

Hydrangeas for Mississippi Gardens



Hydrangeas have been a part of the southern landscape since they were first imported from Japan in the 1750s. The most commonly grown species is the bigleaf, or French, hydrangea (*Hydrangea macrophylla*). This is the traditional hydrangea with the large, “mophead” bloom in shades of blue or pink. The color of the bloom depends on the pH of the soil.

Considered an old-fashioned flower, hydrangeas were not popular in the landscape industry for many years. However, hydrangeas are making a comeback because there are many types available, and new cultivars are developed all the time. Breeding programs in Europe and in the United States are producing exciting, colorful new varieties that can fit in any landscape.

The word hydrangea comes from the Greek hydro, meaning “water,” and angeion, meaning “a vessel.” The name refers to the dehiscent seed capsules, which are shaped like a Grecian water jar.

Landscape Use

Hydrangeas are often used as doorway plants, but different species and new cultivars offer many other uses. Hydrangeas can be used as foundation plants, as shrub borders, in groupings, or alone. Their high-quality foliage can add textural variety to a landscape. Varieties with variegated foliage are interesting even when they are not blooming. They can be planted with azaleas to provide a longer season of color in shady areas.

Hydrangea Species

There are many species of hydrangea and a lot of discussion about their proper classification. Species discussed in this publication are the major commercially available species and are classified according to Michael Dirr’s *Hydrangeas for American Gardens* (2004).

Bigleaf or French hydrangea (H. macrophylla)

Bigleaf hydrangeas fall into two categories based on the shape of their flower head. The better-known bigleaf has a large, ball-shaped flower head called a mophead (*H. macrophylla* var. *macrophylla*). Mopheads are large and round, resembling pom-poms. The lesser-known bigleaf, lacecap hydrangeas (*H. macrophylla* var. *normalis*), have flat, round flower heads. The centers are fertile flowers, and they are surrounded by outer rings of sterile flowers. The structure of these flowers is similar to a fancy “lace cap” or pinwheel.

Bigleaf hydrangeas grow 3 to 6 feet tall and about equally wide. They grow quickly. Their simple leaves are medium green, 4 to 8 inches long, 3 to 6 inches wide, and have serrated margins.

This species is the most widely grown and is known for its ability to change color according to the soil pH and aluminum content (see *Changing Flower Color*, p.2-3).

Panicle Hydrangea (H. paniculata)

This hydrangea can be a 10- to 15-foot shrub or up to a 25-foot tree. Leaves are 5 inches long and turn bronze in fall. Flowers occur in 10- to 15-inch clusters.

Early blooms are white but slowly change to pink in the fall. The blooms are cone, or panicle, shaped, not ball shaped or lace capped. These hydrangeas grow well in full sun.

Panicle hydrangeas are commonly referred to as "Peegee" hydrangea. This name was derived from the cultivar "Grandiflora," which was the first introduced of this species. Technically, "PeeGee" applies only to this cultivar.

Oakleaf Hydrangea (H. quercifolia)

This shrub grows to 6 to 10 feet tall and has deeply lobed, oak-like, 8-inch leaves, which turn reddish bronze in fall. The white-flowered panicles turn pinkish as they age. This species will tolerate sun but prefers some shade. Oakleaf hydrangea spreads by stolons to form colonies. This species is commonly found in upland regions of Mississippi.

Mountain Hydrangea (H. serrata)

Mountain or sawtooth hydrangea is similar to big leaf hydrangea except it is a smaller, more compact shrub with smaller leaves and flowers. It is also more winter hardy than bigleaf hydrangea. It is a deciduous shrub that typically grows 3 to 5 feet tall with a rounded habit. The leaves are dark green, ovate, and up to 6 inches long. They have a toothed, or serrated, margin. Flowers are usually lace caps but can be mopheads. They bloom slightly earlier than bigleaf hydrangeas.

Smooth Hydrangea (H. arborescens)

Smooth hydrangea is a native plant found in Mississippi. Smooth hydrangea is a shrub 5 to 6 feet high with weak twigs, slender leaf stems, and thin leaves. The leaves are 3 to 6 inches long and can be oval or heart-shaped, with a sharply toothed margin. The small, greenish white flowers bloom from May to June in loose, broad clusters.

The stem has a tendency to peel off in several layers of thin, different-colored bark, hence the popular name "sevenbark." The root is roughly branched and when fresh very juicy, but when dry very hard and tough. Smooth hydrangea spreads by stolons to form colonies.

Climbing Hydrangea (H. anomala subsp. petiolaris)

The climbing hydrangea is a deciduous vine that climbs using clinging aerial rootlets. Leaves are roundish and 2 to 4 inches long. Flowers are white and about 6 to 10 inch across. They are corymbed, or flat-topped, and give a lacecap effect. The outer flowers are 3 to 5 petal-like sepals, and the inner flowers are small and dull white. With its exfoliating, cinnamon-brown bark and long-lasting flower bracts, it is attractive even in winter. This species might not grow well in the southern part of the state.

Planting Sites

Hydrangeas prefer to grow in well-drained soils containing plenty of organic matter. Most species prefer warm, morning sun and cooler, afternoon shade. Avoid deep shade. Flower production is better with about 5 hours of direct sunlight. Bigleaf, oakleaf, mountain, and smooth hydrangeas especially should not be planted in hot, dry, exposed sites. Panicle hydrangea is the one species that grows better in full-to-part sun.

Container-grown plants can be planted any time of the year. However, fall planting is best because it gives the plant several months to become established before the next growing season. Early spring is the next best planting time. If planted in summer, proper watering is critical.

Make the planting hole at least two times wider than the container but only as deep as the root ball itself. Amending the native soil with 25 to 50 percent organic matter, such as peat moss, compost, or pine bark, is beneficial. If drainage is a problem, a raised planting bed might be needed. After planting, apply 2 to 3 inches of mulch to control weeds and conserve moisture.

Water Management

All hydrangeas prefer consistent soil moisture, but do not overwater them. Hydrangeas, especially the bigleaf and smooth, are water-demanding plants. Their large, soft leaves wilt quickly in the hot sun, even when well watered. Afternoon shade is a must for both bigleaf and smooth hydrangeas.

Oakleaf hydrangea is especially sensitive to saturated soils. Root rot of hydrangeas is a common problem in poorly drained soils or after lengthy rains. Even large, established plants may die in this situation.

Any nonestablished plants need extra attention to water needs. A 2- to 3-inch layer of mulch helps conserve water loss and keep the root system cool. One inch of water per week, either by rainfall or irrigation, is recommended for best productivity and plant health.

Changing Flower Color

Gardeners have a color choice only with bigleaf and mountain hydrangeas, which can be pink, purple, or blue. Bloom color and intensity depends on the specific cultivar, weather condition, soil pH, and the aluminum content in the soil. Aluminum availability is determined by the soil pH. Gardeners can adjust the soil pH to influence color.

In soils with a pH of 5 to 5.5, flower color is blue. In less acidic soils, or those with a pH of 6 to 6.5, flower color is pink. Soil with a pH of between 5 and 6 may produce rose to purple flowers, depending on the hydrangea species.

A quick way to influence soil pH for an individual plant is to apply a liquid soil drench. To make pink flowers turn blue, dissolve 1 tablespoon of aluminum sulfate in a gallon of water and drench the soil around the plant in March, April, and May. To make blue flowers turn pink, dissolve 1 tablespoon of hydrated lime in a gallon of water and drench the soil around the plant in March, April, and May. Do not increase the amounts of the color change additives. Aluminum in high doses will harm hydrangea plants. Be careful when applying and do not get these chemicals on the leaves.

The more practical and long-term method of color change is to make a fall application of either 1 cup dolomitic lime per 10 square feet or 1/2 cup sulfur per 10 square feet.

Ultimately, cultivar selection and care determine the outcome. Remember that white-flowered cultivars do not respond to the pH of the soil. Occasionally, however, white-flowered cultivars will sport a pink or blue eye, depending on aluminum availability.

Fertilization

Hydrangeas respond best to several light fertilizer applications during the growing season. Apply a general-purpose fertilizer, such as 8-8-8, 10-10-10, or 13-13-13, in March, May, and July. Apply at a rate of about 1/4 cup for small plants or 1 to 2 cups for very large shrubs. An alternative is to use a slow-release fertilizer like 12-4-6 or 8-8-8 mixed into surface layers of mulch. Be careful not to add too much nitrogen fertilizer because it can decrease flower production.

Remember that aluminum content in the soil affects flower color on bigleaf and mountain hydrangeas. If you want to encourage blue flowers, use fertilizers low in phosphorus. Phosphorus ties up aluminum, making it unavailable for root uptake and leading to pink flowers. The phosphorus content of a fertilizer is indicated by the middle number (12-4-6) in fertilizer formulation.

Pruning

Before pruning your hydrangea, you must know which species it is and flowering habit it has. Bigleaf (both mophead and lacecap), oakleaf, and mountain cultivars bloom on "old wood," or stems formed the previous year. Usually these species require very little pruning. When necessary, these cultivars should be pruned shortly after flowering to avoid removing developing buds. The next year's flower buds begin forming in August.

For plants older than 4 years, you might want to prune about 1/3 of older stems to the ground and head back other shoots every year. This will improve plant vigor, help maintain size, and encourage branching, which will increase bloom volume.

In 1998 a reblooming (remontant) hydrangea, trademarked as Endless Summer 'Bailmer', was identified and released. These remontant types produce flowers on old and new growth and therefore do not lose seasons of blooms to improper pruning or late spring freezes. Since then, other cultivars have been developed that rebloom (see Description of Hydrangea Cultivars).

Climbing hydrangea blooms on old wood but can be pruned back in the first years after planting to reduce lanky, leggy growth. Flowering will be sacrificed during this time, but the plant will have a more compact, fuller structure and flower display later.

Both smooth and panicle hydrangeas bloom on new wood. They can be cut to any height in late winter or early spring. The height you choose to prune these hydrangeas is strictly personal preference. Pruning after initial flowering can even stimulate a second blooming period. Panicle hydrangeas can be grown in tree form.

Failure to Bloom

Failure of hydrangeas to bloom can be attributed to any or all of the following causes:

- Cold injury to buds in winter or early spring
- Drought in late fall or winter
- Pruning in late summer or winter (applies to non-remontant type bigleaf, oakleaf, mountain)
- Too much shade
- Too much nitrogen fertilizer

Propagating Hydrangeas

Large numbers of hydrangeas are usually propagated by cuttings. Softwood cuttings can be taken from June to August and rooted under mist or covered by a plastic tent. Hardwood cuttings can be taken from December to February. Treat cuttings with a rooting hormone to improve root quality.

Small numbers of hydrangeas can be propagated by simple layering. In early to mid summer, dig a 1- to 2-inch deep trench near the plant and bend a low hanging branch down into it. To improve rooting, cut partway through the stem area that is to be covered by soil. Cover the wounded branch section with soil and weigh it down with a brick. The branch tip should stick 6 to 12 inches out of the ground.

Because smooth and oakleaf hydrangeas spread by underground stems to form colonies, they are easy to propagate by division during the dormant season.

Advanced gardeners might want to try growing hydrangea from seeds. Any plant arising from seed is considered a new cultivar. If you wish to try growing from seed, collect them in the fall when the seedpods are dry and beginning to open. Hydrangea seeds are brown and dust-like. Capture the seeds by placing a clear plastic bag over the dry flower head. Cut the head from the plant, then invert it and shake the seeds

out. Store the seeds in the refrigerator until spring. Sprinkle the seeds onto the growing media but do not cover. Seedlings should appear in 2 to 4 weeks.

Disease and Insect Pests

Hydrangeas are susceptible to leaf spots, blights, wilts, and powdery mildew. Various fungal leaf spots appear during hot, wet weather or on plants that receive overhead watering. Watering through a drip hose or other low-input method will reduce the incidence of these diseases.

Plants grown in containers or in poorly drained soils are susceptible to Phytophthora root rot. Maintain good drainage and uniform watering to reduce the incidence of this disease.

Powdery mildew can be a problem in the fall, when days are warm and nights are cool and humid. Good air movement to reduce leaf wetness is helpful. Bigleaf hydrangeas are the most susceptible of the species. Newer varieties are being screened for resistance to this disease. Fungicide applications might be necessary in some situations.

Insect pests on hydrangea include aphids, leaf tiers, rose chafers, oyster scale, and red spider mites. Aphids can infest the new spring growth, causing stunting and leaf distortion. A buildup of sooty mold can also occur because of their infestation. Consult current Extension insect control guides for information about chemicals that control these pests.

Drying Hydrangea Flowers

Hydrangea flowers can be preserved for year-round enjoyment. There are several methods of preserving the flowers. The simplest is to leave them on the plant until they dry naturally. The disadvantage of this method is that bad weather could ruin the blooms.

Simple air-drying can be very effective. Wait to harvest the flowers until they begin to dry on the plants and feel papery to the touch. Cut the flowers, leaving stems about 12 inches long. Remove the leaves and put the stems in a bundle. Hang bundles upside down in an airy, dim place.

Hydrangeas preserved by air-drying do not retain the natural pink or blue colors. To get these natural colors, you will need to dry the flowers using silica gel or a mixture borax and cornmeal as a drying agent. Some gardeners report success using cat litter.

Silica gel is available at most craft stores. It looks like white sand with blue crystals in it. This is an expensive, time-consuming method, but the results are very natural-looking pink or blue flowers. The borax-to-cornmeal ratio is 3 parts borax to 2 parts corn meal. White corn meal works better than yellow.

Whichever drying material you use, follow the same procedure. Always use blossoms that are free of water. You will need a large, plastic, sealable container.

Add a base of drying agent to the bottom of the container. Hold the bloom upside down and sift in enough of the material to completely cover the bloom. The entire bloom needs to be suspended in the drying agent. Seal the container for at least 4 days. Do not leave the flowers in the drying agents too long, or the flowers will become brittle. Gently pour the drying agent onto a newspaper. The drying agent can be reused if you heat it in the oven to remove the moisture it absorbed from the flowers. The dried flowers should be kept in a plastic bag until used for decorating.

Description of Hydrangea Varieties for Mississippi Gardens

There are many varieties of hydrangea in the marketplace, and more come out every year. The varieties discussed below are just a few of that vast number. The varieties listed here have all been grown successfully under southern growing conditions. Their growing sites are designated in this publication as follows:

- **MST** – test grown in Mississippi at the Truck Crops Experiment Station or USDA-ARS Southern Horticultural Laboratory
- **MSS** – grown in Mississippi gardens by advanced gardeners
- **OTH** – grown by researchers in other Deep South states (Alabama, Georgia, northern Florida) that have growing conditions similar to Mississippi's.

Bigleaf or French Hydrangeas

(*Hydrangea macrophylla*)

Mopheads (*H. macrophylla* var. *macrophylla*)

'All Summer Beauty' – This plant's leaves are dark green in summer and yellow in the fall. It is a relatively small plant, 3 to 4 feet tall. In acidic soil, the flowers are rich blue. They are different shades of pink or blue in near-neutral soil. This cultivar will supposedly flower on the new growth of the season. **MST**

'Ayesha' – This plant grows about 6 feet tall and has medium green foliage. Its flower petals have raised edges that curve inward, making blooms resemble clusters of partly open popcorn kernels. The flowers also have a slight fragrance. **MST**

'Endless Summer™ 'Bailmer' – This is the first selection of the Endless Summer series of repeat blooming hydrangeas. In trials in northern Florida, flower heads were colorful for 33 weeks. **MST, OTH**

'Blushing Bride' – This new, white flowering selection is from the Endless Summer family. Pure white flowers mature to soft pink. This plant re-blooms on new wood. **MST**

'Cityline™ Berlin' – This is a new dwarf hydrangea with compact growth habit. Although it is the



Hydrangea macrophylla var. *macrophylla* 'Endless Summer'

largest of the series, it should never need pruning to maintain a neat, tidy habit. The bright fuchsia flowers under high pH are very large and held on sturdy stems that do not flop. This plant blooms on old wood and has excellent mildew resistance.

MST

'Cityline™ Paris' – 'Paris' has glossy, dark green foliage and large flowers that emerge green and red and mature to a dark, pinkish red under high pH conditions. **MST**

'Cityline™ Vienna' – This is a compact plant with thick stems and large flowers. Flowers emerge green and mature to a clear pink. On acidic soils or in a container with aluminum sulfate, the flowers are a rich blue. **MST**

'Cityline™ Venice' – This plant is very compact with glossy, dark green foliage and large flowers that emerge green and fuchsia. On acid soils or in container with aluminum sulfate, the flowers are a rich blue. **MST**

'Dooley' – A medium-sized plant considered to be a re-blooming hydrangea. This plant originated in the garden of former University of Georgia coach Vince Dooley. **OTH**

'Europa' – This plant grows 4 to 6 feet tall and has large flower heads. It is good for cutting and dried flowers. **MST**

'Generale Vicomtesse de Vibraye' – This plant features tall, slender, speckled stems; reddish nodes; and flat, medium-green leaves. It often grows more than 6 feet tall. The plant is free flowering with large, rounded heads. Flowers are produced on terminal and side shoots. This flower is one of the easiest for drying. If they are picked pink, they will dry lime green. If they are picked blue, they will dry blue-green. **MST**

'Merritt's Supreme' – Three to four feet tall and wide, this variety is forced in a greenhouse and sold as a houseplant. It appears to do well in gardens in central Mississippi. **MST**

'Nikko Blue' – This is the common industry standard and a good plant. The flower heads are tight, rounded, and plentiful. Flowers have a good blue color in acidic pH. This cultivar starts blooming in early summer and is very shade tolerant. **MST**



'Nikko Blue'

'Oregon Pride' – This cultivar has deep red stems and dark green leaves. The blooms are deep red to purple and sit above the foliage. This cultivar is not as cold hardy as some, so in northern areas of the state should be planted in protected areas. 'Oregon Pride' is a sport of Merritt's Supreme but grows larger. **MST**

'Pia' – This is a dwarf that reaches only about 2 1/2 feet tall and wide when grown under ideal conditions. Inflorescences are also small. This plant works well in a container. The flowers are deep pink to blue depending on soil pH. Changing the flower color to blue is more difficult with this cultivar. **OTH**

'Penny Mac' – This variety originated in the garden of and is named in honor of Penny McHenry, founder of the American Hydrangea Society. It is a reblooming type. **OTH**

Lacecap (*H. macrophylla* var. *normalis*)

'Fuji Waterfall' – This plant grows to about 5 feet with dark green leaves. The semi-double, white to pale pink flowers grow on 2-inch long petioles, making a cascade effect. The flowers are fragrant and can be up to 12 inches wide. **MST, OTH**

'Kardinal' – This is a compact plant that gets about 5 feet tall with glossy, dark green leaves. The large lace-cap flowers are in one or two circles of florets that are red, burgundy, or purple. **MST**

'Lady in Red' – A new cultivar, 'Lady in Red' has red stems, petioles, leaf veins, and leaves. It features lacecap flowers that are pinkish-white when they open and turn rose as they mature. The foliage turns reddish-purple in the fall. The plant is compact and mounded and has high mildew resistance



'Lady in Red'

and sturdy stems. From the University of Georgia.
MST, OTH, MSS

'Light-O-Day' – 'Light-O-Day' is a new variegated form with beautiful blue or pink lacecap flowers. In addition to the colorful summer blooms, the foliage has a good, reliable color. It is part of the Endless Summer family but does not rebloom.
OTH

'Shamrock' – This hydrangea has double pink or blue flowers that turn to red or dark blue later in the season (midsummer to fall). It grows 3.5 to 5 feet tall and wide in full sun to partial shade. **MST**



Hydrangea macrophylla var. *normalis* 'Shamrock'

Mountain Hydrangea

(*H. serrata*)

'Blue Bird' – This lacecap is pink to violet-blue depending on soil pH. It has large, flat, dark green leaves that turn brilliant copper-red in the fall. Late-blooming flower heads tend to turn upside down. The plant grows to 5 feet tall. **OTH**

'Tokyo Delight' – Flowers open white and deepen to pink, sometimes with spots. They have serrated sepals. The blooms are small but plentiful and layered. The leaves are dark green and develop hints of red and purple in the fall. **MST**



Hydrangea serrata 'Tokyo Delight'

Panicle Hydrangea

(*H. paniculata*)

'Chantilly Lace' – This is a new cultivar from the Center for Applied Nursery Research in Augusta, GA. It has large, white, sterile florets that fade to pink. In tests, this variety survived submersion in 8 feet of salt water and rebloomed in late fall. **MSS, OTH**

'Limelight' – Flowers and leaves often have a lime green tint to them. 'Limelight' starts to bloom in mid-June. The flower heads range from 6 to 12 inches and are held upright on the shrub. The blooms are well distributed, making a very nice display. **MST, OTH**

'Little Lamb' – 'Little Lamb' is a smaller, panicle-type cultivar with large, white, delicate-looking flowers in mid-summer. Panicles mature to a rose color. This is an excellent hydrangea for growing in full sun. 'Little Lamb' starts to bloom in mid-June. It is beautiful as a fresh or dried flower. **MST**

'Quick Fire' – 'Quick Fire' blooms earlier than most cultivars in this species. It produces numerous white flowers that turn to a deep pink. It is 6 to 8 feet tall and 3 to 5 feet wide and can be grown in full sun to partial shade. **MST**



Hydrangea paniculata 'Quick Fire'

Oakleaf Hydrangea

(*H. quercifolia*)

'Alice' – This variety produces creamy white, 10- to 14-inch inflorescences. It tolerates full sun and turns burgundy-red in fall. This selection is from the University of Georgia. **MST, OTH**

'Snowflake' – Snowflake is a very special oakleaf hydrangea because its double sepals make blooms appear to be double. The florets continue to open throughout summer, giving 'Snowflake' a longer bloom time than any of the single-sepal varieties. At Aldridge Gardens in Hoover, AL, plants grow nearly 10 feet tall. The huge panicles hang upside down. **MSS, OTH**



Hydrangea quercifolia 'Snowflake'

Smooth hydrangea

(*H. arborescens*)

'Annabelle' – This is a stunning white hydrangea, often producing heads over 10 inches wide. Blooms droop when wet. The flower heads turn to pale green as they mature. **OTH**



Hydrangea arborescens 'Annabelle'

'White Dome' - This selection has very large, dome-shaped blooms and large, deep green leaves. The blooms appear from midsummer to late summer. The plant is quite sturdy and holds its blooms upright even when wet, unlike 'Annabelle.' **MST**

Climbing Hydrangea

(*H. anomala* subsp. *petiolaris*)

There are some named varieties in the trade, but usually climbing hydrangeas are sold only as a species at large retail stores.

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