

Pansy Diseases & Insect Pests

Pansies are among the most popular garden flowers grown today. They are most commonly grown as annuals, producing the best flowers and growth when temperatures are mild in the fall and spring. Although they are relatively trouble-free, there are several problems that can affect them.

Diseases

Anthracnose: Anthracnose is caused by the fungus *Colletotrichum* species and causes a browning and blotching of the leaves. Initially, the infected leaves have pale yellow spots with distinct black margins. As the disease progresses, the center of the spots becomes dry and tan and may have a concentric ring pattern. Flower petals of infected plants may be spotted and develop abnormally. Seriously infected plants may die.

Prevention & Treatment: Combat anthracnose by digging up and destroying severely infected plants. Pick off infected leaves as soon as they appear. Reduce disease development by avoiding overhead watering. Apply a thin layer of mulch around plants to help prevent fungal spores from splashing onto leaves from the soil. For serious infections of anthracnose, fungicide sprays containing either chlorothalonil (Bonide Fung-Onil Multi-Purpose Fungicide, Ortho Garden Disease Control, Ferti-lome Liquid Fungicide, or Daconil 2787), mancozeb (Bonide Mancozeb Flowable, Southern Ag Dithane M-45), or maneb (Hi-Yield Maneb Lawn & Garden Fungicide) are available for homeowner use. Apply at 7- to 14-day intervals until conditions no longer favor disease development. Apply all chemicals according to directions on the label.

Other Leaf Spots: There are many fungi (*Alternaria* species, *Cercospora* species,

Myrothecium species and *Ramularia* species) that can cause unsightly spots on pansy foliage. Leaves may have transparent tan, brown or black spots. Often these spots may grow together to form larger patches of dead tissue. Reduce leaf spot development by picking off and destroying infected leaves as soon as they appear. Avoid overhead irrigation. Moist leaf surfaces are ideal locations for these fungi to thrive. A layer of mulch will help to prevent the fungi from splashing from the soil onto plants.

Cercospora leaf spot commonly occurs in fall landscape beds. It appears as a dry, brown blotch or as an irregular purple lesion, especially during cool weather. For serious infections of Cercospora leaf spot, fungicide sprays containing thiophanate-methyl (Ferti-lome Halt Fungicide, Green Light Systemic Fungicide, Cleary's 3336) can be used. Apply at 7- to 14-day intervals until conditions no longer favor disease development. Apply all chemicals according to directions on the label.

Black Root Rot: This disease is caused by the fungal organism, *Thielaviopsis basicola*, which can affect a wide range of ornamental plants. Older plants affected by the disease turn yellow and have small crinkled leaves. Close observation reveals a black discoloration moving up from the tips of the roots. Diagnosis may be difficult without professional help.

Prevention & Treatment: Remove and discard any infected plants. Provide good drainage to plants and avoid overwatering. The disease can be suppressed, but not cured, with regular applications of fungicides containing thiophanate-methyl (see brands under leaf spot control). Apply all chemicals according to directions on the label.

Root & Crown Rot: Many fungi (*Phytophthora* species, *Pythium* species, *Rhizoctonia* species and *Fusarium* species) live in the soil, which can infect the roots or the base of the plant (crown) at the soil line. Plants may wilt and suddenly die or the leaves may simply turn yellow. A dark sunken area may be seen on the stem at or near the soil line. Roots may appear rotted. Some plants may survive but remain weak and stunted.

Prevention & Treatment: The fungus thrives in areas with poor drainage and warm soils. Always choose locations that have good drainage for planting. The drainage of existing areas can be improved by using raised beds. Avoid applying too much water since many of these fungi thrive in moist conditions. Always allow the soil to dry between each watering. Promote drying of the soil by not setting plants too close or applying too much mulch around plants. Prevent future infection by always removing and destroying diseased plants.

Fungicides can be effective on a preventative basis only, and repeat applications are required. Fungicides containing mefenoxam (Subdue GR) or etridiazole (Banrot 8G or Truban 5G) can be applied in the home landscape, but will not cure an infected plant. Due to product cost and for accurate application, homeowners may want to hire a licensed landscaper to apply products containing these fungicides. Apply all chemicals according to directions on the label.

Gray Mold (Botrytis Blight): This disease is caused by a fungus, *Botrytis* species, which produces a fuzzy, gray coating on the flowers and stems of many plants. When infected flowers are picked, a puff of gray spores can usually be seen. Infected areas of the plant will eventually be soft, slimy and decayed.

Prevention & Treatment: Reduce disease development by keeping plant surfaces dry, removing aging flower blossoms and providing good air circulation. Do not overcrowd plants. Fungicide sprays containing chlorothalonil (Bonide Fung-onil Multi-Purpose Fungicide, Ortho Garden Disease Control, Ferti-Lome Liquid Fungicide, or Daconil 2787), mancozeb (Bonide Mancozeb Flowable, Southern Ag Dithane M-45) or copper salts of fatty acids (Camelot Fungicide/Bactericide or Concern Copper Soap Fungicide) are available

for serious infections. Repeat every 7- to 14-days when conditions favor disease development. Apply all chemicals according to directions on the label.

Insects & Other Pests

Aphids: Various aphid species are pests of pansies. Aphids are soft-bodied insects that range in color from tan to pink to green to almost black and in size from $\frac{1}{16}$ to $\frac{3}{8}$ inch. They feed by piercing plant tissue and sucking plant sap. On pansies, they feed mainly on new leaves and stems. As they feed, they excrete honeydew (a sugary material). The sooty mold fungus feeds on the honeydew, resulting in unsightly, dark fungal growth.

Control: Several natural enemies, such as ladybird beetles (ladybugs) and lacewings feed on aphids. As much as possible, these predators should be allowed to reduce aphid populations. Planting small-flowered nectar plants, such as Queen Anne's lace (*Daucus carota*) will help attract these beneficial predators.

As a result of their phenomenal ability to reproduce, aphids are very difficult to control with insecticides. Leaving one aphid alive can result in the production of a new colony very quickly. In addition, the use of insecticides kills the beneficial insects that normally keep aphid populations under control. However, if natural predators do not reduce aphid populations sufficiently, the following insecticides are recommended: insecticidal soap (Safer Insecticidal Soap or Concern Insect Killing Soap), carbaryl (Sevin 50WP or Ferti-lome Carbaryl Spray), malathion (Ferti-lome Mal-A-Cide or Hi-Yield Malathion Insect Spray), cyfluthrin (Bayer Advanced Garden Power Force Multi-Insect Killer), permethrin (Spectracide Bug Stop Gardens & Lawns Insect Control) or acephate (Ortho Japanese Beetle Killer). As with all pesticides, read and follow all label directions and precautions.

Spider Mites: Two-spotted spider mites (*Tetranychus urticae*) are also pests of pansies. Mites are not insects, but are more closely related to spiders. They tend to be more of a problem during hot, dry periods. Mites are extremely small and can barely be seen without a magnifying lens. They have piercing mouthparts with which they puncture plant tissue and suck plant sap. Early symptoms on pansies are pinprick holes in leaves. These

symptoms can be easily overlooked. Over time, tiny tan spots can be seen. Seriously infested leaves turn tan and die. A fine webbing is visible on some leaves.

Prevention & Control: Infestations are less likely to occur when pansies are grown during spring or fall when weather is cool. When infestations do occur, begin spraying plants with insecticidal soap (Safer Insecticidal Soap or Concern Insect Killing Soap) weekly as needed. Other pesticides labeled for homeowner use against spider mites include fenbutin oxide + acephate (Ortho Systemic Insect Killer). As with any pesticide, read and follow all label directions and precautions before using.

Slugs & Snails: These pests feed on pansy leaves and blooms at night. In a single night, their feeding can result in large, irregular holes in leaves and flowers. A sign of their presence is the slimy trail of mucus that they leave behind as they move. During the day, they hide under leaf litter, mulch and flower pots where it is moist. Snails and slugs are mollusks and thus related to clams and oysters. Like all mollusks, they must stay moist all the time to survive.

Control: The first step in discouraging slugs and snails is to remove mulch and leaf litter near plants to reduce the moist conditions necessary for their survival. Slugs and snails can be removed by handpicking. The best time to look for them is a few hours after dark using a flashlight. Slug and snail traps can be made by filling shallow containers with beer and placing in a hole in the soil so that the rims are level with the soil. These pests are attracted by the yeasty smell and will fall in and drown. Before putting down the traps, water the area to encourage slug and snail activity that night. Placing a board on the ground, raised about one-inch, is another trap option. It provides a daytime hiding place for these pests that you can then lift to locate and dispose of them.

Protect plants by sprinkling diatomaceous earth around the plants. Diatomaceous earth is very sharp and scratches the skin of these soft-bodied critters,

resulting in dehydration and death. It must be reapplied after a rain or watering. Products containing metaldehyde 3 percent bait can be used to control snails and slugs in the home garden. Newer products that are available contain iron phosphate, such as Sluggo, Escar-Go, Schultz Slug & Snail Bait, or Bayer Advanced Dual Action Snail & Slug Killer Bait. Iron phosphate will stop feeding by the snails and slugs quickly, and is much less harmful to pets, birds, and non-target insects than metaldehyde. Any unconsumed iron phosphate bait adds nutrients to the soil. Consult the label for the specific crops it can be used on and also for information on the rate. Read and follow all label directions and precautions before use.

Other Problems

Short Blooming Period: Pansies grow and flower best in cool conditions when temperatures are below 75 °F. Weather that is too hot will cause pansies to fade and die out. Plant pansies in the cool conditions of fall or early spring, and prolong blooming by pinching off the older flowers (deadheading). This prevents the plant from making seeds and encourages more flowers to form. Cutting back the plants by one third will also stimulate new growth and extend the blooming period.

Spindly Growth: Pansies will produce lanky growth when light levels are too low. They require strong filtered light, and flower best in full sun during cool weather.

Warty Growths on Stems: Pansy stems and flower stalks may be covered with small, wart-like bumps. This condition is caused by too much water inside of the plant and not by an insect or disease. When a plant gets too much water, the pressure inside the plant builds up, and water ruptures from the stems and leaves. This condition is called oedema. Wet soil combined with cool, cloudy conditions are ideal for this to occur. Prevent this problem by allowing the soil to dry between each watering, and always plant in well-drained soil. Promote drying of the soil by not applying too much mulch around plants, and not setting plants to close together.

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