ESVMG

Gardening on the Shore

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Feature Article

Seed Saving

by Janet Rochester, ESVMG EMG

Last year's seeds produce this year's lovely outcome!

At the end of the growing season, have you ever thought how nice it would be to grow the same plants again next year? For many flowers and vegetables, varieties available in the garden stores are the same from year to year but this is not always the case. Some are replaced by new varieties, so that varieties popular in the past are dropped from all but the more obscure catalogues. You always have the option of saving seeds from your plants and it can be successful and rewarding, as long as it is done correctly.

Some other reasons for saving your seeds are that they may be from a family favorite or heirloom that may have no name, its name has been forgotten, or a variety that may have done particularly well in your microclimate. You can propagate a strain that shows pest or disease resistance. Sharing seeds with others in formal or informal seed exchanges is a fun way to meet other gardeners, to learn about new plants, and to experiment with new possibilities for your garden. Saving seeds saves the cost of buying new seeds every year; these costs have risen significantly in the last few years.

Whatever your motivation, save seeds only from the best plants available or the ones that exhibit the characteristics you want, and only from healthy plants. If you do this, you will be selectively breeding plants that have qualities that are important to you.

What Seeds to Save

Open-pollinated plants will breed true, but only if pollinated by the same variety. Heirloom plants are open-pollinated varieties that have been preserved for many years, commercially defined as 50 years. If saving seeds is your intention, do not plant other varieties close by, protect flowers and pollinate by hand, or grow only the one variety. Some vegetables, for example, beans, peas, lettuce, and tomatoes, are self-pollinating and do not need spacing or protecting. I usually find some ripe pods when I am pulling up beans and peas at the end of the season – ones that I missed at harvest time.

For flowering plants, you will need to leave some of the flowers to form seeds instead of dead-heading them to encourage the plant to make more flowers. For vegetables grown for their fruits, you will need to leave some to get fully mature so that you can harvest the fully ripe seeds. For vegetables that are grown for their leaves or shoots, you will need to leave some to grow to produce flowers. Remember that vegetables such as carrots, beets, and parsnips are biennials, flowers such as foxglove, hollyhock, sweet William and Canterbury bells, and herbs such as parsley, and will only flower in the second year.

Do not attempt to save seeds from plants that are identified as F1 hybrids, as they will not breed true – the next generation will not have the characteristics of the parent. Sometimes this is worth trying as you may capture a new desirable trait and it is interesting to let a volunteer grow to see what it will produce.

When / How to Save

The keys to successful seed saving are to save dry seeds and keep them dry. This is easy for seeds that form in seed pods that dry out, but requires some care for seeds in fleshy fruits. If the seeds are not fully dry and kept dry, they will be prone to fungal diseases and to rot. Seeds must be fully mature physiologically, that is, fully developed or ripe.

Many seeds turn dark or become loose in the seed pod, so use your Master Gardener intuition to determine this point. The whole fruit usually becomes brown or yellow, think dry beans and overripe cucumbers. The seeds need additional drying in a cool dry place, enclosed in a paper or mesh bag.

If you want to save seeds from fleshy fruits like tomatoes, cucumbers, eggplant, or zucchini, you will need to let the fruit mature well past the time that it is fit for eating.

If you want to save seeds from fleshy fruits like tomatoes, cucumbers, eggplant, or zucchini, you will need to let the fruit mature well past the time that it is fit for eating. Once you remove the seeds of cucumbers, eggplant and squashes, you will need to rinse them well to remove any fruit that remains attached, then dry them as described below for tomatoes.

For tomatoes, you will need to ferment them in water for 2-3 days, depending on the temperature, to remove the fleshy gel around them. Put the seeds in a container, add water to cover, and a permeable cover such as a paper towel or cheese cloth. Store in a warm place in an outside location

– fermentation produces unwanted smells! Stir the mixture occasionally. After 2-3 days you should see a layer of mold on top of the water. Add more water and stir the container vigorously. The viable seeds will sink while everything else floats. Pour off this mixture and repeat as needed until no more material rises to the top. Strain the seeds and rinse well. Pat dry and spread out in a dish or on a paper towel or coffee filter to dry out of direct sunlight. Allow several days for complete drying. Then store as indicated below.

Plants have developed many ways to produce seeds and to disperse them, so gardeners must adapt their approaches to seed saving. For plants with explosive seed dispersal mechanisms (some Geranium species and balsams, some cabbage family vegetables, hellebores, and impatiens) it is sometimes difficult to stop them spreading. If you want to save the seeds, either enclose the seed pods in a paper or mesh bag and tie tightly or harvest the seeds slightly unripe on as long a stalk as possible and enclose the seed head in a bag. Either way, the seeds remain in the bag for collection.

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Articles of Interest

Choosing the Most Eco-Friendly Plant Species for Your Gardens

by Kelley ("Poppy") Durham, ESVMG EMG Intern

Tree of Heaven (*Ailanthus altissima*)

VS.

Eastern Redbud (*Cercis candensis*)

This past spring every gardener across the U.S. found their mailboxes (electronic and front yard) stuffed daily with eye candy – their spring plant and seed catalogs. Gardeners face an

overwhelming variety of plants to choose for their gardens. From flowers to shrubs to trees to vines, the availability of colors and forms, the choices are mindboggling!

Fortunately, several factors help the passionate gardener to limit their choices: climate zones, space, budget and time for installation and maintenance. Adding the use of native species and the avoidance of invasive species to the list makes it almost manageable.

What's So Special about Native Species?
The Ecological Landscape Alliance stresses the importance of native species in landscaping. The website expands on this notion: "As ecologists, wildlife biologists and entomologist have shown, native plant species are more favorable for supporting local wildlife, including insects such as bees and butterflies, amphibians, reptiles, and mammals. Native plants feed the creatures at the bottom of the food web that then provide meals for creatures on the next rung of the web, such as the birds and toads that visit our yards."

The list of benefits is lengthy, but here are a few reasons why Master Gardeners should emphasize planting natives:

- **Natural and familiar beauty** (captures a sense of place).
- **Evolutionary hardiness and enhanced survivability**. Natural species adapt over time to the changes in their environment.
- **Less maintenance**. Because of their adaptation, natives require less water, fertilizer, and generally less support to remain healthy.
- **Improved soil fertility**. Their root systems have evolved into a symbiotic relationship with the microorganisms in the native soil. This relationship extents throughout the entire plant community in a specific area.
- **Reduced runoff and erosion**. The survivability and adaptability of native plants in a defined ecosystem stabilizes the upper layers of soil.
- **Absorb and recycle pollutants**.
- **Support and improve the environment for insects and animals**. Native plant species, using their adaptations to a defined location, provide the necessary food, habitat, nesting materials, and shelter for the insects and animals in that defined area.

Simply stated, native plants fit into the ecosystem the way a piece fits into a puzzle.

Identifying and Using Natives in Your Landscape
After considerable research to precisely define native and invasive, I have determined the quest to be fruitless – pun intended. However, many useful considerations used by professional gardeners, growers, educators, and scientists exist to guide the eco-conscious gardener.

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More About Matrix Planting

by Jane McKinley, ESVMG EMG

Last year's fall issue of "Gardening on the Shore"(available via Better Impact > Home > Files > All Files), included an article on Meadow Gardening which talked about the value of meadows and how to get one started. This article is a follow-up to Meadow Gardening with a deeper dive into the concept of matrix planting.

As gardening practices evolve, a new style of planting referred to as wildscaping, modular plantings, New Perennial, naturalistic gardening, and matrix planting is gaining much momentum. What I will refer to in this article as "matrix planting" promises many cultural, aesthetic, and environmental benefits. So much to know!

Originating with post-WW II German planters who were seeking low maintenance plantings in urban settings, this approach, along with some extra frills, forms the basis of the matrix planting style. Credit for taking this style to the next level goes to the Dutch plantsman and designer Piet Oudolf, most known as the creator of New York City's Highline. Oudolf renewed this style by adding artistic inspiration with the use of color, texture, and form.

Kelly D. Norris in his book, *New Naturalism*, defines the matrix layer as "the underlayment of a planting scheme which ties everything together." This layer creates a palette of plants at the lowest level, filling in the gaps between taller plants, suppressing weeds, preventing soil erosion, reducing the need for mulch, and providing critical wildlife habitat. Additionally, the

matrix layer increases soil fertility, and, when filled with native plants, is naturally disease and pest resistant. Mature matrix plantings don't rely on regular maintenance such as feeding, dividing, and watering like our traditional plantings do. In fact, soil too rich in nutrients can prevent some of the plants in a matrix garden to decline or underperform.

> "Matrix planting is where a single species, or handful of species, dominates the planting, forming a matrix into which other plants are blended."
>
> Piet Oudolf

Matrix planting mimics the look and function of a natural ecosystem such as a prairie or woodland but with intentional plantings arranged in a naturalistic manner. By requiring that plants be grouped very closely together and eliminating the wood mulch, matrix planting requires a shift in the traditional gardener's perspective. The close grouping of ground hugging plants replicates how plants grow naturally in the wild. And it is now understood that the application of a thick layer of mulch as the garden's underlayment actually keeps the garden in the establishment phase, blocking plants' ability to set seed and to tolerate environmental stressors by extending roots deeply.

Plants in the matrix layer often spread by self-sowing or by stolons or rhizomes and include lots of low growing, low maintenance grasses and perennials that weave together in an intentional and artful pattern – or matrix. These plants, however, are not the ones to steal the show and direct the eye. This job is left to the taller seasonal plants.

Key Elements of Matrix Planting

- Few large "emergent" plants scattered throughout with up to 50% smaller groundcover plants
- Swales of ornamental grasses
- Predominant clumps of brightly colored native flowers which bloom at different times of the year
- A design that mimics one found naturally in nature
- Lots of foliage
- Lots of different colors and textures that provide drama throughout all seasons

From "Matrix Planting with Scott Vogt"

In my study, I have discovered that there are two definitions to the term "matrix" planting. One is as described above – the ground cover layer – and another is the method of mixing layers into a pattern, starting with the ground cover layer. Both interpretations, however, recognize the value of a tightly woven pattern of ground covering plants.

Preparation of the Garden Site

As gardeners, we know the importance of working with the environmental conditions of a site whether it be in full sun to shade, moist to dry, clay to sandy soil, protected or windy, and the

presence of hardscapes or structures to work around. Also root competition created by large overstory trees with shallow roots such as a silver maple or tap rooted tree like an oak should be considered. The plants in all layers must be naturally adapted to the unique conditions of the garden space and must "play well together."

Once the site conditions are identified and before the plants are installed, it is critical that all weeds be removed. This can be a laborious process if mechanical methods such as hand pulling are used but it is the most environmentally correct approach. For deep rooted weeds, such as Bermuda grass, that persist year after year you may need to resort to the limited use of herbicides such as Roundup (glyphosate). A good time of year to apply the herbicide is in the late summer or fall when plants are moving nutrients from their leaves into their root system in preparation for dormancy.

Despite efforts to remove all weeds, it will be impossible to get them all out. But that first aggressive swipe will set the stage for less work in the future.

Despite efforts to remove all weeds, it will be impossible to get them all out. But that first aggressive swipe will set the stage for less work in the future. It will take a few years of diligent removal before the matrix plants get big enough to fill in to cover the spaces previously occupied by undesirables. At this point, weeding becomes an occasional chore - but never completely goes away – and the gardener's efforts will be focused primarily on thinning out desirable but overly successful species. Unfortunately, no lovely garden, even with one as natural as a meadow or matrix garden, is totally maintenance free!

Matrix Design

In designing your matrix garden, you will want to consider the three primary layers to be created. From the bottom up, these layers consist of the Matrix layer, the Vignette layer (also called the Seasonal Theme layer), and the Structure layer.

The Matrix, or ground cover, layer occupies the greatest amount of space in the garden with 40-60% of the plant material. This layer creates a matrix of tightly growing plants that cover the ground with "green mulch," is heavy on shallow-rooted grasses and sedges, and should consist of tough, drought tolerant plants of roughly the same height to create a uniform mass.

The Vignette or Seasonal Theme layer, which fills 20-40% of the garden, is composed of perennials and grasses that provide a succession of bloom throughout the year. With their color and movement, these plants draw the eye with a continuous evolution of bloom and interest.

The Structure layer, which fills only about 10% of the garden, includes strategically placed taller overhead plants. They provide contrast throughout the space, giving it a diverse look and breaking the horizontal plane formed by the base-level plantings.

With layers of thickly planted ground level perennials that offer different bloom times mixed with taller Structure plants, Christine Williams' garden is an excellent example of a matrix planting. Within the plant community, we see Virginia knotweed, Black-eyed Susans, Stonecrop Sedum, and Blue Mist Flower. Viburnum and Oakleaf hydrangea provide the overhead layer. Note the stick positioned on the rock as a songbird perch.

The plants in this layer serve as focal points, directional cues, and lead the eye toward views or away from visual obstacles. For ease of maintenance, chose plants such as tall ornamental grasses that can be cut to the ground each year in the early spring before new growth begins to appear. Small trees and shrubs work well in this layer, too.

A layered design also reduces plants' competition for resources. The root systems of the plants in the Matrix layer obtain their energy in the top 18" of soil, above the roots of the other plants. The Vignette layer goes 2-3' deep, and the root systems of the plants in the Structure layer go even deeper. The plants in these layers can live compatibility because they are not in direct competition with each other for resources such as water and nutrients.

In creating your design, the patterns of these three types should be repetitive to lead you through the garden. For the Vignette and Matrix layers, group your plants in clusters of 3-5 of one species which is more pleasing to the eye. You can start by laying out the plant placement in a small grid section, such as a 10' x 10' design and repeat it over and over to fill a larger space. In this example, you would replicate the grid three times for a 30' x 30' garden. Space the plants about 18 inches apart so that they grow together quickly to achieve a full look. Every square inch should be covered with some sort of biomaterial.

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Seed Saving

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Storage

The simplest way to store your seeds is to put them in paper envelopes, new or used, and store in a cardboard or cedar box. Adding silica gel drying packets will help minimize moisture. Store the box in a cool, dry, dark place. For most seeds, a temperature of 40-50 degrees F is ideal. Seeds that need stratification before sowing, such as black-eyed Susans, lavender, beans and melons, should be stored at lower temperatures. The cooler drawer of your refrigerator is ideal. Make sure to label them first with the species and variety, along with other details, such as planting dates, just as on the original seed packet.

Never store seeds in plastic bags as shown here.

Seeds will remain viable for months or years, depending on the storage conditions and the species. Use them in the next growing season, if possible, as the viability of even long-lived seeds declines over time. Under ideal conditions some seeds will last for many years, but you may not be able to achieve such longevity.

Self-Seeding

Many garden annuals are self-seeding and will do the work for you. If you are happy to have the flowers in the same place next year, let the seeds ripen and fall to the ground when they are ready. You may need to thin them out in the spring or move some of them to a better location. I regularly do this with Cosmos and Zinnias. Other suitable annuals are Helianthus and Coreopsis, marigolds and some perennials, such as Primula and Gaillardia. This also works with dill, oriental chives, and sometimes with basil.

Keep a record of the seeds you saved, what was successful or not and why, and whether it was worth the time and effort invested. Experiment if you have room. I have grown Agapanthus from seed and have several persimmon seedlings starting to grow from seeds that I saved from a ripe persimmon.

Some Cautions
Federal and State laws that protect the rights of plant breeders and developers may impact your seed saving and sharing activities. These laws have been enacted in order to protect growers, to protect consumers, and to protect developer rights.

It is unlawful to sell seeds or to offer to sell them if they have not been tested. This is to ensure that the seeds are viable and that they are as listed and not weeds. The law generally applies to commercial providers but has been interpreted to include seed exchanges where no money changes hands. The amount of seeds involved is important; most seed exchanges do not include sufficient seeds to impact a professional grower.

You may have seen plant labels that state that the plant has been patented and that propagating it is not permitted. Propagating these plants is depriving the plant breeders of legitimate returns to their investments, similar to downloading copyrighted creative works. Plant varieties are also protected by the Plant Variety Protection Act. If you save seeds from PV-protected plants, you are free to share and exchange the seeds. Selling the seeds is generally not permitted.

If a plant does not have a Patented or PVP protection label, it is probably lawful to save the seed for your own use, sharing, or breeding. State laws are based on the Federal laws, but may differ from them, and they are changed more frequently. If in doubt, do not exchange or sell seeds without checking the appropriate laws, which can generally be searched on-line.

Sources and Resources
Southern Exposure Seeds at southernexposure.com
Seed Savers Exchange, at seedsavers.org
Seed Sharing and Seed Law; on-line presentation by Dr. David Francis, Ohio State University

Choosing the Most Eco-Friendly Plant Species for Your Gardens

(continued from p. 5)

Shannon L. Alexander, Regional Supervisor of the Virginia Department Conservation and Recreation National Heritage Program offered this definition, “Native plants should be defined as those that have evolved and adapted to a specific location and have remained genetically unaltered by humans (Wasowski, A. *The American Gardener*, 1998).” Alexander adds that the key elements of this definition take into account time and place as well as the human element in plant evolution and availability.

This definition is elegant in its simplicity and clarity and is useful as a starting point and litmus test, but its routine application is impractical. How is the most knowledgeable gardener to know a species' legacy and genetic composition?
The good news is that public awareness of the role plants play in a healthy global environment has increased demand for native plant information and their availability for purchase.

Making Native Plant Selections

To make the most appropriate selections for our Eastern Shore climate and soil conditions, not just any old plant will do. Alexander warns that if the seed or plant is not a local genotype, the plant may not thrive. For example, American Beautyberry, *Callicarpa americana*, is native to both Virginia and Texas, but a Texas-grown Beautyberry may not fare well in an Atlantic coast snowstorm or Eastern Shore sandy soils.

A case in point: I moved to Accomac in 2021 lugging with me some of my treasured bulbs, plants, and sapling trees, two of which were Eastern Red Cedars, *Juniperus virginiana*. One is a three-year-old from the Columbus, North Carolina homestead of my husband's ancestors. The other is a two-year-old I lovingly transplanted from our former Central Texas home of 30 years. Both were planted in the ground here late fall last year; both seem to be well rooted, but the NC tree is doing noticeably better than the Texas tree. Could the difference be due to their local genotypes? Possibly.

Finding local natives for purchase is challenging right now, but availability is likely to increase based on the specific efforts of organizations such as Virginia Native Plant Society. There are no garden centers currently on ESVA that specialize in native plants, however, Hortco Garden Center in Onley and Thomas Gardens in New Church do offer some native selections. At these and other "generalist" garden retailers, one must be very careful to purchase the plants based on the scientific name, not the common name, to ensure that you are getting the true native.

Genotypes explained: According to the Michigan State University website, "Plant species become adapted to their local environments by passing on those genes that favor survival in a particular place. Over time, plants of the same species from different parts of their range may develop different genetic makeups called genotypes, even if they look very similar." Using local genotypes means, "using plants propagated from sources from as close as possible to where you will be planting or seeding." (Choosing Plants," Michigan State University Extension)

Avoiding Invasives

You won't need much persuading to avoid invasive and noxious species but pinning down a precise definition is again illusive. The Virginia Department of Conservation and Recreation tells us that "invasive plants are species intentionally or accidentally introduced by human activity into a region in which they did not evolve and cause harm to natural resources, economic activity or humans."

The overriding factor in being labeled invasive or noxious is the ability to do harm, a more extreme case of "the wrong plant in the wrong place." Invasive non-natives include, among many others, Autumn Olive (*Elaeagnus umbellate*), Tree of Heaven (*Ailanthus altissima*), Periwinkle (*Vinca minor*), and Chinese Privit (*Ligustrum sinense*).

Plant Selection Best Practices

1. Know the seed or plant source when you make purchases.
2. Check reliable sources when purchasing plants that are unfamiliar to you.
3. Put on your Master Gardener Super Hero's hat and use your considerable knowledge and best judgement.
4. As with many things in life, choose moderation. You don't have to chop down every Bradford pear tree in your yard or start a shaming campaign targeting your Bradford-pear-tree-growing neighbors. You don't have to forever give up growing your favorite imported Dutch crocuses. A nice balance of the plants you love, both native and non-native, and a dose of eco-friendly encouragement to our advice-seeking Eastern Shore neighbors will be just the right fodder to support a healthy Eastern Shore environment.

References:

"Why Native Plants Matter." *ELA,* Apr 17, 2022, https://www.ecolandscaping.org/native-plants
"Choosing Plants," Michigan State University Extension, Native Plants and Ecosystem Services, April 16, 2022.

For help in identifying natives, the Virginia Department of Forestry, Virginia Department of Conservation and Recreation and Virginia Cooperative Extension come to our rescue with publications and resources.

Interesting Factoid:
Native plants, due to their transpiration and deep root systems which access groundwater, provide more cooling to the surrounding area than non-natives.

More About Matrix Planting

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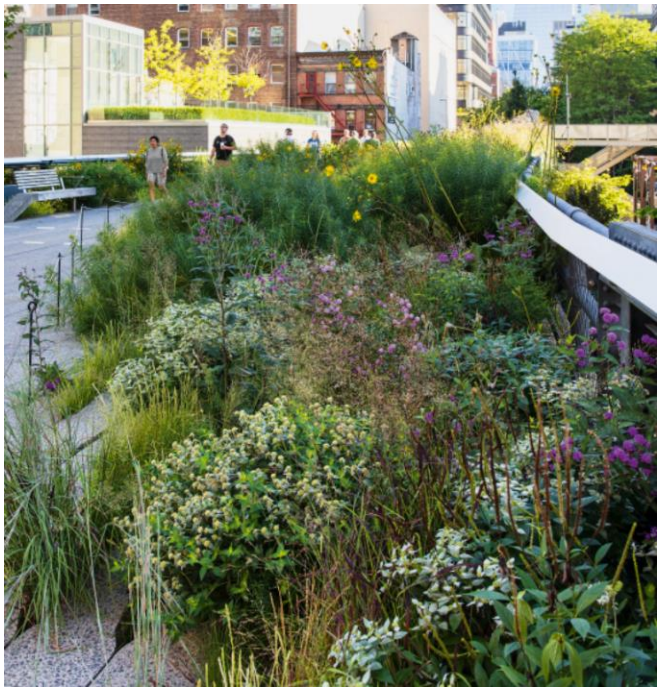
Plant Selection

As you begin your research for the best plants for your matrix garden, site conditions, of course, are a primary consideration. Keep an eye out for where you might see your preferred plants growing in the wild. For example, coneflowers and verbena thrive in consistently dry, rocky soil whereas cardinal flower grows naturally in ditches which are occasionally water saturated.



The Highline in NYC, an excellent example of matrix gardening, has lots of native grasses and perennials which provide seasonal color along with higher structural plants such as this American Redbud (*Cercis canadensis*) that complete the palette.

Matrix planting can be applied to all types of environments and spaces with even the smallest and hottest area of soil between the sidewalk and street naturally filling with opportunistic plants! For example, think of a woodland spot that is moderately moist. This space would be suitable for shade loving perennials and sedges that could be easily integrated with the existing plants. Preserve some of the natives even though they may not be "eye candy." Make a note of what is already growing on the woodland floor and select a companion plant that would help to quickly create a thick ground-hugging matrix. Looking into the existing woodland bordering this space, select medium level plants such as the native Sensitive Fern, *Onoclea sensibilis*, which will spread into the woods, tying the foreground to the background.

In addition to similar cultural needs, seek a wide range of textures and variation in color. Select plants that maintain color interest successionally through the seasons. Keep in mind that smaller ornamental grasses will be inconspicuous early in the season but will come into their own toward the end of summer when they sport fluffy, ethereal plumes that create interest as the lower fall sun shines through them. And remember that color is not only in the blooms, which can be short lived and consist mainly in the Vignette layer, but in the foliage, too. Virginia knotweed, *Persicaria virginiana*, is a great example of interestingly variegated foliage.

Since matrix planting requires lots of plants growing closely together, it is a good idea to avoid purchasing quart- or gallon-size pots and to opt for plugs or seeds. Although it is difficult to find these locally, two reputable online sources, Izel Plants and Prairie Moon Nursery, offer a wide selection.

Below are some suggested plants that work well in a matrix planting. The asterisk * denotes that this plant is native to the Virginia Eastern Shore. It is advisable that you do your homework, however, because the plants suggested below may grow taller than indicated under ideal conditions. Also, it is worth noting that, although those on the list which are non-native, do grow well in Virginia and may work well in your space and your design.

Matrix Layer (below 2' in height)

- Blue Grama Grass, *Bouteloua gracilis*, interesting seed heads in the fall
- Stonecrop, *Hylotelephium cauticola*, provides fall color
- Wild Ginger, *Asarum canadense*, provides glossy green foliage
- Sneezeweed, *Helenium autumnale*, provides summer & fall color *
- Smooth Solomon's Seal, *Polygonatum biflorum*, graceful arching stems *
- Prairie Dropseed, *Sporobolus heterolepis*, provides fall color
- Coral Bells, *Heuchera americana*, attractive foliage color
- Partridge-berry, *Mitchella repens*, woodland creeper *
- Knotweed, *Persicaria virginiana*, interesting variegation on foliage *

Vignette Layer (between 2' – 5' in height)

- Blue Stemmed Goldenrod, *Solidago caesia*, provides fall color *
- Seaside Goldenrod, *Solidago sempervirens,* provides fall color *
- Coneflowers, *Ecinacea* spp, provides summer color
- Common Yarrow, *Achillea millifolium,* provides summer & fall color
- Butterfly Weed, *Asclepias tuberosa*, provides spring and summer color *
- Purple Moore Grass, *Molinia caerulea*, provides fall color
- Blackeyed Susan, *Rudbeckia hirta*, provides summer color *
- New York Aster, *Symphyotrichum novi-belgii*, provides fall color *
- Salvia, *Salvia spp*, provides summer color
- Rattlesnake Master, *Eryngium yuccafolium*, provides summer interest *
- Spotted Beebalm, *Monarda punctata*, provides summer & fall color *
- Blazing Star, *Liatris pilosa*, provides late-summer & fall color *
- Russian Sage, *Salvia yangii*, provides summer color
- Swamp Milkweed, *Asclepias incarnata,* provides summer & fall color *
- Evening Primrose, *Oenothera biennis,* provides color spring – fall *
- Little Bluestem Grass, *Schizachyrium scoparium,* provides fall color *

Structure Layer (5' or greater in height)

- Joe-pye-Weed, *Eutrochium dubium,* provides summer & fall color *
- Common Boneset, *Eupatorium perfoliatum,* provides summer & fall color *

- Sweet Goldenrod, *Solidago odora,* provides fall color *
- Switchgrass, *Panicum virgatum,* provides fall color *
- Big Bluestem, *Andropogon gerardii*, provides fall color *
- Bluestar, *Amsonia hubrichtii,* provides summer & fall color
- Smooth Sumac, *Rhus glabra*, provides fall color *
- Silky Dogwood, *Cornus amomum*, provides spring color *
- Smoketree, Co*tinus coggygria*, provides spring & summer color
- 'Karl Foerster' Feather Reed Grass, *Calamagrostis x acutiflora* 'Karl Foerster', provides fall color
- 'Transparent' Moor Grass, *Molinia litoralis* 'Transparent', provides fall color
- Understory trees such as Eastern Redbud, *Cercis canadensis*, and Fringetree, *Chionanthus virginicus*, which provide spring color

Gardeners' Tips

SUMMER 'TO DO' LIST

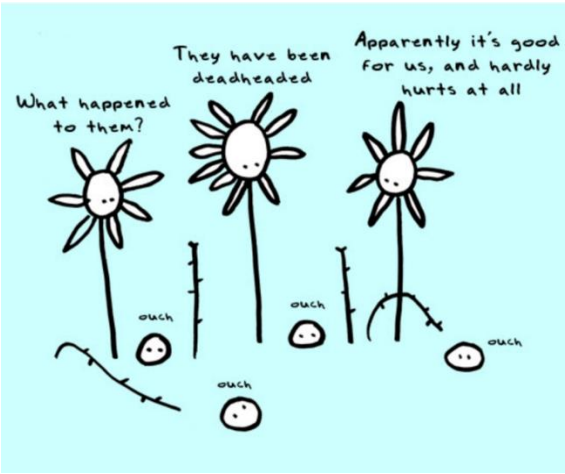
Do we really need a summer gardening To Do List?! We all know that our efforts are pretty much taken up with watering, pulling weeds, deadheading, and harvesting. But there may be one or two other things that you might want to add to the list this summer. Consider these:

1. Assess the garden bed for the wind it gets. **Wind dries out plants quickly**, especially those with large leaves such as cucumber, coral bells, and squash. Consider installing a structure made with shade cloth to cut back on wind if that's a problem.
2. **Recycle plastic bottles** to use as a deep watering system. Punch holes in the bottom, bury the bottle up to its neck, and fill it with water to slowly trickle out.
3. Look for **discounted annuals** at garden centers. Following the spring frenzy, retailers are now wanting to move out their remaining stock, and these plants would go into the garden or container without skipping a beat. Annuals give season-long color, and many thrive in the heat. Consider pruning back the blooms and long straggling branches to encourage new growth.

Squash bugs lay their eggs not only on squash but also on cucumbers, melons, and sunflowers.

4. Keep an eye out for **unwanted pests.** Be sure to check the underside of leaves where most pests like to hide and lay their eggs. It is easier to catch them in the early morning when they are still waking up. Knock them into a bucket of soapy water.

5. **Give plants a haircut.** Cutting them back freshens them up and makes them tidy. Annuals like petunias and calibrachoas can especially look bedraggled come mid-summer. Trim back dead flower spikes and remove seed pods from perennials.
6. Watch for **Powdery Mildew** which thrives in hot and humid conditions. Prevention includes avoiding getting leaves wet when watering, maintaining good air circulation by thinning out crowded plants, providing plenty of sunshine, and treating with an organic fungicide that contains sulfur as the active ingredient. And, of course, choose varieties with increased resistance when possible.
7. **Harvest fruits and vegetables regularly**. Crops like beans and zucchini continue to produce a high yield if they aren't allowed to overmature on the plant. If you have too much for personal consumption, share your excess!
8. Remove spent vegetable plants and **plant another crop** for a fall harvest. Root crops such as beets, radishes, and carrots are seeded in mid-summer. Be sure to look at the "days to maturity" information on the seed packet to ensure they'll have time to mature and produce their crop before the first frost date. Frost-hardy fall crops such as broccoli, kale, and bok choy can be planted as the summer begins to wind down. Save leafy vegetables for early fall or start them indoors and transplant once the weather gets cooler.
9. **Feed annuals and container plants** with a foliar fertilizer (directly on the leaves) to promote more rigor. Kelp and seaweed fertilizers or fish emulsion supply valuable nutrients to help keep your plants healthy during the stressful summer months.
10. **Keep your edges crisp**. Bermuda grass and other weedy plants have a tendency to travel across garden bed edges, making them look messy and distracting from the bed's beauty. A string trimmer works well to keep edges clear, but I have discovered that a flat edge shovel does the job nicely, too. Kill weeds growing between bricks and pavers by spraying them with a solution of vinegar (1 gallon), salt (1 cup), and dishwashing liquid (2 tbls).



EXCERPT FROM VA COOPERATIVE EXTENSION PUBLICATIONS

The excerpt below from the VCE publication on "Exotic Invasive Plants" provides more insight into the information presented in this newsletter's article on "Choosing the Most Eco-Friendly Plant Species." The excerpt merely scratches the surface of content in the article which is an excellent resource for continued reading.

Economically, exotic invasives cost the United States over $120 billion annually (Pimentel et al. 2005). Costs arise from decreased productivity and expenses associated with control efforts. Exotic invasives come in all shapes, sizes, and kingdoms. There are exotic invasive mammals, fish, insects, crustaceans, mollusks, bacteria, fungi, plants, and viruses. This publication will focus on exotic invasive plants. Virginia has over 90 species of exotic invasive plants.

So, what makes exotic invasive plants exotic and invasive? In general, they are species introduced (intentionally or unintentionally) from somewhere else that flourish in their new environment. They all tend to share certain characteristics that help them excel at being exotic and invasive. These include a lack of natural predators, prolific reproduction, multiple means of reproduction, excellent dispersal, adaptability, and early arrival.

Exotic invasive species have negative ecological impacts … that include altered forest structure, altered ecosystem function, native species reduction, and decreased productivity and biodiversity.

There are several tools available [to address] exotic invasive plant problems. Some may be more or less appropriate depending on the species, the site, and the … owner's resources.

Mechanical control entails pulling, digging, mowing, disking, grazing, or burning. Timing of mechanical controls can be crucial to success. For example, in most instances, mowing should occur before the target plants produce seed. **Biological control** methods involve the introduction of natural predators to control pests. Biological controls can be effectively used for some plant pests. However, all biological controls must undergo intense study prior to being released into the environment, lest they too become a problem. **Chemical controls** (herbicides/pesticides/fungicides) can be an effective means of reducing or eradicating exotic invasives. While chemical control should be your last resort, in some cases, [they] are the only effective means of controlling exotic invasive species

Certain **cultural practices**, like promoting the use of native species and preventing the sale of exotic invasives can also help slow the spread of exotic invasives on the landscape. And landowners can directly aid with cultural control by learning what exotic invasives are in their woods and taking steps to manage them.

Interesting Factoid:
Anyone under the age of 35 years has lived their whole life under climate change.

KNOW YOUR NATIVES

As interest in native plants and how to incorporate them into one's landscape grows, with each issue, this series introduces the reader to a select variety of native plant. The plant featured will be at its most attractive during the current season. For the summer, the bright red blooms of Cardinal Flower take center stage in a moist garden setting.

Cardinal Flower, *Lobelia cardinalis*

Native to Virginia's Coastal Plain region, Cardinal Flower is a short-lived herbaceous perennial that self-sows. With bold red blooms occurring from July through October, the common name of this plant alludes to the bright red robes worn by Roman Catholic cardinals. It grows best in moist to wet (not drought tolerant), humus-rich, sandy or clay soils. It's not picky about the amount of sun it receives, however it does appreciate some shade in the hot afternoon sun. Cardinal Flower grows up to 5 feet tall and is a good plant for back of the border (as long as the soil is kept uniformly moist) in a native or pollinator garden. It also does very well in a rain garden.

Valued for its ornamental blooms and color, this plant attracts birds and butterflies. It depends hummingbirds which feed on its nectar for pollination.

It should be noted that this plant has a Medium poison severity level, toxic only if large quantities are eaten.

What We've Been Up To

ESVMG General Meeting

The June 7 general meeting, held at the home of Julie Cardinale (*thanks, Julie!*), also included the annual picnic and plant exchange. Reports on several of the ESVMG sponsored gardens were presented including the CSB Parksley and Detention Center Gardens which are producing "lots of produce," Chincoteague National Wildlife Center with its new dragonfly creation, Kiptopeke Native Garden, and New Roots Youth Garden which began its summer session on

June 30. The school garden leads are working on a plan for next year. New business included the upcoming Seed Library project where gardeners will be able to donate extra seeds to be shared with others and the required background checks (look for an email notification). Julie Cardinale gave a one-hour CE talk on Carnivorous Plants.

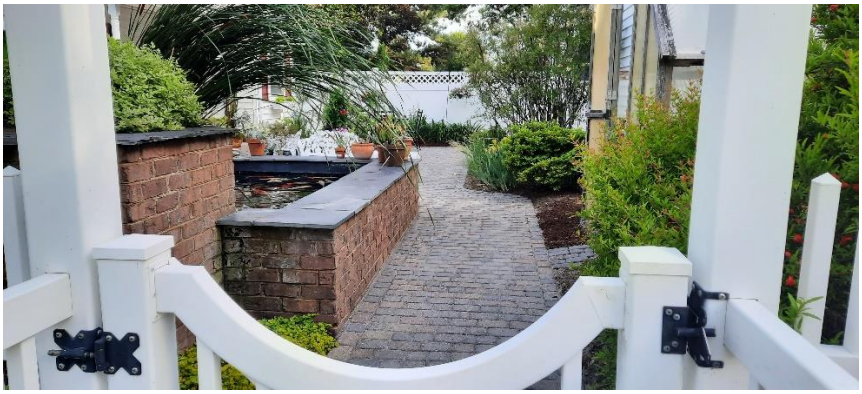
Cape Charles Garden Tour

Held on June 5, the Cape Charles Garden Tour featured 5 residential gardens in the Historic District along with New Roots Youth Garden. Around 130 visitors participated in the self-guided tour and 16 Master Gardener volunteers helped to make the day a grand success!

Here are pictures of a few of the featured gardens:

Having started with only 3 hydrangeas when the current owners purchased this home 8 years ago, it is now filled to the brim with beautiful plant vignettes. Located at 339 Randolph Ave.

This home at 118 Fig Street features a 70-year-old Cedar of Lebanon tree and a tropical paradise in the back. The homeowner's interest in succulents and his lovely water feature provide a unique setting.



Bay Haven Inn of Cape Charles, located at 403 Tazewell Ave, provides a “relaxing and restorative” reprieve from the rat race of life. Sustainable practices such as a “natural” lawn, rain barrels, and compost bins are used throughout. Congratulations for their recent recognition as an official Monarch Waystation!

Volunteers and hosts alike enjoy hot dogs & sodas following a fun and exhausting day.

ESVMG Tour of Colonial Williamsburg Gardens

On June 2, ESVMG members took advantage of a discount rate and personalized tour of the gardens of Colonial Williamsburg. Jane McKinley’s daughter, Melissa, Landscape Manager, ensured that the tour was packed with interesting historical and gardening information. The tour included a ½ day pass to visit other features such as the Art Museum and Governor’s Palace.

We even got to observe and talk to the professionals working at the archaeological dig.

Melissa pointed out a creative use of Integrated Pest Management (IPM) to protect a bee's nest in this tree overhanging a sidewalk. Notice the white piece of pvc pipe sticking out at the top? This was a way to "reroute" bees' comings & goings away from the passersby below.

2023 ELECTIONS

The election for President and Treasurer will be held at the end of this year. We need members for the Nomination Committee and Candidates. Please consider getting involved.

UPCOMING 2022 EVENTS

Aug 2, 9:00 – 11:00	ESVMG General Meeting, to be held at AREC and feature guest speaker Kevin Nunn, presenting stewardship and native seed information
Sept 20, time TBD	Farm Tour Day; ESVMG doing a composting demo
Oct 22, noon – 4:00	ESVMG Garden Symposium

P.1 pictures include: ESVMG supported gardens from Kiptopeake, Chincoteague, Assateague Island, Eastville, New Roots and CSB Parksley along with member gardens including those sent to us by Pauline Melbourne, Lisa Gomez, Lorna Gagneux , Jocelyn Grover, and Jane McKinley.

2021-22 ESVMG BOARD MEMBERS

President – Joyce Falkinburg
Past President – Phil Goetkin
Vice-President – Jocelyn Grover
Secretary – Nancy Arnold
Treasurer – Cindy Ray
Member at Large (Accomack) – Pauline Milbourne
Member at Large (Northampton) – Jennifer Alley

COMMITTEE CHAIRPERSONS

Membership Committee Chair – Brenda Fitzsimmons
Education Committee Chair – Christine Williams
Publicity Committee Chair – Julie Callahan
Hospitality Committee Chair – Julie Cardinale

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