Daylily Diseases & Insect Pests

Diseases and insects generally are not a serious problem on daylilies (*Hemerocallis* species) in the home garden, especially when good cultural practices are followed. Daylilies prefer a well-drained soil with adequate organic matter. The use of a slow-release fertilizer is preferred. Planting daylilies too deep will result in reduced flowering and plant decline.

**Diseases**

**Leaf Streak:** Daylily leaf streak is caused by the fungus *Aureobasidium microstictum*. Symptoms are elongated yellow streaks along the leaf mid-vein followed by browning, or spots on the infected leaves with yellow borders. These symptoms usually develop from the leaf tip downward. The infected leaves may wither and die completely. To control leaf streak the fungicide thiophanate-methyl or myclobutanil may be applied to slow disease development and to protect susceptible new growth from infection. Begin sprays as new growth appears. Make 3 or 4 applications at 2-week intervals. See Table 1 for examples of products.

**Daylily Rust:** Daylily rust is caused by the fungal pathogen *Puccinia hemerocallidis*. The symptoms are very similar to those of daylily leaf streak: yellow to brown streaks on the leaves along with numerous, small yellow spots. However, a distinguishing symptom with daylily rust is the appearance of small orange pustules that develop on the lower surface of leaves. These

Prevention & Treatment: Infected daylilies should be isolated from healthy plants. Daylily leaf streak may be avoided by purchasing disease-free stock plants and propagating only from healthy specimens. Avoid over-head irrigation. In the fall, remove dead foliage from around the base of the plants and dispose of the clippings, as the fungus will over-winter on senesced foliage, and spores will be produced the next spring to infect new leaves. Examples of resistant daylily cultivars include: Betty Bennet, Edna Spalding, Ella Pettigrew, Globe Trotter, Nancy Hicks, Pink Superior, Ron Rousseau, Sudie, Tropical Tones, Upper Room, and Winsome Lady.

Daylily leaf streak is caused by the fungal pathogen *Aureobasidium microstictum*.

Joey Williamson, ©2015 HGIC, Clemson Extension

Daylily rust (caused by the fungus *Puccinia hemerocallidis*) showing erumpent orange pustules on the lower leaf surface.

Meg Williamson, ©2015 Clemson Plant Problem Clinic
pustules produce the yellowish-orange urediniospores that spread to infect additional daylily foliage. These spores can be wind-blown or disseminated by gardeners handling infected plants. Daylily rust is capable of spreading quickly.

**Prevention & Treatment:** Inspect and purchase disease-free plants, especially the lower leaf surfaces. If rust-infected foliage is wiped with a white tissue, the spores will rub off and are visible as a yellowish-orange stain.

Check for and plant resistant cultivars. Avoid overhead irrigation. In the fall, remove dead foliage from around the base of daylily plants and dispose of the clippings.

To aid in control of daylily rust, plants may be sprayed with propiconazole, myclobutanil or chlorothalonil. Spray at 2-week intervals as needed, and also after cutting back plants. Do not spray chlorothalonil during blooming period. See Table 1 for examples of brands and products.

**Root-Knot Nematode:** Root-knot nematodes (*Meloidogyne* species) can cause loss of vigor and severe decline of daylilies. Infected plants slowly deteriorate, grow poorly and become stunted, turn yellow, wilt and often die. The symptoms are very similar to moisture stress. Roots will often have small bumps or nodules where the nematodes feed and inject toxins.

Nematodes are most common in sandy, moist soils. They are generally more of a problem on former cropland that has been re-utilized for residential use.

**Prevention & Treatment:** If root-knot nematodes are suspected in residential landscape beds, plant samples may be submitted to the Clemson Plant Problem Clinic through any county Clemson Extension office for verification. Because of the evident plant root galling by the root-knot nematode, entire plant samples should be submitted, not soil samples for assays as for other soil nematodes.

The best option is to choose plants that are not susceptible to the root-knot nematode. Remove and dispose of infested plants, but do not add them to the compost pile. For more information on symptoms of root-knot nematode damage and on control, please see **HGIC 2216, Root-Knot Nematodes in the Vegetable Garden.**

**Soft Rot:** *Erwinia carotovora* causes bacterial rot at the base of the flowers and in the rhizomes. The bacteria that cause rot are normal soil inhabitants. Disease development is favored by high temperatures, poor air circulation, poor soil drainage and improper fertilization.

**Prevention & Treatment:** To prevent soft rot, avoid poor soil drainage by amending heavy clay soils with organic matter (such as with composted pine bark or compost), avoid poor air circulation conditions in plant areas, avoid problem planting sites (do not plant susceptible daylily varieties in the same spot where plants show soft rot symptoms), permit wounded plants to heal (cork over) before planting, and do not fertilize or water too much. Discard all infected plant material.

**Insects & Other Pests**

**Flower Thrips** (*Frankliniella tritici*): Flower thrips and various other thrips species are serious pests of daylilies. Thrips are slender, dark-colored insects, with fringed wings. Adults are less than $\frac{1}{16}$-inch in length. To see these fast-moving pests, you need a magnifying lens. Thrips are typically found on leaves and between flower petals. Both adults and nymphs (immature insect stage resembling the adult, but smaller) feed by scraping surface cells to suck plant sap. When they feed on flower buds, the...
flower may die without opening. With a light infestation, their feeding causes leaves to have silvery speckles or streaks. With severe infestations, leaves and flowers are stunted and distorted and may turn brown and die.

**Sampling:** As a result of their small size, thrips are difficult to detect before damage is obvious. To sample for thrips in your daylilies, hold a sheet of stiff white paper under some leaves and flowers, and then strike these plant parts. Gently tip the paper to remove any bits of trash and then examine the paper in bright sunlight. Any thrips present will move around on the paper.

**Control:** Several naturally occurring enemies feed on thrips. To avoid killing these beneficial insects, which naturally reduce thrips populations, insecticides should be avoided as much as possible. Blue sticky traps will help protect daylilies from thrips. Paint cardboard or wooden boards blue and then coat with petroleum jelly. Attach them to stakes and place near the daylilies.

If serious damage is occurring, insecticidal soap or spinosad sprays are recommended. As with any pesticide, read and follow all label directions and precautions.

**Two-spotted Spider Mites (Tetranychus urticae):** The two-spotted spider mite and other mite species can be a problem on daylilies. Mites are not insects but are more closely related to spiders. They are very small, less than 1/50-inch long. They have piercing mouthparts that allow them to puncture plant tissue and suck plant sap. Mites tend to be more of a problem during hot, dry periods. Over time, some spider mites produce a fine web on leaves, which protects their eggs and young. With a light infestation, daylily leaves and flowers develop yellowish speckles. Partially as a result of the mite’s tiny size, this damage often goes unnoticed until damage is more severe. With a heavy infestation, the speckles will run together and entire leaves can become bleached and die. Along with leaf decline, growth is stunted.

**Sampling:** Like thrips, spider mites are very small and are difficult to detect before damage is obvious. To sample for mites in your daylilies, follow the same procedure discussed in the thrips section above.

**Control:** Spider mites overwinter (survive the winter) on weeds, such as chickweed. Removing nearby weeds before spring growth is an important step in the control of spider mites. Insecticidal soap, if started early in the infestation, is effective at controlling spider mites. For more severe infestations, tau-fluvalinate or bifenthrin sprays will control spider mites. See Table 1 for examples of brands and products. As with all pesticides, read and follow all label directions and precautions.

**Aphids:** Various aphids can be pests on daylilies. Aphids are soft-bodied insects that vary in color from yellow-green to almost black. They are typically more of a problem during cool weather in the spring. They feed on leaves and flower buds by inserting their mouthparts and sucking plant sap. Their feeding can result in deformed leaves and small warty growths on flower buds. Most aphids excrete honeydew (a sugary liquid) as a result of feeding on plant sap. The sooty mold fungus feeds on the honeydew, resulting in dark fungal growth, which is very unsightly.

**Control:** Several naturally occurring enemies feed on aphids, including green lacewings and ladybird beetles (ladybugs). As much as possible, these predators should be allowed to reduce aphid populations. As a result of their phenomenal reproductive rate, aphids are very difficult to control with insecticides. If a single aphid survives, a new colony can be produced in a short period of time. In addition, using insecticides means that beneficial predators will also be killed. Insecticidal soap sprays can help reduce aphid populations. For more severe infestations, bifenthrin, cyfluthrin, lambda cyhalothrin or permethrin sprays will control aphids. See Table 1 for examples of brands and products.

**Slugs & Snails:** These can be a problem on daylilies, especially in the early spring when they feed on tender young growth. Their feeding results in ragged notches along leaf edges and sometimes holes in the middle of leaves. The appearance of shiny, slimy trails is a typical sign of their presence. Slugs and snails feed at night and hide during the day in moist areas.

**Control:** Remove their daytime hiding places by removing mulch and leaf litter near the base of the plant. Apply environmentally safe snail and slug
baits (containing iron phosphate) near the beds. More information on control of slugs and snails and the safest baits is available in HGIC 2357, Snails & Slugs in the Home Garden.

**Daylily Leafminer:** The daylily leafminer (*Ophiomyia kwansonis*) was introduced into the US around 2006 from Japan and Taiwan, and has quickly spread over the Eastern US. The leafminer adult is a small black fly, which oviposits (lays) its eggs on daylily foliage in the spring. The small pale-yellow larvae then feed within the leaves in meandering mines that become wider as the larvae grow. The whitish mines remain visible throughout the life of the leaf, which makes infested daylilies unmarketable. This pest over-winters as small tan pupae, approximately the size of a grain of rice. Over-wintering occurs either near the base of the leaves or at the base of the plants.

**Control:** Prompt removal and disposal of infested foliage will reduce the spread of this pest. Clean up and dispose of all dead foliage at the end of the season, as this will help reduce over-wintering of the pupae, as well as reduce the spread of foliar diseases, such as daylily leaf streak disease. Sprays to control the leafminer may affect natural predators and parasites that can reduce the numbers of leafminers.

Insecticides that will control this leafminer are imidacloprid sprays or plant drenches, acephate sprays, or spinosad sprays. Spinosad is a natural product that is the safest to apply, and like the imidacloprid and acephate, is a foliar systemic insecticide. This means it will penetrate the foliage to kill the larvae within the leaves. Spinosad is primarily used for the control of insect pests that include thrips, caterpillars and flies, so it is less harmful to many beneficials. Spray with spinosad as soon as symptoms of mining are noticed.

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<tr>
<th>Active Ingredient</th>
<th>Examples of Brands &amp; Products</th>
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<tr>
<td><strong>Bifenthrin</strong></td>
<td>Bifen I/T Concentrate&lt;br&gt;Ferti-lome Broad Spectrum Insecticide Concentrate&lt;br&gt;Hi-Yield Bug Blaster Bifenthrin 2.4 Concentrate&lt;br&gt;Talstar P Concentrate&lt;br&gt;Up-Star Gold Insecticide Concentrate</td>
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<td><strong>Chlorothalonil</strong></td>
<td>Bonide Fung-onil Concentrate&lt;br&gt;Ferti-lome Broad Spectrum Landscape &amp; Garden Fungicide Concentrate&lt;br&gt;GardenTech Daconil Fungicide Concentrate&lt;br&gt;Hi-Yield Vegetable, Flower, Fruit &amp; Ornamental Fungicide Concentrate&lt;br&gt;Monterey Fruit Tree, Vegetable &amp; Ornamental Fungicide&lt;br&gt;Ortho MAX Garden Disease Control Concentrate&lt;br&gt;Southern Ag Liquid Ornamental &amp; Vegetable Fungicide Concentrate&lt;br&gt;Tiger Brand Daconil Concentrate</td>
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<tr>
<td><strong>Cyfluthrin</strong></td>
<td>Bayer Advanced Vegetable &amp; Garden Insect Spray Concentrate; &amp; RTS™</td>
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| Lambda Cyhalothrin | Spectracide Triazicide Insect Killer for Lawns & Landscapes Conc.; & RTS¹  
Bonide Caterpillar Killer RTS¹  
Bonide Beetle Killer RTS¹ |
| Insecticidal Soap | Bonide Insecticidal Soap Concentrate  
Espoma Earth-tone Insecticidal Soap Concentrate  
Natural Guard Insecticidal Soap Concentrate  
Safer Brand Insect Killing Soap Concentrate  
Garden Safe Insecticidal Soap Insect Killer Concentrate |
| Mancozeb | Bonide Mancozeb Flowable with Zinc Concentrate  
Southern Ag Dithane M-45 |
| Myclobutanil | Spectracide Immunox Multi-purpose Fungicide Concentrate |
| Permethrin | Bonide Eight Insect Control Vegetable, Fruit & Flower Concentrate  
Bonide Total Pest Control Outdoor Concentrate  
Hi-Yield Indoor/Outdoor Broad Use Insecticide Concentrate  
Bonide Eight Yard & Garden RTS¹ |
| Propiconazole | Banner Maxx Fungicide  
Bonide Infuse Concentrate  
Ferti-lome Liquid Systemic Fungicide II Concentrate  
Monterey Fungi-Fighter Fungicide Concentrate  
Bonide Fung-onil Lawn & Garden Disease Control Ready to Spray (RTS¹) |
| Spinosad | Bonide Colorado Potato Beetle Beater Concentrate  
Bonide Captain Jack’s Deadbug Brew Concentrate; & RTS¹  
Ferti-lome Borer, Bagworm & Leafminer Spray Concentrate  
Monterey Garden Insect Spray Concentrate  
Natural Guard Landscape & Garden Insecticide RTS¹  
Southern Ag Conserve Naturalyte Insect Control Concentrate |
| Tau-Fluvalinate | Bayer Advanced 3-in-1 Insect, Disease & Mite Control Conc.; & RTS¹ |
| Thiophanate Methyl | Cleary’s 3336-WP Turf & Ornamental Fungicide  
Southern Ag Thiomyl Systemic Fungicide |

¹RTS = Ready to Spray (a hose-end sprayer)

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