

What's wrong with my orchid?

Bud Drop

There are many reasons why buds fall off before flowering:

Under or over watering.

Temperature extremes and rapid temperature changes (heating vents, air conditioning blowing directly on the plant).

Fumes from natural gas leaks, paint, other chemicals.

Ethylene - high producers are apple, avocado, peach, pear, plum, melons, figs, and tomatoes.

Low humidity.

Genetics.

Aphids, thrips and some mites.

Changing growing location. If you want to change a plant's location so that it will be enjoyed, wait until the flower opens first.



Ants can be responsible for infestations of more serious pests.

Ants

Ants seldom cause any direct damage to orchids, rather they indicate the possibility of infestation by scale, mealybugs or aphids. To control ants it is usually adequate to remove the source of food that is attracting them so you must examine your plants and control the pests that attract ants. Some orchids, especially cymbidiums, produce sugary secretions on the flower spikes. In this case, the ants can be prevented from reaching the plants by setting the legs of the bench into tins partly filled with oil or soapy water, to make an ant-proof moat.

If you find evidence of aphids, scale, or mealybugs, you may try either straight 70% or 90% isopropyl (rubbing) alcohol - touch the area with a soaked cotton swab, repeat every 3 days for about 2 weeks. If you want to use an insecticide while you have your plants outside you could use Baygon, Dursban,

or Diazinon which have been used very effectively against ants. Spray the benches, bench legs, the floors, and walls where the ants can climb up to the plants. Avoid spraying on the flowers. Another tip is to use bay leaves around the point of entry and in the pots. Ants are repelled by bay leaves.



Although mealybugs can multiply rapidly, they are not difficult to control.

Aphids, Mealybugs and Scale Insects

The following advice has been provided by Paul J. Johnson of the Insect Research Collection of South Dakota State University (<http://nathist.sdstate.edu/orchids/Pests>).

Probably the most popular home remedy against this group of pests is to swab and daub plants with a cotton swab or ball of cotton dipped in isopropyl (rubbing) alcohol. Do not use other alcohols, such as ethanol or methanol, that will penetrate the plant tissues and cause considerable damage! The common 70% isopropyl alcohol available in stores is satisfactory. On hard-leaved plants, gentle rubbing with the fingers, a cotton ball, or a soft infant's toothbrush is effective. First remove all the visible insects, large and small. Then treat the affected area with alcohol. With Scale insects and mealybugs you will still need to repeat the alcohol treatment to remove the tiny yellowish spots which are the recently hatched crawlers. Spraying of alcohol solutions is not always effective against eggs which are often well-hidden, hence the need for thoroughness and repetition. Pay particular attention to the folds, crotches, branch bases, midrib areas, and roots. Spraying the alcohol with a misting bottle or small pump sprayer is effective, but dribbling alcohol into tight areas is necessary.

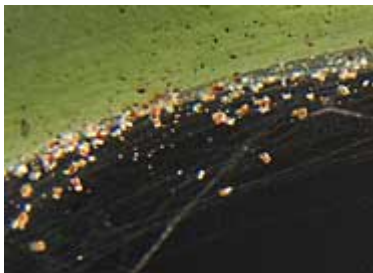


Once hard scale is established, it can take several treatments to eradicate it.

A potential rare problem with alcohol treatment is chilling of the plant. The rapid evaporation of alcohol cools the plant tissues, especially with air movement that increases evaporative cooling. This chilling is suspected of over-cooling tissues and creating zones of dead cells that may become necrotic from bacteria or fungi. On warm or breezy days consider wiping any residual alcohol with a tissue instead of permitting it to evaporate off the plant. Such problems and tissue drying are found particularly on soft or thin-leafed orchids such as the *Oncidium* Alliance.

Isopropyl alcohol is readily available as rubbing alcohol in cosmetic and health areas at markets and pharmacies. It is normally sold as a 70% solution (90% is also available) and this may be diluted considerably for use against insects. One recipe for a 1.5 liter spray bottle is to mix a 50:50 solution of isopropyl alcohol and water, with a few drops to about a teaspoon of liquid soap to act as a spreader. Many home growers also mix in a small amount of mineral oil, neem oil, or one of the horticultural oils (a teaspoon of oil to a 1.5 liter sprayer). The actual proportions aren't critical, it seems that every grower has their own proportions none of which seem to work significantly better than another. Caution is urged, however, as excessive amounts or too strong a detergent, or use of an ammonia-based chemical cleaner may damage your plants, particularly buds and flowers. This is particularly true of dishsoaps and household detergents that could remove natural protective waxes from plant tissues.

Ed Wright, a long-time orchid grower from San Antonio, Texas offers another useful home remedy that is very effective against most orchid pests. The recipe is 1 pint of 409 cleaner to 1 pint of rubbing alcohol (preferably 90%) and sufficient water to make 1 gallon of solution. This mixture is safe, stable and quite effective. It is used in the same manner as an alcohol/water mixture, either sprayed or swabbed.



Spider mite presence can also be recognized by the silvery, pitted areas on the undersides of leaves.

Mites

Two-spotted spider mites and flat mites are small and relatively delicate creatures. The easiest method for keeping mites under control is to regularly spray, or syringe, the plants with water. In the home placing your plants in a shower or using a sink sprayer is very effective. Mites are readily

washed from the plants or are damaged by a heavy spray. In a greenhouse regular spraying and misting is often effective.

The 409/rubbing alcohol mixture suggested by Ed Wright can also be used to control mites. In this case, the solution can be used periodically to clean the foliage with a soft cloth. This should be followed by spraying the foliage with plain water to rinse away the cleaner residue.

Rots & Spots

Wet foliage and high humidity encourages the spread of fungal and bacterial diseases. Bacterial diseases do not respond to fungicides and vice versa so it's very important to know which disease you are dealing with. Perhaps the easiest way to distinguish between the two is by smell. The most common bacterial disease in orchids produces a foul smell often likened to dead fish. If you've ever had cut flowers stand too long in water you know the sort of smell we're talking about.

Diseases can spread quickly! Bacterial diseases kill plants especially rapidly and time is of the essence. Both bacterial and fungal diseases are spread by splashing water and this includes rainfall. Use a clean cutting tool like a single-edge razor blade, cut off the infected tissue as well as at least an inch of clean, green area and then treat the cut surface with a fungicide. Even if the problem is bacterial, you don't want a fungal infection to start in the wound. Cinnamon, yes the common spice, is effective against fungal diseases and this can be used to coat the cut surface as well. It's perhaps not as effective as a chemical fungicide but it's readily available and does work.

The most common fungal and bacterial rots encountered in orchids include:



Black rot can spread quickly through an orchid collection.

Black Rot, a fungal disease characterized by soft, rotted areas that begin on leaves or new growth, then spread to rhizomes and roots. Infected areas are at first a purplish brown, then turn black. The outer margins of the infection site are yellowish.

Root Rot, a fungal disease that usually enters the plant through the roots. Infected plants are stunted and wilted. Brown to black areas may extend from the roots into

the rhizomes. As the disease advances, leaves will become twisted, wrinkled and yellowish.



Bacterial rot is typified by a watery lesion on a leaf and is spread by splashing water.

Bacterial Brown Spot, a bacterial disease that begins as a sunken, water-soaked lesion on the leaf. Lesions will eventually turn brown or black and exude a dark liquid.

Erwinia, a bacterial disease that begins as a water-soaked, chestnut to chartreuse lesion on leaves or pseudobulbs. These lesions exude a yellowish liquid with a characteristic foul smell. The disease is most prevalent on plants that are seriously stressed and is a very common problem in *Phalaenopsis* during hot, prolonged summers.



Cercospora leaf spot on an Oncidium leaf.

Leaf Spot, typically fungal diseases that start out as yellow areas on the undersides of leaves. As these spots develop they become visible on both sides of the leaf and turn brown or black.

Petal Blight, a common fungal disease favored by high humidity and cool conditions. The disease appears as small circular pink, gray or tan spots that appear on the open flowers. While this disease is not life-threatening to the plant, flowers infected are ruined and unsightly. The disease spreads by arial spores and good housekeeping is essential to control.



Sunburn is usually caused by plants suddenly being exposed to much brighter light, such as the change of seasons can bring.

Sun Burn

The sudden appearance of white or brown areas on leaves that dry and subsequently turn black may be sunburn. Sunburn, while not in itself a serious problem is irreversible and will make your plants look ugly. In serious cases the plant can be killed outright and any leaf damage is an invitation to a secondary infection in the damaged area.

Orchid foliage should be a light yellow-green. The first sign of too much light is often yellow foliage. If left alone, this yellow foliage will eventually turn white and then dark brown and dry as the sunburned area dries out. If the problem is caught before the chlorophyll has been completely destroyed it is often possible to reverse the damage. Once white spots or sunken areas have appeared, the damage is irreversible and the best thing one can do is stop further progression with more shade.



Although insect vectors can spread virus among orchids, the main cause is using contaminated tools to cut plants with.

Virus

Orchids, like people, are susceptible to viruses and today there is no cure. Just like with people, you may not necessarily be able to tell that a plant is infected with a virus. So whenever cutting on orchid plant always use a sterile tool to prevent the spread of virus. A disposable, straight-edged razor blade is a good tool to use for cutting leaves, flowers and old flower spikes (even dead leaves and

old inflorescences can harbor virus). Use a new blade for each new plant. Pick up around your plant, pick up old leaves and dropped flowers.

Thanks to www.aos.org for providing information.