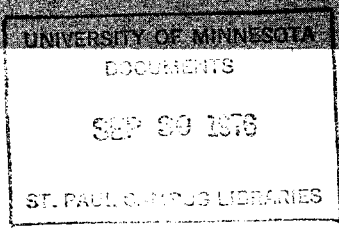


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House Plant Insect Control

House plants have become increasingly popular in recent years—almost every home has plants. Thus, insect and related pest problems may be experienced for the first time.

CONTROL

Prevention is the first line of defense. Carefully scrutinize plants before purchase and then isolate them for at least one month to allow undetected problems to become obvious. Sterilized soil helps to avoid soil inhabiting pests.

Many house plant insect problems can be controlled using non-chemical approaches. Early detection of the problem is critical. Routinely examine plants for early signs of trouble. Examination can be conveniently incorporated into your watering program. Use a 10-power magnifying glass in direct sunlight for closer examination. Be sure to carefully check the underside of leaves. Many problems start in out-of-the-way locations and easily can be overlooked. Get to know your plants; changes in growth habits can signal the presence of a problem.

Handpicking and washing are often effective for problems detected in the early stages. Caterpillars, cutworms, slugs, and snails can be picked off plants and killed. Often no additional control method is required. Smooth-leaved plants with a few aphids, mealybugs, scales, or mites can be washed with mild detergent (½ teaspoon per quart water) to remove the pest. Use a soft cloth or cotton for this. Washing with alcohol (rubbing alcohol is adequate) can kill the pest on contact as well as remove it. Apply alcohol with a cotton ball or swab. Hairy plants, such as African violets, should not be wiped. If in doubt, wash a small section of a leaf to determine if damage will occur. A lukewarm water spray can also be used to control light infestations by dislodging the pest.

Insecticides will be necessary if the pest population is heavy or the nonchemical approaches fail. Most common house plant pests can be controlled using one of four pesticides. The table lists the chemicals and proper mixing instructions. They can be used as a spray or plant dip, with the exception of Di-syston. In addition to the pesticides listed, various companies market insecticides in ready-to-use aerosol cans. Not all insecticides in aerosol form can be used for house plant insect control. Read the label carefully to insure that the spray can be safely used on your plants. As with all pesticides, read and follow the label directions precisely.

RECOGNITION

Aphids are small (1/16" - 1/8" long), long-legged insects with soft, round or pear-shaped bodies and can be green, pink, red, brown, or black and winged or wingless. Aphids tend to cluster

on the underside of leaves or on young stems and flower buds. They suck plant juices and cause poor growth, stunting, and curled or distorted leaves. Aphids secrete a sticky, honey-like substance (honeydew) which can provide a medium for mold growth. The presence of honeydew and white cast-off skins are signs of an aphid infestation. **Control:** Washing; water spray; malathion; Di-syston.

Cutworms and Caterpillars can reach a length of 1½" - 2" when fully grown. These worm-like creatures are many colors, but green and brown dominate. The coloration can be solid, striped, or mottled. Cutworms often hide in the soil making them difficult to find. Their presence is indicated by chewed leaves, buds, stems, or branches. Dark pellet-like droppings also are signs of caterpillar or cutworm infestations. **Control:** Hand-picking; rotenone.

Cyclamen mites are tiny, oval, semi-transparent amber or tan creatures which require magnification to be seen. A small magnifying glass would be adequate. They inhabit protected portions of the plant, especially young tender leaves, buds, and flowers. They spread by leaf to leaf contact and on hands and clothing. Infested leaves become twisted, curled, and brittle; buds are deformed and streaked. Blackening of injured leaves, buds, and flowers is common. Stems of infested ivy plants are often leafless or have leaves that are small and deformed. African violets show small, twisted, and excessively hairy leaves. **Control:** Trim off badly injured plant parts if practical; hot-water plant dip 110°F for 15 minutes; Kelthane (2-3 applications 10 days apart); Di-syston.

Earthworms come to the soil surface at night or when the soil is wet and shaded. They may injure roots by tunneling and can clog drainage holes. Although of value outdoors, they are not desirable in potted plants. **Control:** Repot plants, removing earthworms in the process.

Fungus gnats are delicate, gray or dark-gray flies 1/8" long. They are attracted by light and can be readily found in windows. The immature, whitish, worm-like maggots live in very moist soil where they feed on decaying organic material. Occasionally they may feed on roots. Severe infestations can reduce plant vigor. These insects are considered a nuisance since they cause little or no plant damage. **Control:** Larvae—reduce soil moisture by allowing soil surface to become dry between watering; malathion applied to the soil. Adults—aerosol household spray.

Mealybugs are slow-moving, soft-bodied insects which appear to have waxy filaments extending from the rear of their bodies. Eggs are laid in clusters in a white fuzzy material. They are found on stems and leaves, especially along veins. Coleus is a favorite host. **Control:** Washing; water spray; malathion adding mild detergent.

Millipedes are brown, tan, or gray, slow-moving, worm-like creatures with many short legs. They are most active at night preferring moist soil that contains decaying organic material. Millipedes can cause root damage when present in large numbers. **Control:** As described for fungus gnat larvae.

Scale insects have shell-like coverings which protect a soft body. They are generally immobile and 1/16" - 1/8" in diameter, but can be larger. The shell can be hemispherical, oval, or oyster-shell shape and range from white to black with browns and grays predominating. They attack leaves and stems, particularly along the leaf veins, sucking plant juices and causing poor growth and stunted plants. Like aphids they produce honeydew which can act as a medium for mold growth. **Control:** Washing; water spray; malathion at 3-4 week intervals adding a mild detergent.

Slugs and Snails are slow-moving, fleshy, and have slimy, legless bodies 1/2" - 4" long. They range in color from whitish yellow to black but most are mottled in shades of gray. Snails have a hard spiral brown or black shell on their back; slugs have no shell. These night-active creatures leave an unsightly, glistening trail of slime wherever they crawl providing an excellent indicator of their presence. They hide under damp objects during the day, such as pots and pot rims. Snails and slugs scrape plant tissues with their mouthparts leaving holes in leaves or flowers. **Control:** Eliminate hiding places; collect from plants at night and destroy; Mesuroil bait—as directed on package.

Spider mites are tiny, oval, greenish, yellowish, or reddish spider-like creatures which require magnification to be seen clearly. They thrive best under dry, warm conditions. They initially attack the underside of leaves and spread to other locations as the population increases. Heavy infestations are characterized by the presence of webbing; mites can be seen crawling on these webs. They spread by leaf to leaf contact and on hands and clothing. Spider mites feed on plant juices and produce whitish or yellowish speckled areas. Heavy feeding causes bronze or yellow leaves which may drop. Such infestations result in stunting and plant death. **Control:** Washing; malathion or Kelthane at weekly intervals; Di-syston.

Springtails are small (1/15"), whitish or blackish, soil-inhabiting insects that sometimes have a purplish tint. They can have a globular or elongate shape and most can jump. Springtails thrive in moist soil rich in organic material. Large numbers can be seen on the soil surface, especially after watering. These insects are a nuisance pest since they cause little, if any, plant injury. They are capable of producing root injury only when present in very large numbers. Therefore, chemical control is not recommended in most situations. **Control:** Reduce soil moisture by allowing soil surface to become dry between watering; malathion applied to the soil.

Thrips are slender, barely-visible insects which range from tan to black and may have lighter markings. Adults can fly, leap, or run rapidly. Young thrips can be whitish, yellow, or orange and often carry droplets of black excrement on their backs. These insects will occasionally bite humans, producing a prickling sensation with slight itching but no swelling. They often enter the home in summer migrating from nearby fields. However, thrips do not survive well indoors and infestations are generally short-lived. They damage leaves and flowers by scraping tissue with their mouths and then feeding on the released juices. Damaged foliage will show irregular silver blotches that are speckled with little black dots of excrement. Flowers typically become streaked or distorted. **Control:** Washing; malathion; Di-syston.

Whitefly adults are small (1/16" long), white insects which readily fly when disturbed and resemble small snowflakes or bits of ash. At rest the wings are folded and appear wedge-shaped. The immobile scale-like young primarily are found on the underside of leaves. They are pale green to yellow or whitish in color, oval in outline, and flat on top. Leaf surfaces often become sticky, providing a sign of their presence. Leaves will eventually yellow, die, and drop. **Control:** Washing; malathion or rotenone (3 applications 1 week apart); Di-syston. Special attention should be given to undersides of leaves.

Chemical	Form	Amount to mix with	
		1 quart water	1 gallon water
malathion	57% emulsifiable concentrate	½ teaspoon	2 teaspoons*
dicofol (Kelthane)	18% emulsifiable concentrate	¼ teaspoon	1 teaspoon
rotenone	5% emulsifiable concentrate	1 teaspoon	4 teaspoons
	4-5% wettable powder	1 level tablespoon	4 level tablespoons
Di-syston	1% granular	2 rounded teaspoons per 6-inch pot	

*Add ½ teaspoon mild detergent per gallon of water when indicated for the pest.
(Mix only what you will use. Do not store in mixed form.)

The information given in this publication is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Minnesota Agricultural Extension Service is implied.

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