

Top of Ohio EERA 208 South Blackhoof Street Wapakoneta, OH 45895-1902

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OSU Extension - Auglaize County Weekly Horticulture Newsletter – 5-1-20

What Should I Plant in my Garden?





I would like to continue my series about planting a "Victory Garden". This week I want to focus on choosing vegetables to plant.

How does a person go about choosing which vegetables to plant? There are many things to consider. The first question to me is what do you like to eat the most? Grow those vegetables that you use the most of. This will save you the most money and allow you to have the freshest produce. After you determine what you would like to grow, then other tough decisions must be made.

How much space do I need to grow the items I want? Space is an important question because we all only have so much of it and only have so much time to manage it. The shorter the crop the closer the rows can be spaced apart. For example spinach and lettuce rows can be placed six inches apart. One space saving tip is to plant twin rows. This allows you to place two rows close together while giving you space between the next set of rows to harvest. For example sweet corn rows could be in a pair ten inches apart with six to eight inch spacing between kernels in a row and then space the next pair of rows 24 inches apart. Remember when planting sweet corn it needs to be planted in a square block, not a single row to maximize pollination. Vine crops need a lot of space. A way to save space for cucumbers is to grow them next to a metal fence so



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they can grow up it. Feel free to contact me at 701-541-0043 to learn more about spacing and growing vegetables.

Your time availability is also a big decision as it relates to space. To maximize vegetable production you will need to spend enough time weeding, which is the most time consuming gardening task, scouting for insects and diseases, and harvesting. Weeds must be removed early to stop competition with the crop. Then it needs to be kept clean for at least 3 to 8 weeks depending upon the vegetable. I will talk more about weed control in a future article.

There are many different varieties of vegetables to choose from, how do I choose? Choose based upon flavor, disease resistance, days to harvest, storability, growth habit, type of use, color, availability, name, and pricing. For example, when planting green beans, will you grow one with a bush habit so you do not need support or will you grow pole beans which requires a support system to hold the bean plants up off the ground? The best way to fight disease is to have the resistance built into the plant. Choose varieties with resistance to common diseases for our area. For example, powdery mildew is a big problem for squash, cucumbers, pumpkins, and muskmelon, so planting varieties resistant to powdery mildew is a good idea. However, disease resistance is not available in every variety, so if flavor is most important you may not be able to choose a variety that may also be disease resistant.

Where do I purchase seeds to plant and plants to transplant? You can purchase them at any garden center, sometimes a grocery store, or from a seed catalog or online company. When you purchase locally you will not have as many choices of varieties as if you purchase from a seed company directly. There are many seed companies out there to purchase seeds from. Rutgers University Extension has a fact sheet about where to purchase seeds from. The fact sheet can be found at https://njaes.rutgers.edu/FS1163/. It lists most seed companies but not all including a favorite of my fathers in Monroe, IN call E & R Seeds. If you want a catalog with some great growing instructions it is hard to beat Johnnny's Selected Seeds. For some species of vegetables it is easier to purchase plants to transplant. Examples include tomatoes and peppers. You will likely not have the same selection of varieties when purchasing plants as you do when purchasing seeds. It can be difficult to grow your own plants from seed of tomatoes and peppers as the seeds should have been planted in early April and you need lots of excellent quality light to grow young plants correctly.

When choosing plants to purchase, choose small plants that still have their cotyledons. Cotyledons are the first pair of structures that look like leaves, but are not, as they are the remnants of the seed. The healthiest plants are ones where the cotyledons stay on the plant for a very long time, are completely green, have no deformities, and have no diseases. Checks plants carefully for diseases and insects.



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Local Observations



My early garden



Spinach up after planting 4-16



Tulips still flowering



Creeping phlox



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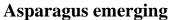
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A red bud flowering

Apple tree in flower







Lilac in bud stage

Good afternoon! I pray you are well.



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We received rainfall 4 days this past week. Rainfall on Sunday, April 26th ranged from a 0.2" near Kossuth to 0.7" near Brown and Pusheta roads. Rainfall on Tuesday ranged from 0.16" near Wapak-Fisher and Townline-Lima roads to 0.39" near Tri-Township and Lock Two roads. Rainfall on Wednesday ranged from a trace near St. Rt. 197 and Mercer Line roads to 0.26 near Kettlersville and Santa Fe-New Knoxville roads. Rainfall on Thursday ranged from a trace near Buckland-Holden and St. Rt. 501 roads to 0.18" near Lowes. Rainfall for the week ranged from 0.55" near St. Rt. 197 and Mercer Line roads to 1.14" near Uniopolis. The average rainfall for the week was 0.85", 0.37" more than last week. Rainfall for the month of April ranged from 2.64" near Bloody Bridge to 3.76" near St. Rt. 66 and Vogel roads. Average rainfall for the month of April was 3.24", 0.24" below the monthly normal of 3.5". Rainfall for the year to date is 15.04", 4.27" above the normal of 10.77". Next week looks mostly dry.

The average high temperature now is 66 degrees F, 2 degrees higher than last week. Temperatures were above normal for **1** day and below normal for **6** days this past week. Temperatures ranged from 50 degrees F to 72 degrees F. The average high temperature for the week was 61.4 degrees F which is 6.4 degrees F warmer than last week and 4.6 degrees F lower than the historical average high. The average high temperature for the month of April was 56.7 degrees F, 4.1 degrees lower than the historical average high temperature of 61 degrees F. Looks like next week's temperatures will be way below normal!

More species are beginning to flower including weeds while others finish flowering. The red buds are finally flowering! My garden is alive! The spinach I planted on April 16th emerged on Wednesday of this week! The lettuce I planted at the same time did not emerge!! Will need to replant this weekend! I planted the rest of the early garden on Saturday and finished digging my asparagus bed. Now I just need the plants. I will be amending the soil with 1:1 ratio of original soil and compost.

Weekly Weed Photos



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A single dandelion plant!!!



Lots of dandelions releasing seeds!



Why dandelion is so hard to kill by pulling!! 21.5" long



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Cressleaf groundsel (notice head and ray flowers)

Yellow rocket (4 petals)



Field pennycress (another mustard species)



Wild garlic

Special OSU Horticulture Meetings



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Horticulture Lunch and Learn and Horticulture Happy Hour

During this period of COVID-19 OSU Extension is offering a Horticulture Lunch and Learn Program and a Horticulture Happy Hour Program. If you are interested, visit the following web address: http://go.osu.edu/MGVlearn The Lunch and Learn occurs every Tuesday and Thursday from noon to 1:00 PM and the Happy Hour is Wednesdays from 4:00 to 5:00 PM.

Composting Basics for Everyone

I will be presenting Composting Basics for Everyone on Monday, May 4, 2020 at 7:00 PM as a Live Stream on Facebook from the First on the Moon Facebook page. Come and enjoy.

VegNet

No News this week.

BYGL

I did not include all of this week's articles in this newsletter. To see them go here: https://bygl.osu.edu/

Redbud Cauliflory

Authors Jim Chatfield



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Published on



Yesterday, horticulturist extraordinaire Scott Zanon sent me a lovely image of an eastern redbud (*Cercis* canadensis) in flower from Upper Arlington in the Columbus, Ohio area. It exhibited what he called "cauliflowered" blooms. I had seen this before, in New York City's Central Park on that most oxymoronic of all plant monikers, the white redbud.



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White redbud in Central Park years ago, exhibiting a "corsage-like" cauliflory



More typical flowering on a white redbud stem shown at Chadwick Arboretum in past years.



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First of all, redbuds do exhibit cauliflory, defined in Wikipediese as "a botanical term referring to plants that flower and fruit from their main stems or woody trunks rather than from new growth and shoots. This can allow trees to be pollinated or have their seeds dispersed by animals that climb on trunks and sturdy limbs to feed on the nectar and fruits."

Redbuds are not the only cauliflorous plants, joined by such luminaries as *Theobroma cacao*, the cocoa plant) and *Carica papaya*, the papaya plant. But cauliflory is an unusual feature. The truly unusual aspect on these Upper Arlington and Central Park redbuds, though, is the clustering, almost "corsage-like" mass of flowers and fruits adorning the stems. Does anybody know what causes this?



What a sight - cauliflowered caulflory



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Fruit caulflory in the Columbus area

As you ponder, enjoy the explosions of redbuds in central Ohio now and ready to burst forth in northern Ohio as you enjoy this warm weekend. There are ten species of redbuds (family: Fabaceae) worldwide, four in the Americas. There are many wonderful cultivars of redbud on the market now, including weepers, purple and yellow/apricot leaved forms, variegated types, and yes, those white-flowered forms to go with the more common lavender, pink-purple, and pink-flowered types.



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'Covey' weeping redbud on the OSU Columbus campus



'Pink Pom Pom' redbud at Secrest Arboretum



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Add redbuds to your garden. And consider these words of Michael A. Dirr and Keith S. Warren in their 2019 "The Tree Book":

"The authors are apostolic advocates for increased use, as single specimen, grouping, woodland edges, color, accent. Every city, town, municipality, and garden should enthusiastically embrace redbuds; they add seasonal ornamental attributes to landscapes, rewarding with expressive and much-anticipated spring flowers, elegant and artistic branching structure, clean dark summer foliage, and respectable yellow fall color."



One last redbud; *Cercis chinensis* 'Dog Egolf' this Spring at Secrest Arboretum. I suspect that the unusual combination of hues is due to some of the flower buds being damaged by frost: beautiful, though.



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The Crabapples Are Coming! The Crabapples Are Coming!

Authors

Jim Chatfield

Jason Veil

Erik Draper

Paul Snyder

Published on April 30, 2020



Crabapples are trees or shrubs in the genus *Malus* with fruits two inches or less at maturity. Larger fruits and you have – apples. The premier collection of the International Ornamental Crabapple Society is right here in Ohio, at Crablandia at the Secrest Arboretum of the Ohio State University Wooster Campus. More on the crabapples at Secrest as the 2020 season progresses, but for now, below is some information on the mythical "peak' for the bloom period in Crablandia.



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This wonderful picture of crabapples along Williams Drive and in Crablandia was taken by OSU photographer Ken Chamberlain in 2013

The peak is mythical because the 74 crabapple taxa replicated and randomized in the plot, with more along the road through the Arboretum, differ in the timing of their first and full blooms. From the earliest bloomers to the latest bloomers there is a 3-4 week range. 'Strawberry Parfait' is one of the earliest bloomers, 'Adirondack' is one of the latest bloomers, so the peak of either of these two crabapples is not the same as the estimated peak for the entire plot.



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'Strawberry Parfait' crabapplebloom photographed this year on April 27. One of the earliest bloomers.





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'Adirondack' crabapple bloom in past years. It is one of the latest to bloom, probably in mid-May this year.

The bloom of individual crabapples and the "peak" for the plot of course differs each year, based on the growing degree days that have occurred each season. This season is a little late compared to the last decade, though a touch earlier than last year's late spring. In general, of course, we have earlier blooming than say 30 years ago, when Erik Draper and I first dedicated our life to crabophilia, since climate change's effect on temperature and thus flower development has progressed.



'Rosseau' crabapple on April 20 this year



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'Rosseau' crabapple on April 27 this year. Just wait until early next week: this crabapple along the road will be spectacular!

This peak is a popular time at Secrest, a time that traditionally is when more people visit the Arboretum than at any other time of the year, to view the crabapple bloom along Williams Road and in the Crablandia research plot. This was true before the 2010 Tornado of Wooster when many of the trees along the road and the old Crablandia plot were blown away.



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And 'Rosseau' is a big Malus, but with a small fruit



Rosseau' was planted 68 years ago at Secrest; a venerable old tree.



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It is also true today, as more trees planted along Williams Road at Secrest were replanted after the Tornado with crabapples and other plants, and because the main Crablandia plot had already been expanded and moved to a new location in 2002, that turned out to be about 600 feet south of the Tornado's path in 2010.



Crablandia plot on April 20, 2020

This year of course presents another interesting facet relative to crabapple viewing at Secrest. Viewing of the crabapples is typically bimodal. Some view the ornamental *Malus* from their cars; others delve deeper into the Crablandia on foot. Secrest Arboretum is open to the public for walkers who properly socially distance themselves, but Williams Road is closed. With an exception, as explained in this recent announcement below.



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Crablandia plot on April 27, 2020



Crablandia plot on April 30, 2020. As you can see, soon there shall be Malus, not Malice, for all! See below



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"To provide all visitors with the best possible opportunity to view Secrest's crabapple collection during peak bloom, Williams Rd. will be open to vehicles on Monday May 4th, Tuesday May 5th, and Wednesday May 6th from 9:00 AM to 12:00 PM. Please observe the following guidelines:

- Vehicle access is reserved for visitors with limited mobility and/or those only driving through the crabapple collection.
- Visitors who walk through the collection must park in the main lot on Mill Rd.
- The two small parking areas along Williams Rd. will not be accessible.
- Short stops along Williams Rd. are permitted when visitors remain in their vehicles.
- Please continue to observe social distancing measures as recommended by the Ohio Department of Health, and respectfully observe all other Secrest Arboretum regulations.

We hope that everyone enjoys this beautiful time of year! For those unable to join us, please check back next week for videos and other images of the peak crab bloom (secrest.osu.edu) at Secrest!"



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And then, come late summer and fall, the rest of the story: the 'Adirondack' fruits shall shine forth. Here with former Secrest curator Ken Cochran,

Emerald Green Tigers Prowling Forest Trails

Authors
Joe Boggs
Published on
April 29, 2020



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I recently received three e-mail messages from hikers who had visited parks in southwest Ohio with each asking for an identification of shiny green beetles (or "bugs" in two messages) they had spotted darting about on forest trails. One sender asked if they were seeing emerald ash borers (*Agrilus planipennis* (EAB)).

Two of the messages included attached images that were either too blurry or too distant to be helpful; however, I'm certain they were not EAB. I'm more certain the beetles were six-spotted tiger beetles (*Cicindela sexguttata*) because I've been seeing them myself; they are one of my favorite native predatory beetles.

Mistaking the tiger beetles for EAB is understandable given that the tigers are truly emerald green. Indeed, the tigers were commonly mistaken for EAB back when the ash-killer was on everyone's mind. Of course, populations have crashed in much of Ohio as EAB has depleted its ash-food.



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Regardless, it's too early in the season for EAB adults to be out-and-about. EAB adult emergence occurs when the accumulated Growing Degree Days (GDD) reach 550. The full bloom of black locusts (*Robinia pseudoacacia*) at 548 is a good phenological indicator. We've only reached a GDD of 292 in Cincinnati. The tiger beetles appear as temperatures warm in early spring and they remain active until early-to-mid summer. After that, you'd need to dig into forest soils to find the larvae.



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Locations are also very different between the tiger beetles and EAB. The tigers have a curious affinity for hanging out and zipping around on woodland trails; large numbers can certainly liven up a hike. EAB would only be caught dead laying on a forest trail.





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Both the common and scientific names for six-spotted tiger beetles are very descriptive. "Cicindela" in Latin means "glowworm" and refers to flashes of sunlight bouncing off the beetle's highly reflective surfaces. The specific epithet "sexguttata" joins the Latin for six (as in sextuplets) with the Latin guttata which means spotted, or speckled. It's why this specific epithet is also used for the six-spot ground beetle (Anthia sexguttata); a carabid beetle found in Asia and the sixspot goby (Valencienna sexguttata); a fish native to the Indian Ocean and western Pacific that has six spots on its gill covers. The spots on the six-spotted tiger beetle are arranged along the trailing edge of the wing covers, three spots per side.



Tiger beetles (family Carabidae (Ground Beetles); subfamily Cicindelinae (Tiger Beetles)) are descriptively named. They hunt, kill, and eat their arthropod prey; exactly like their larger feline namesake. If you can get close enough, you'll see powerful sickle-shaped mandibles that are used to grab and dispatch luckless arthropod victims. A word of caution: these carnivores can also use their impressive mandibles to deliver a painful bite to the hand of the overly curious.

The overall color of the shiny six-spotted tiger beetles varies from deep emerald green to blue. I've never photographed a blue-form and once believed it was a trick of the light with reflective shimmering shades fluctuating from deep emerald green to slightly bluish-green depending on the angle of the light. However, there are enough images posted on reputable websites including bugguide.net that show blue colored six-spotted tiger beetles to convince me there it's a true color-form.



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Six-spotted tiger beetles have excellent eyesight. Their bulging black eyes (the better to see you with, my dear!) makes them look like they're wearing goggles. I'm always amazed at how fast they can detect me before I detect them. If you spot one on a forest trail, approach slowly and watch what it does. Usually, it will spin around to face you.

If the little tiger gets too nervous, it may just use its long legs to scoot away a short distance; they are very fast runners. They are also fast, agile flyers. If things get too intense for the beetle, it will fly away. Actually, it's more like *zip away*; it's like they just disappear. I believe this accounts for the blurry images attached to the e-mail messages. The tigers are difficult to photograph!



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Six-spotted tiger beetle larvae are also predators. However, instead of actively hunting their prey, they conceal themselves in vertical burrows in the soil to await hapless victims. When a meat item such as insects or spiders walks past, the tiger larva springs forth like a jack-in-the-box to grab dinner with their powerful mandibles.

The bottom line is that six-spotted tiger beetles are highly effective and important predators throughout their life cycle. So, keep your eyes peeled for and hands away from these tiny tigers prowling our woodland trails ... and don't kill them since they are good guys!

A Woodland Wildflower Wonderland

Authors
Beth Scheckelhoff
Published on
April 29, 2020



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It wasn't too long ago that we had snow flurries across Ohio. This week, the woodlands in Northwest Ohio were covered with a different kind of white - (mostly) white blossoms! Many of Ohio's spring woodland wildflowers are in full bloom this week. These are ephemeral bloomers, meaning they only bloom for a short period each year. So if you have a chance to walk through the woods this week, see if you can spot a few of these beauties...and more!

Claytonia virginica. Spring wouldn't be spring without spring beauties! These delicate and prolific harbingers of spring are a sure sign of good things to come. Petals are varying shades of lavendar, pink, and white.



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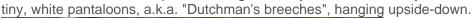




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Dicentra cucullaria. The Dutchman's breeches are just about done flowering in this part of the state. Nevertheless, the name for this delicate perennial might make you chuckle when you look at the flowers. The flowers look like





Trillium grandiflorum. The Large white trillium is perhaps the Queen of all spring woodland bloomers. Stately, pristine, and oh so beautiful. This trillium was crowned Ohio's official wildflower many years ago.



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Thalictrum thalictroides. The Rue anemone is my favorite spring wildflower. The snow-white flowers, yellow anthers, and crisp green foliage are absolute perfection. Rue anemone...so beautiful.



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Enjoy the beauty of Ohio!

More Information

Visit ODNR's Ohio Wildflowers site for weekly bloom reports, plant profiles, an... http://naturepreserves.ohiodnr.gov/wildflowers



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Is it Time to Plant Your Vegetable Garden? Check the Soil Temperature!

Authors
Julie Crook
Published on
April 29, 2020

This time of the year everyone is anxious to get out and begin planting their vegetable garden. You may have spent the last few months browsing the seed catalogs and dreaming about fresh tomatoes from your garden. Also you may have recently noticed vegetable transplants at your local retailers however this does not necessarily mean it is time to start planting. Few gardeners check the soil temperature before planting, yet it is probably the most important factor affecting seed germination and plant growth. Planting too early, before allowing the soil to warm up, can lead to seed rot, delayed germination, root decay, poor growth and disease.

Soil thermometers are used to measure a soil's temperature. To determine the soil temperature, simply push the thermometer into the soil to the depth of the seed planting; however, for transplants it is best to determine the soil temperature at about 4". Soil thermometers can be purchased at local nurseries and hardware stores or ordered from gardening catalogs.

Vegetables are categorized into either cool or warm season crops. Cool season crops, such as broccoli, cabbage, beets and carrots, can germinate at minimum soil temperatures of 40 degrees. Warm season crops, such as beans, tomatoes, peppers and squash can germinate at minimum soil temperatures of 55 - 60 degrees. The same soil temperatures should also be used when planting transplants. Check out Colorado State University Extension's Vegetable Planting Guide: https://cmg.extension.colostate.edu/Gardennotes/720.pdf for identification of cool and warm season vegetables and their germination and planting requirements.

There are strategies you can use to increase soil temperature. These tips can be found at the following link: https://www.canr.msu.edu/news/smart_vegetable_gardening_with_season_extenders. This link also includes using structures to help protect vegetables during this early part of the growing season.

The OSU CFAES Weather System can be found at the following link: https://www.oardc.ohio-state.edu/weather1/. This site summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations, the data includes air temperature, precipitation, soil temperature, etc.

More Information

Michigan State Extension - Soil Temperature

http://msue.anr.msu.edu/news/determine_soil_temperatures_before_planting_vegeta...



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A Little Whiff of... Voodoo!

Authors
Erik Draper
Published on
April 29, 2020



My friend Nick Reiter calls me up and says a plant-loving friend, Karen Jeric, has a plant that I MUST see and experience. Okay, I thought, I'm always ready for a plant discovery experience and besides, I can write a BYGL Alert about it! We arrange a way to social distance and pick up my "plant experience". I sneak a peek at the plant wrapped up and as I do, I get SMACKED right between the eyes... in my olfactory!



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Voodoo Lily, Amorphophallus konjac, spadix and spathe incredible colors

I must take pictures of my plant experience, so I decide to bring home this plant that has some very unique properties. My wife comes home and says, "I think there is something dead in the garage... Phew!" I smile and tell her, "No, it is not phew but Voodoo!" and she says "No way, this pee-ew is so much worse than dog poo!" Again, I stressed, "it's not phew or dog poo but Voodoo..." as in Voodoo Lily (VL) or *Amorphophallus konjac* (a.k.a. Devil's Tongue, elephant yam or leopard arum).



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Voodoo Lily but you can see why it is also called "Leopard Arum"

The VL emits a really putrid, carcass rotting stench that isn't a faint whiff here and there, instead it is a full on, head and lung filling, overpowering, nasal assault that can make one gag! The VL is in the same genus as the massive Titan arums or *Amorphophallus titanum*. These Titan arums are also known as corpse plants or corpse flowers with stinking inflorescences up to 8 feet tall, while the VL inflorescences only grow up to about 5 feet tall, but are more potent stench-wise!





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Distinctive size and colors of Voodoo Lily

Like many in this foul-smelling genus, the VL has evolved to draw pollinators, so instead of floral finery, the flies flock to what is termed a "carrion flower". The odors emitted are a range of chemicals mimicking the scent of dead animals! This is used to lure flies and other insects looking for an odiferous "rotting carcass" upon which they can feast and lay their eggs. In their wandering search for a fetid feast on this inflorescence, the flies pick up pollen and unwittingly provide pollination services to the flowers.



Distinctive colors and smells emitted by the Voodoo Lily inflorescence

The VL belongs to the Arum family (Araceae) and produces a single leaf from a subterranean tuber; interestingly enough, these starchy tubers are also edible and grown for food in some parts of the world. A large, globose tuber can weigh up to 50 pounds and measure about one foot in diameter. The VL is a tender perennial which is most often grown as a curiosity for its interesting foliage. The single compound leaf consists of a vertical petiole, which subdivided into three sections to form horizontal rachises, from which develop a complex array of leaflets, creating a tree-like effect. The fleshy leaf stalk or petiole is a unique, scattered mottling of giraffe-like splotches of greenish-pink to creamy white on a solid olive-green background.



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Unique petiole colors of the Voodoo Lily

The VL "flower" is also unique and characteristic of the Araceae family. The inflorescences of these Arums are called a spadix. A spadix consists of a thick, fleshy spike composed of unisexual, apetalous flowers. In the VL, the flowers are bumpy protuberances emerging from the depths at the base of the upright, fleshy spike; unabashedly, the male flowers typically are clustered above female flowers and atop the male flowers exists a large sterile area to the peak of the spadix.



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Intense colors of spadix and spathe of Voodoo Lily

Here in lies the heroic challenge... to hold your breath long enough to stick your nose right next to the spadix to see down to the flowers, without PASSING OUT FROM THE STENCH!! The spadix is surrounded by a brightly colored funnel- or vase-shaped modified bract or leaf called a spathe! The VL has a spathe that is a shiny, deeppurple maroon to almost black in color, while the spadix is a deep-maroon to brown and can be up to about 3-4 feet in height! While the color of the VL is truly intense and striking, beware because STRIKING can turn into STINKING in gust of wind!



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Apetalous flowers of the Voodoo Lily males above the females located at the very base

Other Articles



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Types of Garden Stakes and Related Tips

MEGHAN SHINN

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A sturdy trellis stands ready to support these cucumber plants as they develop. It's much easier to install supports while plants are small, than to wait until growth becomes large and unruly.



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Here's how to choose and use the right kind of garden supports for the plants that you're growing.

First, some general tips:

Place stakes or other supports early in the season, before your plants need them. It's much easier to set up the supports while the plant is still small, rather than work around sprawling growth later in the season. Insert your plant supports before or at planting time or spring emergence, and then guide the plant onto it as it grows.

Anchor supports deep in the ground for strength and stability under wind, heavy rain and the weight of plant growth.

Some plants will cling to their supports with sticky growth or tendrils. Others will need to be tied on. For the latter, use soft material to tie the stems to the support. Wrap the tie in a figure eight so that the center of the eight sits between the stem and the stake.

Now, types of supports and their applications:

Stakes

These are single rods, sometimes with a loop at the top through which a flower stem can pass.



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Use stakes for tall, clumping perennials like delphiniums and also for plants with tall, single flowering stems, like foxgloves or lilies. Thick single stakes work well for pole beans and tomato plants, which will need to be tied. Twining vines like morning glories can also be trained up a single stake.

Cages and grids

These are typically a frame made of a horizontal hoop (or multiple hoops) that ring the plants growth and hold it tight and upright. The hoops may be crisscrossed with bars to create a grid through which individual stems pass.

Cages and grids work well for bushy perennials with large, heavy flowers, like peonies, and for shrubby edible plants, like tomatoes and eggplants.

Trellises

A trellis is an upright panel with crisscrossing horizontal and vertical lines. It can be rigid, like a trellis made of wood, or soft, like one made of string.

Use trellises for plants that cling with tendrils, such as sweet peas, cucumbers and gourds. Clematis and nasturtium can also make use of a trellis.

Teepees and tuteurs



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These are pyramidal structures. They may be made of single stakes tied together at the top, or they may have paneled sides that incorporate a trellis.

Depending on the design of the teepee or tuteur, it can accommodate plants that need to be tied to single stakes or those that climb with tendrils or vining growth.

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