



# Hydrangea Selection and Care

*Susan Fox, Lyon County Extension Service*





# Hydrangea

- 49 species of hydrangeas
- Includes shrubs and vines
- 4 species native to North America?
- 6 types commonly grown in US
- Roots are shallow, a 2-3" layer of bark mulch is helpful
- Bloom is best for most hydrangeas with 4 hours of sun, morning is preferred.
- Most work well as border shrubs and in masses.



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# Landscape Hydrangea Species

- Bigleaf hydrangea  
*Hydrangea macrophylla*
- Panicked Hydrangea  
*Hydrangea paniculata*
- Smooth Hydrangea  
*Hydrangea aborescens*
- Oakleaf Hydrangea  
*Hydrangea quercifolia*
- Mountain hydrangea  
*Hydrangea serrata*



# Basic Care

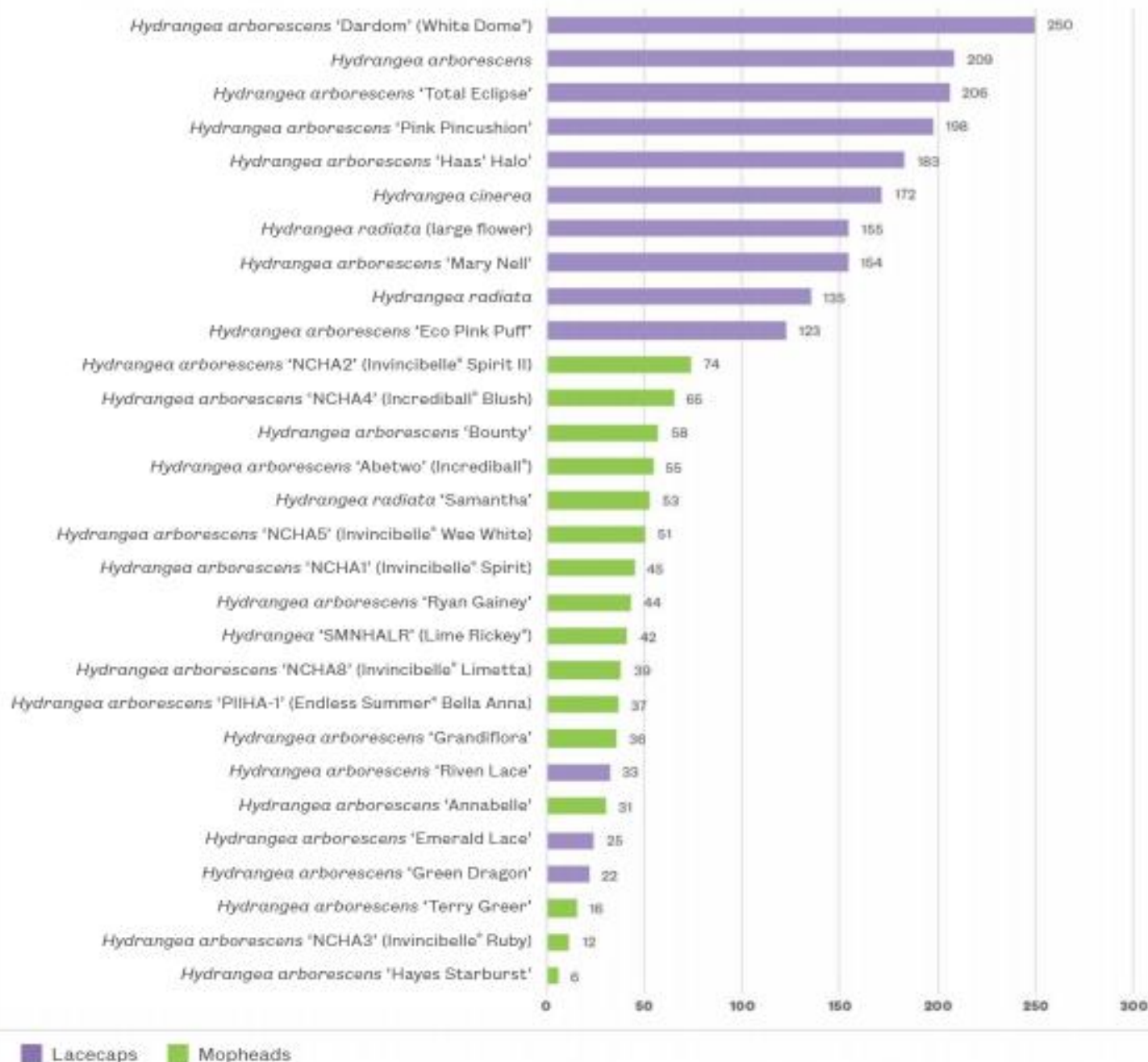
- Natives are woodland plants that generally grow in moist areas, along ravines, etc.
- Grow the appropriate size for the space to avoid excessive pruning.
- Crowding may increase disease issues (powdery mildew, Cercospora)
- Relatively pest free when planted in the proper place.
- Most prefer soils with good moisture but that are well-drained, loamy.
- Grow in part shade but can tolerate full sun with good moisture.
- Flower best with 4 hours of sun.
- Flowers last 3-4 weeks in full sun, will last 6 weeks or more in part shade.
- Apply 3" of mulch for more even moisture.
- Prune to remove dead wood, deadhead flowers, rejuvenate by cutting very old stems at the base of the plant.
- Cold-sensitive cultivars can be wrapped for winter protection – caging with leaves and compost, mulching well.

# Wild Hydrangeas for the Mid-Atlantic

A Sortable List for Home Gardeners

Scientific Name	Overall Rating	Flower Type	Pollinator Rating	Patented
<i>Hydrangea arborescens</i>	4.0	lacecap	★ ★ ★	No
<i>Hydrangea arborescens</i> 'Abetwo' (Incrediball®)	4.5	mophead		Yes
<i>Hydrangea arborescens</i> 'Annabelle'	4.0	mophead		No
<i>Hydrangea arborescens</i> 'Bounty'	4.3	mophead	★	Yes
<i>Hydrangea arborescens</i> 'Dardom' (White Dome®)	4.2	lacecap	★ ★ ★	Yes
<i>Hydrangea arborescens</i> 'Eco Pink Puff'	3.6	lacecap	★ ★	No
<i>Hydrangea arborescens</i> 'Emerald Lace'	3.2	lacecap		No
<i>Hydrangea arborescens</i> 'Grandiflora'	4.1	mophead		No
<i>Hydrangea arborescens</i> 'Green Dragon'	3.1	lacecap		No
<i>Hydrangea arborescens</i> 'Haas' Halo'	5.0	lacecap	★ ★ ★	Yes
<i>Hydrangea arborescens</i> 'Hayes Starburst'	3.2	mophead		No
<i>Hydrangea arborescens</i> 'Mary Nell'	4.2	lacecap	★ ★	No
<i>Hydrangea arborescens</i> 'NCHA1' (Invincibelle® Spirit)	3.7	mophead		Yes
<i>Hydrangea arborescens</i> 'NCHA2' (Invincibelle® Spirit II)	4.5	mophead	★ ★	Yes
<i>Hydrangea arborescens</i> 'NCHA3' (Invincibelle® Ruby)	4.0	mophead		Yes
<i>Hydrangea arborescens</i> 'NCHA4' (Incrediball® Blush)	4.5	mophead	★	Yes
<i>Hydrangea arborescens</i> 'NCHA5' (Invincibelle® Wee White)	4.0	mophead		Yes
<i>Hydrangea arborescens</i> 'NCHA8' (Invincibelle® Limetta)	3.6	mophead		Yes
<i>Hydrangea arborescens</i> 'PILHA-1' (Endless Summer® Bella Anna)	3.5	mophead		Yes
<i>Hydrangea arborescens</i> 'Pink Pincushion'	3.6	lacecap	★ ★ ★	No
<i>Hydrangea arborescens</i> 'Riven Lace'	3.1	lacecap		No
<i>Hydrangea arborescens</i> 'Ryan Gainey'	2.9	mophead		No
<i>Hydrangea arborescens</i> 'Total Eclipse'	4.2	lacecap	★ ★ ★	No
<i>Hydrangea cinerea</i>	3.8	lacecap	★ ★	No
<i>Hydrangea radiata</i>	2.5	lacecap	★ ★	No
<i>Hydrangea radiata</i> (large flower)	3.6	lacecap	★ ★	No
<i>Hydrangea radiata</i> 'Samantha'	3.1	mophead	★	No
<i>Hydrangea radiata</i> 'Terry Greer'	3.3	mophead		No
<i>Hydrangea</i> 'SMNHALR' (Lime Rickey®)	4.6	mophead		Yes

# AVERAGE POLLINATOR VISITS 2019 & 2021





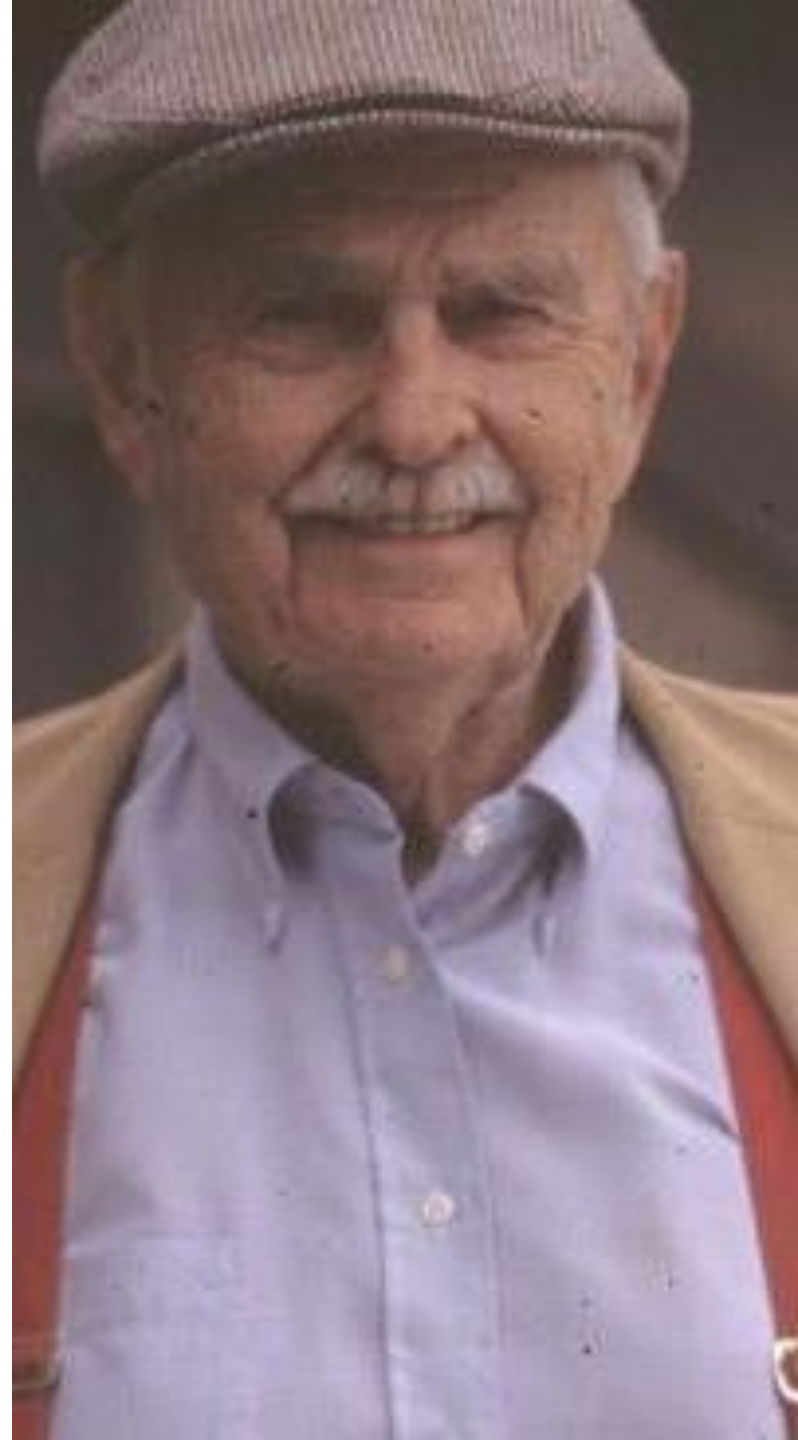


# Plants of Merit

- Plants of Merit are plants selected for their outstanding quality and dependable performance for the lower Midwest. They grow consistently well in *Missouri, central and southern Illinois, and the Kansas City Metro area.*
- **Plants of Merit Selection Criteria**
- Easy to grow and maintain
- Not known to be invasive in our area
- Resistant or tolerant to diseases and insects
- Has outstanding ornamental value
- Reasonably available to purchase

# Theodore Klein Awards

- **A program promoting superior woody and herbaceous plants for Kentucky Landscapes.**
- Named for one of the patriarchs of the Kentucky nursery industry, the Theodore Klein Plant Awards names each year plants that offer excellent ornamental and performance characteristics in the Kentucky climate.
- Award winners are selected each year by a panel of plant professionals representing Yew Dell, the Kentucky Nursery and Landscape Association, University of Kentucky Landscape and Nursery program, and the Kentucky Department of Agriculture.





# Deer Resistance –

1. Most Resistant – Bracted hydrangea, *H. involucrate*: It's fuzzy! Blooms late.
2. Bigleaf and Mountain, new Cascade Hydrangeas
3. Least resistant are the Climbing Hydrangeas and False Hydrangea Vine but deer can only browse to 6'
4. Say farewell to the flowers – Oakleaf Hydrangea. Gatsby Pink blooms later and may have less damage.
5. Panicle hydrangeas are a favorite of deer.
6. Smooth hydrangeas are the first choice of deer everywhere, especially Annabelle, Snowball.





## Pruning

- Blooms initiated the previous season the plant will bloom on old wood. *Prune after bloom.*
- Blooms initiated current season, blooms on new growth. *Prune late winter.*
- Some new cultivars bloom on new and old wood.
- Oakleaf hydrangeas only as needed.
- Prune back to a set of buds.

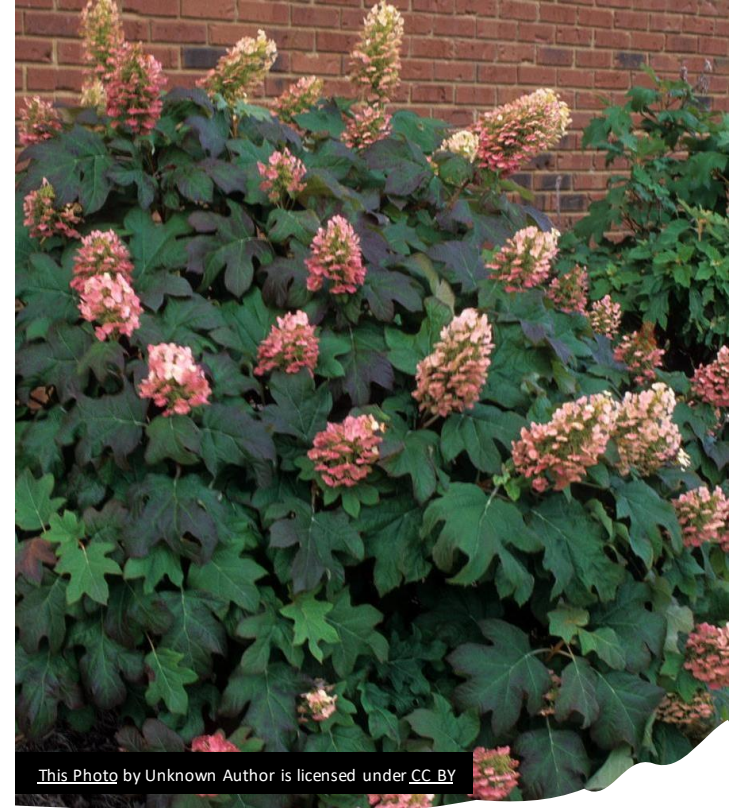




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Photo Missouri Botanical Garden



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# Oakleaf Hydrangea



## *Hydrangea quercifolia* Oakleaf Hydrangea

- Native to southeastern US, Zones 5-9
- Tolerant of dry soils but prefers medium moisture, well-drained soils. Cannot take wet soils.
- Height 6-8', spread 6-8'
- Blooms May – July, blooms are white to purplish pink, pyramidal shape
- Full sun to part shade. Heavier sun strengthens the wood on heavier flower selections like 'Harmony' and 'Snowflake'. Will require more water in full sun.
- *Blooms on old wood.*
- Leaves are 3 to 8" long x 3 to 8" wide, 3 to 7 lobes
- Can get some powdery mildew
- Fall leaf color is one of the plants best features, deep red, orange to purple depending on the cultivar.
- Winter interest, exfoliating bark
- Winter damage at -10 degrees.



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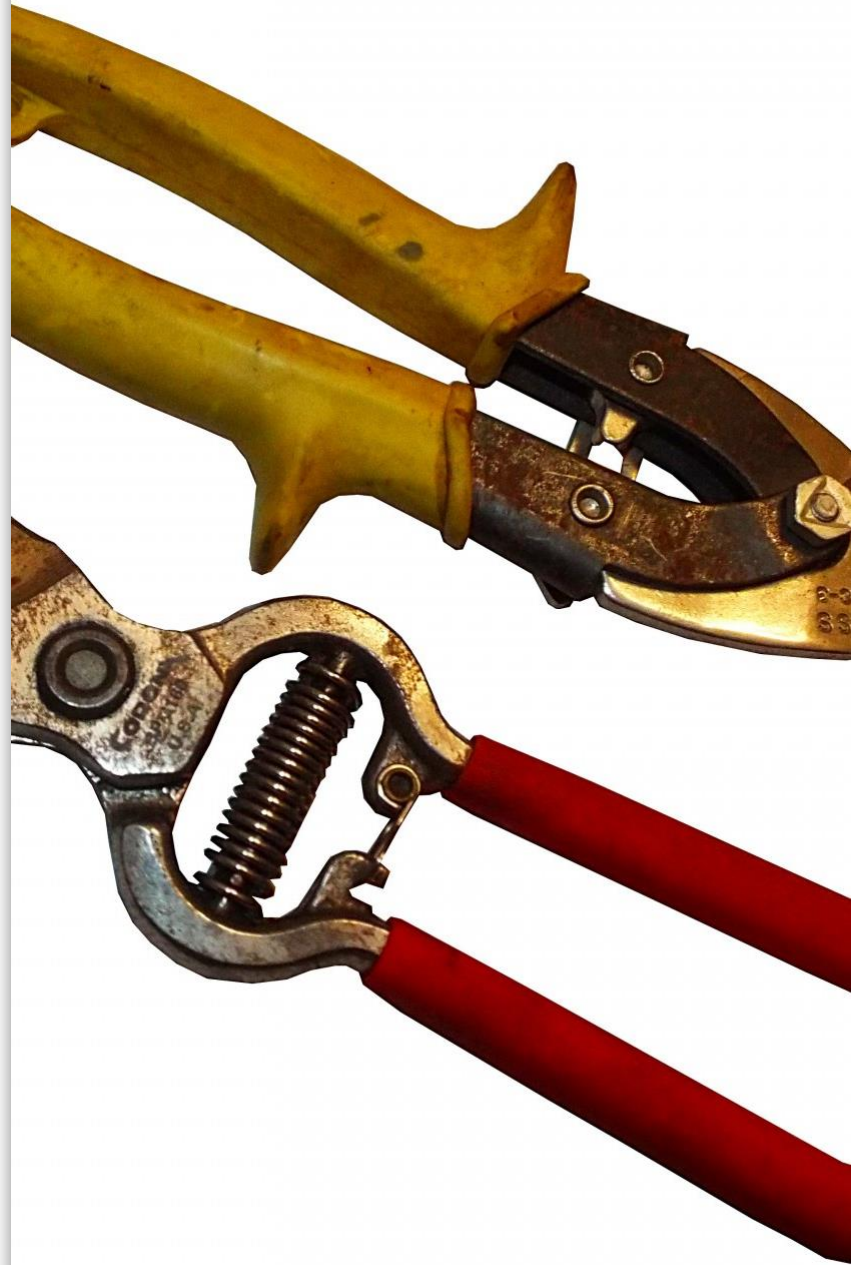


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# Oakleaf Hydrangea Care

- Low maintenance
- Prune as little as possible
- Light pruning as needed after flowering, finish by the end of July so that next year's flower buds can form.
- Suckers can be removed as needed.
- Fertilize lightly in late April and June or once in mid-fall.
- Propagation is easiest by digging up a sucker that is out from the colony. Layering will also work, by bending a stem over in early summer, scrape or scratch it a bit, cover with soil and weight down with a brick or rock, leave 6-8" of tip exposed. Dusting with rooting powder will increase rooting. Plants can be dug-up and transplanted in the fall or next spring.



# Why isn't my oakleaf hydrangea blooming?

- Plant less than 5 years old
  - Needs more time to mature
- Plant 5 or more years old
  - Did you cut it back?  
Oops! Flower buds were cut off. Avoid pruning.
  - Deer damage or low light





## ‘Alice’

- 5-8’ tall and wide
- A Michael Dirr introduction
- Upright, stoloniferous
- Large arching panicles, 10-14” long
- Leaves up to 8” long, bronze, maroon & purple fall color.

## ‘Snow Queen’

- 4-6’ tall, 6-8’ wide
- Flowers white changing to pink, showier than the species
- 4-12” long, turn purplish pink
- Flower stems tend to be stiffer and stay upright through soaking rains

# Oakleaf Hydrangea 'Little Honey'

Theodore Klein Winner, 2014

- Dwarf cultivar, 3-4' tall and 3-5' wide
- Yellow green foliage in spring matures to chartreuse in summer
- Blooms June-July on old wood
- White flowers with pink tones
- Fall color – reds, burgundy
- Peeling bark



Form in bloom

[CC BY 2.0JC Raulston Arboretum](#)

# Oakleaf Hydrangea 'Ruby Slippers'

Plant of Merit, 2020

Theodore Klein Winner, 2014

- Compact form, 3-4' tall, 3-5' wide
- Blooms white, matures to ruby red, up to 9" long
- Fall leaf color mahogany red
- Introduction of the US National Arboretum



# Oakleaf Hydrangea "Pee Wee"

Theodore Klein Winner, 2014

- 3-4' tall and 2-3' wide
- Smaller leaves than other oakleafs
- White flowers fading to pink with age





# Smooth Hydrangea

*Hydrangea arborescens*

Plant of Merit, 2004

Native Plant

# Smooth Hydrangea

- Zones 3-9
- Height 3-5', width 3-6'
- Water – Medium, prefers moist, well-drained soils
- Part shade, tolerates deep shade
- Tolerates full sun with consistent moisture
- Blooms on new growth, can prune to the ground in the spring to control size.
- Large flower clusters, white, cream, lime green, pink selections, (corymbs, 2-6" across) bloom early to mid June, up to 1' across! Mophead or lacecap.
- Showy outer flowers are sterile, inner flowers have nectar (lacecaps)
- Attracts bumble bees, azures, hairstreaks.
- Susceptible to bud blight, bacterial wilt, leaf spots, mold, rust, powdery mildew, scale, mites, nematodes.
- Most cold susceptible species.



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# Smooth Hydrangea Care

- Prune back by 1/3 the end of winter/ early spring, remove spindly side branches, dead wood
- Can be cut down to 4" before new growth emerges for more uniform, formal look.
- Selective pruning of new growth mid-spring reduces the number of stems and will result in larger blooms, 12" or larger.
- Unpruned plants will have more flowers that are smaller, more uneven.
- One application of fertilizer in late winter.
- Propagation is easiest by digging up a sucker that is out from the colony. Layering will also work, bend a stem over in early summer, scrape or scratch it a bit, cover with soil and weight down with a brick or rock, leave 6-8" of tip exposed. Dusting with rooting powder will increase rooting. Plants can be dug-up and transplanted in the fall or next spring.



# Why isn't my Smooth Hydrangea blooming?

If less than 2 years old it needs more time to develop. Mulch, keep well-watered.

If 2 years and older,

< 4 hours of sun, Needs more sun

>4 hours of sun

- Did you cut it back? When?
- Fall deer damage or low light
- Late spring/summer – Buds removed, blooming may be delayed or not occur.
- Pruning should be in late winter or early spring

## *Hydrangea aborescens*

### ‘Annabelle’

- Larger flowers than species
- 3-5’tall
- Clusters of sterile white flowers, rounded heads (corymbs), 8-12” across
- Blooms in June for up to 2 months
- Naturally occurring cultivar discovered in the wild, Anna, Illinois



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## *Hydrangea aborescens*

### ‘Abetwo’ Incredible

- 4-5’tall and wide Plant of Merit, 2018
- Clusters of sterile white flowers, rounded heads (corymbs), up to 12” across, 4x the flowers per head compared to Annabelle.
- Flowers emerge lime green, mature to pure white.
- Thicker, more upright stems
- Blooms in June for up to 2 months





***Hydrangea*  
*arborescens* 'NCHA2'  
Invincibelle® Spirit II  
(#PP28,316)**

Theodore Klein Winner, 2019

Haas Halo is a white lacecap variety with a large flower. It attract pollinators. May be reduced in size by cutting back in the spring from from 7' to 4' .



*Hydrangea macrophylla*

## Bigleaf Hydrangea

- Hardy zones 6-9
- Height & width 4-6'
- Most garden cultivars parents are native to Japan, temperate climate without extremes.
- Plant in a sheltered area, part shade, full sun is tolerated if consistently moist
- Blooms July to August
- Flowers are pink, blue, purple, white
- Can alter flower colors blue/pink
- Flowers in the lacecap and mophead (hortensia) forms.
- Blooms on old wood
- May not bloom if there is winter damage due to sudden, wide temperature swings. Bloom can be variable.
- Some newer cultivars bloom on new and old wood. Choose these varieties where late frosts are a problem.







Expand your Hort vocabulary:  
**Remontant**,  
flowering more than  
once in a season.

Some cultivars are more  
strongly remontant than  
others.

- Top repeat bloomers  
include:
  - ‘Blushing Bride’,  
‘David Ramsey’,  
‘Decatur Blue’,
  - ‘Penny Mac’,  
‘Nantucket Blue’
- Remontant lacecap:  
Endless Summer “Twist  
and Shout”

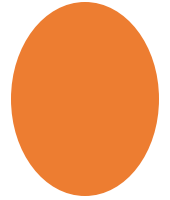
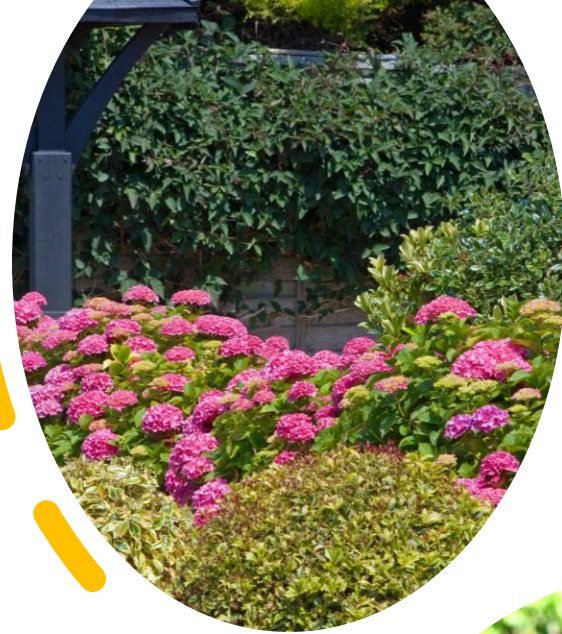


Superior performing bigleaf hydrangeas as evaluated by Plant Introductions Inc., Watkinsville, Ga include:

- Top Hortensias: 'All Summer Beauty', 'Ami Pasquier', 'Frillibet', 'Generale Vicomtesse de Vibraye', 'Mme. Emile Mouillere', 'Mousseline', 'Nikko Blue'.
- Top Lacecaps: 'Blue Wave', 'Lanarth White', 'Lilacina', 'Veitchi', 'White Wave'



## Endless Summer Series



## Let's Dance Series

- Blue Jangles 1-2' tall and wide
- Big Band 2.5' tall and wide, bigleaf hydrangea
- Arriba (pink) 2-3' tall and wide, hybrid bigleaf/mountain cross
- Can Do! (purple) 3-4' tall and 3' wide
- Rhythmic Blue 3-4' tall and wide





# Bigleaf Hydrangea Care

- Highest water needs of the hydrangea species.
- May wilt midday in full sun, even with good soil water.
- Little pruning needed, prune after bloom to a bud pair.
- In mature plants prune up to 1/3 of older branches to the base in early spring to rejuvenate the shrub.
- If major pruning is needed prune after flowers fade but no later than the end of July.
- Fertilize with several light applications, monthly until July works, or divide soil test recommendation into three applications, March, May, and June. Use low phosphorus fertilizer like 12-4-8.

# Flower Color: Changing Soil pH

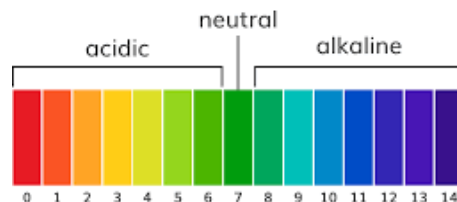
Excerpt from Alabama Extension Hydrangeas Publication

**Changing soil pH is a gradual process and requires a soil test for accuracy. If you want to experiment, try these recommendations:**

- Blue Flowers: Broadcast 1/2 cup of wettable sulfur per 10 square feet, and water into the soil to make flowers blue. It takes time to react with the soil. Do not overapply – soil pH's of 4 and lower can damage roots.
- Pink Flowers: Broadcast and water into the soil 1 cup of lime per 10 square feet. Raising pH takes longer than lowering pH. If you want pink flowers next year, apply lime in the fall.

**A faster option for changing flower color is to use liquid drenches.**

- Blue: Dissolve 1 tablespoon of alum (aluminum sulfate) in a gallon of water, and drench the soil around the plant in March, April, and May.
- Pink: Dissolve 1 tablespoon of hydrated lime in a gallon of water, and drench the soil around the plant in March, April, and May. Avoid splashing either of these solutions on leaves, bark, or your skin because they can burn.



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*Hydrangea*  
*macrophylla*  
'Nikko Blue'

- Height and spread 4-6'
- Blooms July to August for up to 2 months
- Mophead flowers in clusters of pink or blue, 4-5"







## Bigleaf Hydrangea Lack of Bloom

- Did you cut it back?
  - Yes - Ooops! Flower buds were cut off.
  - No – Cold climate, flower buds may have been killed
  - No – Too much shade or deer damage
- Reblooming hydrangeas need to reach a certain height to set new wood buds. Some rebloom better than others.



# *Hydrangea paniculata*

## Panicle Hydrangea

- Hardy USDA Zone 3-8
- Native to Asia – China, Japan
- Blooms on new wood
- Showy flower, large panicles, sharply pointed, conical, 6-8" long
- Can begin white and age to light green or pinkish-rose color
- Blooms July – September
- Full sun to part shade, tolerates full sun well
- Water is medium, prefers moist, well-drained soils, tolerates dry conditions
- Can train as a small tree or multi-stem shrub
- 'Grandiflora' can reach 25' tall, very cold hardy
- Very winter hardy
- Branches may arch downwards due to the weight of the flower, some selections have stiffer stems.
- Some susceptibility to bud blight, bacterial wilt, leaf spot, rust, mildew, aphids, mites.

Hydrangea paniculata research beds, full sun, no irrigation, University of TN Research Station, Jackson, TN



# Panicle Hydrangea Care

- Pruning is not required.
- Prune dormant plants late fall through early spring
- Cutting back to two buds can make plants look tidier and increase the size and number of blooms.
- Can also thin plants to 5-10 primary shoots for larger flowers
- Panicle hydrangeas can be pruned into a tree form. Remove branches that form on the trunk several times throughout the growing season.
- Fertilize lightly in late April and June or once in mid-fall.
- Can propagate by layering.
- Fertilize in late April and June.





# Why isn't my Panicle Hydrangea blooming?

Less than 2 years old needs more time to develop. Mulch, keep well-watered.

2 years and older,

- < 4 hours of sun, needs more sun
- >4 hours of sun
  - Fall – deer damage or low light
  - Late spring/summer – Buds removed, blooming may be delayed or not occur.
  - If cut back, pruning should be in late winter or early spring



# *Hydrangea paniculata* 'Limelight'

- Slightly more compact
- 6-8' tall and wide
- Flowers creamy white, mature to chartreuse-lime, become pink to rose before fading to beige
- Leaves are shades of red in the fall





*Hydrangea paniculata* 'Brido'  
Snow Flake

- Double white flowers
- 5-8' tall, occasionally to 12', spread 5-10'
- Showy, sterile flowers with multiple bracts or sepals.
- Fall leaf color maroon to purple.
- Introduction of Aldridge Nursery in Alabama

*Hydrangea paniculata*  
'Vanilla Strawberry'

- 6-8' tall, 4-5' spread
- Bloom July to September
- White blooms change to pink, then pinkish red
- Pinkish red color is usually retained for 3-4 weeks

Great Star

*Hydrangea paniculata*  
'Le Vasterival'

- Fertile flowers that are attractive to pollinators.
- Height and width 7'
- Rounded shrub form
- Full sun to part shade
- Rounded panicles of star-shaped flowers

# Dwarf Hydrangeas - Paniculata



- **Bobo**
- 2-4' tall, 3-4' wide
- Bred in Belgium
- Large white panicles, 11", pink to purple when mature
- Blooms July-September



- **Little Lime**
- 3-5' tall and wide
- From a Michigan breeding program
- Flowres 5" x 4", light green maturing to pink and burgundy in the fall
- Free branching, strong stems



*Hydrangea serrata*

# Mountain Hydrangea

- USDA Zone 6-9
- Native to Japan, Korea
- Height and spread 2-4'
- Medium water, part-shade
- Blooms on old wood, June to August
- Blooms are blue in acid soils, pink in alkaline soils
- Leaves contain a substance called phyllodulcin, which can be used as a sugar substitute. Used to make tea.
- Birds eat the seeds
- Some cultivars bloom on new and old wood. Choose these where late freezes/frosts are an issue.

Tiny Tuff Stuff  
18"x2' Height  
and Spread

Tuff Stuff Top Fun by Proven  
Winner, 3'x3' Height/Spread  
Blooms and reblooms on old  
wood until fall.



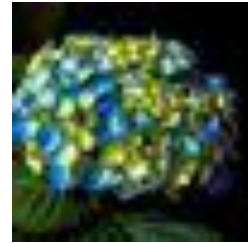
# Mountain Hydrangea Care


- If needed, prune after bloom to a pair of healthy buds
- Fertilize lightly in late April and June.
- Flowers are affected by aluminum uptake. Same recommendations as for Bigleaf Hydrangeas.
- Not blooming? See Bigleaf Hydrangea.



# References

- A Tennessee Landscape Contractor's Guide to Hydrangeas, UT Extension W 304
- Hydrangeas Demystified, Proven Winner Handout
- Selecting Hydrangeas for the Home Landscape, Ohio State University HYG-1263
- Hydrangea.com
- Missouri Botanical Garden Plant Finder
- Hydrangeas – Alabama A&M Blog
- Mt. Cuba Center Wild Hydrangea Research Report
- Native Plant Trust
- Biota of North America
- Lady Bird Johnson Wildflower Center
- North Carolina Extension Gardener Plant Toolbox





Thank you for attending! Questions?

‘Lady in Red’ Bigleaf Hydrangea, disease resistant.