

November 2020-Vol.6 No. 11



Table of Contents

- Upcoming Events** 1
- The November To-Do List** 4
- Edible Gardening in November** 10
- USDA Organic: What does it Really Mean?** 16
- Distinctive, Often-Overlooked Veggies** 25
- Crown of Thorns** 32

Upcoming Events

By Susan Martin | November 2020-Vol.6 No. 11

PIEDMONT MASTER GARDENER GARDEN BASICS CLASSES ON ZOOM

Saturday, November 21

2:00 - 3:30 PM

“Water-Wise Gardening” with Deborah Harriman.

Become a steward of the environment by managing water efficiently in your landscape. Learn how to control erosion and runoff and how to help plants survive in wet, dry, and hot conditions.

Classes are **FREE** but registration is required. Fill out a [registration form](#) by **November 16**. An invitation to the **Zoom** session will follow.

IVY CREEK NATURAL AREA SELF-GUIDED OR VIRTUAL WALK

Co-sponsored by Jefferson Chapter Virginia Native Plant Society and Ivy Creek Natural Area

First available for download on or about November 21

Are you looking for a fun family activity outside while social distancing? Come out to Ivy Creek and take part in November’s **virtual** self-guided plant walk. Or, follow the walk from home and identify plants.

Native plant enthusiast **Ruth Douglas** will lead this late fall virtual plant walk, giving participants an opportunity to learn to recognize some of Ivy Creek’s wildflowers and alien invasives in their winter form; there are a surprising number of herbaceous wildflowers and invasives that can be identified from their dry stems and leaves. On or about **November 21**, a link to the walk will be posted on Ivy Creek’s web page, <https://ivycreekfoundation.org/>, the Jefferson Chapter Facebook page, <https://www.facebook.com/JeffersonVNPS/>, and the VNPS web page, <https://vnps.org/jefferson/>.

VIRGINIA NATIVE PLANT SOCIETY

“Communities Shaped by Water” - Friends of Dyke Marsh Program [via ZOOM] Tuesday, November 10

7:30 - 9:00 PM

Water is essential for life. Plants are composed mostly of water, which also defines reproductive strategies and vegetative community composition.

Join Charles Smith to explore how these issues are expressed in natural communities in our region and how changes in land use and climate affect the health and future of our ecosystems. A native Arlingtonian, Charles is a naturalist and ecologist with 28 years of experience in natural resource and wildlife inventory, planning, management and monitoring. He is currently Fairfax County’s Stormwater Planning Division branch chief, focusing on stream and natural area restoration.

This meeting will be online using the Zoom platform and requires advance registration. To sign up, please email info@fodm.org and put “November 10 Program” in the subject line and your name in the body of the email. We will confirm your registration and send you instructions for joining the meeting. For more information on the event, see this [link](#).

CHARLOTTESVILLE AREA TREE STEWARDS (CATS)

“Trees and Wildlife” class via Zoom
Thursday, November 12
7:00-8:30 PM

This FREE class will be presented by Kathy Nepote. **Registration is required.** If you are already on the CATS mailing list, you will receive the invitation to register. If you would like to be added to the mailing list for notification of these classes and other CATS events please write to communications@cvilleareatreestewards.org. Please see this [link](#) for recommended readings.

[ECOLOGICAL LANDSCAPE ALLIANCE \(ELA\)](#)
VIRTUAL CLASSES/WEBINARS/CONFERENCES

Topics for November:

Climate Change and Native Plants
A Stick in the Spokes - Meaningful Interventions in Landscape Systems
Regenerative Solutions for Resilient Landscapes
Deer-Resistant Native Groundcovers
The Challenge and Complexities of Ecological Gardens - A 5-year Journal of Discoveries
Evaluating Soil Health

Topics for December:

All-Day ELA Ecological Plant Conference 2020
What's Growing on at Monticello?
Creating Outdoor Spaces that Connect Children to the Natural World

Please see this [link](#) for information on classes, fees, and to register.

THE NATURE FOUNDATION AT WINTERGREEN
Hike with a Foundation Naturalist

Join a Foundation Naturalist for an **interpretive hike** and explore Wintergreen's natural environment! These hikes are rated moderate to strenuous. Meet at Trillium House parking lot. **Registration and payment due before event.** Due to COVID- 19, we are following the state's restrictions. See this [link](#) for information about the different types of hikes available, and to register.

The Nature Foundation at Wintergreen Greenhouse

Native wildflowers and shrubs are available for sale **by appointment only, until about mid-November.** Customers will be given a date and time to pick up their plants. There are about 1,500 mature native shrubs in 3-5 gallon pots in inventory. Shrubs are grown from 2" cuttings of local ecotypes. There is also a good selection of local ecotype wildflowers. For more information, and a list of plants, see this [link](#). Please contact Doug Coleman, director@tnwf.org for information on plant availability; orders will be accepted at this email as well.

BLUE RIDGE ECO FAIR VIRTUAL EVENT
Saturday, November 14, 11:00 AM to
Sunday, November 15, 6:00 PM

Hosted by [SustainFloyd](#), this two-day virtual event will share a series of live and prerecorded presentations and online discussions that will include speakers, virtual tours, panel discussions, skill shares, and a vendor EXPO for related products. This year 's program will focus on strategies for energy conservation, sustainable

agriculture, environmental protection, and simple living. There will be practical information and resources for householders and “big picture” presentations.

Contact us with your questions at support@blueridgeecofair.com

Register at <https://hopin.to/events/blue-ridge-eco-fair>

JEFFERSON’S MONTICELLO ANNUAL WREATH EVENT – NOW VIRTUAL!

Handmade for the Holidays: Décor for Your Door

Saturday, December 5

1:00 PM EST

The now virtual workshop will again be led by veteran Monticello Guide and Floral Designer, Lou Hatch, who is responsible for the design and installation of Monticello’s holiday decorations. This year’s event adds exciting elements to the program, including guided instruction on three different styles of wreaths: Traditional, Natural, and Modern. During the class, Hatch will walk you through the creation of a beautiful door decoration that will last throughout the season. See this [link](#) for information and to register. Fee is \$25.

NDAL - NEW DIRECTIONS IN THE AMERICAN LANDSCAPE

Founded in 1990 by Larry Weaner

An Educational Series Dedicated to the Art and Science of Natural Landscape Design

See this [link](#) for information on upcoming VIRTUAL educational programs dedicated to ecological landscape design. Developed for both professional landscape designers and nonprofessionals, and varying in length from 90-minute short courses to multiple days, these programs focus on **innovative theory, practical application, and an expansive vision of “Natural Design.”**

VIRGINIA COOPERATIVE EXTENSION VIDEO LIBRARY

VCE offers a **variety of videos** on topics geared to both beginner and more advanced gardeners. Examples of topics include:

Succulent Propagation and Care

Downy Mildew on Basil

Pressure Canning

Cedar Apple Rust

For these and many more videos that address specific topics or those of more general interest, see this [link](#).

The November To-Do List

By Cathy Caldwell | November 2020-Vol.6 No. 11



You can still do some planting this month, though your options are limited. And yes, there's still weeding to do. If you haven't already done so, clean up thoroughly under plants that have had disease and insect problems.

Planting Trees and Shrubs

You can keep **planting new deciduous trees and shrubs** this month, at least until the ground freezes.

When might that happen? There is no way to be certain, but generally the ground freezes after the first hard frost. It's reasonable to expect warmer-than-normal temperatures this November. [National Oceanic & Atmospheric Admin. Predictions Nov.7-20, 2020](#) (you may want to bookmark this handy source for longterm

weather predictions). As long as the soil temperature is above 40°F, roots will continue to grow, and that root growth enables the tree to thrive and survive.

Please note, however, that fall is **not** the ideal time for planting broadleaf evergreens. In addition, some trees are difficult to transplant, and should only be planted in spring; among these are: birches, dogwoods, European hornbeams, hawthorns, golden raintree, magnolias, oaks, poplars, sourwood, sweetgum, tulip tree, willows, black gum, and zelkova.

Bare-root trees can be planted in the late fall, winter, or early spring when they are **dormant**. Do not buy or plant a bare-root tree which shows more than 2 or 3 inches of new growth.

Container-grown trees and shrubs and those that are balled-and-burlapped may be planted at **any time the ground is not frozen**. How do you determine if the ground is frozen? Your shovel will be unable to penetrate the soil if it is frozen. Avoid transplanting shrubs and trees on sunny or windy days, which can expose the roots to light and drying winds, stressing the plant. If you find yourself having to plant very late in the fall, be sure to mulch the area heavily to keep the ground thawed so roots can become established.

- **Before you bring a tree or shrub home from the nursery, do some advance thinking and planning**, and here's a good place to start: [Planting a New Tree, The Garden Shed, Nov 2015](#).

In order to choose the right tree for your site, consult [Right Tree/Right Place List/C'ville Tree Stewards](#). If you wish to plant on very compacted soil, you'll need to amend a large area (not just the planting hole), as directed in [Univ.of Maryland Ext. Planting Process/Shrubs & Trees](#).

There you'll also learn about the benefits and methods for creating "tree islands" for multiple trees.

Before you start digging a hole, **consult some expert tree-planting instructions**, such as those at [Univ.of Maryland/Planting Process - Trees & Shrubs](#) and [Tree Planting Guide, C'ville Tree Stewards](#). The **Charlottesville Tree Stewards** recommend turning your tree into a "bare root" tree before planting, and they have produced a video to show you how, which you'll find here: [Tree Planting Video/C'ville Tree Stewards](#). If you purchase a balled and burlapped tree, find planting instructions for it here: [Univ.of Ky. Planting Balled and Burlapped Trees and Shrubs in your Landscape](#).



Tree Planting Video, Charlottesville Tree Stewards

- More videos, anyone? In addition to the Tree Stewards video mentioned above, you'll find tree-planting videos at [Planting a Container Grown Tree Video Univ.Md.Ext.](#) and [How to Plant a Tree in Your Landscape Univ.N.H.Ext.](#)
- As these publications and videos explain, it's very important to **dig a hole that is wider than the root ball** — most experts prescribe a hole that is at least **two to five times wider** than the diameter of the root ball but **no deeper** than the height of the root ball. Remove any wires, ropes, and non-biodegradable material from the root ball before back filling the hole, and if you've got a containerized plant, you'll need to deal with any circling roots.

The received wisdom on **circling roots** has involved cutting them, but some authorities now suggest simply breaking a few and loosening them from the soil of the root ball, as demonstrated in the video mentioned above, [How to Plant a Container Grown Tree](#).



Circling roots in container-grown tree stock can sometimes be corrected by “shaving” the outer inch of the root ball on all sides and the bottom. Photo: Alison O’Connor, Larimer County Extension, Bugwood.org, [CC BY-NC](#).

- **Do NOT add any soil amendments such as compost or peat moss to the planting hole** because this will encourage the roots to stay in the planting hole instead of growing outward. After you finish backfilling, apply about 1-2 inches of mulch over the site but don’t let the mulch touch the trunk of the plant. Leave a 2” to 3” gap between the mulch and the trunk or stem. Water the plant well but not to the point that the soil becomes soggy. You’ll need to keep watering regularly for a year or more to get your tree established. For lots of good detail on how often to water and on how much to water based on trunk size, I highly recommend [Watering Newly Planted Trees and Shrubs](#).
- Be sure to **water newly-planted trees and shrubs deeply before the first hard freeze** so that they are better prepared to withstand winter weather.

Transplanting Trees and Shrubs

Many trees and shrubs can still be transplanted this month, so long as they are dormant. Most woody ornamentals in our area are dormant by mid to late fall. Some plants do not respond well to being moved in the fall, including magnolia, tulip poplar, oaks, birch, rhododendrons, hemlocks, and flowering dogwood.

- **Smaller deciduous trees and shrubs** can be transplanted when dormant.
- **Transplanting larger trees** — those with a **trunk diameter of two inches or more** — is more difficult and may require a professional. Transplanting established trees and shrubs will involve some risk of failure because you will damage many of the roots during the transplanting process.
 - **But unless you did some advance root-pruning six months ago, do not try transplanting larger trees and shrubs now.** If not root pruned, the plant may die from transplant shock because of root loss. Tree and shrub roots normally grow well

beyond the soil volume that can be moved; in established trees, the roots extend 50% beyond the drip line. To keep most of the roots within a small area, these **roots need to be pruned at least six months in advance of transplanting**. Ideally, root pruning is done in stages about 1-to-2 years before the plant is transplanted. Plants to be moved in the fall (October or November) should be root pruned in March, and those to be moved in spring (March) should be root pruned in October. Root prune **only after leaves have fallen from deciduous plants in fall** or before bud break in the spring.

- If you intend to transplant a good-sized tree or shrub next spring, you can certainly **do your initial root pruning now**. Begin root pruning by marking a circle the size of the desired root ball around the tree or shrub. Then dig a trench just outside the circle. To determine the correct size for the root ball, consult the **chart** and other **detailed instructions on root pruning and transplanting** at Clemson's Home & Garden Information Center, HGIC/Clemson.edu. Other helpful sources are PennState Extension/Transplanting or Moving Trees and Shrubs in the Landscape and Univ.Md.Ext./Trees & Shrubs Planting Process.

Finish Garden Clean-up

To reduce pest and disease problems next spring, **remove and dispose of diseased foliage** from roses, peonies, irises, daylilies, and any other plants that are subject to fungal leaf diseases. Do not put the diseased foliage in your compost pile. Bag it and put it in the trash. Do the same with foliage from plants that suffered insect problems.

Weeds and Invasives



Common chickweed (*Stellaria pallida*). Photo: John D. Byrd, Miss.St.Univ., Bugwood.org, CC BY 3.0

I have lots of **chickweed** appearing in my garden beds. Fall is when chickweed seeds germinate; then the plant overwinters and drops seeds in spring. Now is the time to remove chickweed and other winter annual broadleaf weeds that emerge from September through mid-October; henbit/deadnettle, chickweeds, Carolina geranium, and buttercup are the winter annual broadleaf weeds you're likely to see in your gardens. Get them now before they disperse seed next spring.



Henbit seedling. Photo: Steve Dewey, Utah State Univ., Bugwood.org, CC BY 3.0

Other weeds — the annuals — are about to die anyway, so don't waste your energy on them; among these are crabgrass, foxtail, and spurge. If you're having trouble identifying a weed — or are worried that it might be a wonderful native plant — try using Virginia Tech's Weed Identification site, Weed Identification/ VT.edu.

There's still time to remove woody invasives using methods that apply a small amount of herbicide to a cut in the stem or trunk — the "hack and squirt" method and the "cut stump" method, for example. Late fall is actually a good time for these methods, according to the Blue Ridge PRISM, because

*“when actively growing, plants send nutrients and water upward, so an herbicide may not be moved down into the root system. **From late summer into late fall, movement is downward into the roots for winter storage, so herbicide applied at that time does an effective job.**”*

[How to Control Invasive Plants Effectively and Safely with Herbicides/Blue Ridge Prism](#). The Blue Ridge Prism website has detailed instructions on how to use these methods and helpful photos. Another helpful source is [Southeast Exotic Pest Plant Council/Application Methods for Recommended Herbicide Treatments](#).



Amaryllis. Photo: [Cindy Gustafson/Flickr/public domain](#)

If you'd like to enjoy **paperwhite narcissus and amaryllis** over the holidays — or give them as holiday gifts — now's the time to get started. Plant paperwhite bulbs, pointy side up, in soil or in water. In just a few days, roots will sprout, and in about 4 to 5 weeks, blooms will emerge. Plant around Thanksgiving for bloom at the holidays. Amaryllis is another bulb that can be started in November for holiday season bloom. On average, amaryllis will bloom about 6 to 8 weeks after planting. For detailed planting and care information, read [The Garden Shed/Amaryllis](#).

Lawn Tasks

For the last grass cutting of the season, mow the lawn fairly short in preparation for winter. Although not normally a problem in Virginia lawns, grass that is left too long over the winter months can fall over on itself and become matted under a heavy snow. That reduces air circulation and can create the perfect conditions for a destructive early spring lawn disease called snow mold. Then clean your lawn mower and remove any gasoline from it in preparation for winter storage.

It's not too late **to apply fertilizer to your lawn**, though it should be a **nitrogen-only fertilizer**. For cool-season grasses, the preferred time for applying N fertilizer is August through October. The second best time is late fall, mid-October to late November, when cool temperatures have reduced top growth, but root growth is still active. Low rates of N fertilizer (40 to 50 lbs./acre) will “set-up the plant” for winter and encourage healthy early-spring growth. Not only does enhanced root growth aid in the uptake of water and nutrients, carbohydrate buildup in the stem bases promotes winter survival and spring regrowth. Never apply lawn fertilizer to frozen soils. For warm-season grasses, the preferred period for applying N is mid-April through mid-August. For overseeded lawns only, a secondary period for applying a fall nitrogen application is mid-October to mid-November.

For recommendations on appropriate **fertilization schedules and application rates**, see the VCE publications, “Maintenance Calendar for Cool-Season Turfgrass Lawns in Virginia,” at [Va.Coop.Ext. Pub. No. 430-523](#) and “Maintenance Calendar for Warm-Season Lawns in Virginia,” [Va.Coop.Ext. Pub.No.430-522](#).

You may want to review our previous tasks and tips articles, some of which cover additional tasks or provide additional details about November tasks in the ornamental garden.

[Tasks & Tips Nov. 2015](#) (general yard tasks, tool maintenance)

[Tasks & Tips Nov. 2016](#) (garden clean-up, mulching, winter care of tropicals)

[Tasks & Tips Nov. 2017](#) (preparing the garden for winter) (houseplant care)

[Tasks & Tips Nov. 2018](#) (winter prep for container plants; protecting trees & shrubs from mammals)

[Tasks & Tips Nov. 2019](#)

SOURCES:

[Monthly Gardening Tips/Piedmont Master Gardeners/Gardening Questions/#November](#)

[Planting a Tree or Shrub/Univ.Maryland Home & Garden Information Center](#)

[Fall Lawn Weed Control Strategies/ext.vt.edu](#)

[Planting Trees/Va. Coop.Ext. Pub.No.426-704](#)

[November Tips: Trees, Shrubs and Groundcovers/Va. Coop.Ext.](#)

[Why It's Great to Plant Trees in the Fall/Arbor Day Foundation](#)

Featured photo: *Eragrostis spectabilis* (purple lovegrass) Photo: Cathy Caldwell

Edible Gardening in November

By Ralph Morini | November 2020-Vol.6 No. 11



Based on our location in Hardiness Zone 7a, our expected first frost date is between October 15th and 25th. It looks like it will be a bit later this year. Nevertheless, even the best cared-for warm weather crops are about finished. Tasks become cleaning up and protecting soil over the winter and maybe starting a compost batch with fall leaves or adding compost to beds in preparation for next spring's planting. If you have winter hardy crops growing, it makes sense to protect the plants to extend their growth during the coming colder weather. Let's talk about what to do and how to do it.

Cleaning and protecting your beds

Beds that no longer have a growing crop in them should be cleaned. Remove plants and plant debris. It can

be composted if clean, but if it shows evidence of disease or pest infestation, it should be removed and bagged for disposal or burned. It is too late now to establish a cover crop so covering soil with an organic mulch is the next best choice. Mulched leaves are a good and generally available option. I put the bagger on my mulching mower to collect chopped leaves, then use them to protect soil and to start new compost batches. Cutting or breaking them up is important to allow water infiltration and reduce the likelihood of wind dispersal. They also break down faster, providing needed organic matter for the soil while reducing carbon loss, erosion and moderating soil temperature. Other mulch options include straw, wood chips and saw dust.



Garden with cover crops inside fence and new native perennial bed outside: Photo: Ralph Morini

Cover Crops

Best practice today is considered to be keeping live roots in the soil, year around. Cover crops are a recommended way to do this when other crops are not being grown. Different varieties of cover crop are available. Seed companies typically offer numerous options. I chose a field pea/oat mix this year. The oats establish quickly, helping suppress weeds and the peas are a legume that will add plant-usable nitrogen to the soil. In addition, the roots of both add porosity and structure to the soil that will benefit next year's vegetables.

When cut in the spring, the vegetative material can be used as a green manure, composted or used to mulch transplants. The roots are left in the soil to decompose, adding more organic matter.

It is late to plant a cover crop now, but if you haven't done it, you would be wise to make a point to put one into your plan for next fall. More information on cover crops can be found in earlier *Garden Shed* articles including [Cover Crops](#) from September 2015 and [Minimum Till Cultivation](#) from the February 2019 issues.

The photo above, shows a month old cover crop of field peas and oats inside the fence and a new perennial

bed just outside the fence. The idea is to improve the soil in the beds while increasing the attractiveness of the garden to pollinators. The perennials are plants with bloom times from early spring through fall to provide a steady nectar supply through the growing season.



DIY Row Cover: Photo: Ralph Morini

Winter Hardy Crops

Winter hardy crops including many greens like lettuces, spinach, kale and other brassicas, if established during September or early October, should be harvestable now. Mulching the soil around the plants will help reduce cooling and keep them productive into the winter. Using row covers maintains a temperature beneath the fabric up to 5 or 6° F higher than ambient, while still allowing rainfall and sunlight to reach the plants. For more information on row cover options see the article [Row Covers: A Gardening Season Extender With Benefits](#) from the November 2019 *Garden Shed*.

Adding Compost

This is a great time to add a layer of compost to your beds. A couple of inches of clean compost, worked into the top few inches of soil, then covered with an organic mulch will have very positive impact on next spring's soil readiness. Best practice is not to till deeply or turn the soil over, but to stir the compost into the soil surface, letting soil organisms decompose and carry the organic material deeper into the bed.

To someone used to tilling, this seems counterintuitive. However, research and the practical experience of many organic market farmers demonstrate that tilling pulverizes and destroys soil structure, reduces soil organism activity, and releases stored carbon to the atmosphere. Varying the crops grown in specific garden locations, using cover crops, adding organic matter as described, and amending as soil tests indicate are the best way to improve and regenerate soils.



*Grass clippings and leaves going into the compost bin.
Photo: Ralph Morini*

Start a New Compost Batch

With the abundance of fall leaves, this is a good time to start a new batch of compost that will be ready for next summer's garden. Final lawn mowing and leaf removal generate a great mix of nitrogen- and carbon-based organic materials to get decomposition started. Augment the nitrogen input it by mixing in kitchen fruit and vegetable scraps and coffee grounds during the winter. Microbial activity will definitely slow down during the dead of winter, but with a little mixing to keep it aerated and good moisture management, it will be primed to take off as temps rise above 50° in early spring. The finer you chop the materials, the faster they will break down. Check out [this article](#) from the January 2018 *Garden Shed* for detailed composting advice.

Prepare a New Bed

The one circumstance where tilling soil may still be useful is in starting a new bed where loosening soil and

adding organic matter more deeply can provide some benefit. However, sheet composting or lasagna mulching provides a non-dig alternative that may make sense for you. It involves scalping the grass off the bed area(s) and covering it with alternating layers of carbon and nitrogen rich materials. The layered material will undergo a cold composting process, and over a few months, will provide a carbon-rich surface that helps soil organisms flourish and carry organic matter deeper into the ground. In the meantime, crops can be planted directly in the surface material. Starting the process now should provide you with a planting-ready bed for warm weather vegetables next spring. For a detailed description of how to do this, refer to the article [Lasagna Mulching](#) in the September 2020 *Garden Shed*.

Other tips for the month include:

- November may be your last chance to get your **garden documentation** in order. Knowing what you planted and where you planted it is important. Good crop rotation practice helps minimize disease and insect issues next year. Also, noting the crops and varieties that did and didn't do well provides guidance as you shop for seeds and plants for next year's garden.
- **Root crops** such as carrots, radishes, turnips, and parsnips **store well outdoors** in the ground. Just before the ground freezes, bury these crops under a deep layer of leaves or straw. Harvest as needed during the winter months.
- If you are a fruit grower, November is a good time to **mulch fruit trees**. Extend 2-3 inches of mulch to the edge of their canopy, but keep it a few inches away from the trunk to prevent potential rodent damage.
- **Early November is a good time to plant most new fruit trees**. Mulch the same as for established trees.
- **Fallen, spoiled or mummified fruits should be cleaned up** and destroyed by burying or placing them in the trash. Good sanitation practices reduce re-infestation of insects and diseases next year.
- **Mulch strawberries** with straw or leaves. This should be done after several nights near 20°F but before the temperature drops into the teens. Apply the straw or leaves loosely but thickly enough to hide plants from view.
- **Now is a good time to collect soil samples** to test for pH and nutrient levels. Organic amendments are typically slow-acting, so application in the fall improves soil for spring planting. A soil testing kit is available at your local Extension Office. The Charlottesville-Albemarle Extension Office is located in the County Office Building on 5th Street Extended, 460 Stagecoach Road, Charlottesville. Due to COVID-19 restrictions, please call to learn how to pick up your test kit: Tel. (434) 872-4580.
- **Drain and roll up garden hoses**. It is easiest if done on a warm, sunny day. Hoses are hard to manage when cold and stiff. It's difficult to wind a cold water hose into a tight coil. Best to disconnect them from outdoor faucets.
- Be sure to shut off and **drain rain barrels, outdoor water pipes and irrigation systems** that may freeze during the cold weather.
- **Rhubarb** plants that are four years old or more can be **divided and transplanted**. Prepare the site by digging deeply and incorporating compost. Your efforts should be rewarded with a good yield in upcoming years.
- **Tidy up the asparagus bed**. Cut off the tops of the plants to about 3-4' above the soil level. Weed, and add a winter dressing of compost or aged manure to the bed.
- If you have been thinking about installing a **deer fence** around your vegetable garden, the fall and winter months are a good time to [build it](#).

I hope you find this information helpful and that you will check in again next month. Comments are welcome.

Sources:

Cover photo: Onions drying by Ralph Morini

[“Monthly Horticulture Tip Sheet: November,”](#) VCE Monthly Horticulture Tip Sheets, Virginia Cooperative Extension, Albemarle County/Charlottesville.

[“November Tips: Vegetables”](#), Diane Relf, Virginia Cooperative Extension.

[“Monthly Gardening Tips: November,”](#) Piedmont Master Gardeners website, Gardening Resources.

USDA Organic: What does it Really Mean?

By Ralph Morini | November 2020-Vol.6 No. 11



“Organic” is a word with many meanings. In agriculture it signifies a belief system that embraces holistic natural farming processes. In our food system, the USDA has imposed regulations to ensure that specific “organic” practices are followed in the production of crops, livestock, processed products, and wild crops. This article will outline the history, scope and practices of the USDA organic program while assessing the health, environmental implications and significance for home gardeners.

History and Program Structure

While gardening using natural practices dates back centuries, the current organic movement blossomed

during the 1950s and 1960s when the drawbacks of synthetic chemical farming became apparent. In the 1990s the US government created a structure to define and manage organic production practices from farm through retail. Highlights of this process include:

- The Organic Foods Production Act (OFPA) (1990) charged the USDA with defining organic production practices.
- The National Organic Standards Board (NOSB) (1992) was formed to advise the USDA on substances whose use is allowed or prohibited. It created rules that were reviewed by the EPA and FDA and implemented in 1997.
- The National Organic Program (NOP) was formed in 2002. The NOP, a public-private partnership, develops and enforces uniform practices for organic production of agricultural products in the US. The NOP is also responsible for accrediting the third-party organizations (“accredited certifiers”) to certify that farms and businesses meet the national organic standards.
- The Organic Materials Review Institute (OMRI) is a non-profit organization that tests and maintains lists of allowed and prohibited input materials, including fertilizers, pesticides and additives, for inclusion in the NOP. The program focuses on practices believed to positively affect both the environment and production process. They don’t deal directly with the end products.
- Producers are certified as organic by the NOP-accredited certifiers mentioned above, which may be private or governmental organizations. A producer’s certification is audited and renewed annually.
- All certified organic producers must maintain an Organic System Plan that outlines the practices and procedures they will follow to comply with regulations.
- There are currently in excess of 22,000 certified organic operations globally, supplying a growing US market totaling about \$43 billion in annual sales.



Imported organic banana with USDA label. Photo: Ralph Morini

What do the regulations cover?

Different food categories have individually-defined requirements:

Cultivated Crops:

- Must be grown in soil with no prohibited substance additions for three years before they can be labeled organic
- Prohibited substances include most synthetic fertilizers and pesticides.
- Prohibited substances may be permitted where absolutely necessary, with approval, based on their having no negative human health or environmental impact

Livestock, including animals used for food, fiber or feed:

- Must be provided living accommodations consistent with their natural behaviors
 - Year-round outdoor access
 - Pasture grazing at least 120 days per year
 - Ruminants must get 30% of dry food intake by grazing during the grazing season
- Must be fed 100% organic feed and forage
- No antibiotics or growth hormones are allowed

Processed foods that are handled, combined, processed and/or packaged:

- Must be made with certified organic ingredients
- No artificial preservatives, colors or flavors
- Permitted exceptions only where there is no choice

Wild Crops, such as mushrooms and maple syrup, are subject to the same prohibitions as managed crops. They include items grown on defined uncultivated growing sites that are sustainably grown. Management activity is limited to reseeding, pruning and non-native plant removal. There are specific [regulations](#) for harvesting of a certified organic wild crop.

There are multiple levels of USDA organic certification:

- **100% Organic:** all ingredients and processing aids must be certified organic
- **Organic:** 95% of ingredients are certified://www.ams.usdanic
- **Made with Organic:** at least 70% of ingredients are certified organic, excluding salt and water. The remaining ingredients are not certified organic but are produced without specifically-excluded methods such as genetically modified organisms (GMO), irradiation, or sewage sludge.
- **Products with less than 70% organic ingredients** have no USDA label, but can list certified organic ingredients on their label.

Standards and Practices:

The NOP provides the national standards for organically enhancing soil quality, reducing pollution, and providing natural livestock habitats; it generally promotes sustainable farming practices. It is prescriptive in prohibiting the use of certain substances. For example, NOP disallows use of synthetic fertilizers and pesticides, while encouraging use of natural soil building processes. It requires specific practices for composting, for instance, that are designed to minimize risks of pathogen transmission to soils. Many organic soil amendments are permitted, including fertilizers like kelp, guano, bone meal, blood meal, and fish emulsion derived from natural, organic sources. Permissible unprocessed soil amendments, like raw manures, don't have their chemical contents measured as they would if processed and packaged. Their use makes regular soil testing important to assure adequate nutrient availability.

[Among key prohibitions are:](#)

- Use of synthetic fertilizers and pesticides
- Sewage sludge as fertilizer
- Irradiation to preserve food
- GMO seeds, crops and additives
- Antibiotics and growth hormones for livestock.

NOP regulations are prescriptive in some areas of soil building. For example:

- If raw manure is used to fertilize soil where crops are grown for human consumption, it must be incorporated 90 days prior to harvest for crops whose edible parts have no soil contact and 120 days prior for crops with soil contact.
- Compost that utilizes animal products must be certified to reach temperatures of 131° to 170°F for varying periods of time, depending on



composting method, to kill pathogens.

Compost must heat to at least 130° F for 3 days. Photo: Ralph Morini

The NOP also includes soil fertility standards that address:

- Tillage and cultivation practices to maintain/improve the physical, chemical, and biological condition of soil, while reducing erosion
- Utilizing techniques including crop rotation, cover crops, and application of plant and certain animal-derived amendments
- Managing soil additions to avoid contamination by nutrients, pathogens, heavy metals, and residues of prohibited substances.

The NOP doesn't prescribe how these standards are applied. The result is that some early low-tech, green elements of "organic" farming can be lost to larger "industrial" farms that follow the guidelines but otherwise utilize mechanized practices and long haul transportation to get their products to market. Their organic produce is free of synthetic additives but has a larger than commonly understood carbon footprint.

Continuing Controversies: GMO Products and Hydroculture

The meaning of organic continues to be debated. For example, while current regulations don't allow any GMO products to be labeled organic, there is discussion about whether GMO crops that are grown organically have a place in the program.

On the other hand, hydroponic and aeroponic producers, which grow crops in nutrient solutions and using nutrient misting techniques respectively, can be certified organic if their inputs are organic. Aquaponics however, which grows crops along with fish in a nutrient dense solution, is not certifiable as organic. The controversial difference is that aquaponic inputs have no connection to soil whatsoever. These designations are disputed but represent current NOP regulations.

Enforcement

The Agricultural Marketing Service (AMS) arm of USDA has enforcement oversight of the program and the certifiers do most of the policing of certified growers. They do scheduled annual and unannounced inspections, analyze sample products for prohibited substances, investigate complaints and allegations, and can issue various citations up to and including revocation of certification. AMS audits certifiers, investigates complaints, and can suspend or revoke certification and impose financial penalties to offenders.

There have been significant instances of fraudulent certified organic labeling, both domestically and from foreign suppliers. However, USDA defends its effectiveness at enforcement, and the consistently lower levels of pesticides in tested certified organic vs conventional produce indicate that overall, the program is working.

What about "Natural"?

The FDA has no formal rules defining "natural" in foods. They do have a longstanding informal policy that restricts "natural" to mean foods that are minimally processed with nothing artificial or synthetic, including color additives that don't fundamentally alter the product. The label must define the meaning of natural, for example: minimally processed, no artificial ingredients, etc. The policy doesn't address production methods, use of pesticides, processing or manufacturing methods including irradiation. GMO products are not excluded. It bears no relationship to nutritional or health benefits.

The policy is only loosely enforced. FDA occasionally sends letters to potential offenders but most enforcement happens via consumer driven lawsuits. Basically, an informal rule, lightly enforced, it is largely

meaningless, more a marketing tool for food sellers than a benefit to consumers. The FDA has been considering formalizing their position since 2015, but has not taken a firm position yet. Best advice is to read the ingredient label carefully.



Photo: Image by Darren and Brad is licensed under CC BY-NC-SA 2.0

Is it Healthier to Eat Organic?

This is a loaded question. While there is a definite perception that organically produced food is “cleaner” than conventionally grown or processed products, proven health benefits are less established. What appears to be consistent over many studies includes:

- A 30% lower risk of pesticide contamination in organic produce. Note however that residues found in conventional produce are within the USDA’s allowable safety limits
- Organic chicken and pork provide a reduced exposure to antibiotic resistant bacteria
- Organic dairy and meat products are higher in omega-3 fatty acids
- Organic produce is higher in anti-oxidants, anthocyanins, and flavonols, which offer a variety of benefits including heart health and anti-inflammatory effects.

What is unproven is whether these differences provide measurable health benefits to organic consumers.

Overall nutritional content of organic and conventional produce is more a function of soil nutrient content and agricultural practices than whether they are organic or conventionally grown.

Environmental Impacts

While there is ongoing debate about whether organic food production is a practical way to feed the world, it is clearly better for our planet. Building soil quality by recycling plant wastes, composting, crop rotation, cover cropping, and mulching reduces farming’s carbon footprint, CO₂ emissions, erosion and nutrient runoff. The drawbacks of heavy synthetic fertilizer use include soil depletion, higher input expenses, questions about toxicity and carcinogenicity of pesticides to humans as well as to insects, birdlife, and biodiversity generally.

The indiscriminate use of antibiotics on livestock is a clear contributor to the reduced effectiveness of antibiotics and increasing threat of drug resistant bacteria in our lives.

That organic practices are preferable for the health of the planet and all its inhabitants is clear. How to transition conventional commercial agriculture toward a less environmentally harmful set of practices economically and without sacrificing production is a critical question of our time.

In the end, a hybrid system that emphasizes natural practices with “as needed” rather than preemptive chemical use is likely the most practical solution. For this to happen, continued evolution and growth of organic agricultural methods is necessary.

Beyond Organic

For purists, it is possible to find food that is grown under stricter requirements than the NOP. One example is the Regenerative Organic Certification program. It is committed to 3 key tenets:

- Soil health and land management
- Animal welfare
- Farmer and worker fairness.

It is consistent with the NOP but goes further. For example, soilless systems are completely disallowed, animals must be allowed to express normal behavior and have full time pasture access and there are a number of social fairness requirements for farm workers. Learn more at regenorganic.org

For beef, pork and dairy products, the American Grassfed Association also provides a certification that exceeds USDA requirements and includes pasture raising, grass feeding from weaning to harvest (grass-fed and grass-finished), and is focused on American family farms. Their program is outlined at www.americangrassfed.org. It appears that there is no federal oversight on use of the grass-fed label, EXCEPT for producers who voluntarily seek certification by the American Grassfed Association. How the beef you buy was raised is not really made clear by its labeling. Organic requirements are described above. *USDA Organic*, *grass fed* and *grass fed and finished* all are defined differently.

[This article](#) on beef labeling from Discover Magazine helps clarify the differences.

What about Home Gardeners?

While acknowledging that pure organic gardening is somewhat aspirational, a minimum chemical approach is realistic. Some practical steps we can take to get there include:

- **Follow an [Integrated Pest Management](#) approach** to chemical use, applying synthetics only as needed, never preemptively. Read more about it in the article [Integrated Pest Management](#) from the May 2020 issue of *The Garden Shed*.
- **Create a diverse environment** to strike a balance between beneficial and harmful pests from soil life to insects to birds. Manage plant damage rather than trying to obliterate pests. For more on this read [Natural Pest Control: Attracting Beneficial Insects](#) from the June 2020 issue of *The Garden Shed*.
- **Compost yard and kitchen waste** and add to gardens. Use organic fertilizers that promote soil organism growth and break down slowly and naturally. Get your soil tested and limit synthetic fertilizer use to what is needed for plant health.
- **Consider using organic seeds.** They come from organically grown parents and have survived to the seed saving stage. They are arguably more pest and disease resistant than seed from

plants that have been helped through the growing season by synthetic chemicals.

The Takeaways

The National Organic Program defines the way certified organic crops, livestock, and processed foods are grown, raised and handled from farm to retailer. It doesn't define finished product characteristics.

Organic practices resemble nature's practices and offer many environmental benefits, including a smaller carbon footprint, especially when foods are locally grown.

Nutritionally, organic foods are not demonstrably superior to conventionally-grown foods, but they clearly reduce consumer exposure to pesticide ingestion and appear to offer some potentially beneficial nutritional advantages. The effect on consumer health has not yet been effectively measured.

To those of us who aspire to become greener in our gardening practices and daily lives, it makes sense to support organic practices and buy local organic produce where available and when we can afford it.

We need to understand that the investment that commercial agriculture has in conventional methods combined with the need to feed the world would make a fast transition to minimum chemical food production difficult. Nevertheless, we need to start bending the curve in that direction now.

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Distinctive, Often-Overlooked Veggies

By mking | November 2020-Vol.6 No. 11



When I come across an unfamiliar word in my reading, I'm immediately curious about its meaning, so I promptly search for a definition to better understand it. I might also incorporate that new word into my own lexicon. Similarly, when I encounter an unusual plant, I'm eager to investigate. I want to learn more about its background, uses, and methods of propagation. Of course, that process opens the door for possible newcomers into my own garden. That's the beauty of discovery!

This article is an introduction to a pair of relatively obscure vegetables that could become conversation starters among fellow gardeners. These distinctive fresh edibles offer nutritional rewards, as well as novel appeal. Let's find out about them.

Kohlrabi

The name kohlrabi (*Brassica oleracea* var. *gongylodes*) comes from a combination of two German words: kohl, which means cabbage, and rapa, which means turnip. Kohlrabi originated in northwestern Germany, but did not become part of the American diet until the early 1800s. For



Young purple kohlrabi; photo courtesy of Pixabay

those who have never seen this vegetable, the stem of a kohlrabi plant is swollen at the bottom with thick, waxy leaves that grow upward from the round bulb at its base. The plant can reach a height of 45 - 50 cm (16 - 20 in). Kohlrabi cultivars may be green, white, or purple. At first glance, you might say, "This odd-looking relative of the cabbage family resembles an alien creature masquerading as an edible crop." Thomas Jefferson grew this vegetable in his garden at Monticello, calling it turnip cabbage. He discovered that kohlrabi was a hardy crop and mainly used it as food for his livestock.

Kohlrabi plants prefer well-drained soil with plenty of organic matter and neutral pH (6.0 - 7.5). They thrive in cooler temperatures and are most productive in the spring or fall. Warmer temperatures can lead to rapid growth rates that may result in tall, spindly plants with low crop yields. Kohlrabi seeds can be sown outdoors in the spring after the last frost date, or 11 weeks in advance of the first frost in the fall. Seeds should be planted at a depth of 1 cm (½ in) and about 10 cm (4 in) apart. They take approximately 60 days to reach maturity.



Kohlrabi seedlings. Photo: courtesy of Pixabay

This plant has a shallow root system and needs consistently moist soil to produce crisp, slightly sweet kohlrabi. One inch of water per week is ideal. Mulching will help the plant retain moisture, as well as controlling unwanted weeds. If plants receive insufficient

water, the kohlrabi crop can be tough and bitter. These above-ground bulbs should be picked when they are 6 - 7 cm (2 - 2 ½ in) in diameter. After harvesting, kohlrabi should be kept in cool storage until you are ready to eat them.

Kohlrabi plants are subject to some diseases, such as downy mildew and bacterial rot, but these are generally not a huge problem. Insect pests that can create trouble for kohlrabi are aphids, flea beetles, cabbage worms, cabbage loopers, and cutworms. Young seedlings are the most vulnerable.

By now you are probably wondering what you might do with this peculiar vegetable. To keep it simple, just chop or slice it up and add to your favorite fresh salads. Alternatively, you can roast kohlrabi and add it to pasta or rice dishes. This vegetable has the crispy consistency of an apple, but its unique taste is akin to turnips, broccoli, and cabbage, with a hint of nutty flavors. One recipe suggestion you might want to try is [kohlrabi slaw](#).



Purple kohlrabi; photo courtesy of Pixabay



Kohlrabi can be cooked with other veggies; photo courtesy of Pixabay

It's worth noting the health benefits of this strange-looking veggie. Fresh kohlrabi is rich in vitamin C, an antioxidant that fights disease and combats free radicals, which are associated with cancer. Similar to other members of the *Brassica* family, kohlrabi contains phytochemicals, which provide some protection against colon and prostate cancer. Not surprisingly, kohlrabi is also a great source of dietary fiber. Sounds like it's worth a try for culinary experiments in our kitchens!

Salsify

The word salsify might conjure up colorful images of rhythmic dancers or Mexican salsa, but it's actually the name of an edible plant. Salsify, sometimes called a vegetable oyster, is part of the Asteraceae family. Several varieties grow in the United States. White salsify (*Tragopogon porrifolius*), often referred to as goat's beard, oyster plant, or purple salsify, is the true salsify. It has a long, tan, tapered taproot covered with hairy fibers. Its relative, black salsify (*Scozonera*), frequently called black oyster, viper's grass, or serpent root, is considered tastier and less fibrous than the white variety. This plant has a long, thin, dark, oblong root with smoother skin. Salsify plants measure up to 90 cm (3 ft) tall, and as they grow upward, their leaves tend to spread out horizontally. Salsify's narrow roots are generally 20 - 25 cm (8 - 10 in) long with a diameter of 2 cm (¾ in). Both the roots and greens of the plant are edible.

Although unfamiliar to many people today, salsify was once a popular root vegetable. White salsify is an eastern Mediterranean native and was a favorite in ancient Greece and Rome. Colonists brought this plant to North America in the 1700s, and settlers in New England and the North Atlantic region appreciated its hardiness and resilience. Black salsify was first grown in Spain and then expanded into many areas of Europe and Asia. You will still find it on the dinner table in Belgium, France, Italy, and England. Thomas Jefferson grew both varieties of salsify in his garden, and they are cultivated at Monticello today.



Black salsify roots, courtesy of Pixabay



Salsify flowers at Monticello; photo: courtesy of Pat Brodowski

The process of growing salsify is similar to that of carrots and parsnips. Plants grow best in light, well-drained soil that does not retain too much moisture. If your area has dense clay soil, consider adding some sand and compost to loosen it up before planting salsify. Soil pH of 6 - 7 is acceptable for success with salsify. Early spring or fall are optimal times for starting seeds outdoors because they prefer cooler weather. Seeds should be planted at a depth of 1½ cm (½ in), with 10 - 12 seeds every 30 cm (1 ft). They should be thinned when seedlings are 5 cm (2 in) tall, so that each plant in a row has at least 8 cm (3 in) of space. Rows of salsify plants should be approximately 60 cm (2 ft) apart to allow for wide lateral spread of the leaves.

Salsify is a slow-growing plant that thrives in loose soil without weeds, which compete for water and nutrition. It takes 100 - 120 days for the root crops to reach maturity. Salsify is cold-hardy, and both varieties of salsify can withstand a hard freeze. In fact, a frost tends to improve their flavor. Gardeners can rejoice to hear that salsify is resistant to most common horticultural diseases, and garden pests don't seem to bother the "vegetable oyster" at all. Salsify is classified as a biennial plant, so only the vegetative parts will develop in the first year of cultivation.



Salsify roots; photo courtesy of Pat Brodowski



Salsify seed head, courtesy of Pixabay

When you harvest salsify, cut the leaves off just above the roots. The leaves can be eaten raw or cooked like other fresh greens. Place the roots in cool storage until you are ready to prepare them. Wash the roots, scrape (or remove) the tough outer peel, and place the flesh into a solution of water and vinegar or lemon juice to retain its white color. You can steam or pureé salsify and then add it into soups and stews. Or, simply slice the roots and sauté the pieces in butter with salt and pepper for a flavorful side dish. See for yourself if you can

detect the subtle oyster flavor. Or perhaps you will notice an artichoke taste when you dig in.

In terms of nutritional value, salsify is a superfood. Like a banana, salsify is rich in potassium, so it's good for your muscles and bones. Salsify is also an excellent source of dietary fiber. The flesh of this root crop contains inulin, a form of natural insulin and a prebiotic that appears to provide some protection against cancer.

Now that you've met these often-overlooked vegetables, I hope you will want to try kohlrabi and salsify or even plant them in your own garden. For those who want to sample them, a digital or in-person search at local grocery stores should yield some results for these distinctive newbies to your upcoming meals. For enthusiastic growers, an online search will help you locate reliable sources of these seeds. For salsify, you can visit Monticello's online store to look for heirloom seed packets.

Special thanks to Patricia Brodowski, lead vegetable gardener at Monticello, for her expertise and support of information in this article.

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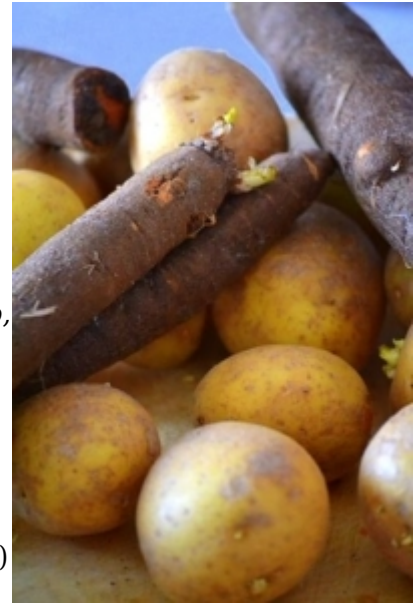
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Salsify root with potatoes, courtesy of Pixabay

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“What is Salsify?” [allrecipes.com](#) (how to prepare salsify, plus links to recipes)

Crown of Thorns

By Cathy Caldwell | November 2020-Vol.6 No. 11



As the holiday season approaches, I'm finding that, more than ever before, I'd like to avoid shopping and instead give homemade presents. Lacking any and all skills needed for crafting, I'm looking at ways to give plants, and in particular, plants I can propagate myself. My primary candidate is one you may already have: crown of thorns, which can readily be propagated with stem cuttings, though you must proceed carefully due to its thorns and because the sap can irritate the skin and eyes.

By the way, you may have other candidates for cuttings among your houseplants; one that comes to mind is *Streptocarpella*, which is easy to propagate using stem cuttings; read more about it in [The Garden Shed, Streptocarpella, Mar. 2020](#). If you're a newbie in the plant propagation department, you'll find expert guidance in another recent article, [Creating New Plants from Cuttings, Oct.2020](#).

But back to the crown of thorns, *Euphorbia milii*, also known by other common names, including Christ Thorn and Christ Plant. It seems to have more than one scientific name as well; it is sometimes referred to as *Euphorbia splendens* or *Euphorbia milii* var. *splendens*. It is a member of the large Euphorbiaceae (spurge) family, reportedly named for Euphorbus, an ancient Greek physician who is said to have used the sap medicinally; be aware, however, that the sticky, white sap is poisonous. Legend has it that the thorny stems were used to make the crown of thorns worn by Jesus at his crucifixion. This plant is a shrub or subshrub, and is a native of Madagascar, where it has a sprawling habit and grows as tall as 5-6 ft. In mild climates, it is grown outdoors and is a common landscape plant in southern Florida. The fact that its sap is toxic may yet turn out to be a good thing; research shows it has promise as an anti-snail toxin against the snails that are the intermediate host for the parasite (*Schistosoma trematoides*) that causes human schistosomiasis, a disease that is prevalent in tropical and subtropical countries.



My original crown of thorns (my Mother Plant) on the deck during summer. Photo: Cathy Caldwell

If you don't already have a crown of thorns, I highly recommend acquiring one — preferably

Crown of thorns indoors during winter. Photo: Cathy Caldwell

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Technically, the blooms are bracts that surround the actual flowers, which are tiny and greenish. And if you want to get even more technical, the “blooms” consist of a special structure called a *cyathium* — which is basically bracts joined together to form a cup. The cup holds a single female flower with 3 styles surrounded by five groups of male flowers, each of which has one anther and five nectar glands. Two of those nectar glands have petal-like appendages — and those are what appear to be the “flower” to most of us.

This is not a plant that’s grown for its foliage. That’s because, as the stems mature, they tend to drop their succulent leaves. But the spiny stems themselves are intriguing, though it is not a cactus. According to some experts, it usually grows to only 2 feet as a houseplant. But give it time, and it may exceed that. My first crown of thorns — which I call my “Mother Plant” — was purchased in the 1990’s and is now three feet tall.

Pruning and Propagating

A crown of thorns can use regular pruning to keep it less leggy and rangy. I didn't know this in the early years, so my Mother Plant has a wild, disorderly look that might not appeal to all. Nowadays, I do occasional pruning, and I've discovered how easy it is to combine that chore with propagating more plants. After my first foray into pruning, I decided to see what would happen if I planted the pruned-off stems. I plopped those stems into a new pot and watered. Voila! I soon had new plants after every pruning. Luck was clearly on my side since this is NOT the textbook way of propagating a crown of thorns. Here's the correct way to proceed:



This plant, which started out as a cutting, has been pruned for a tighter growth habit. Photo: Cathy Caldwell

“Remove 3-6” terminal sections and dip the cut end in cold water or powdered horticultural charcoal to prevent the milky sap from running excessively. Allow the cuttings to dry for 2-3 days before placing in well-drained planting mix (such as sharp sand, perlite and peat) to root. Keep the medium just barely moist - if too dry the cuttings will not root but if too wet they may rot. They should root in 5-8 weeks when temperatures are warm.”

—Crown of Thorns, Euphorbia milii, Univ. Wisconsin Extension

Be sure to wear gloves — and perhaps eye protection - when you're pruning crown of thorns.

Varieties and Hybrids



A Thai giant hybrid. Photo: cultivar413, CC BY 2.0

There does not appear to be complete agreement on the scientific name for crown of thorns. *Euphorbia milii* — the species — is typically used, but you will also see it referred to as *Euphorbia milii* var. *splendens*, a very common variety of crown of thorns; I suspect this may very well be the plant I have. In addition to the red-flowered types, you may have seen the creamy yellow-flowered *Euphorbia milii* var. *Tananarivae*, which is sometimes sold as *E. milii* var. *lutea*. In any event, the varieties and colors available are extensive, thanks to the work of plant breeders.

The California hybrids are sometimes called the “giant crown of thorns,” — probably due to their larger flowers and stems. These include:

- ‘Rosalie’,
- ‘Vulcanus’, and
- ‘Saturnus’

The Thai hybrids originated during the 1990's in Thailand, and many featured larger flowers and a more upright habit than the species. But most of these hybrids have been lost. Today there are only a few growers near Bangkok that export these plants, and they have not been introduced to the nursery trade in either the US or Europe. Nevertheless, the Thai hybrids are popular as collector plants, and are available from specialty nurseries. Among these are:

- 'Jingle Bells' (pale pink bracts tinged with red and green);
- 'New Year' (soft yellow bracts that change to red as they age);
- 'Pink Christmas' (creamy bracts that develop pale pink and reddish streaks); and
- 'Spring Song' (creamy yellow bracts)

The Thai hybrid pictured at right is quite the eye-catcher. By the way, this photo led me to the John R. Rodman Arboretum at Pitzer College, California; I highly recommend taking a look, especially if you're interested in arid landscaping. [John R. Rodman Arboretum/Pitzer College](#).

The German hybrids tend to have thicker leaves and thinner stems, with flower colors of pink, red, and cream. These include 'Somona' (yes, that's how it's spelled) and 'Gabiella'.

The Dwarf hybrids tend to be tolerant of both over- and under-watering and perform well in small containers, includes : Short and Sweet™ and 'Mini-Bell'.

How to Grow

Crown of thorns is tough and easy-to-grow, so long as it has well-drained soil and plenty of light. It is drought tolerant and has no problem with the dry indoor air of winter. Place it in a south- or west-facing window.

Remember that leaf drop is normal. Here's a bit of deception that is practiced by some gardeners to encourage retention of leaves on crown of thorns: water it a bit more than strictly necessary and fertilize it occasionally (but not with a formula containing added micro-nutrients because it's boron-sensitive). If you try this trick, be sure to watch out for root rot, and cut off any brown stems to halt the spread of rot. I haven't tried this myself; if you do, please let me know how it works for you.

The favorable characteristics of this plant make for a long list. And it will be as happy outside in the summer as it is indoors. You may even see hummingbirds checking it out. Now that's what I call an ideal gift.

SOURCES:

Featured Photo: crown of thorns (*Euphorbia milii*). Photo: Mokie, CC BY-SA 3.0 via Wikimedia

[Euphorbia milii var. splendens/Dr. Leonard Perry's Perennial Pages/Univ. of VT](#)

[Euphorbia milii, Missouri Botanical Garden PlantFinder](#)

[Euphorbia milii Flora & Fauna Web/ Singapore Govt.](#)

[Plant of the Week/Mich.St.Univ.Beal Botanical Garden](#)



A Thai hybrid is featured in the landscape at Pitzer College in southern California. Photo courtesy of John Rodman Arboretum, [Pitzer Campus Plant ID Gallery](#)

[Henry Shaw Cactus & Succulent Society](#)

<https://worldofsucculents.com/euphorbia-milii-crown-of-thorns-christ-plant-siamese-lucky-plant/>