

How to grow orchids on a windowsill?

It is very easy to grow orchids in a greenhouse or in special enclosures that allow controlling temperature, light, and humidity. If you live on the tropics, you may just attach orchids to trees in your garden. Growing in optimal conditions, orchids are mostly resistant to insects and disease. Following my guide, you may easily succeed in growing orchids in your home on a windowsill or in a sunroom. Even though in winter the temperature may drop to 50°F (10°C), relative humidity may drop shortly below 30%, and light will not be optimal, you will be able to grow orchids and enjoy their flowers. Nevertheless, under such suboptimal conditions orchids will be stressed and you will need to protect them from insects and disease.

1. **Buying orchids.** When you purchase an orchid in a store, you may not know that this orchid was damaged by overwatering and was infected by insects, a fungus, or bacteria. Healthy orchids will have many roots with active, growing tips. Root tips need to have live, green tips. If possible, purchase orchids directly from grower's greenhouse or through mail order. My favorite vendors are: Oak Hill Gardens (<http://oakhillgardens.com/>), Clackamas Orchids (<http://clackamas-orchids.com/>), Orchids by Hausermann (<http://www.orchidsbyhausermann.com/>), Carmela Orchids (<http://www.carmelaorchids.net/>), Exotic Orchids of Maui (<http://www.maiorchids.com/>), Andy's Orchids (<http://www.andysorchids.com/>), Carter & Holmes (<http://www.carterandholmes.com/>), Clown Alley Orchids (<http://www.clownalleyorchids.com/>), Marble Branch Farms (<http://www.marblebranchfarms.com/>), Orchid Babies (<http://www.orchidbabies.com/>), and RF Orchids (<http://www.rforchids.com/>).
2. **What will you need to grow orchids?**
 - a. **Medium.** Popular Better-Gro Special Orchid Mix, available at Lowes and other stores. It is composed of fir bark, hardwood charcoal and Perlite (glass-like sponge rock). Unfortunately, after a year or two fir bark will decompose, and medium will not dry quickly after watering. To avoid replanting orchids, I recommend GREEN BARN BLOOMIN' BIG all purpose orchid mix from Green Barn Orchid Supplies (<http://shop.greenbarnorchid.com/>). For smaller pots and as the top layer in larger pots I use GREEN BARN BABY BLOOMIN' BIG MIX that has smaller pieces of the medium ingredients. These mixes contain coconut coir, hardwood charcoal, Perlite, and Dyna-Rok II – a porous and water absorbent sedimentary rock consisting of the fossilized remains of unicellular fresh water plants known as diatoms.
 - b. **Fertilizer.** I use Better-Gro Orchid Plus (20-14-13) available at Lowes and online. Orchid fertilizer should not contain urea as a source of nitrogen, but only nitrates or ammonium salts.
 - c. **Pots and saucers.** The best pots for indoor use are slotted clay pots (Terra Cotta) used with clay saucers. As clay saucers will be moist underneath, I use 4" and 6" cork mats from Home Depot or Lowes to protect benches and windowsills. These mats are lined on one side with vinyl and are ideal for this purpose. I use 3.5", 4", 4.5" and 6" pots and 4", 5", and 6" saucers. Some pots are available at Home Depot or Lowes – small orchid pots labeled as 4" are really 3.5" and are ideal for small orchids. Some online stores also sell orchid pots; e.g., <http://shop.greenbarnorchid.com/product.sc?productId=665&categoryId=3>. I do not recommend glazed clay pots or plastic pots. They prevent fast drying of the medium after watering. In addition, plastic pots are light, and tip over easily when the medium is dry.

- d. **Sprayers for watering.** The easiest way to water orchids is with a sprayer. Depending on the size and number of your orchids you may need a 1, 2, or 4 gallon sprayer. If you will have over 80 orchids, I recommend Hudson 13854 NeverPump Bak-Pak 4 Gallon Battery Operated Sprayer that is available from <http://www.amazon.com> for less than \$100.
3. **Fungicides and pesticides.** Before using insect killers or disease control chemicals you need to read all included instructions very carefully to avoid damaging your health or the health of your pets. To avoid using chemicals when they are not needed, you have to inspect your orchids at least twice per week. If the leaves have sticky spots, your orchids may be infected with scale insects, mealybugs, or aphids; while delicate silk webs under the leaves or where leaves are attached to pseudobulbs may indicate infection with spider mites. Black spots on leaves, shrinking roots, wilting of young leaves, and powdery white residue under the leaves and on pseudobulbs may indicate infection with fungi or bacteria. Closely inspecting root tips is very important. Roots may be visible above the growth medium, on the medium, or on the surface of the pot. As noted above, roots need to have live and green tips. Any new plant or even cut flowers you bring to your house may be a source of infection. Fungal spores may also enter your house through windows and vents.
 - a. **Insects.** Orchids are frequently attacked by aphids, scale insects and mealybugs as well as spider mites. When you detect an infection, you need to visit Home Depot or Lowes to purchase a rose insect killer. Bayer Advanced Garden Rose & Flower Insect Killer, containing Cyfluthrin and Imidacloprid normally will take care of the problem. Scale insects, mealybugs and spider mites may need stronger pesticides, such as Malathion or Bonide Systemic Insect Killer. Spectracide Rose Disease and Insect Control controls aphids very well; however, as it contains pyrethrins, it may not work to control scale insects, mealybugs and spider mites.
 - b. **Infections with fungi and bacteria.** These infections are very difficult to control. Sometimes it is easier to discard an infected plant than to cure it and nearby plants. Many fungicides will only prevent infections and will not cure the disease if it is already present. Nevertheless, most infection may be cured if you are patient and use several different fungicides. I use the following (active compounds are listed in parentheses): Southern AG Thiomyl (Thiophanate-methyl), Banrot (Etridiazole & Thiophanate-methyl), Southern AG Captan, Southern AG Dithane M-45 (Mancozeb), Ortho Rose Pride Disease Control (Triforine), Ortho Max Garden Disease Control (Chlorothalonil), Bonide Infuse Systemic Disease Control (Propiconazole), and Spectracide Immunox Plus Insect & Disease Control (Mycobutanil & Permethrin). To prevent selecting resistant strains of fungi, you will need to spray leaves, pseudobulbs, and roots weekly alternating about 7 different fungicides for 2 to 8 months. Some of the fungicides are sold as wettable powders. They will leave a white residue on the leaves. It may not look attractive, but will cure your orchids from disease.
4. **Repotting orchids.** If an orchid is in bloom, it is not a good idea to repot it, as this may cause stress. Only when the orchid you purchased was planted in sphagnum moss, you need to repot it as soon as possible. Before repotting, soak the pot in lukewarm water for about an hour to allow removal of root that may be stuck to the pot or to the medium. Wash the new medium with ample amount of water before use or immediately after repotting the orchid. Do not pack the new medium very tightly to prevent damaging the roots. Lightly packed medium will leave a lot of air in the medium as well as space for the roots to grow.

5. **Watering orchids.** The easiest way to water orchids is by using a sprayer. Orchid leaves do not absorb water, so they do not need to be misted. Water the medium in the pot and mist any roots that are above the medium or outside the pot. I put enough water to fill the pot and the saucer. After about an hour, I add more water to fill the saucer again. If you use unglazed clay orchid pots and the GREEN BARN medium, watering every two weeks is absolutely sufficient. IMPORTANT: If you water orchids too much they will start to deteriorate. I feed the orchids every other watering (every 4 weeks) adding 1 teaspoon of the Better-Gro fertilizer per 2 gallons of water. In the late fall and winter you may reduce watering of orchids that have visible pseudobulbs that accumulate water. Orchids will suffer in winter, when the relative humidity dips below 30% for longer than 2 months.
6. **What to do when orchids do not bloom?** First, you need to wait a bit longer, maybe even two years making sure that your orchids grow well. Sometimes, providing more light may be beneficial. You may put the orchids outside in the summer; however, you will have to shade them a bit to prevent damage from too much sun. Orchid leaves may get a bit yellowish or red, but this is normal. You should avoid sunburn of leaves that will lead to development of black spots. In winter you may consider installing special lamps recommended for plants. Leave them on for at least 12 hours daily.
7. **Which orchids should I grow?** I like orchids that flower regularly and have long-lasting flowers. I also like miniature orchids, because they grow well in 3.5" pots. It is easy to place many such pots on the windowsill. I also selected many orchids because of their beautiful fragrance.
 - a. I like orchids from the *Paphiopedilum* genus with lady slipper-type flowers. Some of them, especially Maudiae type, have large flowers that may last 6 months or longer. Some orchids from this group will have many flowers that successively open on the same stem (spike). Some will open a new flower after the older flower will drop; however, some may open several flower simultaneously. Large *Paphiopedilum* specimens may have many flower spikes in one pot. They are not very sensitive to disease; however, frequently suffer from scale insects or mealybugs that are difficult to kill. Orchids from the *Phragmipedium* genus are very similar to *Paphiopedilum*. Some of them have flowers with beautiful colors and others have very long and twisted petals that may reach the surface of the medium in the pot. Unfortunately, *Phragmipedium* flowers are not very long-lasting and the plants are not only sensitive to scale insects, but also to infections by fungi.
 - b. *Phalaenopsis* (moth orchids) are a very popular choice. Some of them are marked as intergeneric hybrids between *Phalaenopsis* and *Doritis* called *Doritaenopsis*, frequently abbreviated as Dtps. They are easy to grow and usually flower at least once per year. When all of the flowers will drop, you may cut the flower spike above the third node from which a flower developed. After 1 to 2 months, a new branch of the spike will develop with more flowers. Roots of *Phalaenopsis* orchids need protection from fungi.
 - c. Orchids from the genus *Psychopsis*, also known as *Oncidium papilio* (butterfly orchids) have large, unusually shaped flowers that resemble a butterfly. They are quite easy to grow. The unusual feature of *Psychopsis* is that after the flower drops, a new flower will open in the same spot on the flower spike. Although the flowers are relatively short-lived (about 2 weeks), a new flower appears every 2 to 3 months. New pseudobulbs will develop flower spikes resulting in an orchid that has flowers almost all the time. You will need to protect flowers and pseudobulbs

- from fungi. *Psychopsis* orchids do not like to be repotted and may sulk for a year after you move them to a new pot.
- d. Orchids from the *Oncidium* group are very popular. There are very many species and interspecific as well as intergeneric hybrids. Many orchids from this group have beautiful fragrance, especially those that have genes of the genus *Brassia*. Very well known is *Oncidium* Sharry Baby. It has relatively small, brownish-red, white and yellow flowers that are not showy; however, they have a strong, chocolate-vanilla fragrance. Orchids from this group can be easily damaged by overwatering.
 - e. Flowers of orchids from the *Cattleya* group are unusually large and most of them have strong fragrance. Many intergeneric hybrids of orchids from this group have large flowers, while retaining small size of one of the parents. They are very easy to grow, but need to be protected from fungal infections.
 - f. Orchids from the *Dendrobium* group are very popular and easy to grow. Some of them (the Nobile group) need to be kept in winter at relatively low temperature (50°F or 10°C) and should be watered during this time only once per month. Some *Dendrobium* orchids and from the related genus *Tolumnia* are miniatures and may be grown in 3.5" pots. They are usually resistant to pests and disease, but they should be protected from fungal infections.
 - g. Finally, I would like to recommend two very fragrant orchids. *Maxillaria tenuifolia* has long, grass-like leaves and is not very shapely, but in March and April develops very many dark red and yellow flowers that emit a strong coconut milk-like fragrance. *Brassavola nodosa* Little Star and related hybrids are usually called Queen of the Night. After dark, they release a very strong and pleasant fragrance. A few flowers may fill the whole apartment or even house with this scent. Some orchids, especially from the genus *Bulbophyllum*, have rather unpleasant odor. As it is difficult to grow them, you will not find them on sale in stores, greenhouses, or online.

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