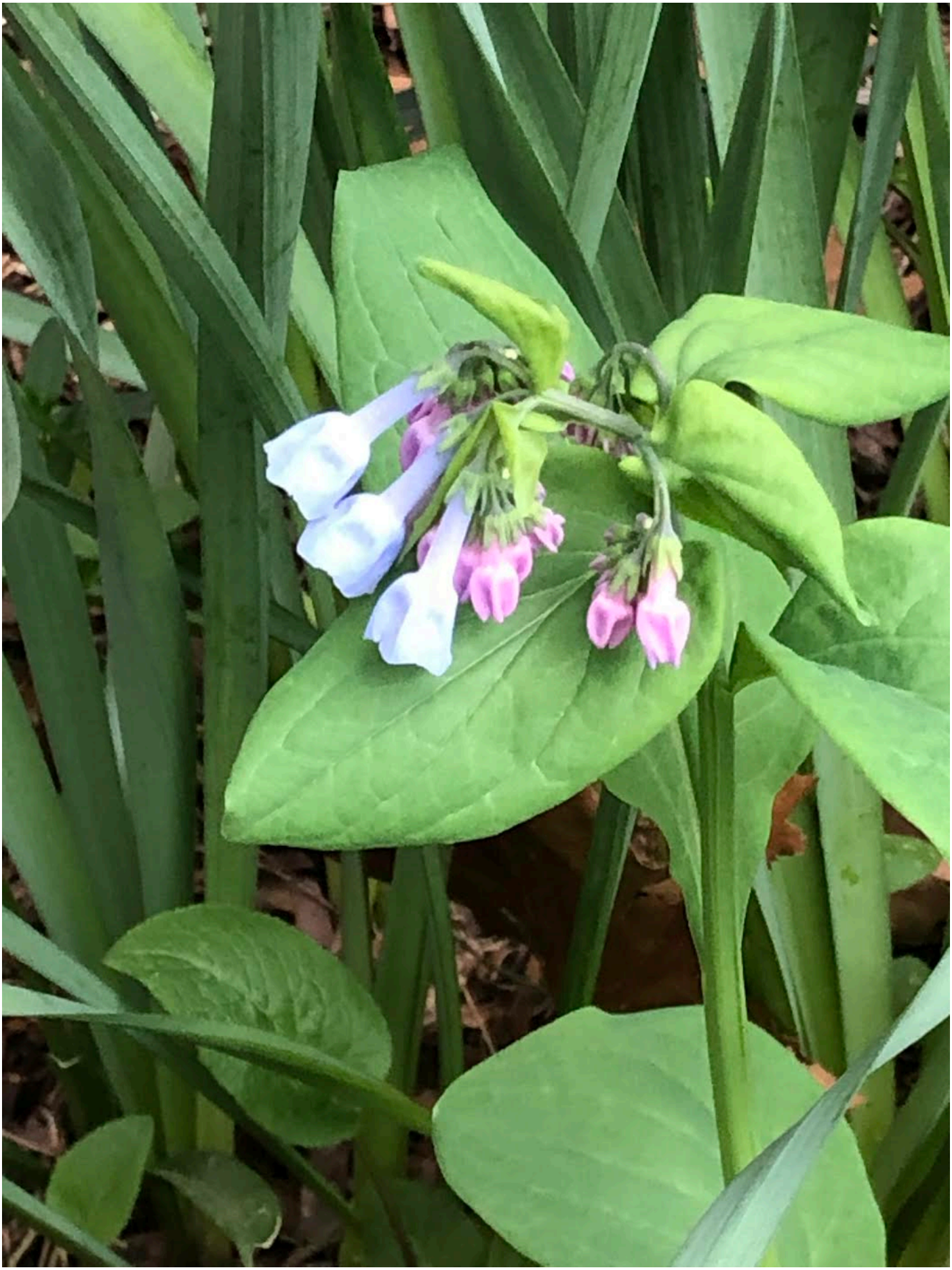
April 2025-Vol.11,No.4



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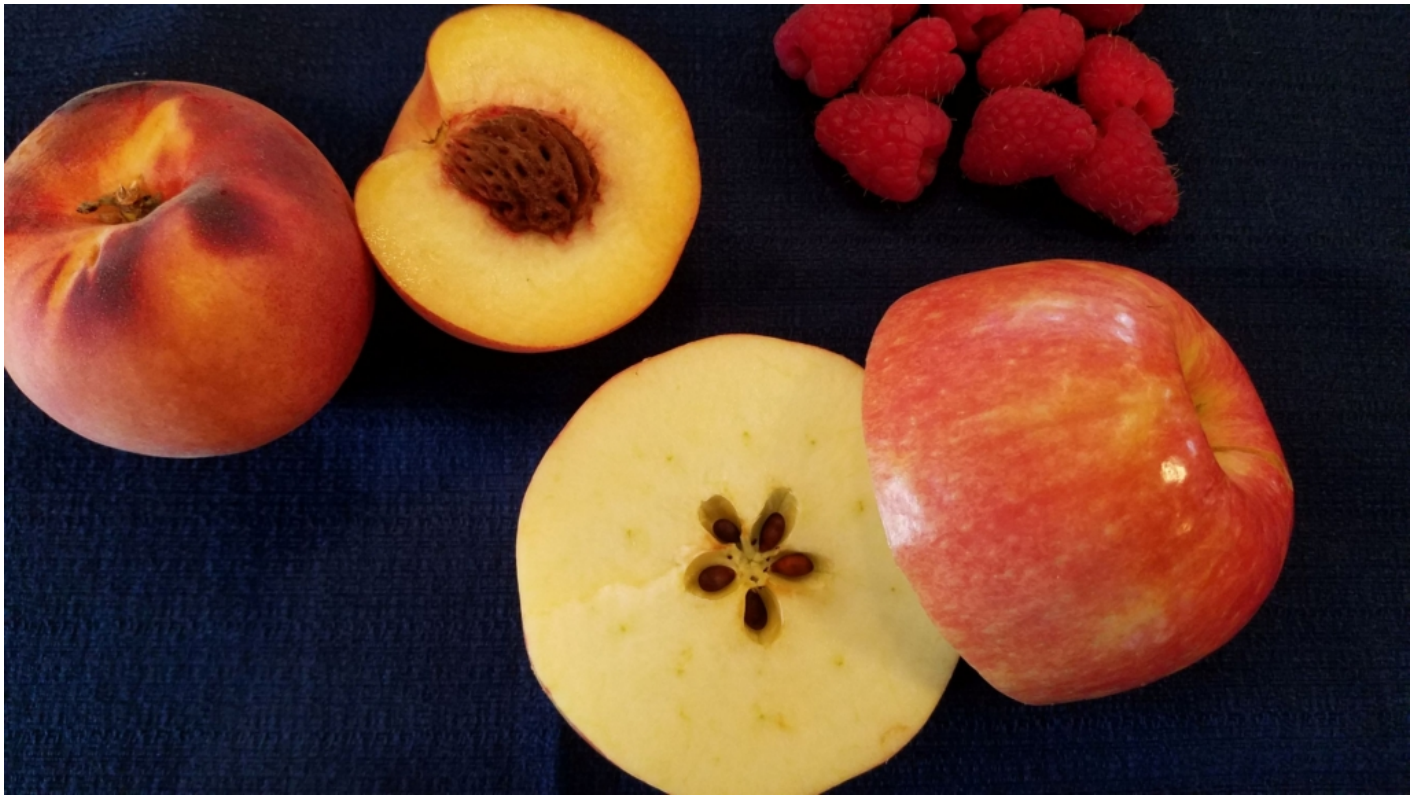
The Differences Between Drupes, Berries, Nuts and More Explained

By Patsy Chadwick | April 2025-Vol.11,No.4



If you enjoy doing crossword puzzles, you know that working through the clues often forces you to think outside the box. That's because many words have multiple meanings, and puzzle clues aren't always what they seem to be at first glance. For example, what's a five-letter word for a peach? "Ah, that's easy," you say to yourself. "It's a fruit." Well yes, that's true, but let's pretend those letters don't work with the surrounding clues. As you continue to fill in the puzzle, you eventually discover that the correct answer is the word **drupe**.

WHAT IS A DRUPE?

To help you understand **drupes**, let's first take a quick look at the definition of **fruit**. Simply defined, a fruit is the fleshy or dry ripened ovary of a flowering plant that encloses a seed or seeds. Fundamentally, fruits are categorized based on their unique features, structures and seed types. A drupe is a botanical term that refers to just one specific category of fruit.

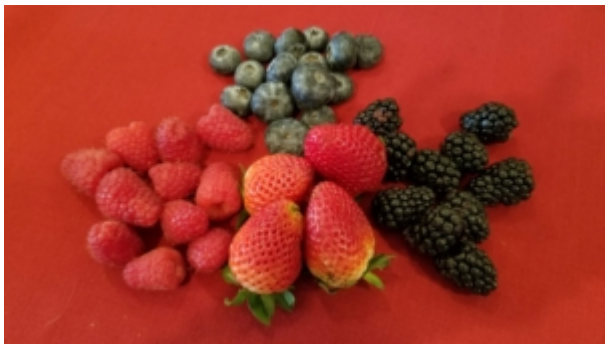
Fruits classified as drupes consist of three distinct parts: a thin skin or outer wall (exocarp), a fleshy edible part (mesocarp), and a hard, inedible central pit or stone (endocarp) that contains a single seed at maturity. When you consume a "stone fruit" such as a peach, apricot, plum, or nectarine, you're eating a drupe. Lots of other fruits are drupes as well, such as olives, avocados, cherries, dates and mangos, to name just a few.

DOES A POME A DAY HELP KEEP THE DOCTOR AWAY?

Pomes constitute another important fruit category. Apples and pears are the most widely grown members of this family, which also includes crab apples, Asian pears, loquats, and quinces. Pome fruits are produced by flowering plants that belong to the apple subtribe (or *Malinae*) of the rose family (or *Rosaceae*). **All pome fruits share a common structural similarity: They are comprised of fleshy tissue surrounding a fibrous, sometimes transparent membrane-like core. The core contains the seeds and separates them from the fleshy part of the fruit.** Whereas a drupe has a single seed encased in a hard pit or stone, a pome contains several small seeds – typically five – encased within the membrane-like core.

Trees bearing pome fruits are favorite choices for planting in the home garden. The trees are deciduous and require a period of cold winter temperatures for the tree to break dormancy in spring. The fruits are typically harvested from late summer through late autumn and store well under controlled temperatures for an extended period. Members of the pome family have a high pectin content suitable for making the fruit into jams, jellies and preserves.

A number of fruit-bearing landscape plants such as serviceberry (*Amelanchier* species), red chokeberry (*Aronia arbutifolia*), and black chokeberry (*A. melanocarpa*) are also pomes. But if they are pomes, then you might be wondering why they have the word "berry" in their common names. The likely reason is because the fruits on these plants are **berry-like** in their appearance. And that leads us to the next category of fruits.



Examples of berry and berry-like fruits. Photo: Pat Chadwick

WHEN IS A BERRY NOT A BERRY?

To a lay person, a berry is a small, often colorful, usually juicy fruit. Strawberries, raspberries, and blackberries come to mind when most of us think of berries. But here's a news flash for you. Botanically speaking, none of these are true berries. So, this begs the question: What exactly is a berry?

To a botanist, **a berry is a simple fruit that is produced from the ovary of a single flower and has fleshy pulp and multiple seeds instead of a stone (like a drupe) or a core (like a pome).** Blueberries, cranberries, currants, elderberries, gooseberries, and grapes fit this description and are **true berries** whereas strawberries, raspberries, and blackberries are perhaps more accurately described as "**berry-like**."

THE DIFFERENCES BETWEEN TRUE BERRIES AND BERRY-LIKE FRUITS

When you delve a bit further into the botanical definition of a berry, you might find some surprises. For example, a tomato, which is one of our favorite vegetables, is technically a berry because the seeds are distributed throughout the fruit flesh rather than concentrated in a core in the center of the fruit. For that same reason, a banana is also technically a berry, although the seeds are very difficult to see.

Here are some other berry or berry-like categories to consider:

Hesperidia

A citrus fruit, such as an orange, lemon, lime, kumquat, or grapefruit, constitutes a specific kind of berry known botanically as a **hesperidium**. These fruits are characterized as having thick outer skins or rinds, very juicy interior flesh that is separated into segments, and seeds that are distributed throughout the flesh.

Pepos

Eggplants, tomatoes, tomatillos, and many other vegetables we buy in grocery stores or grow in our home gardens are technically berries. A special category of berry known botanically as a **pepo** refers to members of the cucurbit family of vegetables, which includes cucumbers, squashes and pumpkins. Specifically, **Pepos are fleshy fruits characterized by a firm or hard outer skin or rind and no internal divisions**.

Why aren't pepos called fruits instead of vegetables? The answer lies in their taste. Although botanically they are fruits, most pepos have a savory rather than a sweet taste. Fruits are generally higher in sugar and calories than vegetables. Their sweeter taste profile is suitable for desserts and other dishes that benefit from a sweet component. Vegetables, on the other hand, offer a savory or herbaceous taste more suitable for main dishes and sides. The flavor profile of pepos tends toward this latter category, which is why we treat them as vegetables.

Here's a generalized way to think about fruits and vegetables: If it contains seeds (like a tomato), then botanically it's a fruit. If it doesn't (like a carrot), then it's a vegetable.

Aggregate or Compound Fruits

Some fruits that don't fit the strict botanical definition of a berry may be categorized as **aggregate** or **compound fruits**. Whereas a true berry is produced from the ovary of a single flower, aggregate fruits are derived from a single flower **that has more than one ovary.** As they mature, the individual "fruitlets" join together to form a complete fruit. Raspberries and blackberries are examples of aggregate fruits.

Accessory fruits

An accessory fruit is derived from a part of a developing plant other than the ovary. A strawberry is a prime example. Although it is berry-like in color and taste, botanically it is a **pseudocarp** or "false fruit." The edible part of the strawberry is not produced by the ovary of a flower. Rather, it is a multiple fruit consisting of many tiny individual fruits, called achenes, embedded in a fleshy receptacle. The non-fleshy seed-like achenes are the true fruits and are derived from an aggregate of ovaries. Each tiny achene surrounds an even tinier seed.

Figs, pineapples, and mulberries are other examples of accessory fruits that are made up of clusters of fruiting bodies.

DID YOU KNOW THAT NUTS ARE TECHNICALLY FRUITS?

So far, this article has described several categories of **fleshy** fruits. But fruit can also be derived from the **dry** ripened ovary of a flowering plant. This is where nuts enter the picture. Nuts can be broken down into two basic categories: **true nuts** and **nut-like fruits.** Both categories are referred to under the umbrella of "nuts," but there are botanical differences between the two.

Examples of nuts, nut-like fruits and seeds. Photo: Pat Chadwick

True nuts

Very simply, **a true nut is a dry, single-seeded fruit (as opposed to a moist, fleshy fruit) that grows on a tree.** The single seed is contained in a hard shelled pod that typically does not split to release the seed. A tool of some sort, such as a nutcracker or a hammer, is usually needed to crack open the hard shell to gain access to the edible seed. Chestnuts, hazelnuts, and acorns are examples of true nuts.

Nut-like fruits

Some of the foods we casually and collectively call "nuts" don't meet the botanical definition of true nuts. For example, we think of peanuts as nuts because they have a similar nutritional profile to true nuts, plus they have the word "nut" in their name. Botanically, they are members of the **legume** family, which includes peas, beans, lentils, soybeans, and chickpeas. Peanuts form inside protective pods just like the other members of this family, but the pods grow underground and must be dug or pulled up out of the soil. Whereas true nuts do not split open on their own to reveal their seeds, the shells enclosing mature peanuts split open along two seams making the "nuts" readily accessible.

Other fruits that we think of as nuts are classified botanically as drupes rather than true nuts. Almonds, pecans, pistachios, macadamias and walnuts fall into this category. This can be confusing because we tend to envision drupes as fleshy, moist fruits such as peaches or plums. When we eat a peach, we eat the fleshy part and discard the hard pit containing the seed. The opposite is true when we eat an almond or a pistachio: We eat the seed inside the pit and discard the rest of the fruit because it is inedible. In either case, we are still eating a drupe. And just to confuse you further, these nut-like fruits can also be botanically classified as **seeds**.

SEEDS VERSUS NUTS

A seed is a mature fertilized ovule made up of three components: an embryonic plant, stored food reserves (endosperm), and a seed coat (protective covering). So, in addition to the almonds, pecans, pistachios, macadamias and walnuts mentioned above, cocoa beans and coffee beans are also seeds. When you think about it, many of our commonly used **culinary spices** such as allspice, black pepper, caraway,

nutmeg, coriander, fenugreek, cumin, and mustard are seeds as well. And let's not forget **edible seeds** including pumpkin (pepitos), chia, sesame, sunflower, poppy, pomegranate, and flax.

As for how seeds and nuts compare nutritionally, they are similar in terms of plant-based protein, levels of monounsaturated and polyunsaturated fats, vitamins such as vitamin E and minerals such as magnesium, potassium, and zinc. Although both nuts and seeds are good sources of dietary fiber, seeds tend to have a higher fiber content than nuts.

IN SUMMARY

Many of the fruits we eat can be classified into various categories based on their botanical characteristics and distinct features. But the distinctions are sometimes confusing. Here are a few key concepts to take away:

- Drupes have an outer fleshy part that surrounds a hard pit or stone with a seed inside. Example: Peach
- Pomes have a central core with a tough outer layer and five seeds typically. Example: Apple.
- Berries are fruits that form from a single ovary but have multiple seeds distributed throughout the fleshy pulp. Example: Blueberry
- True nuts grow on trees and contain both the fruit and the seed within a hard shell that does not open to release the seed. Example: Hazelnut.
- Legumes are dry fruits that split open along two seams when mature. Example: Peanut.
- Seeds are the mature, fertilized ovules containing an embryonic plant. Example: Almond.

AND FINALLY

Regardless of how we categorize these foods, it's important to include them as part of a balanced and nutritious diet in accordance with recommended dietary guidelines. Both fruits and vegetables provide fiber, vitamins, antioxidants, minerals, and plant compounds essential to a healthy diet. See the United States Department of Agriculture's Myplate website for in-depth information on dietary recommendations.

While plenty of fruit choices are available in grocery stores and farmer's markets, it's rewarding, economical, and educational to grow your own. If you are new to growing fruits, then the following Virginia Cooperative extension publications can help you get started: Small Fruit in the Home Garden, VCE Publication 426-840; Tree Fruit in the Home Garden, VCE Publication 426-841; and Native Nut and Fruit Trees and Shrubs of the Virginia Mountains and Piedmont, VCE Publication ANR-23NP.

SOURCES

Featured photo: Examples of several fruit types. Photo: Pat Chadwick

Berry, Hesperidium, Pepo, Master Gardeners of Northern Virginia

Cashews and almonds aren't technically nuts. So what are they?, Office for Science and Society – McGill University

Drupe, Master Gardeners of Northern Virginia

Fruit, Pericarp, Endocarp, Exocarp, Mesocarp, Master Gardeners of Northern Virginia

Nut, Master Gardeners of Northern Virginia

Peanuts in the Garden, Utah State University

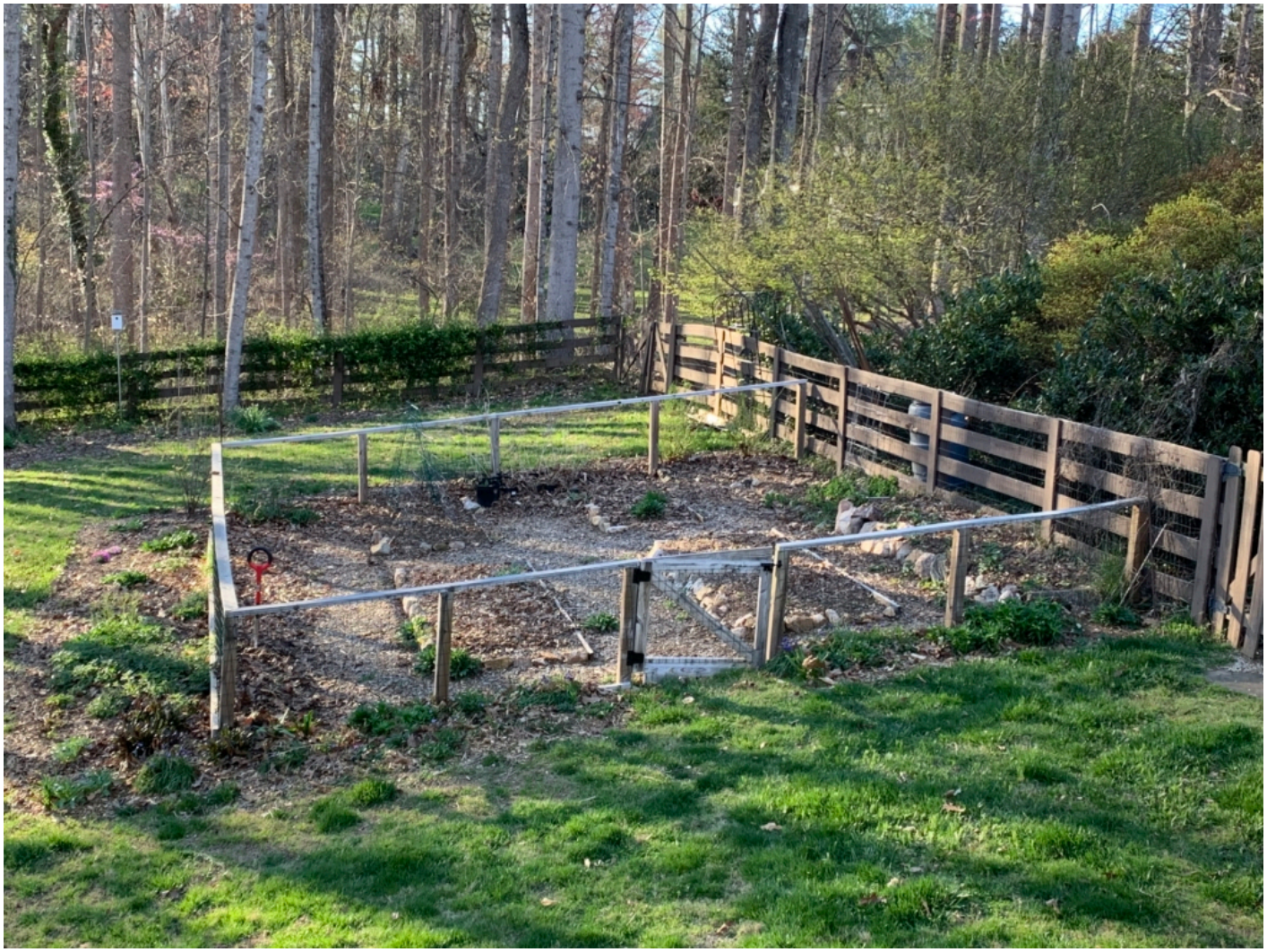
Pome, Master Gardeners of Northern Virginia

Quick-Start Guide to Nuts and Seeds, Harvard Health Publishing (Harvard Medical School)

The Strawberry: A Multiple Fruit, Carnegie Museums of Pittsburg

April in the Edible Garden

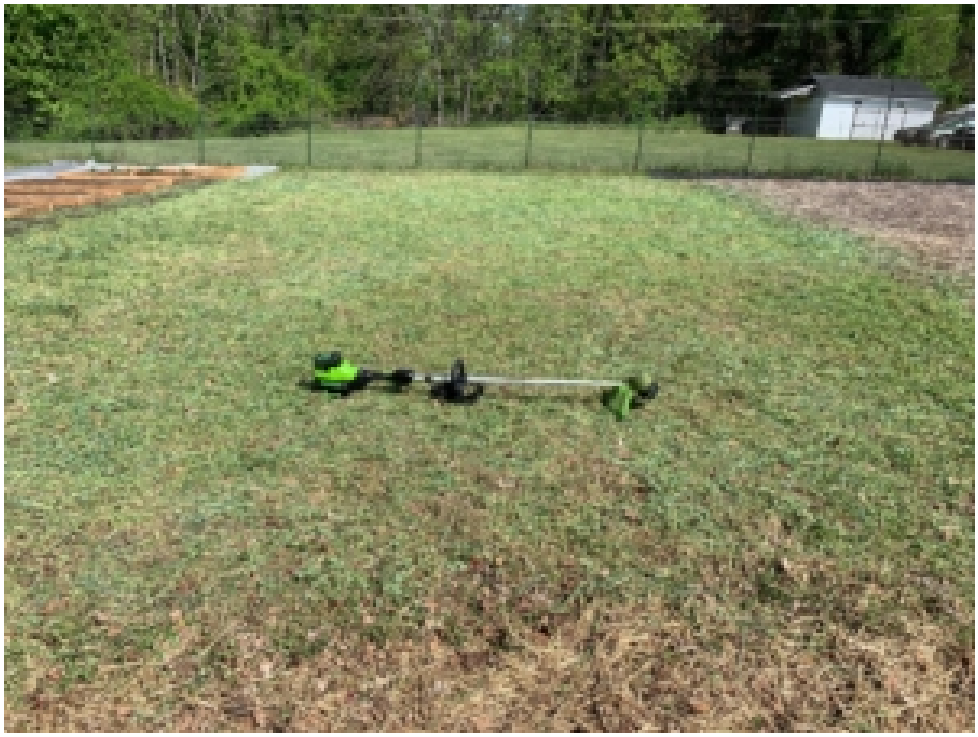
By Ralph Morini | April 2025-Vol.11,No.4



It’s April and if you haven’t already planted outside, gambling on the warm winter weather we have had, now is a good time to get the edible garden going. The air and ground are warming, buds are fattening and early planters may soon be enjoying some garden produce. If you haven’t gotten started yet, April is a great time to plant cool weather vegetables. Given the recently revised average last frost dates of April 5-15 in Hardiness Zone 7b, outdoor planting is definitely underway. However, given the crazy weather we have had, it is important to monitor upcoming temperatures and be prepared to protect sensitive plants if an unexpected freeze comes along.

Bed Preparation

As mentioned in previous articles, deep tilling is no longer a recommended practice, except for new beds where loosening compacted soils and integrating organic matter can make sense.



Trimmed winter cover crop at UAC CATEC Garden. Photo: R Morini

If you grew a cover crop over the winter, let it grow as long as possible, ideally cutting it after flowering, prior to seed formation. Late cutting (photo above) enables deepest root penetration to loosen soil and greatest photosynthetic carbon deposits and since it has spent a lot of energy to flower and start creating seeds, plants lack the stored nutrition to regrow after cutting. To remove the crop, cut it as close to flush with the soil as possible, with a string trimmer or mower. The residue is best left in place as a mulch or removed and composted. Give the roots a couple of weeks to start decomposition and then plant. If you want a smoother seed bed or can't wait long enough to remove the cover crops post flowering, use a stirrup hoe (some call it a scuffle hoe) to cut the crowns, just below soil level. Leave them as mulch or add to compost.

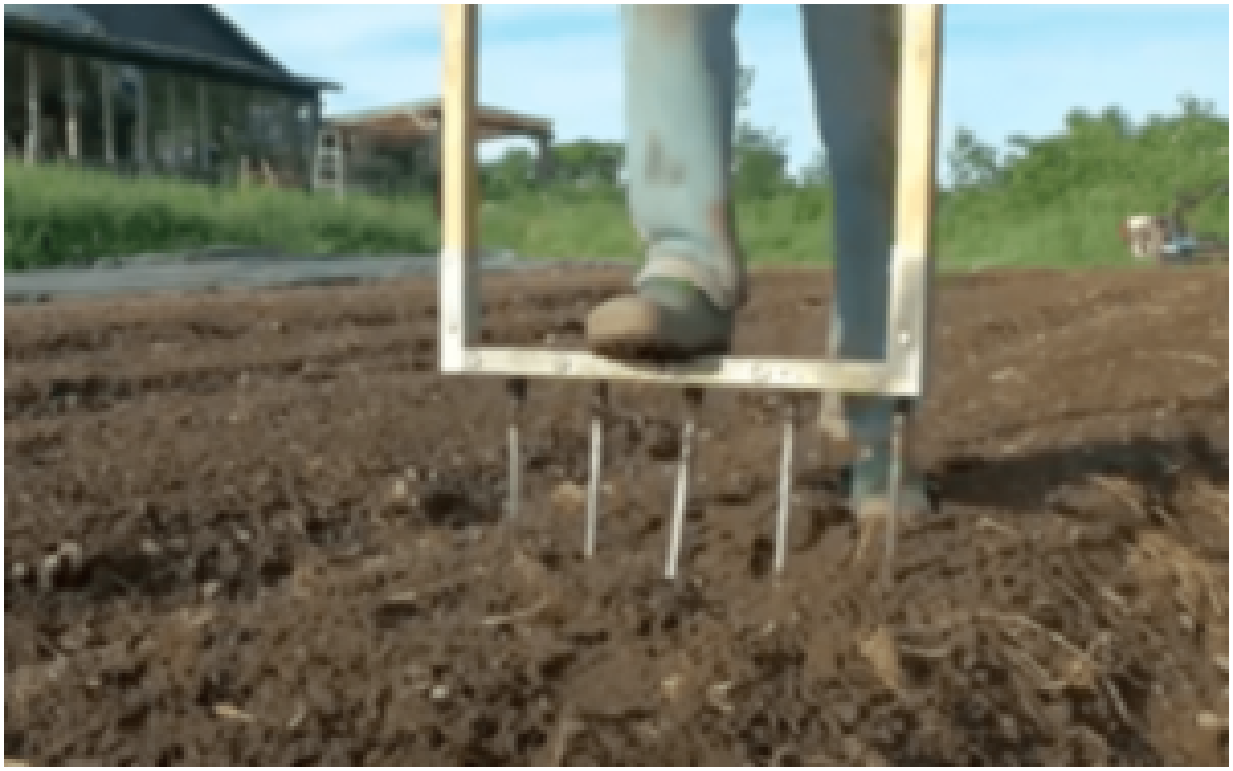


Photo from video: "The Broadfork", Jean-Martin Fortier, The Market Gardener's Toolkit,"

Occultation is a no-dig alternative for weed control. It involves covering beds with a black plastic tarp or landscape fabric for 4-6 weeks to starve weeds of sun and kill them with heat. Remove the tarp and plant transplants directly. If seeding, rake off residue and compost it while smoothing the planting row.

To loosen compacted soil, drive a digging fork or broadfork as deeply into the soil as possible and rock it back and forth to loosen soil without destroying structure. Work your way across the beds. If adding an amendment like compost or manure, layer it on top and allow it to work into the soil during broadforking. Rake the surface smooth, and you are ready to seed.

Planting

If starting from seed, follow packet directions. For intensive or square foot gardening, ignore the row spacings and use seed-to-seed spacing in both directions. Goal is to space plants so that mature plants will just touch each other, shading the soil to reduce moisture and weed pressure while maximizing production for a given space.

Fertilization is important for best results. For guidance on what products to use and how and when to apply them, review Garden Shed article A Fertilization Primer.

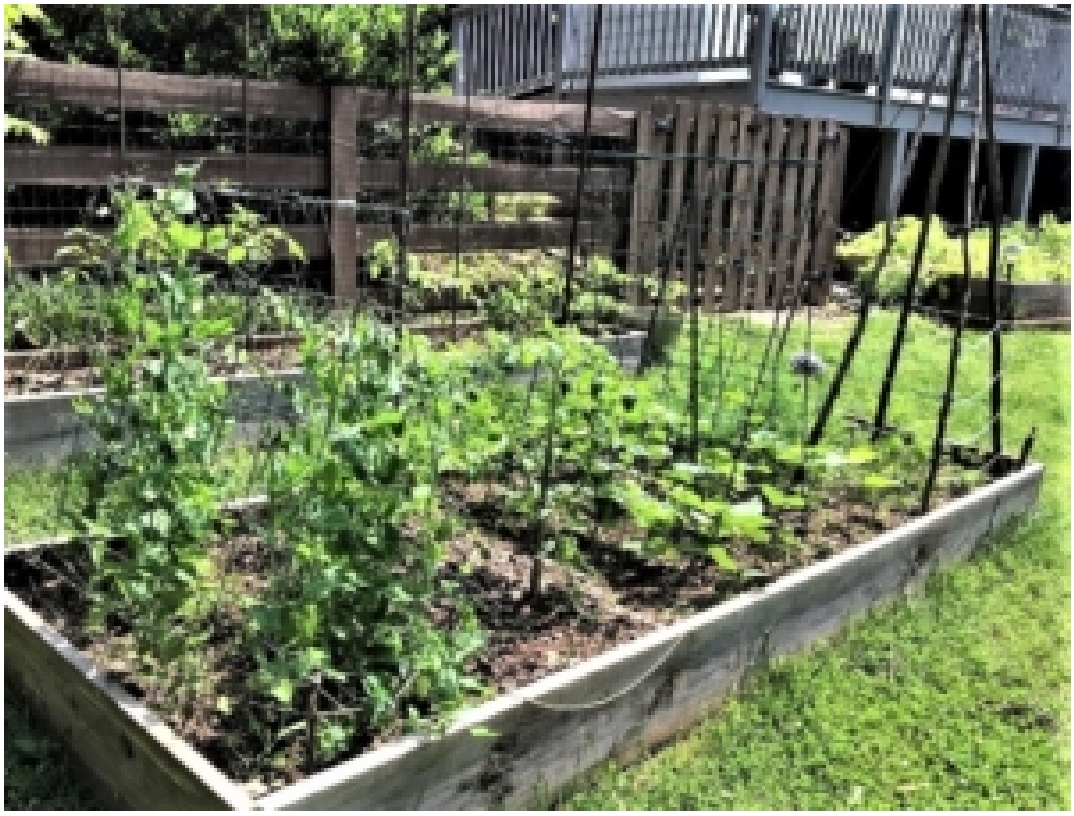
According to Virginia Cooperative Extension's Virginia's Home Garden Vegetable Planting Guide, in Hardiness Zone 7b (note that the map doesn't reflect the change of our region from 7a to 7b but we can use the 7b planting date list).

There is still time to plant cool weather crops, including: beets, broccoli, cabbage family items, carrots, various greens, and lettuces, onions, potatoes and turnips. Mid-April is the suggested planting time for bush and pole beans, cucumbers, eggplant, melons, squash and tomatoes. However, these guys are harmed by frost, so check the longer-term weather forecast before setting them out or planting. Be prepared to protect

them if a late frost arrives.

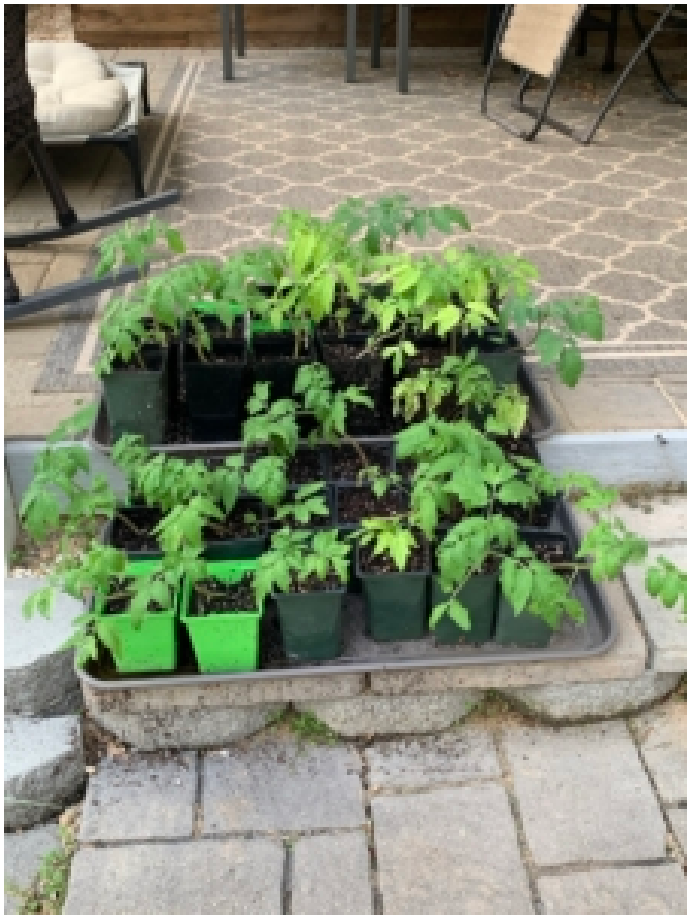
A Few Tips

- Where possible, **rotate your crops**, on a 3-4 year cycle to minimize pressure from soil borne diseases and pests.
- **Maintain a journal to record planting** dates, crop locations, varieties planted, pest and disease issues, and growing success. You will be thankful when you plant next year.
- **Plant seeds at** a depth of about 2 times the seed width (not length). Moisten when planting and keep moist until germination.
- For the tastiest **lettuce** harvests, make multiple smaller plantings every couple of weeks rather than a single large batch that may become bitter before being fully picked and eaten.



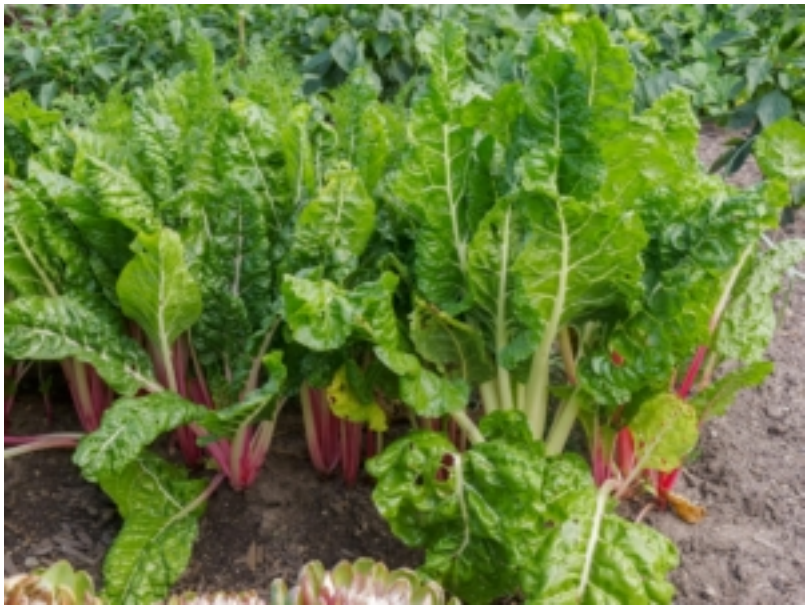
Trellises conserve garden space. Photo: R Morini

- **Trellises are** a great way to save space and keep crops off the ground. VCE publication Vertical Gardening Using Trellises, Stakes and Cages offers guidance for a variety of space-saving plant supports.



Tomato starts. Photo: R Morini

- If you started seeds indoors, remember to **harden the plants off** by progressively exposing them to the outdoors for 1-2 weeks when outside temperatures are above 50 degrees, prior to transplanting.
- It is best to **transplant** on a cloudy day or in late afternoon to reduce shock to young plants. If transplanting **peat pots**, tear off the top of the pot to a point below the soil line to avoid wicking water away from plant roots.
- **Mulching plants after transplanting or germination** is a good thing but give the soil a chance to warm up before mulching to avoid slowing plant growth.
- When laying out **plant locations**, remember that leafy greens typically require 6 hours of sun per day while fruiting vegetables want at least 8 hours.
- **Consider intercropping**. Mixing different plant varieties uses space well, adds diversity to the garden environment, creates a variety of scents that can confuse pests, and attracts a broader array of beneficial predators, helping reduce pest damage.



Swiss Chard. Photo: U of Md Extension

- If you would like to extend the harvest season for your greens, **consider chard**. Chards have a lower tendency to bolt and can withstand summer heat longer than most other greens. In addition, rainbow chard makes a pretty presentation in the garden.
- Should a surprise **late frost** threaten your warm weather crops, a row cover can save the day. Review the Garden Shed article: Row Covers: A Garden Season Extender with Benefits for material and construction tips.
- It isn't too late to plant asparagus or strawberry patches. For guidance on starting **asparagus** refer to the Garden Shed article Spear Into Spring with Asparagus, and the VCE publication Asparagus, which specifies recommended cultivars for Virginia. For strawberries try Garden Shed article Strawberry Basics for the Home Garden.
- Some herbs like chives, sage, oregano and thyme are ok to plant outside in April. Others like basil require warmer temperatures and are safer to plant in May.

April strawberries. Photo: R Morini

- For small fruits more broadly, check out the VCE publication Small Fruit in the Home Garden.
- If you are planning a **home orchard**, check out the VCE publication Tree Fruit in the Home Garden for help in site selection, tree selection and care for many popular fruits.
- Best **tree planting techniques for both bare root and root ball trees** is detailed in Planting Trees Correctly from the Clemson Extension.
- If you are curious about the weeds in the garden or its surroundings, for elimination or edibility, VCE's Weed Identification Guide is a good resource.

I hope you find this information helpful. Comments on content are welcome. In any case, enjoy your garden and please come back to The Garden Shed next month.

SOURCES:

Featured Photo: April edible garden: Photo: Ralph Morini

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

Growing a Variety of Beans

By Gena Breakiron | April 2025-Vol.11,No.4

Growing beans in your vegetable garden is relatively easy and extremely rewarding. Although all the plants we cultivate today were derived from wild plants before recorded history, humans have been cultivating beans for over 4,000 years. According to the University of California, Riverside, the first old world beans cultivated were broad beans and soybeans. Other bean varieties were introduced to the new world by explorers. The common bean came to the U.S. from Central America and Mexico.

The bean family (*Fabaceae*) is an extremely diverse group of plants which consists of more than 20,000 species. This group includes peas, beans, lentils, chickpeas, peanuts, and soybeans. Interestingly, it also includes clover, licorice, redbud, black locust, lupine and many other unexpected plants. These plants are called legumes.

Dried heirloom lima beans
Photo: Gena Breakiron

Legumes have nodules on their roots which convert nitrogen in the air into a usable form for the plant. This takes place through a symbiotic relationship with bacteria called rhizobia, which live in the root nodules. When the plant dies and decomposes, the nitrogen is made available in the soil. This is called nitrogen fixation, and is one of the reasons some legumes are used as cover crops.

Green bean plant with blossoms
Photo: Gena Breakiron

Cultivating beans can be simple depending on what type you choose to grow. What we refer to as snap beans (*Phaseolus vulgaris*), or "green beans" usually alludes to the unripe fruit of the bean plant, and includes the pod and the immature seeds. Since we don't allow these plants to ripen and dry, they are not considered legumes in the culinary sense. While we may think of green beans as vegetables, botanically speaking they are a fruit as they come from the flowering part of the plant and they contain immature seeds. They can be green or purple in color. There are many varieties of both French filet or flat romano beans. Most are available in both bush and pole types.

These plants grow quickly, most in 50 to 60 days. Since you are harvesting the unripened fruit, if you continue to harvest, the bean plant will continue to produce more beans. The plant's main goal in life is to reproduce, so it will carry on trying to meet its goal by producing more potential seeds. If you allow the seeds to mature and dry on the plant, it will consider its goal met, and production will cease.

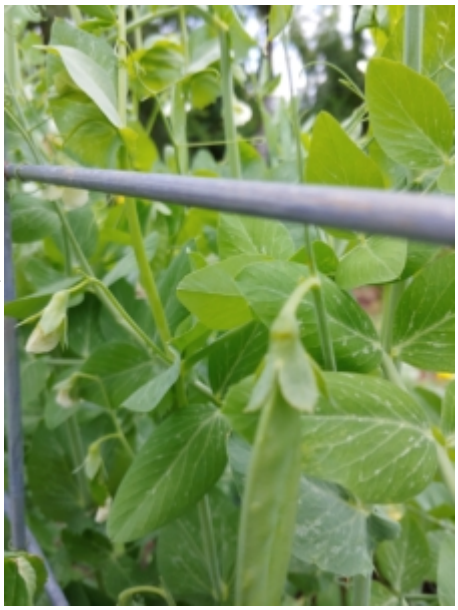
Not every bean can be safely eaten in its unripened state. Many have toxins which require some special preparation even when not eaten raw. Dried beans will have to be soaked in water and rinsed several

times before cooking. Additionally, the beans will need to be boiled in fresh water for at least 30 minutes before consuming. Do not use a slow cooker to prepare dried beans. You can read more about this topic from Kansas State University research and extension.

Most beans and other legumes are dried on the vine. When dried, the beans, lentils, chickpeas, etc, have a longer shelf life. These are the seeds of legumes, and they are called *pulses*. According to the National Institute of Health (NIH), "Pulses provide protein and fibre, as well as a significant source of vitamins and minerals, such as iron, zinc, folate, and magnesium." You can read more about pulses from the NIH using the link following this article. Pulses are inexpensive, which makes them an economical source of these nutrients.

There are three growth habits of beans. You'll want to make sure you choose the growth habit that best suits your gardening style and infrastructure.

1. **Bush beans** are popular due to their compact shape and rapid maturity. They usually grow 12 -24 inches tall and can easily be planted in rows without any structural support. Picking takes place close to the soil, so expect to bend over or bring a kneeling pad.
2. **Half-runner beans** grow up to 3 feet long. Longer than bush beans, but not as long as pole beans. Trellises may improve yield, but it is not necessary.
3. **Pole beans** may grow 6-8 feet tall. They can supply the greatest yield, but they will need a sturdy trellis. You'll want to use a vertical structure for the beans to climb. A teepee made from branches or bamboo would work well, if you can make it sturdy enough to withstand wind and storms. Cattle panels can provide a strong structure also.
   Scarlet runner beans are a type of pole bean that can grow up to 15 feet tall. It will, of course, need a sturdy trellis. Its abundant, vibrant red blossoms invite pollinators to your garden. Additionally, those blossoms give rise to spectacular purple beans that can be eaten unripened, as "green" beans, or left to dry on the vine and saved as pulses. Interestingly, the pods turn green when cooked! This is caused by the anthocyanins — the purple color being destroyed by the heat, leaving the green color chlorophyll.



Pole beans on a cattle panel
photo: Gena Breakiron

Here are the **planting instructions** provided by Virginia Tech Extension:

–Seed after danger of frost is past.

SEED and ROW SPACING:

- For bush snap beans, plant seeds 2 inches apart, with rows 24 to 30 inches apart
- For bush lima beans, plant seeds 4 inches apart, with rows 18 to 30 inches apart
- For pole beans plant seeds 4 to 8 inches apart, with rows 24 to 36 inches .

Another bean you may want to try is lima beans (*Phaseolus lunatus*). They are available in bush and pole types. The bush beans will mature more quickly, but the pole beans will produce more beans over a longer period. Lima beans can be picked in their green state, but wait until the pod feels fat or filled out. However, don't eat them raw! They will need to be shelled and cooked first, as they contain linamarin, a cyanogenic glycoside. Boiling the lima beans in a large amount of water and cooking them for at least 30 minutes seems to be the best way to reduce the toxin. You can read more about this from OSU Extension.

If you decide to dry them, allow them to dry on the vine. This is tricky. If you wait too long for them to dry, the shell will open, spilling the beans (seeds) on the ground. If you harvest too early, the shell may molder, along with the beans. I find that it's best to look for shells that have just, barely begun to turn brown. The shell will feel leathery, and the beans inside will not be growing any more. Picked in this state, they will continue to dry, and you won't lose the contents. You can dry them indoors, in a warm dry spot. Be sure to spread them out so they are a single layer. Flip them over or "stir" them every other day. A large, clean boot tray works well for this. You'll know when they are ready to be shelled, as the shells will "pop" open. It's very satisfying.

An interesting bean you may want to try is the "yardlong" bean (*Vigna sesquipedalis*). It is also sometimes referred to as, Chinese longbean, noodle bean, and pea bean. They can easily grow up to 20 inches in length, but most consumers prefer them between 10"-12".

Red asparagus beans
photo: Gena Breakiron

Red Asparagus beans (*Vigna unguiculata),* a purple podded variety, matures more rapidly than yardlong beans. They thrive in hot weather, attract pollinators and will continue to produce until close to the first frost. Although they resemble green snap beans, long beans are more closely related to the cowpea family (*Vigna unguiculata*).

Unfortunately, legume crops do have their share of pests and diseases. It's always best to look for resistant varieties if you find diseases a problem in your garden. Remember to rotate your crops, especially if you experience any diseases.

Some common and not-so-common problems you may encounter include Mosaic virus, Anthracnose, Bacterial blight, and seed, root, and stem rots.

Mosaic virus is spread to gardens by plant-sucking insects. You can try to avoid mosaic virus and other diseases by employing some safety methods. Try to purchase only certified, disease-free seed. For mosaic virus, observe your plants frequently for insects or evidence of their presence and remove any insects you see.

Anthracnose is a fungal disease which is spread by spores. These are microscopic reproductive units which are spread by the wind. They can overwinter in the soil and on infected plant debris. They can also transfer

to your plants by rain splashing infected soil onto the plants.

Bacterial Blight shows up on leaves as brown spots encircled with a yellow ring. These can enlarge and kill the leaves.

Seed, root, and stem rots are fungal diseases. To avoid seed rot, plant at the correct depth (2x the width of the seed). Do not plant in cool moist soil. Plant after the soil has warmed and be sure the soil/seed doesn't dry out completely before germinating,

There are some **cultural practices** you can employ which can help you avoid, or at least limit the damage of these diseases:

Use mulch or dried, shredded leaves around the base of plants. This not only helps the roots maintain moisture, it also provides a more absorbent medium for rain, and may prevent splashing. When watering, try to water in the morning, and take care to only water at the base of the plants to avoid wetting the leaves.

Immediately remove, and dispose of any sick or damaged plants. Be sure to collect all the dead or damaged leaves that have fallen from the plant, and don't put these in the compost! To kill fungi, viruses and bacteria, clean any tools in a 10% bleach solution. To prevent rust, be sure they are thoroughly dried and oiled before storing. For prevention, make plans to rotate your crops every year. Maintaining accurate records or keeping a garden journal can help with this task.

In addition to diseases, there are a few pests that may make an appearance in your bean patch. The Mexican bean beetle and its larva would likely be the most obvious culprit. You'll probably notice these yellow, fuzzy troublemakers in their pupal or larval stage. I check frequently and squish them. More importantly, if you find yellow eggs, you can remove them before they can do damage. Here is a great article by fellow Master Gardener, Cleve Campbell which you'll want to read if you plan to plant beans. Also, keep an eye out for aphids. In addition to the damage these sap-sucking insects can cause, they also carry diseases from plant to plant.

If you have questions or need advice, you can always contact the Piedmont Master Gardeners-Horticultural Help Desk.

Any bean you care to eat can be grown in your garden. Purchase seeds from a reputable seed company or learn how to save your own seeds. The instructions for harvesting dried legumes are the same as for the lima beans. It is very rewarding to feed your family from your own garden. However, take some time to think about how you want to spend your time. Growing beans or other legumes for drying is very time consuming. To harvest them at the ideal time, requires frequent inspection and many trips to the garden. Because the cost of dried beans is rather low, you may choose not to grow them. It's a personal choice only you can make. Many gardeners feel the time commitment is worth the satisfaction of providing their families with high quality, clean food. It's especially important when you know you can produce a superior product, with no chemicals.

Take a chance. Try something new in your garden. Whatever you choose to plant, you'll learn something from the experience. You may learn the new plant is not for you, or you may find a new favorite crop! Either way, Happy Gardening!

Featured Photo: Gena Breakiron

Sources

Food History-University of California, Riverside

NIH-National Library of Medicine-Pulses nutritional information.

Kansas State University research and extension-safely cooking beans

North Dakota University- bean nutrition

The Mexican Bean Beetle, by Cleve Campbell

Virginia Tech-Beans

Virginia Tech-Anthracnose on Snap Beans

USDA Yardlong Beans

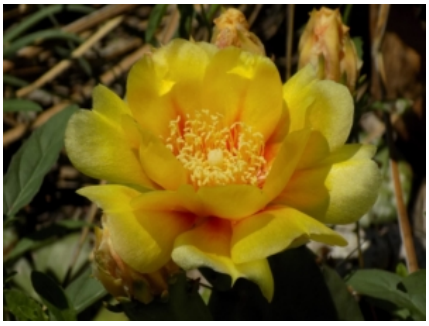
OSU-Cyananide and Lima Beans

Prickly Pear – A Cactus for the East

By Deborah Harriman | April 2025-Vol.11,No.4

Eastern prickly pear (*Opuntia humifusa*) is a member of the wide-ranging Cactus family (*Cactaceae).* Prickly pear, like most *Cactaceae,* are indigenous to the Americas. *Opuntia humifusa* has a large native range and is found in a many sections of the United States, from New Mexico north to Montana and east of the Mississippi, from Florida to Massachusetts and even into Canada. It is worth noting that there is debate about the taxonomy of *Opuntia* species. *O. mesacantha*, Southeastern prickly pear, and *O. humifusa,* Eastern prickly pear, are almost identical in both appearance and behavior and are confused, even by professionals. *O. mesacantha* is said to grow in the coastal areas of Virginia and has long spines while *O. humifusa*, with tufts rather than spines, is found in other parts of the state. *O. humifusa* is the species commonly sold in nurseries. Because the two *Opuntia* in Virginia are difficult to distinguish, this article will refer to all *Opuntia* as *Opuntia humifusa.*

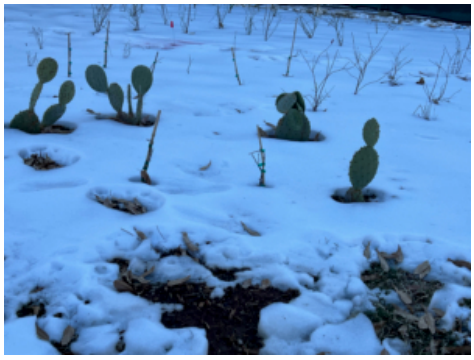
Attributes of Prickly Pear



Prickly pear in flower (Opuntia humifusa), Photo courtesy Missouri Botanical Garden Plant Finder

Eastern prickly pear is an unusual plant that, although native to Virginia, seems out of place in our moist, temperate climate. Also known as Devil's Tongue, Eastern prickly pear is an evergreen, perennial succulent. A typical cactus, it has thick, flattened stems that occur in segments (called cladodes) growing up to 10 inches long. These stems or pads perform photosynthesis and also store water. The pads of *O. humifusa* have clusters of reddish bristles rather than the spines we think of on a cactus. It is seldom bothered by deer or rabbits and, when grown in it preferred site, has few pest or disease problems. In Florida and other warm climates, it can grow to shrub size, but in Virginia it sprawls along the ground forming wide colonies growing up to 20 inches tall. Its preference for hot, dry areas help solve problems in some of our toughest gardening spots.

Growing Prickly Pear



Prickly pear in the snow
Photo by Deborah Harriman

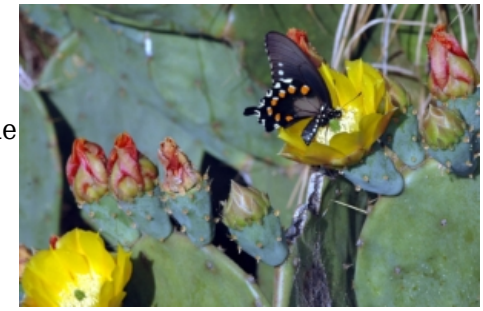
Prickly pear grows in poor, sandy or gravelly soil in open, sunny spots, making it a perfect plant for hell strips, rock gardens, or other arid areas. It will grow in clay as long as the site does not hold moisture. Moist, rich soils encourage soft, rapid growth which can cause rot or lead to pest and disease. In the eastern part of Virginia, look for it on dunes; in the Piedmont, it is seen growing along roadsides, in barren lots, and even on large rock outcrops. According to Virginia Tech, prickly pear tolerates saline soil and salt spray. An unusual plant at all times, prickly pear is at its most striking in late spring and early summer when it bursts into bloom. The showy, bright yellow flowers are waxy and can be 2-3 inches across with yellow stamens. Some have an orange or reddish center. The flowers are diurnal, only lasting a single day, but the plant can bloom 4 weeks or more. During the month-long bloom period, prickly pear is valuable to pollinators. The pollen-producing antlers at the center of the flowers attract both long and short tongued bees, including bumble bees, carpenter bees, digger bees, and leaf-cutting bees. Nectar nestles below the antlers and, as the bees dive in to take nourishment, they brush against the antlers. The antlers are thigmotactic, meaning they curl over at the touch of a bee, depositing the pollen. *O. humifusa* is also a host plant for several moth caterpillars and butterflies are known to visit. Large berries

appear after the flowers recede and ripen to a burgundy red in the fall. The edible, oblong berries grow to be 1-3 inches and have large seeds. The pads shrivel and turn gray in the winter but chemicals in its cells allow it to survive the freezing temperatures of its northern range. It is best to remove weeds that have grown up and around prickly pear in late winter when the pads are still shriveled so there is more room to reach into the plant and work around the pads. As temperatures warm, the pads green up, swell with new growth, and the spines become more pronounced and uncomfortable to touch. Always wear gloves when working with prickly pear.

Propagating Prickly Pear

If there is a drawback to prickly pear, it is that it can spread far and wide, even into areas where it is not welcome. In pastures of the middle states, it is sometimes a hazard for grazing animals. Some gardeners control is growth by planting prickly pear in pots.

If additional plants are desired, propagation is simple. To do so, cut a section from a pad that is a least 6 months old and allow the section to sit for a week or two until a callus to forms on the cut. At this point, plant the section upright about 1 inch into a mixture of sand and soil or a growing medium. Keep the cutting in a sunny spot and do not water for about a month. Then, water sparingly (about once a week) until roots take hold. Growing prickly pear from seed is possible but a slow process.



Swallowtail on prickly pear
Photo: Clinton & Charles Robertson, courtesy Wikimedia Commons, CC BY-SA 2.0

Eating Prickly Pear

Indigenous people of Mexico and Central America ate both the fruits and pads of prickly pear and often used the sap for medicinal purposes. The pads of prickly pear cactus, called nopales, can be cut and simmered, sautéed, or grilled, then added to recipes where they add a taste similar to green beans. Sautéed nopales mixed into scrambled eggs is a popular dish in the southwest U.S.

Wear gloves while scraping off the spines and then cut the pads into slivers before cooking. The berries can be eaten raw after removing the skin, or boiled and made into juice or jams. Prickly pear juice is available online in cans or bottles and is said to be nutritious with a melon-like flavor. According to the Mayo Clinic, prickly pear is not a “super-food” but is rich in fiber, anti-oxidants, and carotenoids. Consuming prickly pear juice can decrease blood sugar levels and is said to reduce the unpleasant effects of a hangover.

Prickly Pear in the Home Landscape

I recently saw a hillside covered with prickly pear cactus. It was still gray and limp due to winter cold, but I can imagine how lovely it will be when bursting into bloom this summer. Certainly that hillside will not need to be mowed! Try prickly pear as a practical solution in barren, dry areas such as a hell strip or simply to add interest and beauty where ever it is planted.

Featured Photo of ***Opuntia humifusa***, courtesy of Missouri Botanical Garden Plant Finder

Sources

"Opuntia humifusa", Digital Atlas of the Virginia Flora

"Eastern Prickly Pear", Missouri Department of Conservation

"Eastern Prickly Pear", U.S. Forest Service

"Flora of the Southeastern United States", North Carolina Botanical Garden

"Opuntia humifusa", North Carolina Extension

"Prickly Pears bloom for pollinators", University of Illinois Extension

"Trees and Shrubs that Tolerate Saline Soils and Salt Spray Drift", Virginia Tech

Upcoming Events

By Cathy Caldwell | April 2025-Vol.11,No.4

Free Spring Lecture: 'Horticultural Futurism,' featuring Thomas Rainer, a leading voice in ecological landscape design

April 8 @ 6:30 pm – 8:00 pm

The Center at Belvedere, 540 Belvedere Boulevard, Charlottesville, VA

Landscape architect Thomas Rainer, a leading authority in ecological landscape design, will deliver PMG's 2025 Spring Lecture, "Horticultural Futurism: Designing a Plant-Centric Future." The 6:30 p.m. lecture will be preceded by a public open house beginning at 5:30 p.m. in ***The Center at Belvedere's Rose and Pollinator Demonstration Gardens.***

As climate change and mass extinctions reshape our environment, traditional horticulture falls short—too carbon-intensive, too resource-heavy, too high-maintenance, according to Rainer. In this visionary session, you will discover how to create thriving plant systems that mimic nature's aesthetics and resilience,

transforming wild inspirations into sophisticated, biodiverse landscapes.

Rainer is a principal of the Arlington-based firm Phyto Studio and has produced signature designs at landmark locations such as the U.S. Capitol grounds, Toronto Botanical Garden, and The New York Botanical Garden. He also has designed more than 125 residential gardens stretching from Maine to Florida, merging ecology with horticulture to create dynamic, high-impact landscapes.

With his colleague Claudia West he co-authored *Planting in a Post-Wild World: Designing Plant Communities for Resilient Landscapes*, published by Timber Press. It lays out design principles that combine both the wild and the cultivated to create resilient plant communities that will thrive and provide vital ecological services in urban and suburban environments.

Drawing on his firm's cutting-edge public and botanical garden projects, Rainer will redefine for us how we design, install, and sustain plant systems.

To register for this free program, visit https://thecentercville.org/calendar/rsvp/136614.

Invasive Plants in Your Landscape and What You Can Do (Live)

Saturday, April 12, 2025 • 3:30 PM – 5:00 PM

Fluvanna County Library, 214 Commons Blvd, Palmyra, VA 22963

Join **Fluvanna Master Gardeners** and **Blue Ridge PRISM** to learn more about invasive plants in your community. Discover which plants you are likely to find in your lawn, flower beds, shade gardens, and neighborhood, and learn about techniques for how to remove and control them. This is a **FREE event** at the Fluvanna County Public Library and is open to the public.

Restoration After Invasive Plant Removal (Webinar)

Wednesday, April 16, 2025 • 11:30 AM – 1:00 PM

Join guest speaker Maddie Bright, executive director of **Earth Sangha**, as she shares her extensive experience with native plant restoration in Virginia. Explore questions such as, "Should I plant now, or wait and see what comes up," "What kind of native plants should I choose," and "How do I start the process?" This is a **FREE webinar** and will be recorded.

⇒Register HERE

Garden Basics: Foodscaping—The Edible Landscape

April 26 @ 2:00 pm – 4:00 pm. FREE

Trinity Episcopal Church, 1118 Preston Avenue, Charlottesville

In this Garden Basics session, learn how you can turn your landscape into a sustainable, perennial, ecologically healthy space that provides food. We will focus on how to grow edible crops without ripping out flowers and shrubs to convert the beds into a vegetable garden. Ornamentals, fruits, vegetables, and herbs can co-exist and thrive in the same space.

Space is limited. Registration opens Feb. 15 and closes at 5 p.m. April 25, 2025, or when the class is full. Garden Basics is a partnership with the Bread and Roses Ministry at Trinity Episcopal Church in Charlottesville.

⇒RSVP HERE

There are a number of interesting events coming up at the Botanical Garden of the Piedmont — including some for children. Check them out at the Garden's Events page HERE.

Coming up in May . . .

Spring Plant Sale

May 3 @ 10:00 am – 2:00 pm

Albemarle Square Shopping Center Albemarle Square, Charlottesville, VA, United States

Our Spring Plant Sale will once again offer thousands of annuals, perennials, vegetables, fruit-bearing plants, trees, shrubs, herbs and houseplants, including a large assortment of native plants. In addition, shoppers can purchase gently used garden implements, yard décor, and other "Green Elephants." The sale will also feature a Help Desk for answering gardening questions and an array of displays and information tables. Cash and credit cards will be accepted. All proceeds support the many free and low-cost programs

the Piedmont Master Gardeners offer to the community.

Garden Basics: Invasive Species—Not All Plants Are Created Equal

May 17 @ 2:00 pm – 4:00 pm. FREE

Trinity Episcopal Church, 1118 Preston Avenue, Charlottesville

All too often, unsuspecting homeowners come home from a local nursery with an invasive species. Sadly, invasives wreak havoc on our ecosystems, denying birds and other native fauna the nutrition necessary to sustain them. Come learn why a Butterfly Bush is comparable to giving an 18-year-old junk food before running a marathon. You will learn how to recognize and eradicate the top 10 invasive species in the Piedmont region, with a particular focus on invasives still sold in retail nurseries. And you will come away with a list of native species to plant in their place.

Space is limited. Registration opens March 8 and closes at 5 p.m. May 16, 2025, or when the class is full. Garden Basics is a partnership with the Bread and Roses ministry at Trinity Episcopal Church in Charlottesville.

⇒RSVP HERE

At James Monroe's Highland: Native Plant Swap

May 18 @ 10:00 am – 12:00 pm

James Monroe's Highland, 2050 James Monroe Parkway, Charlottesville, VA,

Highland welcomes you to a native plant swap with the Piedmont Master Gardeners. We'll have lots of healthy, hearty starter plants for your summer gardens and a community table where swappers can share their (pest free!) plants, drop pots and pottery, and other garden goods. Attendees can stop by the Master Gardener Help Desk for tips on native alternatives to imported ornamentals, and to learn how to identify and remove invasive plants from their gardens. Remember, pests are a part of gardening life: please inspect your plants before sharing, and swap at your own risk.

Invasives Watch

By Cathy Caldwell | April 2025-Vol.11,No.4

Callery or Bradford Pear (*Pyrus calleryana* 'Bradford') Callery pears are in bloom as I write this. According to the very helpful Blue Ridge PRISM Fact Sheet, the only other trees in bloom now are our native plums. "Both American plum (*Prunus americana*) and Chickasaw plum (*Prunus angustifolia*) are thorny, like pears, but are shrubby and twiggy, unlike single-trunked pears."

All of the usual methods for eradicating invasive trees are effective with Callery pears: hand pull small saplings; if too big to pull, use the cut stump method with herbicide applied immediately to the cut; the basal bark treatment; or hack and squirt. You can hand pull any time and use the other approaches any time except at leaf out. At this time of year — as leaves are emerging — you can **control trees less than 6' tall with a higher-than-usual (3-4%) concentration of foliar spray.** Foliar sprays are effective from **when leaves emerge in spring until just before they begin to develop fall color.**

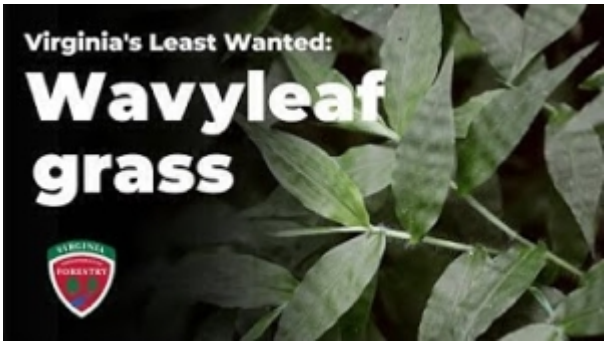
Wavyleaf grass. Photo: Kerrie L. Kyde, Md. Dept. of Natural Resources, budwood.org

Keep an eye out for wavyleaf grass!!! Sadly, this invader is spreading, much like stiltgrass, and the public is asked to report sitings in our area. The PRISM Fact Sheet on this plant is well worth reading. As it explains,

"This perennial grass thickly blankets the ground and forms continuous carpets in short order. Wildlife scientists are concerned that wavyleaf's rapid growth and dense roots and foliage have the potential to smother wildflowers, ferns, and other ground-layer plants, and to prevent forest regeneration in intact forests like what is happening with Japanese stiltgrass."

— Wavyleaf Grass Fact Sheet, Blue Ridge PRISM

If — like me — you're not confident you can identify wavyleaf grass, check out these videos: Virginia's Least Wanted: Wavyleaf Grass/Forestry TV/youtube.com and Blue Ridge PRISM Brown Bag Webinar: "The Problem with Wavyleaf Grass"



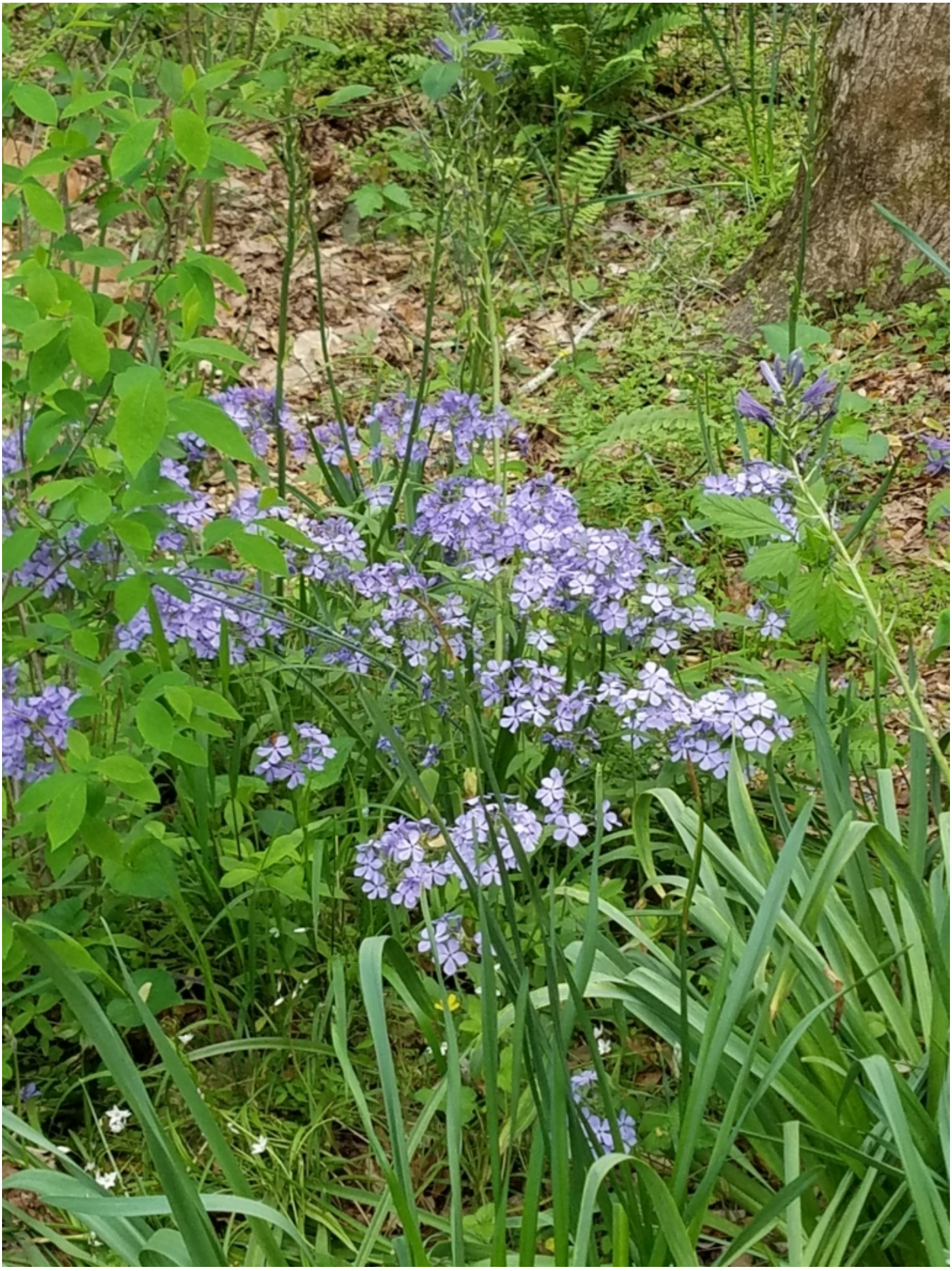
I've decided to give a closer look to any swaths of ground cover that appear to be stiltgrass. For more information on where it's been seen in Virginia and on how to report sitings, see dcr.virginia.gov/natural-heritage.

The Blue Ridge PRISM is hosting a number of educational events this month, so check them all out at https://blueridgeprism.org/events. One of the events is the PRISM's Spring Meeting, which includes a talk on how to restore an area after removal of invasive plants. Explore questions such as, "Should I plant now, or wait and see what comes up," "What kind of native plants should I choose," and "How do I start the process?" This is a FREE webinar and will be recorded. ⇒ Find out more and Register HERE.

If you like the idea of working with a group to eliminate invasive plants at the Botanical Garden of the Piedmont, you'll want to check out the details on the **Invasive Plant Removal Workday at Botanical Garden of the Piedmont,** on **Wednesday, April 16, 2025** from 9:00 am – 11:00 am. ⇒**Find out more and RSVP Here**

The Ornamental Garden in April

By Cathy Caldwell | April 2025-Vol.11,No.4



April is prime planting season for gardeners in the mid-Atlantic. In fact, this can be our busiest month as we contend with spring cleanup, dividing, transplanting, weeding, and other spring gardening chores. The bright, sunny days and warm spring breezes this month are perfect for working outside and we can be lulled into thinking cold weather is behind us. But it's important to stay vigilant for sudden dips in night-time temperatures that can result in deadly overnight frosts.

The average last spring frost in Albemarle County (USDA Zone 7b) generally occurs between April 15 and April 25. If a frost is forecast, cover tender new growth to protect it from frost damage. Use a row cover, an old sheet, cardboard, or even layers of newspaper for this purpose. Remove the coverings the next morning so that you don't inadvertently "cook" your plants as daytime temperatures warm up.

As daffodils and hyacinths finish blooming, cut the flower stalks all the way back to the ground but leave the foliage in place to die back naturally. This allows the plant to focus on storing energy for next year's blossoms rather than on developing seed heads. The foliage may look a bit messy, but don't braid or tie it up because this may interfere with photosynthesis, which could affect next year's blossoms.

If spring-flowering bulbs such as daffodils, snow drops, or crocus have become crowded and didn't produce as many flowers as in past years, that may mean they need to be divided. The ideal time to divide these bulbs is after the foliage has died back, which may be June or July. Mark the location of the flower clump now while you can still see the green or yellowing foliage. This will help you remember where the clump is located, plus it will remind you not to plant something else in the same spot. Make a note to dig up and separate the bulbs once they are dormant. Either replant them immediately or store them in a cool, dry, well-ventilated place and replant them in the fall.

Top dress established ornamental flower beds with an inch of compost. For new flowerbeds, work compost or aged cow manure into the loosened soil before you start to plant. A slow-release fertilizer and lime may also be added to the soil if a soil test indicates the need for either.

Hairy bittercress. Photo: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org, CC BY 3.0

Remove broadleaf winter weeds before they set seed. These cool-season weeds include chickweed, deadnettle, hairy bittercress, and henbit. They germinate in late summer or early fall, overwinter in the landscape, and produce flowers and seeds in spring. You can suppress their growth in your flower beds by applying a layer of mulch over bare ground or planting a dense ground cover. Weed identification information and photos are available on a number of extension websites such as Virginia Tech (weedid.cals.vt.edu), University of Missouri (weedid.missouri.edu), or the University of Illinois (weeds.cropsci.illinois.edu).

Divide fall-blooming perennials, such as asters (*Symphyotrichum* species), chrysanthemums (*Dendranthema*), shasta daisies (*Leucanthemum*), black-eyed Susan (*Rudbeckia*), ornamental grasses, sneezeweed (*Helenium*), false aster (*Boltonia*), and bee balm (*Monarda*). Most perennials benefit from being divided every three to five years on average, but if you're not sure if a plant should be divided, here are a few questions to ask yourself:

- Is the plant not producing as many flowers as in previous years?
- Has it outgrown its assigned space in your landscape and is it crowding other nearby plants?
- Is it alive around the edges of the crown but dead in the center?
- Does it seem less vigorous in general?
- Do the stems in the center of the plant have smaller leaves?
- Are the inner flower stalks weak or flopping over?

If the answer to any of these questions is yes, then the plant probably needs to be divided. Try to complete this task at least six weeks before hot weather sets in so that the divisions have ample opportunity to become well established.

Another reason to divide perennials is to increase air circulation, which helps control fungal diseases. For example, *Monarda fistulosa* (or wild bergamot) is valued for its highly aromatic flowers that attract pollinator insects such as bees and butterflies, but it is subject to powdery mildew. By dividing this popular native plant every 3 years to improve air flow and providing it with moist, well-drained soil, a sunny site, and destroying all infected foliage, you can help keep this common fungal problem under control.

Before digging holes for new plantings, keep in mind the ultimate size of each plant. Also, group plants together according to similar needs for water, nutrients, and sunlight. Remember to update your gardening records indicating the location of your new plantings.

Pinch back chrysanthemum foliage this month when the plants are about 4 inches high. Pinching makes the plant bushier, sturdier, and more wind-resistant later in the season. Tall aster species also benefit from being pinched back for the same reasons. False sunflower (*Heliopsis helianthoides*) is another plant that benefits from being pinched back in spring to reduce the plant's height.

At this time of year, garden centers are overflowing with the best selections of landscape plants. **Shop for azaleas and rhododendrons while they are in bloom** to ensure you like the color and that the color harmonizes with your other landscape choices. This is particularly important if you are adding new plantings to an established landscape. Some pink selections, for example, have an orange or coral undertone that may clash with other spring-blooming species located nearby. Tip: Azaleas generally look best planted as a grouping in part sun or filtered shade and acidic, well drained, organically rich soil with a pH of 5.0 to 6.0.

As you select new plantings for your garden, **avoid plant species that are potentially invasive** in this area of Virginia. Look for native plants that minimize maintenance, require less water, and increase habitat, particularly for beneficial insects. A number of excellent native plant resources are available, such as the Virginia Native Plant Society's website at vnps.org, the Albemarle County Recommended Native Plants website at webapps.albemarle.org/nativeplants, or the Virginia Department of Conservation and Recreation's Natural Heritage Program at dcr.virginia.gov/natural-heritage. Also, explore back issues of *The Garden Shed* for a number of articles on native plants suitable for our area. To look for articles about a particular plant, use the "Search this Site" function on the main page of *The Garden Shed,* under the Table of Contents.

Buy annual bedding plants such as begonias, petunias, pentas, geraniums, or marigolds while selections are plentiful. Choose healthy plants with well-developed root systems that are not too large for their pots. Don't plant them, however, until the danger of frost is past, night-time temperatures are

consistently above 50° F, and soil temperatures are above 60° F. Depending on the weather, that may be toward the end of April or even early May. If you just can't wait that long, be prepared to protect those tender seedlings from frost if temperatures threaten to turn chilly.

If you prefer to start bedding plants indoors from seed rather than buy transplants from a garden center, you can still sow the seeds during the early part of April if you didn't get around to it in March. Don't forget to harden off tender seedlings before planting them outdoors. For the new or inexperienced gardener, Virginia Cooperative Extension (VCE) Publication 426-001, Plant Propagation From Seed, provides good information on sowing seeds.

Plant some everlastings in your ornamental garden this spring. The term "everlasting" refers to a flower, seedpod, or other plant part that can be dried or preserved without the loss of its shape or color. Everlastings are used in dried flower arrangements, wreaths, bridal bouquets, and many craft projects. In addition to strawflower (*Helichrysum*), baby's breath (*Gypsophila paniculata*), and statice (*Limonium*), all of which are easily preserved, try experimenting with other flowers such as: Bells of Ireland (*Molucella laevis*), cockscomb (*Celosia*), or globe amaranth (*Gomphrena*).

Don't move your houseplants outside until night-time temperatures consistently stay at 50° F or higher. Depending on the weather, this may not happen until very late April or in May. Place them in a shaded area on a porch, patio, or under a tree or wherever they can **gradually acclimate** to the increased light levels. Moving a houseplant from indoors directly out into a sunny location can burn the leaves, which will severely damage the plant.

Before you move your houseplants outdoors for the summer, repot any that are rootbound. You can tell a plant is rootbound if:

- The roots are growing through the pot's drainage hole or can be seen on the surface of the soil.
- The plant is either growing very slowly or has stopped growing even when fertilized.
- The lower leaves are turning yellow, which may be a sign of a nutrient deficiency.
- The potting mix is drying out faster requiring more frequent watering.
- The plant appears to be too large for the pot.

To repot a houseplant, choose a container that is only slightly larger in size. If the pot is too large, the soil can stay moist for too long, which can cause root rot. For additional information on houseplant care, see Virginia Cooperative Extension Publication 426-100, Indoor Plant Culture, or see the University of Maryland Extension's publication on Potting and repotting Indoor Plants.

Boxwood leafminer damage. Photo: Jim Baker, North Carolina State University, Bugwood.org, CC BY-NC 3.0

With the arrival of spring comes the start of the annual battle with insects, such as leafminers. Leafminers are the larvae of insect species that burrow within a leaf and devour its inner layers, leaving either winding, serpentine tunnels or brownish blotches, depending on the plant and the leafminer insect species. Both the larvae and the damage they cause are generally undetectable until after it is too late. Winding tunnels caused by sawfly insects are commonly found on the foliage of columbine (*Aquilegia*), hollies (*Ilex*), and roses. The damage doesn't actually harm the plant, but it can look unsightly. It's usually sufficient to snip off the damaged leaves or simply ignore the problem if it's not too pervasive. Other leafminer insect species cause blotchy or blistery-looking damage to plants such as boxwood. See University of Maryland Extension publication, Boxwood: Identify and Manage Common Problems for a description of and management options for boxwood leaf miners. To learn more about Leafmining Insects, see Colorado State University Extension Fact Sheet No. 5-548 and Boxwood Leafminers on Ornamental Plants/Univ. of Md..

Inspect Azaleas for lacebugs (*Stephanitis pyrioides*), which overwinter as eggs on the underside of infested leaves, then hatch out in spring. They damage foliage by piercing plant cells with their mouthparts and sucking the leaf dry. Look for white or silvery looking stippling on the upper leaf surface. The damage is unsightly, but it won't kill the plant.

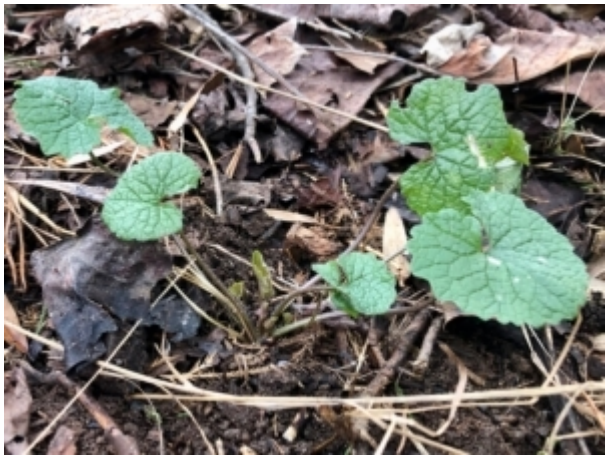
Slugs and snails start making their appearance in spring, particularly if the weather has been cool and wet. One very effective control method is to pick them by hand, or with tweezers if you're squeamish, and drop them into a pail of soapy water to drown. For more information on how to control slugs and snails, see the University of Maryland extension's publication on Slugs and Snails on Flowers.

Check emerging Irises for diseases or borer damage. Leaf Spot is one of the more common fungal diseases of irises. For information on symptoms and controls of this disease, see VCE Publication 450-600, Iris Leaf Spot. Iris borers are another common problem. The larvae of this pest feed below the soil level on the rhizomes. Feeding damage is sometimes not apparent until the plant dies or the leaves wilt. Inspect young iris foliage for notches that are cut in the edges of center foliage and slimy frass. This is the point where the borer enters the leaf. If you detect the presence of a borer caterpillar inside the leaf, crush it with your fingers. Once this voracious pest burrows to the rhizome, it will hollow it out and then proceed to other rhizomes**.** Bacterial soft rot often follows borer damage and can destroy an entire bed of Irises. The best way to control this pest is to burn the foliage or dispose of all dead or damaged leaves in the trash in fall.

And speaking of pests, **apply deer repellent as vulnerable plants emerge in spring or take other preemptive measures to discourage deer browse** on tender, succulent new plant growth.

Invasive Watch: Callery or Bradford (*Pyrus calleryana* 'Bradford') started blooming in March this year**.** This invasive species and other ornamental pears started out as popular landscape trees in the 1960s and are now considered invasive in 29 states. The trees often produce fertile seeds that are easily spread by birds. The seedlings can easily establish in disturbed areas, where they are contributing to the shrinking biodiversity of our urban forests. **Control trees less than 6' tall with a higher-than-usual (3-4%) concentration of foliar spray.** Foliar sprays are effective from **when leaves emerge in spring until just before they begin to develop fall color.** For detailed information on how and when to eradicate this invasive species, **including tree trunk methods in the fall**, see the Blue Ridge Partnership for Regional Invasive Species Management's Bradford Pear Fact Sheet.

Garlic mustard should be removed now before it flowers and sets seeds. For more about garlic mustard, see Blue Ridge Prism.org/Garlic Mustard Factsheet.



Garlic mustard
Photo: Cathy Caldwell

SOURCES

Feature photo of spring-blooming *Phlox divaricata*: Pat Chadwick

Monthly Gardening Tips/Gardening Resources/Piedmont Master Gardeners/https://pmgarchives.com/April