fertilizers.

- Pacific Ag Sales –Water soluble orchid fertilizer, 13-2-13
- Michigan State Formulation 13-3-15 RO, 19-4-23 W
- Nutricote, 13-13-13 (granular, slow release)
- Calcium – dolomite
- Other amendments (mostly for micronutrients)
 - EM-1 – microbial inoculant
 - Plant Growth Enhancer – organic tea
 - Microplex – powder form

Granular fertilizers, like Nutricote, can be used with orchids having media. However applying a liquid fertilizer gives you much more control and accuracy.

Avoid using fertilizers that have urea as a nitrogen source. Urea needs to be broken down by microbes in the soil to become available. Orchid potting media does not have soil. Micronutrients are very important. Organic fertilizers such as chicken manure and bone meal also work well.

Caution: Orchids are generally sensitive to salt build up. Salt build up can burn orchid roots. All fertilizers are salts. So if you fertilize, you must regularly flush the excess salts from the orchid plant roots.

Plant Health – Eventually some of your plants will have insect or disease problems. The best treatment for insect and disease problems is to keep your plant healthy.

Sanitation is a key to avoiding problems. Remove old and dead vegetation from the growing area. Keep everything as clean as possible. Do not let the water hose lay on the ground prior to watering. Wash your hands or wear disposable gloves when you handle your plants.

Keep your plants off the ground and weed free.

Sterilize your cutting tools prior to each use. Treat new wounds on your plants (when trimming leaves or flowers) with a disinfectant (ground cinnamon, rubbing alcohol, etc)

If you must spray start by using

- Insecticidal Soap solution (Safer's or other brands)
- Snail and slug control
- Horticultural oil
- Rubbing alcohol
- Bayer's 3 in 1 (fungicide, insecticide, miticide) Always follow the label.

Transplanting

The best time to transplant your orchid is when new roots are forming from new growth. You should transplant the orchid even if a flower bud is forming or has formed. Many orchids do not grow new roots from old growth.

Transplanting is different for monopodial and sympodial orchids.

Some of the things I use for transplanting:

- Pot (plastic, clay or concrete)
- Media (if applicable)
- Clippers (always sanitize before use)
- Nitrile gloves (change for each plant)
- Spray disinfectant
- Calcium source (as needed)

Questions?