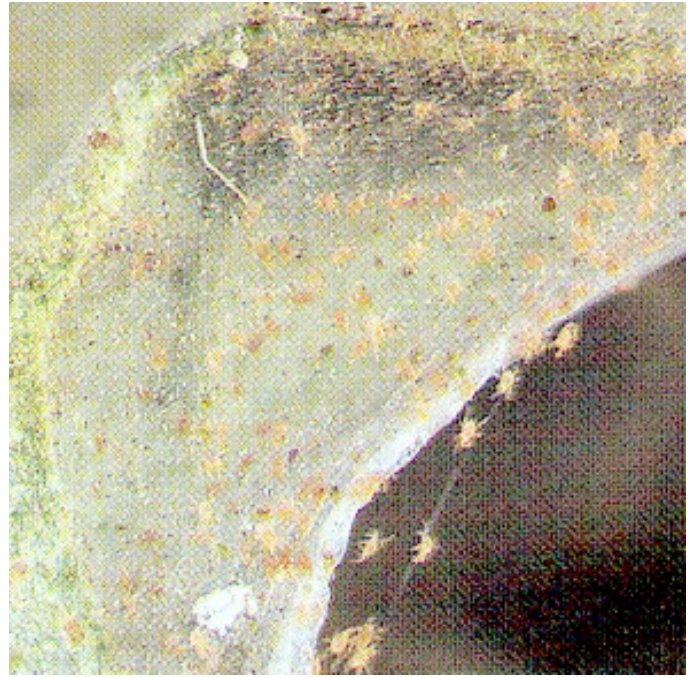


Common pests on Orchids and other houseplants



Scale

Adult females are oval or round soft legless bumps, 1/10"-1/5" in diameter; males are minute, yellow winged insects. Larvae are minute mobile crawlers. Scales secrete large quantities of sticky honeydew which is often noticed before the insect itself.



Spider Mite

Adults are minute, reddish, pale green or yellow 8-legged, about the size of a grain of pepper, barely visible to the naked eye. Fine webbing is usually found on the underside of the leaves. Eggs hatch in 2-3 days, nymphs develop to adults in 7-10 days.



Mealy bug

Soft, oval, 1/10" insects with distinctly segmented pinkish bodies covered with white sticky cotton-like fluff, usually found on the underside of the leaves or in the crevices where the leaves attach. Mealy bugs sometimes produce sticky honeydew.



Aphids

Adults are pear shaped 1/32"-1/8" soft fleshy insects. May be green, pink, black, dusty gray, or with white fluffy coating, with or without wings. Colonies develop quickly, and usually are found on bloom shoots and tender new growth.

Common Control Tips

Unfortunately there is not a “one size fits all solution.” Many times controlling insects requires using several different tactics. Much like going to a doctor, if one remedy doesn’t work, try another. **Read carefully and follow all package directions when using any product.** Methods for controlling insects are quite numerous. Listed below are several commonly used remedies. Any pesticide may cause damage to the plant (phytotoxicity). Testing the product on a few leaves, then waiting a couple of days before proceeding is recommended.

To prevent plant damage from pesticides:

- Mix only according to label directions
- Apply pesticides out of direct sun
- Do not apply pesticides to water stressed plants
- Apply pesticide sprays only to leaves that are dry
- Avoid pesticides from accumulating in leaf axils

To limit exposure to you:

- Apply only in well ventilated places.
- Use disposable “one time only” gloves, and possibly a respirator
- Wash your hands/clothing when finished applying, and after handling your plants
- If exposure to body and clothing is great, shower, and wash affected clothing separately

Common Control Methods Listed By Specific Products:*

***Before applying any pesticide, it is often helpful to remove the insects by cleaning:** Cleaning is not only a good physical control and a good place to start, but will also help monitor how well your other controls are working. Scales and mealy bugs require careful scraping off of the adults, and washing the leaves with a mild solution of ivory dishwashing solution and water. Spider mites and aphids are easily knocked off with a steady stream of water.

- **Sticky Traps:** A non-toxic method that actually traps adults and breaks their breeding cycle.
- **Insecticidal Soap:** Kills by smothering or suffocating. Insect contact with the product is essential. Use every 3-5 days, and thoroughly wet all plant surfaces. Although it is a very mild product, it may have some phytotoxic properties, so testing first is recommended. Non-toxic to mammals when used as directed.
- **Neem:** Neem is an organic product derived from the Neem tree of Africa and India. Neem is almost non-toxic to mammals; used in India as an ingredient in toothpaste, soap and cosmetics. Controls insects by poisoning, repelling and also inhibits an insect’s ability to reproduce. Also controls some fungi. Apply on a 7-14 day schedule, and spray thoroughly to the point of run-off.
- **Pest Strips:** Plants may be sealed in a plastic bag with a pest strip (out of direct sun) for about 24 hours. The toxic gases from the pest strip in this small enclosed area will “gas” the insects. Remove from plastic, seal the pest strip in a zip lock for future use. Repeat process as necessary at one week intervals. Good to use on plants such as cactus and succulents that are sensitive to sprays.
- **Pyrethins:** An organic product derived from the Chrysanthemum family. Moderately toxic to mammals. **IMPORTANT: ORGANIC DOES NOT MEAN NON-TOXIC!** This product works as a stomach and nerve poison. It breaks down quickly in sunlight and has little residual benefit. A short residual is better for the environment, but a disadvantage for lasting performance in controlling insects.
- **Eight:** (Permethrin): A wide spectrum spray that kills on contact and offers a 7-14 day residual. Labeled for use indoors on houseplants, and also labeled for use on vegetables and ornamentals. Moderately toxic.
- **Bayer Advanced Garden** (Imidacloprid & Cyfluthrin): A “newer” chemical also known as Merit. This *systemic* product (meaning the chemical is absorbed into the plant tissue) has up to a 30 day residual. May be used on houseplants and is very effective on a wide range of pests including white fly, scale, mealybug, thrips and aphids. Not effective against spider mites. Do not apply in small enclosed areas where spray can be inhaled.

Control Methods Cont.

- **Bayer 3 in 1 Insect Disease and Mite control.** Like the Bayer Advanced Garden, the **Bayer 3 in 1** contains the *systemic* Imidacloprid which is highly effective against a wide range of insect pests, plus it contains a miticide, and fungicide. Do not use in small enclosed areas where spray may be inhaled. For houseplants, move them outside, treat, let dry, and bring indoors.
- **Orthenex:** Very toxic and to be used OUTDOORS only as a last resort. This *systemic* product offers up to a 7-14 day residual and is very effective against a wide range of insects (including mites).
- **Imidacloprid Granules:** This product contains the same systemic chemical *Imidacloprid* that is contained in Bayer Advanced Garden. It is applied to the soil, where it is absorbed by the roots and moves through the entire plant. It is highly effective against scale, mealybug, thrips, whitefly and aphids. It is NOT effective against mites, nor does it travel into the flowers. New growth is protected for up to 8 weeks.
- **Systemic Granules:** (Di-syston) Granules are dug into the soil and the plant takes up the pesticide through the root system. Controls insects for up to 6 weeks. Not usually strong enough to eradicate an infestation, but good to use along with other control measures, and as a preventative. Not very effective on Orchids growing in bark. Very toxic, avoid contact with skin. Due to its toxic qualities, this product is being phased out.

Common Controls listed by Specific Insect Pests

Scale: Best results are from using the ‘newer’ chemicals of Imidacloprid & Cyfluthrin which are both found in the **Bayer Advanced Garden**. Apply 3 applications 7- 10 days apart. Other products such as **Insecticidal Soap** and **Neem** can work well too however, they need to be re-applied in close intervals of 3-5 days apart for best results.

Mealybug: The **Bayer Advanced Garden** has proven to be best. Also good results from using **Insecticidal Soap, Neem, Orthenex** and **Eight**.

Aphids: Again, the **Bayer Advanced Garden** has proven to be best. Also good results from using **Insecticidal Soap, Neem, Orthenex,** and **Eight**.

Mites: **Orthenex** is most widely recommended for Mites but has a harsh order and is the most toxic of all the products used by home gardeners. The new **Bayer 3 in 1 Insect, Disease and Mite Control** is less toxic, has little to no odor and is being found to be the better choice for Mites. It also controls many other common plant pests as well. **Insecticidal Soap, Neem, Eight,** and other **Horticultural Oils** also work well on Mites.

Thrips: Thrips are difficult to control during the summer months, or in conditions of high daytime temperatures. The safest method is to trap them with Blue sticky cards. **Bayer Advanced Garden** and **Eight** can also yield good results.

Whitefly: Using the **Bayer Advanced Garden** three times at 3-5 day intervals is most effective. **Insecticidal Soap** and **Neem** are also effective but you must be careful to make thorough contact between insect and product. Yellow sticky cards are also very effective and non-toxic.

Japanese Beetles: Although these are not commonly attacking Orchids they can create havoc in the summer garden. Keep in mind that no pesticide will completely rid your garden of Japanese Beetles. The pesticides will however, control the overall beetle populations which will reduce the damage they cause. The **Bayer Advanced Garden Spray** has proven to be the most effective along with intermittent applications of **Eight** and **Neem**. For trees and shrubs **Bayer Advanced Garden Tree and Shrub** applied about June 1st to the soil at the root zone is highly effective to protect foliage. Unfortunately this product does not travel systemically into the flowers, (so it will not protect your rose blossoms) and can not be used on Edible crops.

Fungus Gnats: **Yellow sticky cards** fastened to a holder and placed in or near the pot yield excellent results. This is a wonderful non-toxic, chemical free and economical method for control.