



FactSheet

Extension

Ohio State University Extension Fact Sheet

Horticulture and Crop Science

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Growing Hostas

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Hostas are extremely popular, hardy herbaceous perennials grown primarily for their beautiful foliage. They are easy to grow, shade-tolerant plants. Leaves come in a wide range of shapes, colors, sizes, and textures and may be solid in color or variegated in different combinations of blue, green, white, and gold. The plants are low maintenance and are widely available in nurseries and garden centers. Many catalogs also offer a large selection of hosta plants, with more than 2,500 different cultivars on the market.

Hostas originally came from Japan, China, and Korea. They were first introduced to Europe in the late 1700s and then came to the United States in the middle 1800s.

Plant Size and Shape

A hosta plant generally reaches full maturity in 4–8 years, and its size depends on the cultivar. Cultivars are "cultivated varieties" that have been developed for some desirable or improved feature such as plant form, size, bloom, leaf color, variegation, pest resistance, etc.

The miniature *Hosta* 'Baby Bunting' grows to only a few inches in diameter, while other cultivars reach 8 feet wide and even larger. *Hosta* 'Blue Angel' and 'Sum and Substance' are examples of very large plants that need to be given ample room to grow. Most hosta plants develop a rounded shape, although some cultivars have a vase shape, which is maintained as the plant grows larger. A few hosta cultivars are rhizomatous and can spread by underground rhizomes or runners.

Leaf Color

Hosta leaves may be a solid color such as blue, green, gold, or yellow. The



blue color is actually a green leaf coated with a wax that makes it appear blue. ©2002, Mona Darwin
The wax tends to "melt" from the leaf following exposure to sun and the heat of summer. Variegated leaves may include a combination of lighter and darker shades of color in the leaf. "Medio variegated" leaves show a light color in the center of the leaf, which may be white, gold, yellow, or light green. "Marginally variegated" leaves show a light color on the edge of the leaf.

Some plants also show seasonal foliar changes. A plant that exhibits "viridiscence" will change from light colors in the leaf early in the growing season to all green leaves as the season progresses. "Lutescent" leaves will change from green to yellow, and "albescens" leaves will turn from yellow to white. Leaf color may also be affected by the amount of sun the leaves receive.

Leaves that are thick and stiff are termed "rugose" or are said to have "heavy substance"; such leaves are considered to be somewhat resistant to slug feeding.

Flowers

All hostas bloom in summer with spikes of lavender to white, lily-like flowers, which can be quite showy. New cultivars of hosta plants are also being bred to produce larger and even more attractive flowers. Some newer plants may have 50–75 blooms on each flower scape. All fragrant hosta flowers are hybridized from *Hosta plantaginea*, which has 6-inch long, beautiful, white fragrant flowers.

Shade/Sun Requirements

Hostas are considered shade-tolerant plants, but most do not thrive if grown in deep shade. Hostas grow best in an exposure with morning sun and afternoon shade. Some cultivars will tolerate some afternoon sun, although plants grown in full afternoon sun (especially variegated plants) will show signs of marginal burning on leaves in the summer months.

In general, the blue-leafed hostas require shade, while the gold, yellow, and white-leafed hostas can tolerate more sun. Fragrant hostas grow best with 5–6 hours of daily sun. Morning sun with some early afternoon sun helps the fragrant blossom to develop. A few examples of sun tolerant hostas are *Hosta plantaginea*, 'August Moon', 'Fragrant Bouquet', 'Guacamole', 'Fried Green Tomatoes', and 'Sum and Substance'.

Companion Plants

Companion plants enhance the appearance of a planting of hostas. Early blooming bulbs and perennials are especially nice with emerging hosta leaves. Spring bulb foliage can be hidden after blooming by the larger hosta leaves. Recommended companions include snowdrops, crocus, tulips, daffodils, trillium, anemones, and forget-me-nots. Ferns, hellebores, pulmonarias, and wild gingers are also nice companion plants. In summer months, bright annuals such as impatiens, begonia, and coleus make attractive companion plants.

Soil Preparation

Hostas will grow best in rich organic soil. A loamy soil type may not need the addition of organic matter, but few of us are so lucky to garden in ideal soil and will need to add organic amendments. The recommended soil is well drained, has a slightly acidic pH, and is enriched both with nutrients and organic matter.

When making a new hosta bed, many gardeners like to cultivate to a depth of 12–16 inches. Apply 6 inches of organic matter and till it into the new bed. Materials such as compost, leaf mold, well-rotted manure, Canadian peat moss, composted pine bark, and municipal sludge products such as Milorganite® and Com-Til® may be used. The addition of organic matter will also serve to raise the bed, which will improve

drainage for the plants.

The ideal pH range for hostas is 6.5–7.5, which is slightly acidic to slightly alkaline. In higher pH soils, the addition of organic matter such as Canadian peat moss and cottonseed meal will tend to lower the pH.

The planting hole should be dug at least a foot deep. The width of the hole should be one and a half times the expected mature size of the clump. Check the plant's label for ultimate size, or ask a nursery for information. Most hosta roots will grow and spread horizontally, so a large, wide hole is best.

Planting

Remove the plant from its container and loosen and untangle the roots. Occasionally, the plant may be root bound in the container; if so, tap the sides to loosen the roots from the pot. If the roots are difficult to loosen, it may be necessary to cut through some of them, making several vertical cuts in the rootball. Shake excess soil from the roots, and do not use it in the planting hole. Place the plant in the hole at the same level as it grew in the container. The area where the leaves and roots meet should be at ground level.

Hostas ordered from mail order catalogs may arrive as bare root plants. Soak the roots in tepid water for about 30 minutes prior to planting. Form a small cone in the bottom of the hole, spread the roots over it and add the amended soil. Water the plants well following planting.

Fertilizer

There are several choices of fertilizer, including liquid, granular, and extended release granular, and the gardener will want to weigh the benefits and limitations of each. Follow label directions carefully for the application rates of each type of fertilizer. Be careful not to apply fertilizer on top of or on the new growth, eyes, or leaves of the plant. All fertilizer applications should be discontinued by late July in Ohio. Any plant that is still producing new tender growth in late summer may lose that new growth to the first fall frost. Hostas need a hardening period prior to cold weather.

A balanced granular fertilizer such as 10-10-10 or 5-10-5 can be applied early in the spring, followed by an application six weeks later, followed by a midsummer application. Timing of these applications would typically be early April, mid- to late May, and mid-July.

Extended release fertilizer is applied early in the spring. Extended release fertilizers such as Osmocote® or Sierra Blend® are rated for three, six, or nine months release times. However, heat and moisture may shorten the longevity of release. An early spring application of three or six months extended release fertilizer can be followed by an application of regular granular fertilizer in midsummer.

Liquid fertilizer is used for both soil and foliar application. It is applied every 7 to 10 days according to the fertilizer label instructions.

Following are some comparisons of the amounts of nitrogen, phosphorus, and potassium in fertilizer. The three numbers displayed on the fertilizer container are the percentages of nitrogen, phosphorus, and potassium (N-P-K) content, always listed in this order. Granular fertilizers with an analysis of 5-10-5 or 10-10-10 are recommended for hostas; these fertilizers have a ratio of 1:2:1 and 1:1:1. Organic fertilizers, such as compost or manure, typically have low analyses and are slow release; they are better used as organic soil amendments than as fertilizers.

Many gardens do not need additional fertilizer if a soil test shows the soil has sufficient amounts of the necessary nutrients. In this case, an addition of compost over the bed once a year, applied in the fall, is usually sufficient.

Water

Water is important for optimal growth. A minimum of an inch of water each week is recommended, and can come from rain, irrigation, or hand watering. Hostas that are grown in sandy soil may need even more water because of the increased drainage provided by the sandy conditions. In general, the greatest growth occurs when water exceeds the minimum recommended rate. Watering hostas on a regular basis early in the day is highly recommended. The soil should also be checked to make sure runoff is not occurring. A deep watering will ensure good root development.

Occasionally, a plant will show symptoms of inadequate water. Leaf tips will show burning. This occurs because the leaf tips are located the furthest from the roots, and the tip is showing stress from inadequate amounts of water. Drooping leaves may also be caused by inadequate moisture.

Propagation and Division

Propagation of hostas is easily achieved by dividing existing plants. Hostas do not come true when planted from seeds, with *Hosta ventricosa* being the one exception. Most home gardeners will propagate hostas by division.

Division should be done when no shoots are growing from the center of the mature clump and this bare area detracts from the appearance of the plant. Division of the clump will improve the plant's appearance. Lift the entire hosta clump and wash the soil from the roots, if possible, to make it easier to see where to cut to divide the clump. Cut with a sharp knife to make the divisions.

Spring is the easiest time to divide plants because new shoots are only a few inches high and the leaves have not expanded. Be careful not to overdivide hostas in spring; divide only the fast growing hostas then. Do not divide the sieboldianas or the Tokudamas in spring. New roots will not grow until the foliage has fully expanded and hardened off. During this period, the leaves may desiccate quickly on warm days, since the roots have been reduced in size or were injured during division. A hot day may cause injury such as leaf burn, but this is probably not permanent damage.

Though spring division is easiest, summer division is preferred and can be done in August, at least 30 days before the first fall frost date. Warm soil and higher humidity at this time promotes better root growth, and plants may put on a little growth spurt at this time.

Keep newly divided plants well watered for the first two weeks, especially if there is a period of drought. Some of the larger leaves on a division may be cut back to reduce water loss. Frequent division of a clump will restrict plant and leaf size, and keep it from developing to its desirable mature features.

Hosta Pests

Slugs and Snails

Slugs and snails are nocturnal foragers and are the most common pest of hostas. They eat small round holes in the leaves. By beginning an abatement program early in the spring, slugs may be easier to control. Look for silvery slime trails in garden beds to determine if slugs are present. They may be spotted during daylight hours or in the evening by using a flashlight. Since some plants are more susceptible to slug injury, check around those particular plants to detect slugs. Thin-leafed hostas and those with leaves growing close to the ground are most susceptible to slug injury.

Chemical slug pellets and baits that contain metaldehyde are widely available commercially, however label

directions must be followed carefully. A new product came on the market in 2000 that shows some success in slug control; it contains iron phosphate, which is less toxic to animals and birds than baits containing metaldehyde.

Beer traps are widely used, albeit only moderately successfully. Place a small shallow container, such as a jar lid, level with the soil and fill with beer. Slugs are attracted to it, crawl in, and drown.

Other methods can be used, though they show limited success. Copper strips sold in garden stores and catalogs may be used to surround plants. The use of gritty materials such as diatomaceous earth scattered on the soil surface is also used. Other traps may be made by laying wet newspapers on the ground overnight. Check beneath these the next day to find slugs that have taken refuge from heat and sun. Kill the slugs by dropping them into a 10–20% solution of ammonia and water. Salt will also kill slugs if applied directly to them.

Insects

Black vine weevil adults chew irregular notches on the edges of hosta leaves. The black vine weevil larvae that feed on the crown and roots, however, do the most serious damage; symptoms of injury include yellowing and wilting of foliage.

Foliar nematodes are microscopic-sized worms that can infest hosta leaves. Nematodes overwinter in the ground and move to the leaf where they feed between the veins. The symptom is a brown streak that appears between the veins in late July or August. Foliar nematodes are a new problem, and to date, current research has not found a way to eradicate them.

Deer, Rabbits, Voles, and Squirrels

Deer can eat all your hosta plants in one evening, leaving just the stalks standing. Ten-foot tall fencing and trained guard dogs are the only reliable method to keep them out of the garden. Gardeners also use deer repellant, a bitter-tasting chemical that is sprayed on the leaves. These products need to be re-applied after several rainfalls. Motion detector garden sprinklers have also been used with some success.

Rabbits occasionally eat young shoots in the spring, and sometimes bite off flower scapes. **Squirrels** will eat hosta leaves during a drought, and sometimes dig up plants. Voles chew on the roots of hostas, and a heavy infestation of voles may kill plants. Wire cages made of hardware cloth encircling the hosta roots may deter them.

Diseases

Viruses are of concern and are an emerging and important issue in growing hostas. Symptoms include an irregular mottling of the foliage, yellow ringspots, or small yellow dots or flecks on the leaves. If a virus is present, the plant(s) should be discarded and tools used in the hosta planting should be disinfected. If there is a specific need for diagnosing viruses in a hosta plant or planting, contact your state university's plant and/or pest diagnostic lab to discuss the testing procedures and fees that are involved.

Other problems may show up as chemical damage, cold or frost damage, sunburn, and "melting out" of the leaf. These problems are not infectious.

Plant Selection

With so many hostas available, it can be difficult to determine which plant(s) you want for the garden. To help you get started, here is the American Hosta Society Popularity Poll from 2000. Each year the Society

polls its members for their favorite hostas, then develops this "Top 20" list:

1. *Hosta* 'Sagae'—72" wide x 36" tall. The leaves are large (13–14" long x 10" wide), thick textured, and chalky blue-green with neat gold margins. The flowers are violet. Formerly known as *H. 'Fluctuans Variegata'*. It was the Hosta of the Year for 2000.
2. *Hosta* 'Sum and Substance'—60" wide x 30" tall. The leaves have a glossy texture and grow upright. The chartreuse leaf color changes to gold with exposure to more sunlight. Very pest resistant. The white bell-shaped flowers appear in late August.
3. *Hosta* 'Great Expectations'—58" wide x 29" tall. The leaves are round and puckered with good substance. They have an extremely wide, irregular margin of blue and green enveloping a light yellow-cream center. The flowers are a dense mass of white blooms in summer.
4. *Hosta* 'June'—36" wide x 15" tall. The leaves are 6" long x 4" wide, with a nice gold center and blue-green margins. The leaves have very thick substance. This plant was Hosta of the Year for 2001.
5. *Hosta* 'Patriot'—50" wide x 23" tall. The green leaves have bold white margins that are 1/2 to 1" in width. The color of the margin will turn from creamy yellow in May to white during the growing season.
6. *Hosta* 'Paul's Glory'—55" wide x 25" tall. The yellow leaves have a blue-green margin. The centers of the leaves are chartreuse in late May, then slowly change to bright gold by mid-July. With more sun, the gold lightens. The blue-green margin in early June becomes dark green in mid-July. The flowers are white and bell-shaped.
7. *Hosta* 'Gold Standard'—3' wide x 18" tall. This is a vigorous grower. The leaves have a dark green edge with a golden center. The pale lavender flowers bloom in mid-July to mid-August.
8. *Hosta montana* 'Aureomarginata'—6' wide x 27" tall. The large leaves are 15" long x 8" wide. The leaf margin is bright gold with a green center. The plant holds its color all season.
9. *Hosta* 'Krossa Regal'—6' wide x 36" tall. The heavy, leathery, blue-green leaves are slug resistant. It is the most used, most planted, large blue hosta used today. It has continually ranked near the top in U.S. popularity for years.
10. *Hosta* 'Fragrant Bouquet'—26" wide x 18" tall. The leaves are light green with a yellowish-white margin. The large, funnel-shaped, white flowers are fragrant.
11. *Hosta* 'Guacamole'—54" wide x 24" tall. The leaves are 11" long x 8" wide, shiny, and yellowish-gold with a dark green, wide margin. The leaves are very shiny both above and below, and are moderately folded with a smooth margin. The flowers are near white and are very fragrant.
12. *Hosta* 'Blue Angel'—85" wide x 36" tall. The leaves are huge (18" long x 12" wide) and have heavy substance. Flowers are a glossy white.
13. *Hosta sieboldiana* 'Frances Williams'—48" wide x 36" tall. Giant blue-green leaves have a yellowish-green irregular edging, and this cultivar has pale lavender flowers. The irregular margins grow wider as the plant ages. The leaf edges often show some browning or burning due to heat and sunlight, and is a genetic factor. This plant excels many others in overall appearance and appeal.
14. *Hosta* 'Halcyon'—38" wide x 20" tall. The blue-green leaves are 8" long x 5" wide, are slightly wavy, have a smooth texture and heavy substance. The flowers are blue-lavender in midseason.
15. *Hosta* 'Love Pat'—20" wide x 22" tall. The nearly round leaves, 9.5" x 9", have a heavy texture and have a very intense blue color. The leaves are very deeply cupped when mature. This plant tends to be slug resistant.



Hosta 'Halcyon'

Photo by Jane C. Martin



Hosta 'Francee'

Photo by Jane C. Martin



Hosta 'Regal Splendor'

Photo by Jane C. Martin

16. *Hosta* 'Striptease'—50" wide x 20" tall. The leaves have a large band of green on the edge, with a yellowish-greenish-gold center. Between the center and the green edge, there is a thin white strip, which seems to emphasize the intensity of the colors. The thin white strip gives the plant its unusual name.
17. *Hosta* 'Regal Splendor'—40" wide x 36" tall. The leaves are bluish-gray with a margin that is creamy white to creamy yellow. The 20–30 light lavender, bell-shaped flowers are fertile and funnel shaped. The bloom scapes may grow to 60" tall.
18. *Hosta sieboldians* 'Elegans'—48" wide x 36" tall. The large leaves are blue-green in color. The heavy glaucous coating on the leaves tends to wear away throughout the season from rain and irrigation, becoming greener later in the season. The flowers appear early in the season and are near white.
19. *Hosta* 'Sun Power'—70" wide x 28" tall. The wavy yellow leaves are 10" long x 7.5" wide. The lavender flowers bloom in midseason.
20. *Hosta* 'Francee'—51" wide x 21" tall. The dark green, heart-shaped leaves have a clean white margin. The funnel-shaped flowers are lavender and the scapes are 36" tall. This plant makes a choice white edged hosta for every garden.

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