

Pests and Diseases

Many growers seem to consider that their orchids are on a different plane from other plants growing in their gardens and fail to realise that the rules for general care and nutrition, which are a matter of practical commonsense when applied to more common plants, must also be applied to the cultivation of orchids. For although the beauty of their blooms, and the greater care which must be taken to provide suitable growing conditions, do make orchids rather 'special' among garden plants, they are, in actual fact, nothing more or less green-leaf plants. When looked upon in this light it is not surprising to learn that orchid plants are attacked by, and are vulnerable to, most of the enemies which attack other green- leaf plants.



Care of the House

When an enthusiast starts collecting orchids, they almost invariably set them up in a new house, where the timber/metal, soil, coverings, benches, etc., have previously had no connection with orchid culture. After several seasons these become the harbouring ground of various diseases. It is of little use to look after plants while, at the same time, neglecting the bush-house.

Each plant should be removed from its pot at least every two years. Break the soil slightly. Should it remain compact, replace it in the pot. The surface of the soil should be regularly cultivated with a small potting stick no longer than a pencil. Make sure that old leaves do not lie about. After removing them from plants, burn them, as infection may spread from them to other plants by means of insects. Try to prevent ants from coming in contact with orchids as they carry aphids, mealy bugs and scale.

Remember that although a plant may appear healthy, orchids are so slow growing that diseases may be working for months before they are detected. Therefore buy only from well kept collections. If, in spite of all care, some plants are affected by disease, isolate them from the rest of the collection, reduce moisture and increase ventilation.

Recognition of Diseases Affecting Orchids

Bacterial Disease

Probably the most dreaded disease in the orchid growing world is the bacterial infection similar to that which causes late or Irish blight. This is much more fatal than the more frequently discussed mosaic or virus disease. The symptoms are in the form of brown or black smudges on the edges of the leaves, which sometimes seem to be soaked with water. The foliage blackens and wilts as the bacteria gains hold. When breaking up plants, make sure that the pots are clean, use new soil and dust the roots with fungicide. If the soil should appear to be sour at any time it should be replaced.

There are present in the soil both useful and destructive bacteria. The useful bacteria thrive in sweet fresh soil and break it down to extract food for the plant. The destructive bacteria thrive in humid, sour, soggy soil. Of paramount importance in the encouragement of the useful bacteria and the destruction of the evil bacteria is free circulation of fresh air, abundance of light and correct watering. The disease may be attacked at the roots, as this is where it is introduced into the plant. It may be controlled by one of the proprietary Bordeaux sprays or dusts. It is of little use to kill the harmful bacteria unless conditions under which the useful bacteria will flourish are established.

Fungus Disease

The spore of a very minute fungus may enter into the leaves through the breathing cells of the plant. There they cause decay which spreads, leaving ugly black spots or blotches on the leaf and bark of the pseudobulb. Often the whole eye of the vegetative growth on the pseudobulb is eaten away. This fungus is introduced into the plant in humid weather, probably about November or December when so many other crops are attacked by the same disease. Unfortunately, however, as orchids grow much more slowly than most plants the black blotches, which start in the heart of the plant and grow upwards through the leaves, are not detected for some months, often not until January or February, hence the name often applied to the condition; 'February rot'.

The plants have therefore been suffering from the disease for quite a long period before it is discovered. As this condition appears periodically, it often happens that by the time the black spot appear, the plant is free from active disease. To prevent the occurrence of this fungus, provide all plants with plenty of fresh air, light and dryness of foliage. It can be cured and controlled by Bordeaux mixture.

When this mixture is used for field crops, wet applications are used. This, however, leaves unsightly blue blotches on the foliage. If the mixture is dusted on it will not interfere with the beauty of the foliage. It should be applied in the absolute stillness of the morning or evening, when a smoke like cloud can be atomised through the bush house, settling on the leaves. Dust approximately 30g (1 oz) of this preventative on each 1000 miscellaneous plants, in stormy, humid, spring or summer weather and after each rain shower or overhead watering.

Bordeaux mixture is a fungicide and insecticide prepared by mixing copper sulphate, hydrated lime and water. It can be purchased or a small quantity can be made by dissolving 2 parts of copper sulphate and 3 parts of hydrated lime in 26 parts of water. Stir well. This will result in a light blue mixture which can be used within a few hours. Use while fresh and keep mixture agitated while spraying. Spray only in cool weather. Alternatively sulphur powder is effective for powdery mildew and blight and is also an insecticide.

Mould

This is ever present in the air and one may see it attacking such articles as bread and cut pumpkin. In the bush-house, it may be detected when dividing plants or cutting blooms. Once again, Bordeaux mixture will provide a remedy.

Bunchy Top

The symptoms of this disease vary. In some cases, there may be several heads of pollen around the top of the stamen. In others, the stamen may appear as if folded lengthwise. In still other instances, one side of the labellum is folded inwards under the front of the column. On some occasions the lower parts of the petals have been seen to bear the same markings as the labellum. This disease spreads rapidly. Fortunately it can be easily controlled. Destruction of affected plants is not sufficient. But if all plants are sprayed with Bordeaux mixture very little will be seen of it in a well run orchid house.

Thrips

Thrips pierce their way into the plant tissue and suck the juices of the cells, causing brown patches to appear on the leaves and eventually bringing about wilting and discolouration of the flowers. They are grey or black flying insects about 1.5 mm long, only just visible to the eye. Blow on the surface of the soil in the pots and they run around. In hot, dry weather one may notice them flying about. Although a thorough soaking of the plant will remove them, for they like dry conditions, it is a mistake to be continually damping down in order to be rid of these pests. It is useless to avoid thrips at the cost of introducing bacterial disease because of excessive moisture.

The eggs are laid in the tissue of the plant and after some weeks the nymphs emerge. They are small eel like creatures. They attack in columns and appear to concentrate their attack on one spot. Inspect the pot with a number three magnifying glass. Slightly disturb the surface and where the soil becomes moist you will see small white nymphs. These do as much damage, or perhaps even more, under the soil as the adult thrips do above the surface.

The best means of controlling them is by using Malathion or a pyrethrum based spray. Spraying should be repeated every two or three days, as the spray will not harm the eggs. Another good spray is Grub Kill, the flying insects can be sprayed with a very good result, also a quantity of mixture can be made up so that the pot can be completely immersed, this will kill the white nymphs, and catch the adult thrip that is under the surface.

Aphids

Suck the sap of the buds and flowers of orchids, especially cymbidiums. The young crawlers are pink in colour, the adults are dark and may be either winged or wingless. They attack the buds in the spring time. Soap sprays and garlic sprays are effective or pyrethrum based garden sprays may be used. Malathion will kill them and is relatively safe but will need to be repeated several times because eggs will continue to hatch

Garlic spray may be made up as follows: Mix 10ml of paraffin oil with 85g (3 oz) of crushed garlic cloves. Leave for about three days, add 562ml (1 pt) of water and 7g of an oil based soap. Strain. When using, dilute to 1 part of mixture to 50 parts of water. This keeps well.

Scale

Scales are a sucking insect which attach themselves to plants where they cover themselves with a scaly secretion and become stationary. There are several forms of scale. They cause much damage, weakening the plant and distorting new leaves and shoots. Soap sprays may be an effective means of control. White oil is a successful way to destroy scale. However white oil may stunt the growth of orchids and should be used only at half strength, never spray on hot days, as heat accentuates any damage.

Red Spider

This pest has proved a serious menace to orchid growers once it obtains a hold in a shade-house is a minute sucking insect. Close examination may reveal it on the undersurface of the leaves. Its presence is first shown by the appearance of white speckled blotches on the surface of the leaves. Modern insecticides will prove effective against this pest. Take care when spraying, always wear a mask when spraying, and never allow the solution to fall on your skin.

Mealy Bug

These sap-sucking insects look like tiny mounds of cotton wool. They gather in sheltered parts of the plant such as under the leaves or in the leaf axils or on the pseudobulbs. They breed very quickly. Because they excrete large quantities of honey dew, which attracts ants and causes a sooty mould to develop on the leaves. They may be controlled by spraying Malathion, take care that all of the mealy bugs are sprayed.

Pest and disease control must be practiced on an ongoing basis.

A broad spectrum of chemicals such as Diazinon, Maldison (Malathion) used on rotational basis will control most pests likely to attack cymbidiums. More specialised control includes Ficam W (for cockroaches, ants and spiders) and Mesurol (for snails and slugs).

Other suggestions for control of fungal attacks are; Mancozeb, Royal, Bravo, Copper Oxychloride or the like products will provide excellent control. Again use on a rotational basis. Carefully examine the pseudobulbs for any sign of bacterial rot, which is easily identified by the strong unpleasant odour associated with rotting tissue. Treat with Physan. Periodic treatment with Fongarid will help control Phytophthora and Pythium fungi, which is most prevalent during periods of high humidity and cool weather.

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.