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 Clemson Horticulture Major, Class of 2021  
 HORT 3080 Sustainable Landscape Garden Design Installation and Maintenance

### Bigleaf Magnolia

<b>Latin name:</b> <i>Magnolia macrophylla</i>	<b>Texture:</b> Course <sup>18,8</sup> .
<b>Common name:</b> Bigleaf Magnolia	<b>Growth rate:</b> Medium <sup>19</sup> .
<b>Flowers:</b> Large, white flowers typical of Magnoliaceae family; blooms May-June <sup>12,8</sup> .	<b>Light:</b> Full sun- part sun <sup>19</sup> .
<b>Fruit or cones:</b> Cone-like fruits containing many bright red achenes <sup>12,20</sup> .	<b>Moisture:</b> Well-drained, medium <sup>19,12</sup> .
<b>Height &amp; Width:</b> 30'-40' tall and wide <sup>8,12</sup> .	<b>Soil*:</b> Sand, clay, loam; organically rich; range in pH form slightly acidic to slightly alkaline <sup>19,12</sup> .
<b>Type:</b> Deciduous <sup>20,19</sup> .	<b>Zones:</b> 5-8 <sup>8,12</sup> .
<b>Habit:</b> An upright tree with a large rounded crown <sup>12,8</sup> .	<b>Origin:</b> Mid-eastern United States <sup>16</sup> .
<b>Wetland indicator category**:</b> Not found 9/29/19 <sup>17</sup> .	<b>Ecosystem benefits:</b> Attracts pollinators and other wildlife with flowers and fruit <sup>19</sup> .

(Numbers identify sources listed on page 2-3)

**Features:** Though not commonly used, the Bigleaf Magnolia has a unique character that can pop in a landscape<sup>8</sup>. Because of its large, thin leaves, often clustered in a whorl at the shoot tip, this beautiful tree can add a tropical flare to our temperate landscapes<sup>20</sup>. Boasting those big white flowers dear to many southerner's hearts aids in attracting pollinators, including butterflies and hummingbirds which is not always common with Magnolia species<sup>19</sup>. Lastly, the signature bright red fruits attract many birds well into the winter for a full circle of seasonal attractions<sup>20</sup>.

**Siting:** *Magnolia macrophylla* can grow to be quite large and best develops to its full potential in an unrestricted site, although it can do well under very large trees. It is noted that the tree is quite looming and is not meant for residential areas, but can be a magnificent spectacle in large expanses of lawn such as parks and campuses<sup>8</sup>.

**Care:** Plant so root flare is visible at soil surface<sup>14</sup>. At planting, water the root ball daily with two gallons of water per inch of trunk diameter for two weeks, every other day for two months and then weekly until established. Modify water recommendations to reflect site drainage and rainfall. Apply 3" of mulch over the planted area. Do not allow mulch to touch the trunk<sup>14</sup>. It is beneficial to plant shielded from extreme winds as it can tear and tatter the large, papery leaves<sup>8</sup>.

**Pests:** Plants are relatively pest resistant if cultural preferences are met<sup>12</sup>.

This plant does not appear on the following invasive plant lists on (\_9/29/19\_):

- USDA SC Invasive Plant Species Web site at <http://www.invasivespeciesinfo.gov/plants/main.shtml>
- SC Exotic Plant Pest Council Web site at <http://www.se-eppc.org/southcarolina/>

**Image:**



**Image source:**

<https://plants.usda.gov/core/profile?symbol=MAMA2>

**Image:**



**Image source:**

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a884>

**Image:**



**Image source:**

[https://www.wildflower.org/gallery/species.php?id\\_plant=MAMA2](https://www.wildflower.org/gallery/species.php?id_plant=MAMA2)

**Image:**



**image source:**

<http://www.missouribotanicalgarden.org/PlantFinder/FullImageDisplay.aspx?documentid=9595>

## Sources:

- (1) Armitage, A. (2001). *Armitage's manual of annuals, biennials, and half-hardy perennials*. Portland, OR: Timber Press.
- (2) Armitage, A. (2006). *Armitage's native plants for North American gardens*. Portland, Oregon: Timber Press.
- (3) Armitage, A. (2008). *Herbaceous perennial plants: A treatise on their identification, culture, and garden attributes*. Athens, GA: University of Georgia.
- (4) Clemson Cooperative Extension Home and Garden Information Center.(2011). *Flowers fact sheets*. Retrieved from <http://www.clemson.edu/extension/hgic/plants/landscape/flowers/>
- (5) Clemson Cooperative Extension Home and Garden Information Center.(2011). *Groundcovers & vines fact sheets*. Retrieved from <http://www.clemson.edu/extension/hgic/plants/landscape/groundcovers/>
- (6) Clemson Cooperative Extension Home and Garden Information Center. (2011). *Trees*. Retrieved from <http://www.clemson.edu/extension/hgic/plants/landscape/trees/>
- (7) Clemson Cooperative Extension Home and Garden Information Center.(2011). *Shrubs*. Retrieved from <http://www.clemson.edu/extension/hgic/plants/landscape/shrubs/>
- (8) Dirr, M. A. (2009). *Manual of woody landscape plants*. Champaign, IL: Stipes Publishing.
- (9) Gilman, E. F. (1997). *Trees for urban and suburban landscapes*. Albany, NY: Delmar Publishers.
- (10) Lady Bird Johnson Wildflower Center University of Texas at Austin. (2012). *Native plant information network*. Retrieved from <http://www.wildflower.org/explore/>
- (11) McMillan, P., Plant taxonomist Clemson University, personal communication.
- (12) Missouri Botanical Garden Kemper Center for Home Gardening. *Plant finder*. Retrieved from <http://www.mobot.org/gardeninghelp/plantfinder/Alpha.asp>
- (13) North Carolina State University (2005). *Plant fact sheets*. Retrieved from <http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/index.html>
- (14) Strother, E. V., Ham, D. L., Gilland, L. (2003) *Urban tree species guide: Choosing the right tree for the right place*. Columbia, SC: South Carolina Forestry Commission.
- (15) University of Florida, IFAS Extension. (2011). *Southern trees fact sheet*. Retrieved from [http://edis.ifas.ufl.edu/department\\_envhort-trees](http://edis.ifas.ufl.edu/department_envhort-trees)
- (16) USDA. *Plant profile*. (n/d).Retrieved from <http://plants.usda.gov/java/>

(17) USDA. *Plant wetland indicator status*. (n/d). Retrieved from <http://plants.usda.gov/wetland.html>

(18) Vincent, E., Environmental horticulturist Clemson University, personal communication.

(19) Clemson Extension. Carolina Yards Plant Database. Retrieved from <https://www.clemson.edu/extension/carolinayards/plant-database/index.html>

(20) Lowery, T., Horticulture major Clemson University, personal knowledge

**\*Soil pH is determined using a professional soil test. Contact your Clemson University County Extension service for assistance [www.clemson.edu/extension/](http://www.clemson.edu/extension/). Click on "local offices".**

**\*\*2012 Plant Wetland Indicator categories (quantitative derived) <http://plants.usda.gov/wetinfo.html>**

<b>Indicator Code</b>	<b>Indicator Status</b>	<b>Comment</b>
OBL	Obligate Wetland	Almost always is a hydrophyte, rarely in uplands
FACW	Facultative Wetland	Usually is a hydrophyte but occasionally found in uplands
FAC	Facultative	Commonly occurs as either a hydrophyte or non-hydrophyte
FACU	Facultative Upland	Occasionally is a hydrophyte but usually occurs in uplands
UPL	Obligate Upland	Rarely is a hydrophyte, almost always in uplands

By Logan Shelton  
HORT 4080\_007 Sustainable Landscape Demonstration Garden CI #827  
July 28, 2019

### **Sustainable Landscape Demonstration Garden Webpage Review**

In fall of 2011, students involved in the Hort 3080 class, Sustainable Landscape Design, Installation and Maintenance class at Clemson University began designing a low-maintenance and visually appealing garden in the area known as McGinty Mall. This garden was to be used as a “pilot site” for future gardens to come. This site would be placed in a high traffic area where visibility was a constant, but this was not the only purpose of this site. It was perfect for providing quantitative and qualitative data on the effects of native landscape plantings on both a human and environmental front for studies on health, water and soil preservation as well as the psychological aspect it would have on humans.

The numerous types of data collected at this site are used for several things. The plants put in this garden are chosen in a way that could positively change passerby attitudes, to give them a sense of calmness, of serenity. This is essential in an area that is filled with countless student interactions as well as professors, all of whom are constantly stressed about school related items and personal ones. Students investigate the plants that are placed in the garden, and this research is then used to generate “Plant Profiles” which give insight into each plant in the area, informing people of the native plants surrounding them. The profiles include photos which also gives people an opportunity to see how these plants look in a landscape, thus possibly helping them to decide if a certain plant here would also look good at their own home.

The sustainable landscape demo area is not just a typical “garden”, which I believe is what makes it so special. It was designed by students and staff from Clemson University, people who

could make a huge impact on a seemingly small area but that would make huge contributions to a community, or more. This area gives students a hand on experience that is invaluable to not only their college education, but to them as a person. Learning about local plants, their history, and the impact they can have on people is astonishing. The course I am currently taking, HORT 4080 Sustainable Landscape Demonstration Garden is also a Creative Inquiry class (#827). The website <https://www.clemson.edu/cafls/demo/> can not only further the education of current students, but may perk interest in future enrollees as well as inform visitors of the incredible things something as simple as a garden can have on a person, or a community. It teaches you about sustainability, which is a very pressing issue in today's world. I can use the information learned in this course professionally as well as to my benefit when designing a landscape area around my own home one day. This garden can also lead the way to how more urbanized areas can be designed, showing that plants and people can be connected in the same area and how plants are not just a wonderful thing to look at and smell, but that can actually change one's mood for the better.

By Noah Toadvine

HORT 3080 Sustainable Landscape Garden Design, Installation and Maintenance

September 10, 2019

### CT2 Visual Essay

In Ellen Vincent's powerpoint presentation, Sustainable Landscape Garden Design Introduction, a claim from Frederick Law Olmsted and Calvin Vaux is presented, the claim is that cities are stressful, and that natural areas are therapeutic. I am from a southern town very close to farmland, I have mostly worked outdoors or with plants, and I am a former horticulture major, so I naturally agreed with this idea, but it is always important to find other ways to look at claims like this one, both to support it and refute it.

From my personal experience, my father is not a necessarily outdoors person, but grew up playing all kinds of sports, living in a small town in Kentucky. He has always loved the outdoors, and especially loves the palm trees and marshes of the beach. However, he is a lawyer, and has always worked in the downtown areas of cities. He travels all over the country with his job and sees all kinds of cities. No matter how many years he has had to get used to the hustle and bustle of a city, he always prefers being on the golf course or walking in a botanical garden, it puts him at peace, away from his busy life as a lawyer.

From a more authoritative source, Dr. Kathleen Wolf with the Urban Forestry/Urban Greening Research of Washington University very strongly promotes the use of greenspaces and natural areas to reduce stress and improve mental health. The University states that symptoms of alzheimers, dementia, stress, and depression can be relieved by partaking in natural areas such as parks (Wolf).

I have two stories from my own life to show my support of this claim. My brother and his wife live in Manhattan. My mother, my fiancé, and I had never been and we all, including my

father and little sister, wanted to see my brother and sister-in-law, so we took a trip up for a couple of days. I had never seen anything like it. Skyscrapers as far as you could see, millions and millions of people surrounding you, each person moving faster than the last, no one stopping to take a breath, it was all very new and overwhelming to me. I loved to see it and it was a beautiful place, but it very much stressed me out more than I thought it could. In contrast, my parents, sister, fiancé, and I all once went to see the Biltmore House just as Spring was coming around. Walking through the various gardens, the greenhouse, and by the lake was one of the most beautiful, peaceful, and fulfilling walks I have ever taken and I do not think that I will ever forget it. Beautifully arranged tulips that had just bloomed with stonework that was over a hundred years old were just a piece of these gardens that made me stop in my tracks and forget any trouble or worry that I had. When I think about these two experiences in my life, there is no comparison. I know for a fact that natural greenery, parks, and gardens do good for my soul while the city is a breeding ground for anxiety.

To look at an opposing view of this claim, I look at my brother and sister-in-law mentioned before. While they love to see a beautiful landscape, their paradise is the heart of the city. They both do creative work, my brother being a graphic designer and his wife a photographer, and the energy of the city is what they feed off of to do this work. Walking through the city with them showed me how much they loved it and the peace that it brought them. I will never understand it, but this shows that the experience is different for everybody, and not everyone feels most at home in a garden. From now on I will recognize that the type of place that makes people feel peace is different for everyone, and I will not judge or question what makes people at peace because the important thing is that they are at peace at all.

## The Biltmore House Gardens



<https://www.google.com/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwiFiO76xsTkAhVG0KwKHbHSBRMQjRx6BAGBEAQ&url=https%3A%2F%2Fwww.pinterest.com%2Fpin%2F354447433146576918%2F&psig=AOvVaw35snpa5DA6pKJca7Wc7VgD&ust=1568146269203241>

### Works Cited

Wolf, Kathleen. "Mental Health & Function." *Mental Health :: Green Cities: Good Health*,

Washington University, [depts.washington.edu/hhwb/Thm\\_Mental.html](https://depts.washington.edu/hhwb/Thm_Mental.html).