April 2020-Vol.6 No. 4

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Pawpaws: Resilient, Delectable Natives

By mking | April 2020-Vol.6 No. 4

As a young girl, my friends and I enjoyed singing this folk tune: *Where, oh where, is dear little Nellie? Way down yonder in the pawpaw patch.* Sound familiar? At the time, I thought "pawpaw" was a silly made-up name for a fictitious tree. It was many, many years before I actually saw a living pawpaw tree and tasted its rather unusual fruit. Once I did, I was smitten. Read on to find out more about the "American Custard Apple."

Pawpaw fruit on a pawpaw tree

What's a pawpaw? The pawpaw tree, known as *Asimina triloba* in the scientific world, is classified as a deciduous tree with semi-tropical attributes. The pawpaw is an indigenous plant in 26 states in the eastern

and midwestern U.S., including Virginia. This distinctive species, which belongs to the Annonaceae family, is an understory tree that typically grows to a height of 5-8 meters. It produces light green fruit called pawpaws, the largest edible native fruit grown in this country. The soft, golden flesh of this fruit is reminiscent of custard, and its unique flavor is a delicious combination of mango and banana. No wonder the lyrics of that folk song refer to children collecting this yummy fruit and placing them in the front pocket of their aprons: *Pickin' up pawpaws and puttin' 'em in your pocket*. If your ears aren't ringing yet, here's a delightful version of that song.

Where will you find pawpaw trees? The pawpaw is often found near streambeds, rivers, and floodplains because of its preference for fertile, moist soil. It will also grow on hillsides and slopes, if the soil is rich and sufficiently deep and wet. When mature, the pawpaw tree can tolerate plenty of sun, but it's a more common sight in the partial shade of hardwood forests. The pawpaw will not thrive in poor soil or areas with direct or excessive wind exposure. Pawpaw trees tend to grow in patches or thickets, due to clonal spreading that occurs when their root suckers extend outward from existing plants to form new trees. Given the right conditions, pawpaw trees multiply gradually, but prolifically. If well-established, they may slow down the growth of other dominant tree species, such as oaks and hickories.

Ripe pawpaws

Pawpaw leaves and fruit

How do you know it's a pawpaw? The small to medium-sized pawpaw tree, shaped like a pyramid, is sometimes referred to as a shrub. The thin, bumpy bark of a pawpaw tree is grey with noticeable cracks and warts on its outer covering. When damaged or bruised, the bark exudes a foul odor, which may explain why many forest animals stay away from this tree. The dark green shiny leaves on a pawpaw are fairly large with an oblong shape: 25 cm long and 10 cm wide. Leaves are wider at their outer end and taper to a pronounced point where they connect to a branch. These are simple, alternate leaves with prominent veins and midrib arranged in a spiral-like pattern that droops downward, as if reaching toward the ground below. When fall arrives, pawpaw leaves turn a beautiful golden yellow color, which makes it easy to recognize them from afar.

The beautiful pawpaw blossom

What about the flowers and fruit? Pawpaw flowers are deep burgundy at first and then turn a maroonish-brown color when fully mature. These small (diameter of 3-5 cm), perfect flowers (both male and female reproductive parts are present) with six petals and three sepals appear early in the springtime. Unlike the blossoms on many other trees, pawpaw flowers are not profuse and have a slightly unpleasant odor. Each flower has more than one ovary, so one flower can produce several pawpaws,

Pawpaw blossoms along a branch

which ripen in the fall. Pawpaw fruit resembles the shape of a mango, somewhat like a flattened oval covered in light green skin. As clumps of fruit grow and increase in size (up to 15 cm in length), their weight may cause sagging tree branches. When ready for consumption, the ever-softening pawpaws become yellowish and have dark spots on their skin. Inside the fruit, two rows of big black seeds are embedded in squishy, deep yellow pulp. Each pawpaw has 10-12 seeds, each one the size of a thumbnail.

Not everyone likes pawpaws, but they definitely appeal to my taste buds. The creamy texture melts in your mouth as the fresh, tropical flavor is released, giving way to dreams of the Caribbean. Besides eating them raw, you can substitute pawpaws for bananas when baking, or process them for ice cream, a scrumptious treat! If you cook with pawpaws, use recipes that call for little or no heat because high temperatures can ruin the special taste of this fruit. By the way, pawpaws are high in nutritional value. Like bananas, oranges, and apples, they offer generous amounts of vitamin C, magnesium, potassium, and amino acids, but pawpaw fruit provide comparatively more protein. Pawpaws are also a good source of dietary fiber.

Interior of a pawpaw showing large seeds

How do you cultivate pawpaws? Root suckers from a pawpaw patch can be used to start new trees, but the success rate is low. If seeds are used, they must be stratified (kept cold) for 3-4 months in a moist environment (e.g., with sphagnum moss). Field-planted seeds will not emerge until the following summer, and those plants may not produce flowers or fruit for another five years or more. For best luck with new pawpaw trees, buy container-grown seedlings (not bare roots) of recommended varieties, such as 'Davis', 'Overleese', 'Prolific, 'Sunflower', or 'Taylor' from a reputable nursery. Spring is the time to plant container-grown seedlings.

A clump of ripening pawpaws

Pawpaw trees need fertile, well-drained, slightly acidic (pH 6-7) soil to thrive. Young trees should be spaced 2½ – 3 meters apart in rows that are at least 6 meters wide, so they will have ample room to grow and reproduce. The trunk of a pawpaw tree should be surrounded by a generous layer of mulch (straw or wood chips) for weed control and moisture retention. Remember not to let a young seedling dry out as it gets established in its new setting. To produce fruit, a pawpaw tree requires cross pollination from another unrelated pawpaw tree. Unfortunately, their foul odor keeps most bees away, so home gardeners often hand-pollinate their own trees.

Hurray for the pawpaw! It's one of those rare plants that deer and rabbits avoid, mainly because of the somewhat smelly bark, twigs, leaves, and flowers. Birds, squirrels, foxes, and black bears do enjoy eating pawpaw fruit, but they are generally not destructive to the tree as a whole. Most insects steer clear of this tree, but it happens to be the only host plant for larvae of the stunning zebra swallowtail. If you love watching those butterflies, as I do, then this might be a great choice for your yard. In addition to its other winning characteristics, the pawpaw is relatively disease-

free, so no chemicals are needed to keep it healthy. Promising new research also suggests that substances in pawpaw leaves and twigs might have anti-cancer properties. Learn more about this fascinating species at the Pawpaw Research Center, Kentucky State University Cooperative Extension Project.

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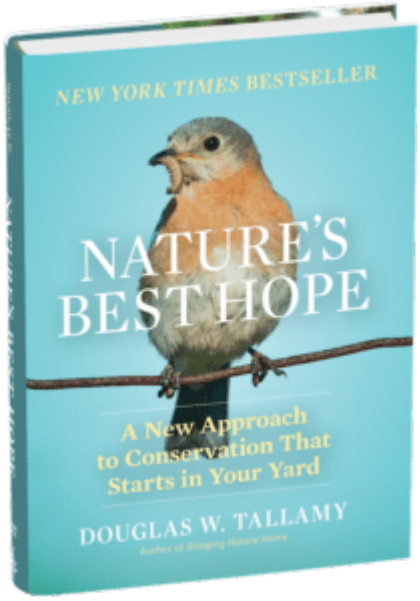
Getting Native Plants Into Your Garden

By Cathy Caldwell | April 2020-Vol.6 No. 4

Native plants are hot! The beauty, practicality, and value to the natural world of plants that have co-evolved with local insects and animals is undisputed.

- Authors such as Doug Tallamy, Rick Darke, and Larry Weaner build a compelling case for bringing native plants into the home landscape. Their books, with titles such as *Bringing Nature Home*, *The Living Landscape*, and *Garden Revolution*, are bestsellers.
- Doug Tallamy has a new book —*Nature's Best Hope: A New Approach to Conservation that*



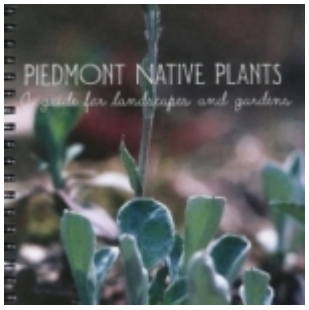
Starts in Your Yard.
- Lewis Ginter Botanical Garden in Richmond last year replaced 5,300 square feet of turf outside its library with native plants, and native plants figure prominently in plans for Charlottesville's new McIntire Botanical Garden.
- The nearby Quarry Gardens at Schuyler, a 40-acre botanical garden showcasing some 600 species native to its immediate area, last year provided 108 guided tours for the public—which included students, gardeners, naturalists, environmentalists, landscape designers, hikers, and visitors from across the Commonwealth and beyond.

There is plenty of interest in native plants. **The problem is to meet gardeners' and landscapers' demand for them**—and annual one-day native plant sales are not enough. Help is on the way, so read on.

Coming Soon to Garden Centers and Nurseries Near You — More Native Plants

During 2020, a coalition of 21 organizations led by the Piedmont Environmental Council will launch an extension of the "Plant Virginia Natives" campaign for our region. Ten counties and the City of Charlottesville, under the banner "Plant Northern Piedmont Natives," will be promoting public awareness of the value of native plants and **working with growers, nurseries, and garden centers to make more natives available**. So keep an eye on the website developed by the Plant Virginia Natives website, hosted by the Virginia Native Plant Marketing Partnership, Plant Virginia Natives.org and on https://www.plantvirginianatives.org/plant-northern-piedmont-natives.

Piedmont Master Gardeners is a partner in the Plant Northern Piedmont Natives (PNPN) campaign. Our volunteers will be engaging with local plant sellers to make them aware of the best natives for this area, and to help them market native plants with signs and plant markers.



Piedmont Native Plants: A Guide for Landscapes and Gardens

The PNPN campaign will promote nearly 200 straight species of plants that grow natively in the Northern Piedmont and are listed in the newly reprinted *Piedmont Native Plants: A Guide for Landscapes and Gardens.* A printed copy of the guide can be purchased for $10.00 at The Shop at Monticello, Ivy Nursery, the Wintergreen Nature Foundation, on tour days at The Quarry Gardens at Schuyler, and at the office of the Thomas Jefferson Soil and Water Conservation District. The 127-page guide also may be found as a downloadable PDF at www.plantvirginianatives.org/PlantNorthernPiedmontNatives or downloaded free or purchased online at VaNativePlantSociety/Va.NativePlantGuides

So—you may **expect greater availability and more choices of native plants in the near future**. In the meantime, read on for **some additional sources of native plants.** For a statewide list of sources, check VNPS.org/Native Plant Nurseries.

Plant Virginia Natives
VIRGINIA NATIVE PLANT MARKETING PARTNERSHIP

Local Retailers of Native Plants

Some local non-specialized garden centers and nurseries, such as Eltzroth and Thompson, Fifth Season, Snow's, and Southern States, carry some Piedmont natives and are likely to offer more in the near future. They may not have to go far to find them: Twinleaf Native Nursery in Lovingston, Nelson County, is a new wholesale nursery in its first season of propagating and growing local native genotypes for the retail trade.

Thomas Jefferson Center for Historic Plants
The Center for Historic Plants' mission is to keep alive plant species that Jefferson admired—and he was a great importer of exotics. Nevertheless, a good selection of natives is offered at The Museum Shop at Monticello, which has an online ordering option. Display gardens and nurseries are at Tufton Farms, 1293 Tufton Farm, Charlottesville, open seasonally and for special events.
Information: monticello.org/Center for Historic Plants. Online shopping link: www.monticelloshop.org/garden

The following retailers are specialized to native plants:

Hummingbird Hill Native Plant Nursery
4190 Free Union Road
Charlottesville VA 22901

Hummingbirdhillnatives.com
Humming Bird Hill Natives on Facebook
hummingbirdhillnatives@gmail.com
434-964-1034
Hummingbird Hill regularly carries up to 250 straight species of regional natives. Contact in advance for availability. Pre-ordering is recommended. Discounts for large quantity purchases. Some plugs available. Will contract grow.

At this time, the website advises as follows: "Plants are available to be reserved for pickup. Please email us for more information: hummingbirdhillnatives@gmail.com"

Little Bluestem
40 Farfields Lane
Afton VA 22902
https://www.littlebluestem.net/contact-us
nursery@little bluestem.net
434-227-2317
Little Bluestem is an extension of the non-profit Farfields Farm, which offers educational programming focused on ecology and land-based skills. The nursery propagates plants from seeds of nearly 100 locally-native species, many gathered from the Quarry Gardens at Schuyler and other sites surveyed by the Center for Urban Habitats. Primarily plugs are offered, but also pots. Delivery within 15 miles can be arranged.

Wintergreen Nature Foundation
Plants are propagated from seeds, plant division, and cuttings using only native plants from approved Wintergreen and neighboring sites as sources. Sales are by appointment at Trillium House or the Greenhouse on Beech Grove Road, Roseland, ½ mile west of Devil's Backbone Brewery.
Information: email: info@twnf.org phone: 434-325-8169 www.twnf.org/greenhouse

Online retailer:

Izel Plants
www.izelplants.com
This online retailer of plants from multiple nurseries offers over 700 Virginia native species. To check whether a species is native to your county, see the Digital Atlas of the Virginia Flora: vaplantatlas.org

Area Plant Sales by Local Organizations

Chapters of the Virginia Native Plant Society and other gardening groups hold annual seasonal sales in many locations throughout the Commonwealth. These non-profits use proceeds from sales to support their educational outreach programs. At this time it is clear that most, if not all, of these sales will be cancelled, though they may be rescheduled later in the year. The following sales usually occur in our area:

Jefferson Chapter, Virginia Native Plant Society
vnps.org/jefferson/events/jefferson-chapter-native-plant-sale
The Native Plant Sale that was scheduled for spring of 2020 has been cancelled, but it may be rescheduled in the autumn. Ordinarily, this sale features over 1,000 native plants, with emphasis on spring ephemerals.

Nelson County Master Gardeners
About 700 plants dug from members' gardens, including some natives.
May 9, 2020, 9 a.m. to 3 p.m., Rockfish Valley Community Center, 190 Rockfish School Lane, Afton VA
Information: www.mastergardenersofnelsoncounty.org/events

Piedmont Master Gardeners and Charlottesville Area Tree Stewards
Nearly 2,000 native plants are usually included in the sale of more than 4,000. Plants are from members' gardens and approved, ethical native plant nurseries. Usually held in early May; this year's sale has been cancelled.
Information: pmgarchives.com

Wintergreen Nature Foundation
Plants propagated at Wintergreen are available at spring, summer, and fall sales. At this time the website lists the following sale dates:

Saturday, April 11, 9am to 1pm at TWNF Greenhouse, located ½ mile west of The Ski Barn on Beech Grove Road/Rt. 664
Saturday, April 25, 9am to 1pm at TWNF Greenhouse
Saturday, May 16, 9am to 2pm at Trillium House, 3421 Wintergreen Drive
Saturday, May 30, 9am to 1pm at TWNF Greenhouse

The Wintergreen Nature Foundation website currently contains the following statement:

> "Since our April 11 plant sale is held outside enabling us to maintain social distance, we plan to have that sale. Note that plants can also be ordered online via email at director@twnf.org or by calling 434-325-8169. We will set your plants aside for pick up after hours."

To check on the status of a scheduled sale or to purchase plants at other times, call 434-325-8169. For more information check the TWNF website https://www.twnf.org.

SOURCES:

www.plantvirginianatives.org/plant-northern-piedmont-natives

April in the Edible Garden

By Ralph Morini | April 2020-Vol.6 No. 4

Times are changing. We've had a warm winter in Central Virginia that has enabled me to continue to pick greens from my fall plantings all season. As noted last month, the VA Cooperative Extension (VCE) has moved Albemarle County into USDA Hardiness Zone 7a, which changes our expected last frost date from mid-May to April 15-25. And, as I write this in mid-March, the long range weather forecast doesn't anticipate a frost for the next few weeks. The warming trend is real and officially acknowledged. If we gardeners trust it, our planting/harvest season is 2-4 weeks longer than it has been, and it is time to get crops in the ground.

Based on guidance from VCE Publication 426-331, it is safe to **plant these cool weather crops now**: asparagus, root crops (radishes, beets, carrots turnips etc), cole crops (cauliflower, broccoli, cabbage), greens (chard, collards, kale, spinach, lettuces, mustard), potatoes, and onions (bulb sets, green onions, leeks).

The **last week of April** is the time to plant beans, cucumbers, eggplant, musk melons (wait until early May for watermelons), pepper and tomato transplants and winter and summer squash).

For more detail, refer directly to Virginia's Home Garden Vegetable Planting Guide, Publication 426-331.

Tips for best garden productivity include:

- **Minimize tilling**: The old practice of deep soil tilling is no longer recommended. It damages

soil structure, upsets microbial soil life, hastens release of soil carbon into the environment and tends to increase compaction. Better to use a scuffle or stirrup hoe to remove weeds or cover crop residue and only upset the soil surface. Add compost or other amendments to the top couple of inches and let soil critters carry organic matter deeper.

- If **compaction** is a concern, use a digging fork to loosen the ground. Drive it into the soil as deep as possible and rock it back and forth, every 6-12 inches to loosen soil without destroying structure.
- Remember to **rotate crops**. Aim to avoid growing the same crop in a given space for a three-year period. It will help reduce insect and disease damage.

- Put up trellises for beans, peas, and cucumbers prior to planting to avoid plant damage later on. For additional information on vertical gardening, see "Intensive Gardening Using Trellises, Stakes and Cages: https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/HORT/HORT-189/HORT-189-pdf.pdf.
- It is best to **do transplanting on a shady day** to reduce shock to tender young plants.
- If transplanting **peat pots**, tear off the top of the pot to a point below the soil line to avoid wicking water away from plant roots.
- **Mulching plants after transplanting or germination** is a good thing, but depending on weather, give the soil a chance to warm up before mulching to avoid slowing plant growth.
- When laying out plant locations, remember that leafy greens typically require 6 hours of sun per day while fruiting vegetables want 10 hours.
- Consider intercropping. Mixing different plant varieties uses space well, adds diversity to the garden environment, mixes scents that can confuse pests, and attracts a broader array of beneficial predators, helping reduce pest damage.
- **Root crops** planted in March should be thinned to about a 3-finger spacing.
- If you would like to extend the harvest season for your greens, **consider chard**. Chards have a lower tendency to bolt and can withstand summer heat longer than most other greens. In addition, rainbow chard makes a pretty presentation in the garden.
- Should a surprise **late frost** threaten your warm weather crops, a row cover can save the day. Review the recent Garden Shed article: Row Covers: A Garden Season Extender with Benefits for materials and techniques for their use.

Consider starting an **asparagus** patch. Asparagus is a perennial that requires a permanent location, full sun and well-drained soil with a pH close to 7.0. Plants can last 15 years or more, so careful location selection is important. Asparagus can be started from seeds or crowns. Crowns are a good idea since it takes a few years for the plants to reach peak harvest potential. For an excellent guide to starting asparagus, read Cleve Campbell's article "Spear into Spring with Asparagus" in the March 2015 issue of *The Garden Shed,* and Va. Cooperative Extension Publication No. 426-401, which specifies recommended cultivars for Virginia.

SOURCES:

Virginia's Home Garden Vegetable Planting Guide: Recommended Planting Dates and Amounts to Plant, Va.Coop.Ext.Pub. 426-331

Dogwoods — Spring in Virginia

By Susan Martin | April 2020-Vol.6 No. 4

Spring in Virginia is the **season of the dogwood,** with flowering dogwood, *Cornus florida*, serving as both the official state tree and the state flower. Bloom season is long and beautiful, starting with the Cornelian cherry dogwood (*Cornus mas*) in March, flowering dogwood (*C. florida*) in April, the kousa dogwood (*C. kousa*) in May, and the pagoda dogwood (*C. alternifolia*) in May to June. In addition to spring blooms, each species offers colorful berries in the fall, autumn leaf color, and interesting bark in winter. Of these four species, the flowering dogwood (*C. florida*) and pagoda dogwood (C. *alternifolia*) are native to North America, in particular, to the eastern U.S. This article will discuss all four species of dogwoods, highlighting similarities, differences, and suitability to different sites.

BRACTS AND FLOWERS

Cornus is a genus of about 30–60 species of woody plants in the *family* Cornaceae, commonly known as dogwoods. Each species brings its own value to the landscape. The “flowers” of the flowering dogwood and kousa dogwood are not actually flowers but bracts, which are modified leaves that look like petals. The true flowers are clustered in the center of these bracts. The “flowers” may be white, pink or yellow. Pagoda dogwood lacks the showy bracts of the flowering dogwood, but has 2″ flat clusters of fragrant, white flowers

appearing in May to the beginning of June. The small yellow flowers of the Cornelian cherry appear very early in spring, sometimes before forsythia, and often remain long into spring. Flowers are borne in tiny clusters close to the naked stems.

Both the flowering and Cornelian cherry dogwoods flower **before** the leaves appear. The kousa dogwood and pagoda dogwood flower **after** the leaves appear.

One of the most appealing features of many dogwoods is the graceful beauty of their tiered, horizontal branching, especially true of the flowering dogwood and the kousa dogwood when they are sited in shade. Cornelian cherry tends to be multi-stemmed and is formed more like a shrub than a tree.

FRUIT, FALL FOLIAGE, AND BARK

Flowering dogwood: Maturing in late summer to early fall, the bright red fruits are loved by birds and wildlife. Fall leaf color is red to reddish-purple, although trees sited in full shade may have poor fall color. The dark, reddish-brown bark is rough and deeply checkered, making it an effective marker for tree identification.

Cornus florida Photo: Ram Man, Creative Commons

Pagoda dogwood: Black-blue droops appear in July and August. The fruit stalks remain and turn an attractive red. In fall, the foliage becomes a mix of yellow and maroon. The bark is smooth, dark green, and streaky; eventually turning light brown with narrow fissures.

Kousa dogwood: Showy, pinkish-red to red fruits resembling raspberries appear in September and October. The fruits are edible, although somewhat mealy. Fall leaf color varies from purple to red to yellow. As kousa dogwood matures, the lower bark peels and creates a unique pattern similar to sycamore tree bark.

Cornelian cherry dogwood: Medium to large-sized fruits mature to cherry red in mid-summer. Although sour tasting fresh off the plant, fruits are edible and often abundant and may be used for making syrups, preserves, and pies. Fall leaf color is often poor, ranging from dull green to purplish red. The bark is dark gray to reddish brown and becomes scaly and exfoliating as the tree matures.

PLANTING AND CARE

Dogwoods prefer moist, well-drained, acidic (5.5 to 6.0 pH) soil that is high in organic matter. The flowering dogwood and pagoda dogwood prefer partial shade, especially shade in the hot afternoon. Both the kousa and the Cornelian cherry do well in full sun or partial shade, and are more sun tolerant than the flowering or the pagoda dogwoods. Dogwoods have shallow roots, and none of the dogwoods tolerate drought. Even established trees will benefit from watering during hot, dry spells. If irrigation water is applied by sprinklers, it should always be done in the morning to reduce risk of foliar disease. Good air circulation is necessary to hasten drying of leaves after rainfall and to lower the risk of disease.

FERTILIZING

Fertilize dogwoods lightly in the spring **once frost has passed** with a well-balanced (2-1-1), extended-release, acid-forming, azalea fertilizer. Fertilize again six weeks later to encourage extra flowers or faster growth of young trees. Avoid using high-nitrogen lawn fertilizers around dogwoods. Excessive nitrogen can cause the tree to develop more leaves at the expense of flowers. Avoid fertilizing trees stressed by drought

during the summer months.

PRUNING

All these species form their buds on old wood; if you prune dogwoods either in the fall or in the early spring before they bloom, you'll remove the flower buds. Most dogwoods will not need pruning, but if you must **prune, do so immediately after the tree flowers in the spring.** This will allow the tree time to produce new growth and flower buds for the following year.

DISEASE

Flowering dogwood is susceptible to numerous diseases and pests, including powdery mildew (*Erysiphe pulchra*), dogwood anthracnose, (*Discula destructiva*)**,** and spot anthracnose **(***Elsinoe corni).* Of the four species, the flowering dogwood is the most susceptible to anthracnose and powdery mildew; the kousa dogwood is more resistant; and the pagoda dogwood and the Cornelian cherry are considered to be a generally pest-free plants with good resistance to powdery mildew and dogwood anthracnose.

FLOWERING DOGWOOD (*C. FLORIDA*)

The flowering dogwood is the species most people think of when the word dogwood is mentioned. This is a lovely, small, flowering tree with short trunk and crown of spreading or nearly horizontal branches. During the Civil War, dogwood bark was used as a substitute for quinine. Native Americans used the aromatic bark and roots as a remedy for malaria and extracted a red dye from the bark and roots.

Cornus florida Photo: Line1, Wikimedia Commons

CHARACTERISTICS

The flowering dogwood will grow 40′ tall when grown as an understory tree in a woodland setting. In the sun, the same tree may only grow 15-20′ tall and wide. Spread can be greater than height at maturity. It can be grown as a single- or multi-trunk tree. A slow to moderate grower, it can grow 15′ in

18 years. It prefers rich,
well-drained, acid soil.

POWDERY MILDEW

Powdery mildew usually occurs late in the summer and is of little consequence. Infection that begins early in the season, however, can be devastating, and the use of fungicides may be warranted.

ANTHRACNOSE

Flowering dogwood is seriously threatened by dogwood anthracnose which is caused by a fungus. Although a serious disease, there is some evidence that it is less widespread than before. The disease first became a problem around 1980 and spread rapidly throughout the trees' range. Symptoms of anthracnose include large tan blotches or purple-rimmed leaf spots. Infected leaves tend to remain on the tree after they normally would have fallen. Trees are typically killed in 2-3 years. The fungus requires high humidity for infection, so trees growing in moist, shady sites are most susceptible. Hearty, well-maintained flowering dogwood trees in sunny areas with good air circulation and proper soil moisture are rarely impacted by anthracnose. High applications of nitrogen fertilizer can promote succulent new shoots which are more susceptible to the fungus.

C. florida 'Appalachian Spring' was found growing wild at the Camp David Presidential Retreat on Catoctin Mountain in Maryland where it exhibited strong resistance to anthracnose. It was developed by the University of Tennessee's Dogwood Breeding program,

PESTS

Flowering dogwood is susceptible to the dogwood borer (*Synanthedon scitula*), a clearwing moth that is attracted to weakened trees, pruning cuts, and sunscald-damaged bark areas. Other commonly-occurring insect pests include the dogwood clubgall midge (which causes club-shaped galls or swellings on twigs), granulate ambrosia beetle, scale insects, and leaf miner. Unless the tree is under stress from other factors, insect damage is usually not severe.

For an excellent discussion of flowering dogwood pests and diseases, and a list of cultivars that are more resistant to these problems, refer to "Dogwood," Clemson Home & Garden Information Center (HGIC) and "Dogwood Diseases and Insect Pests," Clemson HGIC.

OTHER PROBLEMS

Leaf scorch may occur when conditions are too dry. Leaves have dry and browning edges and leaf drop may also occur. Although leaf scorch may look like a disease, it isn't. Dogwoods respond positively to consistent moisture. Just as they suffer in drought, they also do poorly when planted in sites with poor drainage or in areas subject to flooding. When soil becomes too wet, dogwoods are prone to root rot (*Phytophthora* species).

WILDLIFE VALUE

Flowering dogwood is a valuable food plant for wildlife because high calcium and fat contents make it palatable. The fruits are eaten by migrating birds and are an important food for overwintering birds such as bluebirds. Fruit is also eaten by ruffed grouse, quail, black bear, deer, chipmunks, skunks and squirrels. The fruits, flowers, twigs, bark and leaves are eaten by a variety of wildlife.

Cornus florida fruit Photo: KENMEI, Wikimedia Commons

The flowering dogwood is a larval host for the spring azure butterfly (*Celastrina ladon*). The tree is also recognized by pollination ecologists as attracting large numbers of native bees. It also attracts predatory or parasitoid insects that prey upon pest insects.

FRUIT

Although different sources make different claims regarding the toxicity of flowering dogwood berries, according to the USDA, the berries are poisonous to humans.

PAGODA DOGWOOD (C. ALTERNIFOLIA)

Cornus alternifolia Photo: Ser Amantio de Nicolao, Plant Image Library, Boston, Wikimedia Commons

Pagoda dogwood is a also commonly known as alternate-leaf dogwood. Unlike most other native dogwoods, this species has alternate rather than opposite leaves. The name Pagoda Dogwood alludes to the flat-topped crown, with horizontal layers of branches. Branches are nearly parallel to the ground, giving the plant an attractive tiered effect.

CHARACTERISTICS

This is a low-branched tree or large shrub reaching 15-25′ feet high and wide. Pagoda dogwood has greenish to reddish, or purple to purple-brown stems. The leaves form an umbrella-like shade because they are clustered near the ends of twigs. Pagoda dogwood prefers acidic, well-drained, consistently moist soil but it is tolerant of poor soils and clay. It will tolerate only short periods of drought. It is important to keep the root zone cool and moist. Pagoda dogwood does best in shade to part shade. In warmer climates, it is best planted on the north or east sides of buildings so that it is in direct sunlight for only part of the day.

Cornus alternifolia flower Photo: US Environmental Protection Agency, Wikimedia Commons

Pagoda dogwood performs best in colder climates. It is hardy in Zones 3 to 7. In VA, it is frequent in the mountains and infrequent to rare elsewhere.

WILDLIFE VALUE

Cornus alternifolia fruit Photo: Steven Katovich, USDA Forest Service, Wikimedia Commons

Its bitter berries are consumed in fall and winter by wildlife including grouse, pheasants, wild turkeys and squirrels. Birds and butterflies are also attracted to the tree. It is a larval host for the spring azure butterfly, *Celastrina ladon*.

PROBLEMS

Although pagoda dogwood is susceptible to twig blight, leaf spot, and canker, it is infrequently affected by insects and disease. Wind and ice damage are common; a planting site protected from wind is preferable.

KOUSA DOGWOOD (*C. KOUSA)*

Cornus kousa Photo: Ser Amantio di Nicolao, Plant Image Library, Boston, Wikimedia Commons

Native to Japan, Korea and China, the first scientific observations of the kousa dogwood in the United States were recorded in 1875. Other names for this species include Chinese dogwood, Japanese dogwood, Japanese flowering dogwood, and Japanese strawberry tree.

CHARACTERISTICS

Cornus kousa Photo: DanGong, Wikimedia Commons

The kousa dogwood will grow 15-30 feet tall and wide. A slow to moderate grower, it will grow about 10 feet in 15 years. Younger trees grow upright, but with age, they spread more broadly with horizontal branching. Falling fruits may create a litter problem and should be considered in site selection.

Cornus kousa berries Photo: David Stang, Wikimedia Commons

KOUSA CULTIVARS AND HYBRIDS

Kousa dogwoods and their hybrids are generally more resistant than native dogwood to dogwood anthracnose, spot anthracnose, powdery mildew, and common dogwood borers. The Stellar series of cultivars, developed by hybridizer Elwin Orton of Rutgers University, are hybrids between the flowering dogwood and the kousa dogwood. They are generally free of diseases but may not be desired by gardeners wanting the pure form of the native tree. The hybrids produce showy bracts and have exhibited resistance to anthracnose in ongoing field tests. Their trademarked names are Ruth Ellen, Constellation, Aurora, Galaxy,

Stardust, and Stellar Pink.

The variety **Ruth Ellen** is said to have the closest look of the native species, but generally the other Stellar introductions are midway between the two species in their habit, flower shape, and blooming period. **They are sterile and don't produce decorative berries,** but are particularly showy in bloom.

See *C. kousa,* NC State Extension for a sample list of kousa cultivars.

A CAUTIONARY TALE

According to NC State Extension, kousa dogwood provide fruits and nesting sites that are attractive to songbirds. Squirrels eat the fruits as well. However, according to an article by the National Wildlife Federation, kousa berries are "monkey food," which makes them valuable in Asia but not in North America. "Nothing eats them here," says Doug Tallamy, a professor of entomology and wildlife ecology at the University of Delaware. "They're not part of the food web."

This article also identifies *C. kousa* as being the original source of bringing dogwood anthracnose into North America.

> *Sometime after kousa was first introduced to the United States by novelty-seeking nurseries in the 19th century, it likely unleashed the disease on defenseless native trees that had not evolved with the fungus. As Americans watched their flowering dogwoods die starting in the 1970s, landscapers encouraged them to replace the trees—with more kousas. "I don't know a general in the U.S. military who could come up with a better invasion strategy," says Kevin Heatley, an Ohio-based restoration ecologist.*

Doug Tallamy, on p. 74 of *Bringing Nature Home,* identifies *C. kousa* as the likely carrier of dogwood anthracnose into the U.S.

CORNELIAN CHERRY DOGWOOD (*C. MAS)*

Cornus mas Photo: Wilhelm Zimmerling, Wikimedia Commons

The Cornelian cherry dogwood is native to southern Europe and western Asia and has been cultivated since ancient times for the fruit, which is excellent for preserves and syrup. On March 31, 1774, Thomas Jefferson recorded in his garden diary planting four “Ciriege Corniole” or Cornelian cherry trees along with sixteen other varieties of fruit trees and vegetables.

CHARACTERISTICS

Cornus mas flower Photo: AnRo0002, Wikimedia Commons

Cornelian cherry is a rounded, multi-stemmed small tree or large shrub with a network of fine stems. It matures to 20-25’ tall and 15-20’ wide. It responds well to pruning and may be pruned to produce a more upright habit. A slow to moderate grower, it will grow 20 feet in 25 years. It thrives in well-drained urban conditions as a specimen plant, in masses, or as a hedge.

FRUIT

Cornus mas fruit Photo: Wouter Hagens, Wikimedia Commons

The fruit is medium to large, maroon-red, cherry-like, edible, and attractive to birds. Two different varieties of Cornelian cherry trees are needed to get fruit. Cornelian cherries should bear fruit in 2-5 years, with full fruiting in 5-8 years. Harvest fruit in late summer; fruit can be astringent if harvested too early. Falling fruit may create litter problems and can temporarily stain walks and concrete.

The cultivar 'Spring Glow' may be the best selection for warmer southern climates. The cultivar is known for its good foliage and brighter yellow blooms than the species.

SUMMARY

Dogwoods are considered one of the most beautiful flowering trees in Virginia, and a true harbinger of spring. The native selection, flowering dogwood, has been plagued by dogwood anthracnose, a fungal disease which thrives in the same kind of site conditions favored by the native tree: shade and moisture. If planted in sunnier spots, care must be taken to provide ample watering. The native pagoda dogwood is resistant to anthracnose. Like the flowering dogwood, it prefers shade, needs ample moisture, supports native butterflies and insects, and is a valuable food source for wildlife and birds. It grows in USDA hardiness zones 3-7, placing Virginia in its most southern zone. The Kousa dogwood, an Asian species, is far less susceptible to dogwood anthracnose but the species is not a comparable food source for native insects and wildlife. There are many beautiful and disease-resistant hybrids of flowering dogwood and kousa dogwood, but be mindful that these hybrids are sterile and don't produce fruit. The Cornelian cherry dogwood is more shrublike, blooms in very early spring, has abundant, small, yellow flowers, and edible fruit. It is also resistant to dogwood anthracnose. Each of these dogwoods offers beauty in the landscape. You need to weigh the pros and cons and decide which best suits your planting site, and your vision of spring!

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Feature Photo: *Cornus florida*, Katja Schulz, Wikimedia Commons

Tasks & Tips for April in the Ornamental Garden

By Susan Martin | April 2020-Vol.6 No. 4

If we need to “stay at home,” what better place to do that than in a garden! Early April is still erratically cool, and so we are obliged to stay busy, which is what we want to do anyway. The gyms are closed but we can pick up a hoe and a rake and a shovel and get all the activity we need. We’re in our special place and that gives us a lot to be thankful for. The signs of budding life in April gives comfort and hope. And though we can’t yet share plants, we can share photos and that’s fun too.

What tasks should we undertake to get our gardens ready for the season?

GENERAL TASKS

Continue tasks outlined in *The Garden Shed* March issue to do list and tackle new tasks:

- Clean up flower beds and borders.
- Cut back dead stems and foliage from perennials that were left standing over the winter.
- Pull weeds.
- Redefine flower bed edges with a nice clean edge using a flat-edged spade or edging tool.

- Clean under and inside of shrubs that tend to be leaf-catchers before the plant makes its new leaves.
- Top dress flower beds with one inch of compost. The compost improves the soil structure and adds nutrients and moisture-holding capacity.
- Gently move back winter mulch from around plants as soon as growth starts in the spring.
- As a general rule, late-summer or fall-flowering perennials are planted in spring, but check guidelines specific to each plant.
- Set cages over emerging peonies.

BULBS

- **Fertilize spring-flowering bulbs** after they finish blooming. An organic fertilizer especially formulated for bulbs is a good choice, or a 5-10-10 fertilizer (lower in nitrogen). Keep fertilizer off the leaves and away from roots to avoid burning.
- **Remove faded flowers from daffodils, tulips and hyacinths** to prevent seed formation. Seeds take stored food from the bulbs.
- **Let the foliage die naturally.** Green leaves produce food for plant growth next year. After leaves turn yellow, cut and remove the stems and foliage of the plants. Don't braid or tie up the foliage since this could interfere with photosynthesis for food production.
- If daffodils have become crowded and aren't producing as many flowers as in past years, they need to be divided. Wait to do this until after the foliage has died back later in the summer. Bulbs dug and moved before foliage fades may not bloom for several years. Mark the location of the clump with a golf tee, plastic knife, or a tent stake to mark the spot.
- Divided daffodils should be planted in late spring to early summer. Before July 4th is an easy-to-remember target date.
- Identify spots now where you want to add additional daffodils, tulips, hyacinths, crocus or other spring-blooming bulbs next fall. Tent stakes work well as markers and can be a helpful physical aid to pictures.
- Don't forget to cut some daffodils or tulips to enjoy inside!
- Set out summer-flowering bulbs in the spring after danger of frost is past. Summer-flowering bulbs include amaryllis, canna, tuberous begonia, caladium, crocosmia, dahlia, and gladiolus.

FERTILIZATION

Perennial plantings can rob the soil of its natural fertility. However, do not fertilize perennials heavily. If a perennial bed is amended with compost, further fertilization may not be necessary, which will be shown by a **soil test.** If additional fertilization is indicated, a light fertilization program gives a continuous supply of nutrients to produce healthy plants. Use 5-10-5 fertilizer. Spread fertilizer in small rings around each plant in March or early April when the plant breaks ground. Avoid the crown and foliage. Repeat twice at 6 week intervals. This should be enough to carry plants through the summer.

Generally speaking, the best time to fertilize landscape plants is around the time they begin to grow actively. Most shrubs make active growth in the spring and early summer; it is good to fertilize them once around March or April. Some shrubs are described as preferring acid or alkaline soil and there are fertilizers made specifically for plants that prefer acidic soil. A general fertilizer can be used as well. Look up fertilization recommendations specific to each plant.

PRUNING

Forsythia x intermedia Photo: Jerry Opiola, Wikimedia Commons

Several early spring-blooming shrubs familiar to our landscape are ready for pruning in April after bloom is done: daphne , forsythia (*Forsythia x intermedia)*, winter jasmine (*Jasminum nudiflorum*), flowering quince (*Chaenomeles japonica*), pussy willow (*Salix discolor*), and witchhazel (*Hamamelis vernalis*). Fall-blooming witchhazel (*Hamamelis virginiana*) is also pruned in early spring.

For the above shrubs, flowers are produced on wood from **past season**, and begin setting buds for flowering next year **soon after blooming.** For a listing of other shrubs that can be pruned in early spring, take a look at the helpful **Shrub Pruning Calendar** published by the Virginia Cooperative Extension, Va.Coop.Ext. Pub.No. 430-462.

SEEDS AND SEEDLINGS

- Harden off seedlings when transplanting them to the outdoors. Place them in a shady location initially and bring them indoors at night if temperatures are predicted to drop below 50°F. For advice on transplanting seedlings, see the Virginia Cooperative Extension article, "Plant Propagation from Seed."
- **Transplant** on a shady day in late afternoon or in early evening. Water with a half-strength fertilizer solution.
- When transplanting seedlings in **peat pots**, break away the uppermost rim of the pot before planting and make sure the pot is completely covered with soil. If the rim is above the soil level, it will act as a wick and draw moisture away from the transplant.
- **Sow seeds directly outside** after checking planting directions on seed packets. For example, some seeds should not be planted until after the last frost; some can be planted 1-2 weeks before the last average frost date.

NOTE ON LAST AVERAGE FROST DATE

As noted in the March issue of *The Garden Shed*, "March in the Vegetable Garden," the last average frost dates have changed by 2-4 weeks, which will greatly impact when we can plant vegetables and ornamentals.

> *In a concession to climate change, the Cooperative Extension has redrawn the Hardiness Zone map for Virginia. Albemarle County has been moved from the Mountain to the Piedmont region in zone 7a, effectively* ***changing our expected final frost date from May 10-15 to April 15-25****. This 2-4 week earlier final frost can significantly affect when we plant specific vegetables.*

LAWNS

Many home owners have questions about lawn fertilization. Fall fertilization to promote root growth is the most beneficial. Spring is one of the trickiest times to optimize nitrogen (N) fertilization. Cool-season grasses have their most significant period of root development in the spring, so some N is beneficial. High rates of N promote a lush, dark green lawn, but there is too much emphasis on shoot growth rather than roots, and this often leads to serious problems with disease, insects, or drought later in the year. Warm-season grasses don't initiate much root growth until after shoot greening is complete, so the ideal scenario is to wait at least until 50-75% green-up before applying, and apply after the last frost. For more detailed information, see the Virginia Cooperative Extension publication and podcast, "Spring Lawn Fertilization–Getting It Right." Another helpful VCE publication is "Lawn Fertilization in Virginia."

Get a soil test to determine how much fertilizer is needed. Nitrogen is soluble and is not measured on a soil test because the percentages are so unstable. The assumption of the lab is that nitrogen needs to be replaced each growing season. The nitrogen recommendation is made specifically for the plants or crops you plan to grow.

You also need to check the pH level provided on the soil test. Proper pH is necessary for grass to absorb nutrients. Fertilization is not even effective if the pH isn't correct. You may discover that you need to adjust the soil pH by adding lime. Soil in our area is often acidic, and adding lime makes it more basic. The ideal pH for a lawn is 6.2-7.3. On a scale of 0-14, 7 is neutral. Less than 7.0 is more acidic. Greater than 7.0 is more basic. As an example, our soil test this year showed that the front lawn area had a pH of 6.0 and the back lawn had a pH of 5.5. Both of these areas are too acidic and require lime applications. Lime applications change the pH incrementally and need time to take effect. Follow the recommendations for the soil test; don't try to change the pH in one application if that's not recommended. It takes patience.

For mowing, keep the mower height at about 3" early in the season to store food. Aerate turf if soil is compacted.

HOUSEPLANTS

- Adjust amounts of water and fertilizer as your indoor plants get more window light.
- **Move your houseplants outside** once night-time temperatures consistently stay at 50° F. or higher.
- Repot any root-bound plants into slightly larger pots. Fertilize with a slow-release fertilizer.
- Place the plants in a shady area initially so that they can gradually acclimate to being outside.

FUNGII AND CATERPILLARS

There are several closely-related rust diseases that require two hosts to complete their life cycle. All three rusts can infect most varieties of eastern red cedar (Juniperus virginiana) as well as many other junipers, and a second host from the Rosaceae family. In spring, look for orange, jelly-like galls on cedar

Rust Gall on Shimpaku juniper Photo: littleinfo Wikimedia Commons

trees that spread rust diseases to apples, crabapples, and hawthorns. These galls do not impact the overall health of the cedar, but the second plant family in the cycle such as apples and crabapples may need to be treated with a preventative fungicide at bud break. Immunox is identified as an effective fungicide to protect against rusts. For an excellent presentation on cedar apple rust, see this short **video** from the Kansas Dept. of Wildlife, Parks and Tourism.

Yellow-billed cuckoo Photo: Andy Reago and Chrissy McClarren, Wikimedia Commons

Eastern tent caterpillars (*Malacosoma americana)* overwinter as eggs and the young larvae hatch at or before bud break in March or April. The young larvae gather near the fork of the tree limb to begin spinning their web or tent. Eastern tent caterpillars are primarily found on black cherry, crabapple, and apple trees. They are a favorite food of the yellow-billed and the black-billed cuckoo. Manual methods for removal of the tents are usually sufficient. Egg masses on trees can be removed in winter. Natural controls include predaceous and parasitic insects (especially wasps), and disease organisms. Bacillus thuringiensis (Bt, Dipel or Thuricide) is a safe biological spray if an insecticide is needed and should be applied as soon as the tents appear. Trees usually recover from lost foliage unless the tree is young or weakened and stressed from other problems.

MISCELLANEOUS "TASKS"

- Mount a rain gauge on a post or in the ground so you can monitor moisture; most gardens need about 1" of rain per week during the growing season.
- Welcome back, Ruby-throated hummingbirds! Males will return from their winter home in Central America around mid April. The females usually follow in May. See the May 2019 edition of *The Garden Shed*, "Gardening for Hummingbirds."
- Add plants that will attract birds to your landscape. See the February 2019 edition of *The Garden Shed*, "Creating a Bird Friendly Garden."
- Build a monarch station in your backyard. See the May 2017 edition of *The Garden Shed*, "Saving America's Iconic Butterfly from Extinction."
- Consider adding low-growing, native plants or sedges in bare areas where you ordinarily mulch, such as between shrubs in foundation plantings, or along paths.
- Swap out one nonnative plant with a native plant.
- Add edibles to your ornamental garden or to foundation plantings.
- Check yourself for ticks each time you come in from working in the landscape. Virginia's tick season generally picks up in April with summer months being the worst. This year's winter was very mild which means ticks will be very active.

Check out the Monthly Gardening Tips section now located under Gardening Resources on the main page of the PMG website: https://pmgarchives.com/gardening-questions/monthly-gardening-tips/#April

For additional information on April Tasks ad Tips, consult previous issues of *The Garden Shed*:

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Upcoming Events

By Susan Martin | April 2020-Vol.6 No. 4

Per CDC guidelines to protect the community, Piedmont Master Gardeners has cancelled all events scheduled for the month of April, as well as our 2020 Plant Sale scheduled for Saturday, May 2. We will continue to publish *The Garden Shed* on a monthly basis. Stay well, and enjoy the peace and wonder of spring in your gardens!

Yummy Recipes with Pawpaws

By mking | April 2020-Vol.6 No. 4

Although I haven't had a chance to test these recipes yet, when fresh pawpaws are available (late summer to early fall), I look forward to trying them. Take a look at Ky.St.Univ/Pawpaw/Recipes, which has recipes for everything from pawpaw ice cream to pawpaw punch. I've provided just a couple of those recipes below. If you're a fan of the public television show "A Chef's Life," you might also want to try Vivian Howard's recipe for Pawpaw Pudding with Vanilla Wafer and Sesame Crumble, PBS.org/recipes/pawpaw.

Pawpaw recipe tasting, courtesy of Kentucky State University.

Pawpaw Cookies

- 1½ cup pawpaw pulp
- ¾ cup shortening
- 1[1]/3 cup sugar
- 1 egg
- 3 cups sifted flour
- 1 Tbsp. baking soda
- 1 tsp. salt
- ¼ tsp. ginger
- ¼ tsp. allspice
- 1 tsp. nutmeg
- 1 tsp. cinnamon

Cream the shortening and sugar thoroughly. Add beaten egg and pawpaw pulp. Stir in the dry ingredients, which have been sifted together, and mix well. Form into small balls and place on cookie sheet. Press into round flat shape with the bottom of a glass that has been lightly greased. Bake in a moderate oven for about 15 minutes. Cool on a rack.

Pawpaw Cake

- ¼ cup shortening
- 1 cup sugar
- 1¼ cup sifted flour
- 1 tsp. baking powder
- 1 cup mashed pawpaw pulp
- 1 beaten egg
- 1 tsp. baking soda

- 1 tsp. vanilla

Cream shortening and sugar. Add well-beaten egg and mashed pawpaw pulp. Sift together flour, soda, baking powder, and salt. Stir into the creamed mixture. Add vanilla. Pour into an 8-inch square pan or two round layer cake pans. Bake at 375° F for 50 minutes. When cool, frost with cream cheese thinned with milk, or any simple white frosting. Top with fresh pawpaw slices.

SOURCES:

Featured photo courtesy Nancy Heltman, Va. Dept. Conservation & Recreation