



Horticulture Hints

for **CENTRAL** Louisiana

Summer 2019

Upcoming Events

Summer Field Day Expo*
June 27
2:30-7 p.m.
LSU Evacuation Shelter
8125 Highway 71 S,
Alexandria

**Horticulture sessions will be held at
Dean Lee Research Station,
8105 Tom Bowman Drive,
Alexandria, beginning at
2:30 p.m.*

Grant and LaSalle Master Gardener Program
Class enrollment and first class
August 13
6 p.m.
Grant Walker 4-H Educational Center
3000 Highway 8 East, Pollock

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CENLA Master Gardener volunteers work at the local VA hospital.

Busy Spring for Master Gardeners

Greetings! The Louisiana Master Gardener groups here in the Central Region have had a busy spring. Activities included hosting plant sales, assisting with the Spring Garden Seminar and Expo and supporting the LSU AgCenter booth at the 2019 Forest Hill Nursery Festival. Other volunteer efforts in the region include working in community gardens and volunteering at the local Veterans Affairs hospital in Alexandria.

Additionally, several volunteers assisted with the installation of the native plant and Louisiana Super Plant demonstration gardens at the Central Region Office located on Dean Lee Research Station next to the LSU-Alexandria campus. The demonstration gardens will be highlighted during the upcoming LSU AgCenter Central Region Summer Field Day Expo on June 27. Anyone interested in the horticulture sessions is invited to the Dean Lee Research Station at 2:30 p.m. Educational sessions will focus on edible landscaping, conserving water, Louisiana Super Plants and landscaping with native plants. Presenters include Heather Kirk-Ballard, LSU AgCenter consumer horticulture specialist, and Tammany Baumgarten of the Master Gardeners of Greater New Orleans and a landscape horticulturist. At the conclusion of the educational sessions, participants are invited to the Evacuation Shelter to attend the expo at 5 p.m. and meal at 6 p.m.

We encourage you to join us as we continue to expand and strengthen our horticulture efforts throughout the Central Region.

*Dr. Sara Shields
Louisiana Master Gardener State Coordinator
Central Region Horticulture Coordinator*

Watering Needs of Lawns and Gardens

With warmer weather and less reliable rainfall, lawns and gardens will require supplemental water. Water lawns in the early morning. Midday watering is not as efficient, and watering during the evening should be avoided. Residual water droplets on grass blades and higher humidity levels over night will favor the development of turfgrass diseases. Also, keep in mind the appropriate length of time for watering. A thorough, slow soaking will provide a longer lasting supply of moisture because it encourages the roots to grow deeper into the soil. In contrast, watering for 15 to 20 minutes here and there encourages shallow root growth, which leads to the grass drying out quickly in hot, dry weather.

When watering flower beds and vegetable gardens, most of this remains true. A thorough watering will encourage the plant roots to establish deeply, providing greater stability. You won't need to water as often. For flower beds, a 3- to 4-inch layer of mulch will help prevent the soil from quickly drying out. A layer of mulch shades the soil and reduces soil temperature, contributing to plant health.

Meeting the water needs of container plants can be tricky. Containers in sunny or windy areas may need to be watered twice daily. Be sure to check soil moisture levels by sight or feel to see if the plant needs to be watered. Overwatering containers causes plants to wilt because the roots are essentially "drowning." But underwatering containers can also cause plants to wilt. Many commercially available potting soil mixtures have water-absorbing materials incorporated to help retain moisture. Check containers often because potting mixes should never be allowed to fully dry out. Also, frequent watering of container plants will leach nutrients from the soil. Use either a water-soluble or slow-release fertilizer to reincorporate nutrients.

Lastly, consider the needs of your plants and lawn while on vacation. For indoor plants, relocating them from sunny, bright locations will reduce water needs. Be sure to water them well before leaving. For outdoor container plants, group them in a shady location and water thoroughly. Remember to water your lawn very

well prior to leaving. Both flower beds and vegetable gardens are vulnerable to drought while you are away. For these areas, connect either soaker hoses or sprinklers to irrigation timers placed at each faucet you use for irrigation. Set the timers to come on twice a week and stay on long enough to thoroughly soak the area.

Sara R. Shields

Use a rain gauge to help determine water needs of lawns and plants.



Tomato plant with 2,4-D damage due to animal manure. Photo by Dr. Raj Singh

Precautions for Organic Gardening

Gardeners use organic matter for its net benefit on improving soil health. Organic matter helps loosen heavy clay soils and minimizes soil compaction while also helping light, sandy soils hold more water and plant nutrients. However, a few precautions should be observed.

Organic mulches, such as pine straw, leaves and bark, are great for landscape and gardening. But limit the use of fresh wood chips in foundation landscaping around a house because it will invite termite infestations. Use the wood chips for garden pathways or place them in a compost bin to reduce the chips to organic matter.

Another organic material of concern for vegetable gardeners is animal manure. Over the years, gardeners have brought in tomatoes suffering from herbicide damage often caused by uncomposted animal manure. These manures can be contaminated with 2,4-D, a popular herbicide to kill broadleaf weeds in pastures, that safely passes through the animal and ends up in manure. Composting manures to the point where they resemble a crumbly, black soil will reduce the risk of herbicide contamination.

Even compost used as an organic soil additive has limitations. The consistent application of compost can raise levels of phosphorus to toxic levels. At the correct levels, phosphorus enables plants to set fruit. At excessive levels, phosphorus will chemically bind with iron and zinc, both essential in plants. Plant health suffers when iron and zinc are unavailable.

A soil test can detect an excessive phosphorus level. While the diagnosis is easy, the solution is much harder because phosphorus is very stable in soil and likes to stay around. If space is available, the best solution is to move the garden and test the soil at the old garden at least every three years to check phosphorus levels.

Another solution is to stop applying organic matter to the old site and begin growing cover crops, like legumes or grasses. Remove the cover crop, avoid adding compost and continue monitoring the site through periodic soil testing. Soil test kits are available at your local LSU AgCenter office. The cost for a routine test is \$10 per soil sample. Testing for organic matter is an additional \$4 per sample.

Keith Hawkins
Area Horticulture Agent, Central Region

Let's Be a Pollination Nation!

There's nothing my family and I love more than sitting out on the back porch or looking out from our kitchen windows and watching all the activity in our backyard. We just love watching the hummingbirds fly in to sip nectar from the feeders strategically placed just outside the window, and after catching our glances, they fly off like jet planes. When they slow down just slow enough to take a sip, they are a joy to watch! I never knew just how territorial hummingbirds are and what elusive birds they were until we had our feeders and pollinator garden put in. Additionally, our young girls aged 6 and 7 just love all the insect activity of the bees, butterflies and beetles that come to visit. They often watch the frenzy of honeybees and bumble bees in the Mexican heather in the beds as they wait for the school bus early in the morning. They especially loved observing the monarch butterfly caterpillars on the milkweed.

Anyone who has a little room to spare in the landscape or even a place to put containers can provide a wonderful place for these delightful little creatures that are essential to our environment. Seventy-five percent of the world's flowering plants require pollinators to reproduce. So, don't ask what your garden can do for you, but what you can do with your garden for our world! Get a pollinator garden growing!

I personally prefer perennials because they come back year after year and do not require much care, and, luckily, many of the plants that attract pollinators are perennials. There are so many plants to choose from, and nothing really needs to be coordinated. Just throw some plants out there. All you need is a fairly sunny place for your bed — preferably in a place that is easily visible for your viewing enjoyment!

*Dr. Heather Kirk-Ballard
Horticulture Specialist*

Plants that attract butterflies

Alyssum	Dianthus	Oregano
Aster	Fennel	Phlox
Bee balm	Globe thistle	Sages
Butterfly bush	Hollyhock	Scabiosa
Calendula	Lantana	Shasta daisy
Cosmos	Lavender	Sedums
Cupheas	Marigold	Verbena
Daylily	Musk mallow	Yarrow
Delphinium	Nasturtium	Zinnia



Lantana



Lemon sedum



Milkweed



Zinnias



Vermillionare
Firecracker plant



Bee on cleome
Senorita Rosalita

Plants that attract butterfly larvae (caterpillars)

Bean leaves – Long-tailed skipper
Cassias – Sulfur butterflies
Dill, Fennel and Parsley – Eastern black swallowtails
Hollyhocks – Painted lady
Lupine – Silvery blue
Milkweed – Monarch
Passion vines – Gulf fritillary
Verbena – Common buckeye

Plants that attract hummingbirds

Angel's trumpet	Delphinium	Lupine
Bee balm	Fire pink	Nasturtium
Bat face cuphea	Four o' clocks	Nicotiana
Bleeding heart	Firecracker plant	Paintbrush
Butterfly weed	Foxglove	Penstemon
Canna	Gilia	Petunia Phlox
Cardinal flower	Geranium	Sage
Century plant	Gladiolus	Salvia
Columbine	Glossy abelia	Scabiosa
Coral bells (heuchera)	Hollyhocks	Scarlet sage
Cleome	Impatiens	Sweet William
Crape myrtle	Iris	Verbena
Dahlia	Lantana	Yucca
Dame's rocket	Liatris	Zinnia
	Lily	

Plants that attract bees

Allium	Four o'clock	Poppy
Aster	Gaillardia	Sage
Basil	Geranium	Skullcap
Bee balm	Giant hyssop	Sunflower
Blanket flower	Globe thistle	Thyme
Borage	Hibiscus	Verbena
Cleome	Hyssop	Wild rose
Cosmos	Lavender	Zinnia
Cupheas	Lupine	
Flax	Mexican heather	



Checklist for June, July and August



Penta - Butterfly series



Mexican heather



Mini blue trumpet flower

Bedding Plants:

- Most annuals and perennials were planted in the spring from March to May. However, containerized plants can still be planted in the summer — and the earlier in the summer the better. Take into account the increasing temperatures and water demands. Newly planted bedding plants will need to be watered more frequently for good establishment.
- Annual plants to consider are celosia, cosmos, Mexican heather, nicotiana, pentas, purslane, salvia, sedums and sunflowers and zinnias.
- Perennials to consider include angel trumpet, butterfly weed, coreopsis, daylily, native hibiscus, lantana, plumbago, salvia, Shasta daisy, pennisetum, verbena and yarrow. Many of the perennials listed make great specimens for a pollinator garden!

Lawns:

- Plant warm-season grasses throughout the summer. Planting in June will provide more opportunities for lawns to become established before going dormant in the winter.
- Fertilize your bermudagrass, zoysia and St. Augustinegrass lawns in April so you can make another application this month. Do not fertilize centipedegrass.
- Herbicides — It's time to stop using weed killers in the lawn during these hot summer months, as the heat will cause injury to the lawns.
- Pesticides — Chinch bugs and mole crickets are a problem this time of year. If these are a problem in your lawn, follow pesticide labels and directions to deal with any issues these pests cause.
- Mowing will be the most common practice in the home landscape these summer months as the grass thrives and grows aggressively. Mow your lawn at the appropriate height for the type of grass: bermudagrass, 1 to 2 inches; zoysia, 1 to 2.5 inches; centipedegrass, 1 to 2.5 inches; St. Augustinegrass, 2.5 to 3 inches.

Shrubs and Trees:

- Plant — Increasing heat and water requirements make planting shrubs and trees this month more challenging. However, container plants can still be installed. Be aware of the need for more frequent watering as plants use water faster when it is hot, and they are actively growing. Transplanting trees and shrubs from one location to another this month is not recommended.
- Pests — Control aphids on crape myrtles and continue a spray program for roses that includes both a fungicide for black spot control and an insecticide to control pests.
- Prune roses in August to get them in shape for fall blooming season by cutting them back to the desired height and removing all dead, diseased and spindly stems.
- Fertilize roses just after pruning with a rose fertilizer to provide extra nutrients for the fall bloom.

Become a Louisiana Master Gardener

LOUISIANA



Master Gardener™

Contact your parish LSU AgCenter extension agent for more information or visit our website.



LSUAgCenter.com/MasterGardener
LMGCoordinator@agcenter.lsu.edu

*Dr. Heather Kirk-Ballard
Horticulture Specialist*

Vegetable Gardening

Growing vegetables in the summer months is very rewarding. Fresh tomatoes, okra, peppers, squash and more are delicious. But growing a large garden can be very time-consuming this time of year. Weeds are constantly sprouting, insects seem to flock to the garden and diseases ... well, we all fight diseases. If growing a summer garden seems overwhelming, just scale it back. Plenty of tomatoes, cucumbers and peppers can be produced in containers on your porch. There are three rules of thumb when growing vegetables in containers:

1. Make sure the container is large and has drainage holes. Do not grow in any containers smaller than 5 gallons in size. Larger is always better.
2. The container must be placed in an area that receives full sunlight.
3. Time your watering appropriately. If you water too long, all the nutrients will be leached from the container with the water. This isn't good because the roots are constrained to the pot. But if you do not water enough, the plants will wilt more quickly than when grown in the ground. Larger containers hold more moisture and can be watered less frequently than smaller containers. Increase container size, water at the base of the plants and never allow the plant to wilt.



June!

Mid-June: Plant a summer crop of heat-set tomatoes. Planting heat-set tomatoes is very important! These cultivars have been bred to set fruit during high nighttime temperatures, whereas other cultivars will not. If managed correctly, heat-set tomatoes will produce fruit through October. Preferred varieties include Florida 91, Solar Set, Sun Master, Phoenix and Bella Rosa.

Collard greens, cucumbers, watermelon, cantaloupe, okra, southern peas, pumpkins and summer squash can all be direct-seeded into the garden during June.

Start transplants of eggplants, peppers and sweet potato slips during June as well.



July!

Transplant a fall crop of heat-set tomatoes (late July) and bell peppers. Seed okra, southern peas, cucumbers, squash, cantaloupe, pumpkins and watermelons throughout July. Early to mid-July is the optimal time to plant pumpkins for harvest close to Halloween!

Late July to early August is a good time to start thinking about your fall garden. Order broccoli, Brussels sprouts, cauliflower,

Chinese cabbage, cabbage and collard green seeds. If you want an early September planting of these crops, start seed in seedling trays in early August. A greenhouse is not necessary to grow these crops this time of the year. However, daily watering is a must. And you'll need to inspect seedlings daily for insects, such as caterpillars and aphids. You need at least a five- to six-week window from planting seeds of broccoli, Brussels sprouts, cauliflower, Chinese cabbage and cabbage to transplanting them into the garden



August!

Plant bush lima beans in the garden. You can also start seeds of broccoli, Brussels sprouts, cauliflower, Chinese cabbage, cabbage, cucumbers, squash, mustard greens and shallot sets for an early fall garden start in September.

You can transplant broccoli and Brussels sprouts as early as mid-August in the garden. In North Louisiana start your lettuce seed and plant beet and Irish potato seed in the garden.

In late August, south Louisiana gardeners can start their lettuce seed and plant beet and Irish potato seed into the garden

*Dr. Kathryn Fontenot
Community and School Garden
Specialist*



Tips for Summer Care of Turfgrass

Summer is the peak growing season for lawns in Louisiana. If you did not fertilize during the spring, you still have time to fertilize and get your yard in good shape prior to fall. Keep up a good fertility program through early to late August. Remember to apply all granular materials on a dry lawn and water very soon after application. Make sure lawns are getting adequate amounts of moisture during the summer months, but don't overwater. Water deeply only once or twice per week or as needed based on the amount of rainfall. The purpose of irrigation is to supplement rainfall. I am not a fan of watering lawns every day unless we are in severe drought.

Consider aerifying compacted soil. I've seen aerification completely change thin lawns caused by compacted soil into thick and healthy turf. Aerifying helps with water percolation and increases the turf's rooting depth and makes for a more drought-tolerant lawn.

Fertilizing the Lawn

St. Augustinegrass and zoysia both respond well to fertilizer applications. St. Augustinegrass may be fertilized up to three times during the growing season, in April, June and mid-August. Fertilize zoysia twice per growing season, in April and again in July.

Bermudagrass is an even bigger fertilizer user and can be fertilized from three to five times during the growing season, especially if you like to mow grass. Carpetgrass and centipedegrass are not big fertilizer users. Usually, two applications, in April and July, will take care of centipedegrass, and one application in April will be sufficient for carpetgrass.

Centipedegrass should receive its second and final fertilizer application in July. For centipedegrass, apply only one-half pound of actual nitrogen per 1,000 square feet. For example, apply 3 pounds of 17-0-17 per 1,000 square feet or 5 pounds of 10-0-10 per 1,000 square feet. St. Augustinegrass would need 6 and 10 pounds of the aforementioned fertilizers.

If your lawn is not performing well, there could be a nutrient deficiency in the soil. The only surefire way to know what your soil needs is to collect a soil sample and submit it for testing at the LSU AgCenter Soil Testing and Plant Analysis Lab. In order to simplify the soil sampling and submission process, there are preaddressed submission boxes with sampling instructions at several garden centers throughout the state and at your local parish extension office. Once submitted, the results will be sent to your home mailbox and email in less than two weeks. Your parish LSU AgCenter extension agent can help you interpret the results from the soil sample and tell you exactly what nutrients are needed to make your lawn beautiful.

Correct Mowing Heights Are Highly Important

You may not know this, but there is a correct mowing height for your lawn. St. Augustinegrass is very finicky when it comes to mowing height. Don't cut it too short and don't allow it to get too tall. It likes to be maintained around 3 inches, the tallest mowing height of all the lawns grown in Louisiana. If you cut St. Augustinegrass too short, it becomes stressed and more prone to disease and weed infestations.

Centipedegrass is often maintained too tall. Centipedegrass should be mowed to 1 to 1.5 inches. This helps prevent thatch buildup. Zoysia also likes to be mowed in the 1- to 1.5-inch range. Bermudagrass should be mowed from 1 to 2 inches. Shorter mowing heights are better when more frequent mowing is possible. Keep mower blades sharp to ensure a clean cut and good lawn health.

Insect Pests

Watch for chinch bugs in St. Augustinegrass and bermudagrass lawns and treat with an LSU AgCenter-recommended insecticide, such as bifenthrin (Talstar and many other trade names). Chinch bug problems show up as yellowish-brown- to straw-colored areas of the lawn during hot, dry weather. These insects extract plant juices from turfgrass stems and crowns while pumping toxic salivary fluids into the lawn. The fluids disrupt the plant's vascular system. The damage actually resembles herbicide damage.

Check for chinch bugs in the lawn by saturating suspected areas with a gallon of water mixed with a few squirts of lemon dishwashing soap. This soapy solution irritates chinch bugs and brings them up near the grass surface so you can see them and determine if the bugs are causing the lawn damage. If it's hot and dry and there are dead spots in your St. Augustinegrass, chinch bugs are the first thing that I would consider.

Additional insect problems that appear during the summer include armyworms and tropical sod webworms. These moth larvae or "worms" can cause severe lawn damage very quickly and will need to be killed with insecticides to prevent further damage. Tropical sod webworms can devastate St. Augustinegrass and carpetgrass lawns. Armyworms prefer bermudagrass and can completely defoliate acres of pasture and lawns. Bifenthrin is a good insecticide option for tropical sod webworms, armyworms and chinch bugs infesting the lawn.

Be mindful of these pests as you walk through your lawns. Investigate damaged areas and treat accordingly.



Armyworms can devastate bermudagrass.

Virginia Buttonweed and Other Summer Weeds

In late spring to early summer, Virginia buttonweed starts forming mats that can eventually smother out the lawn. Pull up small populations of Virginia buttonweed or carefully treat with herbicides like metsulfuron (MSM Turf and other trade names) or Celsius. These herbicides work well with repeated applications spaced four to six weeks apart. Metsulfuron and Celsius can be safely applied on St. Augustinegrass, centipedegrass, bermudagrass and zoysia during warm weather. Carpetgrass will be damaged by Celsius herbicide. Bahiagrass will not tolerate metsulfuron or Celsius.



Flowering Virginia buttonweed



Common lespedeza can form mats in the lawn.

Common lespedeza is a mat-forming annual legume that emerges in the spring and lingers deep into fall throughout Louisiana. By late summer, the plant matures and becomes woody-like and tough on lawnmower blades. Metsulfuron works well on this weed but early summer applications are more effective.

Torpedograss is a perennial grass that's mainly a problem in south Louisiana, but I do get calls from north Louisiana as well. There are few lawn problems more devastating than a torpedograss infestation.



Torpedograss easily outcompetes centipedegrass.

Torpedograss is extremely tolerant of herbicides and easily outcompetes slow-growing grasses like centipedegrass.

The weed often starts from soil brought in during flower bed construction. However, it quickly spreads from the flower bed to the lawn. The ability to suppress torpedograss in lawns depends on the turfgrass species. Selectively removing torpedograss out of lawn grasses and sports fields is rarely completely achievable. Quinclorac (Drive and other trade names) is an herbicide that is somewhat effective in suppressing torpedograss in bermudagrass and zoysia. Unfortunately, you cannot use quinclorac in centipedegrass and St. Augustinegrass.

Sethoxydim (Bonide Grass Beater and other trade names) will temporarily injure torpedograss that is infesting centipedegrass, but it does not provide long-term control. The torpedograss recovers and the weed re-infests the centipedegrass again. Unfortunately, there are no selective herbicide options for torpedograss infesting St. Augustinegrass. Often, complete renovation is necessary when centipedegrass and St. Augustinegrass are severely infested.

If you decide to renovate and install a new lawn, consider sodding the lawn with zoysia (semi-shady or full-sun lawns) or bermudagrass (for full sun only). Converting to zoysia or bermudagrass will allow the use of quinclorac, the most effective selective herbicide on torpedograss. Installing zoysia may be the better fit for Louisiana because of its good shade and drought tolerance. Zoysia is not a high-maintenance grass when managed properly. Maintain zoysia at 1 to 1.5 inches with a sharp mower blade and fertilize twice per year. There are several sod farmers in Louisiana that grow zoysia, so it is readily available.

Proper lawn maintenance keeps your lawn healthy and reduces the need for the use of pesticides. If it becomes necessary to use a pesticide in the lawn, it is highly important to always read and follow their labels before using. The label will tell you how to use the product safely to achieve satisfactory results. You will find the label attached to the product's container.

*Dr. Ron Strahan
Turfgrass Specialist*

Large Patch of Turfgrass: The Most Common Lawn Disease in Louisiana

Large patch, formerly called brown patch, is the most common disease of lawns in Louisiana. The disease can occur on all warm-season turfgrasses, but is particularly prevalent on St. Augustinegrass. Symptoms appear as yellow, circular or irregularly-shaped patches of disease that can become quite extensive. As the disease develops, large areas of turf appear brown as smaller patches coalesce. The pathogen does not kill the grass but instead causes a rot at the base of the leaf sheaths, resulting in easy separation of leaves from the crown of the plant.

Large patch is caused by a soil-borne fungus, *Rhizoctonia solani*. Optimal conditions for disease development occur when nighttime temperatures range from 60 to 75 degrees and daytime temperatures do not exceed 85 to 90 degrees. Free water on foliage is required for disease to develop. The disease spreads rapidly on lawns with poor air circulation.

One way to reduce disease incidence and accelerate turfgrass recovery is to maintain a healthy lawn through balanced fertilization and irrigation and regular mowing. Never apply more than 1 pound of nitrogen per 1,000 square feet for an application, and always follow soil test recommendations for proper fertility. Large patch symptoms are exacerbated with excessive nitrogen application. Slow-release fertilizers with a balanced amount of nitrogen and potassium are recommended. Irrigate lawns as early as possible in the morning while taking rainfall into account. Water deeply and as infrequently as possible without causing drought stress. Improve internal soil drainage and reduce compaction by aerating the lawn regularly. Minimize the amount of shade and improve air circulation over the lawn. Raising the mowing height will help the turfgrass recover. Do not mow lawns when wet, and mow diseased areas last because disease may spread to healthy areas with infected grass clippings. Washing lawn mowers to remove grass clippings may also help reduce the spread of the disease. Excessive thatch can negatively affect turfgrass growth and provide a suitable environment for the pathogen. Dethatching may be necessary to improve turfgrass growth. In addition to cultural management practices, fungicide

applications may be required to achieve effective disease control. Always apply fungicide at the rate and frequency listed on the product's label. Fungicides containing active ingredients such as azoxystrobin, myclobutanil, propiconazole and triadimefon may be used to manage large patch.

Dr. Raj Singh
Plant Pathologist, Director of Plant Diagnostics Center



Large patch



Large patch

Growing Goji Berries, the Latest “Superfruit”

Exotic “superfruit” products are the latest addition to the booming popularity of “superfoods,” a marketing category (as opposed to a scientific one) that includes antioxidant-rich foods and beverages, such as red wine, dark chocolate, tea and blueberries. “Superfruits” is an expression that is frequently used to refer to fruits that have extraordinary antioxidant and nutrient qualities and provide benefits over and above the basic nutrition. Antioxidants are man-made or natural substances that may prevent or delay some types of cell damage. Exotic fruits like acai berries, goji berries, mangosteen, noni and pomegranates have earned this distinguished status. These fruits have exceptional amounts of vitamins, antioxidants and phytochemicals (various biologically active compounds found in plants) that play a significant role in preventing various diseases. There is no clear, well-established relationship between antioxidant values and any health outcome. Despite that, scientists all seem to agree that eating lots of fruits and vegetables is good for you. Additionally, scientific studies consistently show the benefits of daily exercise. So, I want to encourage you to get outside and combine the two with a healthy gardening activity like growing goji berries.

Goji is also known by a number of other names, including goji berry, wolfberry, boxthorn and matrimony vine. In China, where most of the world’s commercial goji berry production is found, most plants with high-quality fruit are from plants of *Lycium barbarum*. Wondering how goji berries taste compared to other fruits and how you can use them? Good news. Most people find their taste totally pleasant. They add a chewy texture to recipes, and, in terms of their flavor, you can think of goji berries like a cross between cranberries and cherries. They look similar to raisins because they’re normally dried, but they have a brighter pink color and a special sweet, tart “bite” to them.

The goji plant is a slightly thorny deciduous woody shrub that is typically 3 to 6 feet tall when cultivated and pruned, though plants can reach 12 feet tall in their natural state. Goji is a member of the solanaceous (tomato or nightshade) plant family, so its cultural and nutritional needs are similar.

Soil Type and Site Selection

Goji plants are adaptable and grow in a range of soil types with a preferred pH of 6.5 to 7.0. Goji won’t tolerate salinity well and prefers high fertility soils. The best growth is made in relatively light soils that are well-drained, such as sandy loams or loams in areas with plenty of sunshine.

Varieties

Breeding efforts in North American have been undertaken only within the last decade. Currently, only



Goji plant

two named varieties, Crimson Star and Phoenix Tears, are widely available. Some nurseries sell Big Lifeberry and Sweet Lifeberry.

Otherwise, plants may be grown from open-pollinated seed, but plant growth habit and productivity may be variable. Growers who intend to buy plants may wish to ask whether the plants were vegetatively propagated from superior clones or were grown from seed.

Planting

Plants grown from seed are similar in appearance to tomato seedlings at first. Seedlings and young plants are likely to be variable in appearance. Dormant nursery stock should be planted in spring once danger of frost is past.

Mulching after planting with an organic mulch can keep down weeds, moderate root temperatures and promote establishment. Irrigation is highly recommended, especially during the establishment year, because the root system is fine and can easily dry out, and the fruit are prone to blossom-end rot under conditions of low or uneven moisture. However, overwatering should be avoided. Plants should be spaced 3 to 5 feet apart within the row and at least 6 to 8 feet between rows, though wider between-row spacing may be needed to accommodate equipment.

Time to Maturity and Yield

Plants will begin fruiting two years after seeding or the year after planting if 1-year-old transplants are used. Full yields will be reached four to five years from seeding. Maximum yields in China are reported to be about 7,000 pounds per acre.

Fertilization

A good starting point would be to amend the field as you would for tomatoes. Nitrogen at 3 ounces per 100 square feet per year is recommended for a mature planting and is split into three applications applied at bud break, at flowering and then as fruit begin to ripen. Plants are sensitive to high salt levels; compost can be used to provide nutrients as long as salt levels are not excessive.

Pruning

Fruit are borne on the current year's wood, mainly from the wood grown in the spring and fall. The goals of pruning are to limit plant height, improve ease of harvest, encourage light penetration into the plant, improve foliage drying and encourage formation of lateral branches to maximize fruit production. Canes that are untipped will continue to grow and produce few lateral branches, while canes that are headed back will produce more laterals and higher yields.

Little research has been conducted to determine the best pruning methods for our region. However, in other production areas, plants are usually limited to one single main stem. Pruning is done during the dormant season to remove spindly canes, remove dead and damaged wood, improve plant shape and shorten laterals. During the summer, pruning is done to head back growth, encourage lateral formation and remove new shoots. One of the most important goals of pruning is to produce an open-canopy structure that allows plenty of sunlight infiltration.

Harvest

Plants first bloom in late spring to early summer, and fruit will begin to ripen in mid-summer. Harvesting is completed by hand, as the berries leak juice and turn black if they are bruised or squashed. Berries are currently sold mainly as a dried product, but they can also be sold and eaten fresh or turned into juice. Labor requirements are substantial.

Pests and Pest Control

In other areas pests have included leafhoppers, Japanese beetles, thrips, aphids and spider mites. Diseases included anthracnose, early blight and powdery mildew. Blossom-end rot can be an issue as well if moisture levels are uneven. Aphids and gall mites have been problematic in other countries, and birds are reported to have an affinity for the fruit.

Why Should You Grow Goji Berries?

This shrub is easy to grow and will reward you with loads of nutritious berries over a long harvest season. Goji berries are rarely grown commercially in the United States, and their shelf life is short, so fresh berries can seldom be found at local supermarkets or farmers markets. Therefore, home growing is the way to go for fresh gojis. Also, dried gojis aren't cheap, and the overwhelming majority of commercial goji berries comes from China, where information about how they're grown isn't usually available. If you like knowing where your food comes from and how it's grown, you definitely should try tending these plants yourself.

*Dr. David Himelrick
Fruit Crops Specialist
(Retired)*



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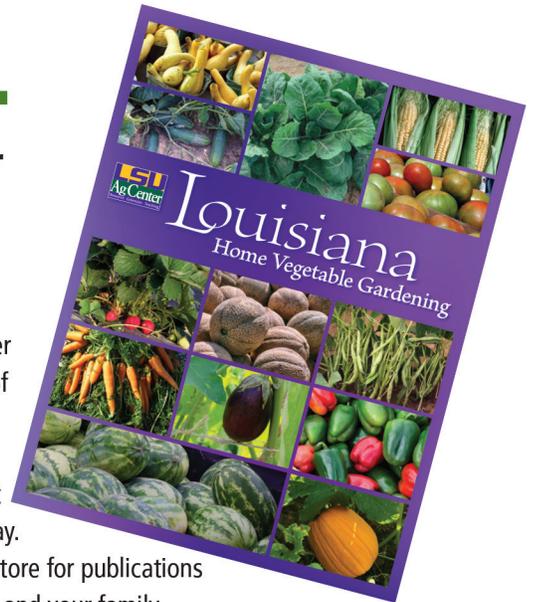
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