



University of Kentucky

College of Agriculture

Plant Pathology Extension


 COOPERATIVE EXTENSION SERVICE
 UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Plant Pathology Fact Sheet

PPFS-FR-T-06

Cherry Leaf Spot

John Hartman, *Former UK Plant Pathology Extension Specialist*

IMPORTANCE

Cherry leaf spot occurs on both sweet and sour cherry; however, it is considerably more serious on sour cherries. Ornamental flowering cherry trees can also be susceptible to this disease. Premature defoliation from cherry leaf spot reduces flower bud set for the next year, weakens trees, and increases sensitivity to winter injury.

SYMPTOMS & SIGNS

Small (1/8 to 1/4 inch) purple spots appear on leaves approximately 10 to 14 days after infection. Following heavy dew or rain, fungal fruiting bodies (acervuli) exude white spore masses on under surfaces of leaves. Spots eventually turn brown and drop out, leaving holes in foliage. Affected leaves turn yellow and drop from trees prematurely. In severe cases, trees may become nearly defoliated by mid-season.



EPH O'BRIEN, USDA FOREST SERVICE, BUGWOOD.ORG

CAUSE & DISEASE DEVELOPMENT

Cherry leaf spot is caused by the fungus *Blumeriella jaapii* (formerly, *Coccomyces hiemalis*), which overwinters in fallen leaves. In spring, spores (ascospores) are released and carried by wind or splashing rain to new infection sites. Secondary infections can occur throughout the growing season when additional spores (conidia) are released and spread during rainy weather.

DISEASE MANAGEMENT

- Apply fungicide sprays in spring, just after bloom. Continue regular sprays until 1 or 2 weeks after harvest. For current fungicide recommendations, refer to the fruit spray guides in Additional Resources or contact a local county Extension office.
- In small plantings, reduce overwintering fungal inoculum by raking and discarding/destroying fallen leaves in autumn.

ADDITIONAL RESOURCES

- Midwest Fruit Pest Management Guide for Commercial Growers (ID-232)
https://ag.purdue.edu/departments/hla/extension/_docs/id-465.pdf
- Disease and Insect Control Program for Homegrown Fruit in Kentucky, including Organic Alternatives (ID-21)
<http://www.ca.uky.edu/agc/pubs/id/id21/id21.pdf>



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<https://mccracken.ca.uky.edu/>

Provide resources to pollinators in any space with container gardens

Nicole Flowers-Kimmerle

URBANA, Ill. — Supporting pollinators has become increasingly important as concerns over pollinator population decline are more evident. The good news is that even small spaces can provide resources for bees, butterflies, and other pollinators.

Container gardens are one solution for growing pollen and nectar resources that pollinators need in small spaces. Containers offer many options, from simple, single-plant systems to multi-level and extended blooming displays.

For those who like to keep things simple, stick to shorter plants that will not get top-heavy or wilt at the first sign of drought. Both usually happen to container gardens at some point throughout the growing season because container soil tends to dry out quickly.



Sample Container Combinations

For a combination of plants that will bloom at different times in a partial to full-sun location, try penstemon (sp.), lanceleaf coreopsis, wild geranium, Agastache anise, and silverrod (*Solidago bicolor*).

A mix of prairie dock (*Silphium terebinthinaceum*), rose turtlehead (*Chelone obliqua*), purple lovegrass (*Eragrostis spectabilis*), sky blue aster (*Symphyotrichum oolentangiense*), and prairie dropseed (*Sporobolus heterolepis*) is another mixed container that will love a full-sun area.

For areas with more shade, try blue mistflower (*Conoclinium coelestinum*), cinnamon fern (*Osmundastrum cinnamomeum*), Gray's sedge (*Carex grayi*), little alumroot (*Heuchera pariflora* var. *puberula*), common dittany (*Cunila origanoides*), Pennsylvania sedge (*Carex pensylvanica*) to make a lovely container. Foam flower (*Tiarella cordifolia*), native to the eastern U.S., can also be added to the container.

Syrphid Flies: Overlooked Pollinating Insects

Armando Falcon-Brindis, Entomology Research Associate, and Raul T. Villanueva, Entomology Extension Specialist

Entfact-710

Overview

Syrphid flies, are also known as hover flies, flower flies, corn flies, or sweat flies. Adults are commonly found visiting flowers as they feed upon pollen and nectar, however, their role as pollinators is under appreciated. Hover flies display a characteristic hovering and abrupt changes in flight direction. Adults are often mistaken for bees and wasps due to their color patterns, black and yellow (Figure 1). However, hover flies do not sting or bite. Hover fly larvae have evolved different feeding habits including predation, parasitism, scavenging, plant feeding, and fungal spores feeding. Such adaptations have allowed syrphids to colonize different habitats such as freshwater, forests and deserts.

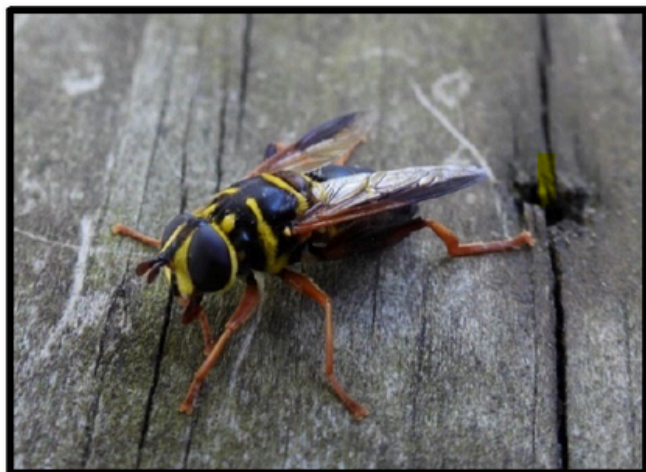


Figure 1. Example of the syrphid fly *Meromacrus acutus* found in eastern United States that mimics a yellow jacket wasp's coloration. Photo: A. Falcon-Brindis

Life History

Depending on the species, females lay one or more eggs in marshes or under leaves or litter. Across their lifetime, females can lay from 100 to 1,000 eggs. The egg stage takes about 5 days. The larval color varies from green to yellowish and has a typical maggot shape. The larva lacks legs and eyes and has three larval instars. However, larvae of some

aquatic syrphids are known as "rat-tailed" maggots because they display a long tail-like breathing tube. The mouth of predacious syrphid larva has pointed mouthparts used to pierce or tear their prey and suck the contents, whereas those feeding on plants have developed mandibles. Syrphid larvae prey on several soft-bodied insects such as aphids (Figure 2), scales, thrips, froghoppers, psyllids, or mites. A single hover fly larva can consume between 100 to 600 aphids during its lifetime, but this greatly varies among species. In the last instar, larvae pupate in the soil or on the plant. The life cycle takes 2 to 4 weeks to complete. Most syrphid flies overwinter as larvae in the soil and leaf litter. Depending on the region (i.e., climatic conditions), there are usually two or more generations per year. In Kentucky, adult flower flies are observed from mid-spring to early fall often visiting plants to obtain honeydew, nectar, pollen, or simply moisture (Figure 3).



Figure 2. Syrphid larva preying on sorghum aphids on a heavily infested leaf of forage sorghum. Photo: A. Falcon-Brindis.



Figure 3. Adult syrphid fly *Toxomerus marginatus*. Photo: A. Falcon-Brindis.

Syrphids have several natural enemies that can attack different stages across their life cycle. Eggs can be preyed on by minute pirate bugs (*Orius* spp.) and ants. Larvae are sometimes attacked by ants, spiders, or other predatory insects. Syrphid larvae often compete for aphids with ladybugs. There are reports of cannibalistic syrphid larvae. Adults also have many predators including spiders, robber flies (Figure 4) and other insects.



Figure 4. Robber fly feeding on an adult syrphid fly. Photo: A. Falcon-Brindis.

Benefits of Hover Flies

Hover flies are known to contribute to agroecosystems as larvae prey on pests and adults are pollinators. Under controlled conditions, hover flies can increase the seed production of onion, oilseed rape, sweet pepper, strawberry, and a variety of cultivated plants. Adult syrphids have a

complementary role in pollen transport of wild plants.

Conservation of Hover Flies

While people can consider syrphid flies a nuisance because they fly near humans while they work outside and due to their coloration, people think the flies can sting or bite, but they are just trying to get moisture or salts out of our skin and are incapable of stinging or biting.

Hover flies are important insects, unfortunately, they are also highly susceptible to insecticides. Insecticides applied for control of aphids or other pest species reduce populations of syrphid larvae, and if aphid infestations are not reaching an economic level, insecticides should not be recommended if syrphid fly larvae are preying upon them.

Interesting Facts

- Hover flies are fast. They can reach ~8 mph, which is like if a Boeing 737 could fly 15 times faster (almost 9,000 mph!).
- Some species have specialized hairs to carry pollen, just like bees.
- There are syrphids capable of traveling 1,300 feet to carry pollen.

05/03/2023 (Date written or revised)



How to Grow a Gardenia Shrub

Planting, Growing, and Pruning Gardenias

By Catherine Boeckmann

Gardenias are tender, evergreen shrubs native to the tropics. They have amazingly fragrant flowers and shiny, dark-green leaves. However, to grow well, gardenias need extra care. Here's how to plant, grow, and care for gardenias in your garden or home!

About Gardenias

The main species of gardenia (also known as “cape jasmine”) grown in North American gardens is native to the tropical regions of East Asia, including southern China and Taiwan. In this part of the world, the plant has been used for centuries in herbal medicine. Its yellow fruit was traditionally used to make a dye, which could be used to color food and clothing. Gardenias are a member of the Rubiaceae (coffee) family!

Gardenias are known to be a bit of a challenge for gardeners. Frankly, the plant is picky and often needs more attention than other flowering shrubs. It prefers fairly acidic soil (a pH of 5.0 to 6.0), likes a tropical climate (but suffers in too much direct sun), and doesn't transplant well. Nevertheless, with a little extra work, a gardenia can be a wonderful addition to a suitable garden.

If you happen to live within a hardiness zone colder than Zone 7, you're not out of luck when it comes to gardenias! They can also be grown indoors in pots. Put them outside during the warm days of summer and take them indoors for the cooler seasons.

There are many varieties of gardenias to choose from, depending on what you're looking for. There are compact plants that only grow 3 to 4 feet tall, and there are giants that grow up to 8 feet in diameter. Some bloom early in the summer, and some bloom later. Some varieties have only a few huge blossoms, and others have many small blooms. There's something for everyone!



Planting

Consider the strong fragrance of the gardenia's flowers when choosing a planting site. While their scent is enjoyable in passing, it may become overbearing if the shrub is planted near a window or frequently traveled area.

Gardenias appreciate a tropical climate, but may suffer in full sun at the height of summer. In warm regions (Zones 8+), select a spot that gets morning sun and light afternoon shade but that avoids the harsh midday sun. In cooler areas, select a spot that gets full to partial sun. Additionally, choose a sheltered spot where the gardenia will be protected from cold winds in the winter.

Gardenias require a low soil pH (acidic) of between 5.0 and 6.0 to grow well. Soil should be rich and moist but well-draining. To increase the fertility of the soil, add aged manure or compost to the site before planting.

When to Plant Gardenias

- Generally, the best time to plant gardenias is in the fall. In areas that get a light frost, plant gardenias at least 6 weeks prior to your local fall frost date.
- In cooler regions (Zone 7), it's best to plant in the spring, as this will ensure that the gardenia has plenty of time to settle in before winter.

How to Plant Gardenias

Gardenias do not transplant well and respond poorly to root damage. Because of this, handle the plant with care during planting!

- Dig a hole that is twice as wide and a bit deeper than the root ball.
- Put a couple of inches of fresh soil in the bottom of the hole.
- Place the gardenia in the hole so that the top of the root ball is even with the soil surface.
- Fill in with soil around the root ball.
- Water deeply.
- Add 2 to 4 inches of pine straw or compost around the plant, leaving bare soil right around the stem to allow for airflow.

Growing

- Gardenias grow and bloom best when temperatures during the day are between 65° and 70°F (18° to 21°C) and night temperatures are between 60° and 65°F (15° to 18°C).
- Keep watering consistent. Gardenias will suffer if they dry out or are overwatered.
- Gardenias enjoy high humidity. Mist with water during dry spells.
- Fertilize with a slow-release fertilizer formulated for acid-loving plants, such as rhododendrons and azaleas, a couple of times during spring and summer. Do not fertilize in the fall, as this can cause a spurt of frost-tender growth.
- Routinely remove faded flowers to encourage more blooms.
- Bud drop can be caused by low humidity, over- or under-watering, insufficient light, and high temperatures.

How to Prune Gardenias

- Prune younger plants only to keep the plant nicely shaped.
- Prune back the new growth of established plants by two-thirds after flowering.

How to Propagate Gardenias

1. In early spring, take a 4-inch stem cutting just below a leaf.
2. Dip the end of the cutting in the rooting hormone.
3. Put the cutting into a pot with a mix of perlite and potting soil.
4. Keep the soil moist.
5. Transplant the cutting into a bigger pot after it has been rooted.



How to Grow Gardenias Indoors

- Gardenias grown indoors need 6 to 8 hours of bright, indirect sunlight through a window.
- The gardenia is very sensitive to temperature changes, so keep it away from air conditioning, heat vents, and drafty windows.
- The plant prefers 70°F (21°C) during the day and 60° to 65°F (15° to 18°C) at night.
- The gardenia likes high humidity. To increase humidity, place the potted gardenia on a shallow tray with gravel and water. Water will evaporate and increase the relative humidity around the plant. Alternatively, place a humidifier close to the plant or mist the leaves often with water.

Types

Smaller Gardenias with Repeat Blooming

- **‘Chuck Hayes’** is a cold, hardy cultivar that grows to 4 feet high. It has 2- to 3-inch semi-double flowers during summer and re-blooms in the fall.
- **‘Kleim’s Hardy’** is hardy to 10°F and grows 3 feet tall and wide. The single flowers bloom in early summer and have a second bloom in the fall.
- **‘Variegata’** has interesting variegated foliage and beautiful double flowers on a small, 3- to 4-foot-tall and -wide plant.

Larger Gardenias with Double-flowers

- **‘August Beauty’** grows 4 to 6 feet high and 3 to 4 feet wide. It blooms from mid-spring to fall with double 3-inch flowers.
- **‘Mystery’** has large 4- to 5-inch double white flowers that fade to cream yellow. It grows 5 to 6 feet tall and about 3 to 4 feet wide, but may get larger.
- **‘Veitchii’** is one of the oldest cultivars and grows to 4 to 6 feet tall and 3 to 4 feet wide. It has double flowers with a long bloom period.

Harvesting

Gardenias as Cut Flowers in a Vase

- Don’t touch the blossoms with your bare hands, as they may bruise and wilt.
- To help absorb water, cut the woody stems at a 45-degree angle.
- Remove the bottom leaves so that no leaves will be below the water in the vase.
- Add a tablespoon of sugar and a teaspoon of bleach to the water in a medium vase.
- Place gardenia blossoms in a bowl or a cup of water as floating blooms.

Insect Pests

- Aphids
- Mealybugs/scale insects
- Spider mites
- Whiteflies

Diseases

- Powdery mildew
- Root rot
- Stem canker
- Nematodes

Wit and Wisdom

- In the language of flowers, the gardenia symbolizes “secret love.”
- Gardenias were named after the Scottish-born American naturalist Alexander Garden (1730–1791).



Peachy Breakfast Bake

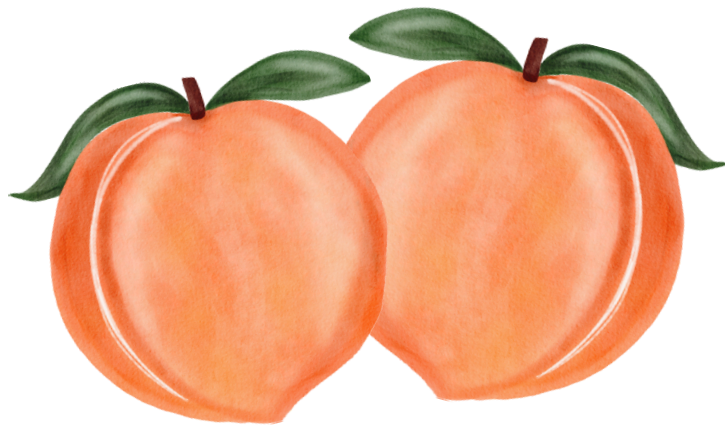
| | | |
|--|--------------------------------------|----------------------------------|
| 3 tablespoons salted butter | 2 tablespoons white sugar | ½ teaspoon vanilla |
| 3 cups fresh peaches, peeled and sliced | 1 teaspoon cinnamon | ¼ cup whole wheat flour |
| ½ cup packed light brown sugar | 2 whole eggs | ¼ cup all-purpose flour |
| | 2 egg whites | ¼ teaspoon salt |
| | 1 cup unsweetened almond milk | 2 tablespoons white sugar |

Preheat oven to 400 degrees F with rack in middle position. **Place** butter in an 8-by-8 inch baking dish and place in oven on the center rack to melt. **Add** peaches and brown sugar to melted butter in baking dish, **stir** to coat. **Mix** together the sugar and cinnamon and **sprinkle** over the top. **Bake** 15 minutes. In a mixing bowl, **beat** eggs and egg whites with a whisk, **add** almond milk and vanilla. **Whisk** together. **Add** remaining dry ingredients and **mix** until blended.

Remove peaches from oven, **pour** batter slowly and evenly over baked peaches. **Return** to oven and **bake** 20 minutes, until the center of the batter is firm, puffed up and browned. **Serve** warm with whipped cream.

Yield: 9, ½ cup servings

Nutritional Analysis: 140 calories, 4.5 g fat, 2.5 g saturated fat, 10 mg cholesterol, 140 mg sodium, 23 g carbohydrate, 1 g fiber, 17 g sugars, 3 g protein.



Kentucky Peaches



SEASON: July through September.

NUTRITION FACTS: Peaches contain many nutrients but are most important for fiber and vitamins A and C. They are low in calories; one medium sized peach has about 35 calories.

SELECTION: Peaches have a fuzzy skin and come in many varieties with yellow or white flesh. There are "freestones" (flesh separates easily from pit) and "clingstones" (flesh clings to the pit). Look for fairly firm to slightly soft fruit with yellow or cream-colored skin. Avoid peaches that are green, shriveled or bruised.

STORAGE: Some peaches may need to be stored at room temperature to ripen. Fragrance

is an indication of ripeness.

Store the ripe peaches in the refrigerator and use within 5 days. Handle gently.

PREPARATION: One pound of peaches will equal 3 to 4 medium sized peaches, 2 cups sliced, or 1½ cups pulp or puree. Wash, peel and cut in half to remove pit. To peel, dip in boiling water for 30 seconds. Cool quickly in cold water and remove peel with a knife. Peaches will darken when exposed to air. To avoid this, dip peaches in lemon juice or ascorbic acid mixture for fruit. Peaches are used for appetizers, garnishes, salads, desserts, baked products, jellies, preserves and are most delicious eaten fresh.

KENTUCKY PEACHES

Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Dietetics and Human Nutrition students
June 2017

Source: www.fruitsandveggiesmatter.gov

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5:00 - 6:00 P.M.

McCracken County Extension Service
2025 New Holt Rd Paducah, KY 42001

Please RSVP for each program
by calling (270) 554-9520

- JAN 7** Winter Sowing
- FEB 4** "Evergreens" Propagation (on-site)
- MAR 4** Native Plants
- APR 1** Fairy Gardens
- MAY 6** Container Gardening
- JUN 3** Floral Arranging
- JUL 1** Love Shack Farm (on-site)
- AUG 5** Drying & Pressing Cut Flowers
- SEP 2** Lawn Management
- OCT 7** Pumpkin Planters
- NOV 5** Holiday Wreaths

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