January 2023-Vol.9, No.1

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The Edible Garden in January

By Ralph Morini | January 2023-Vol.9, No.1

The beginning of the new year is a great time to begin thinking about the new gardening year. While we rest physically from the effort of last season, we can think about how to change and improve on our practices both environmentally and to increase gardening success, while hopefully reducing effort. Here are some ideas that can help move us in that direction.

Making Plans

- Most gardeners know about the advisability of keeping a journal, but I suspect most of us are pretty careless about it. Keeping an accurate journal is a great new year's resolution. Key elements include:
    - A garden sketch that can be used to identify specific crop locations, through spring, summer and fall plantings. Use the information to plan crop rotation to reduce pest and disease issues.
    - Organizing companion planting and intercropping practices to build soil health and helping reduce weed incursions.
    - Note the dates when specific diseases and pests arrive and/or depart on which plants, to let you know when to take action to manage damage.

Penn State IPM Guide: Photo: R Morini

    - When investigating seed or plant purchases, look for varieties that resist the problem diseases and pests. A good resource for identifying pests and ways to combat them is the Penn State Extension publication *Vegetable Integrated Pest Management With an Emphasis on Biocontrol.*

    - Put together a timetable for seed starting, transplanting and converting from one crop to another, starting with cool weather vegetables in spring through cover crop planting in the fall. Find guidance on when to plant and harvest popular vegetable crops in the Virginia Cooperative Extension (VCE) publication *Virginia's Home Garden Vegetable Planting Guide*.

Not to make too big a deal out of it, but a well-managed journal can really contribute to gardening success. Think about taking the plunge.

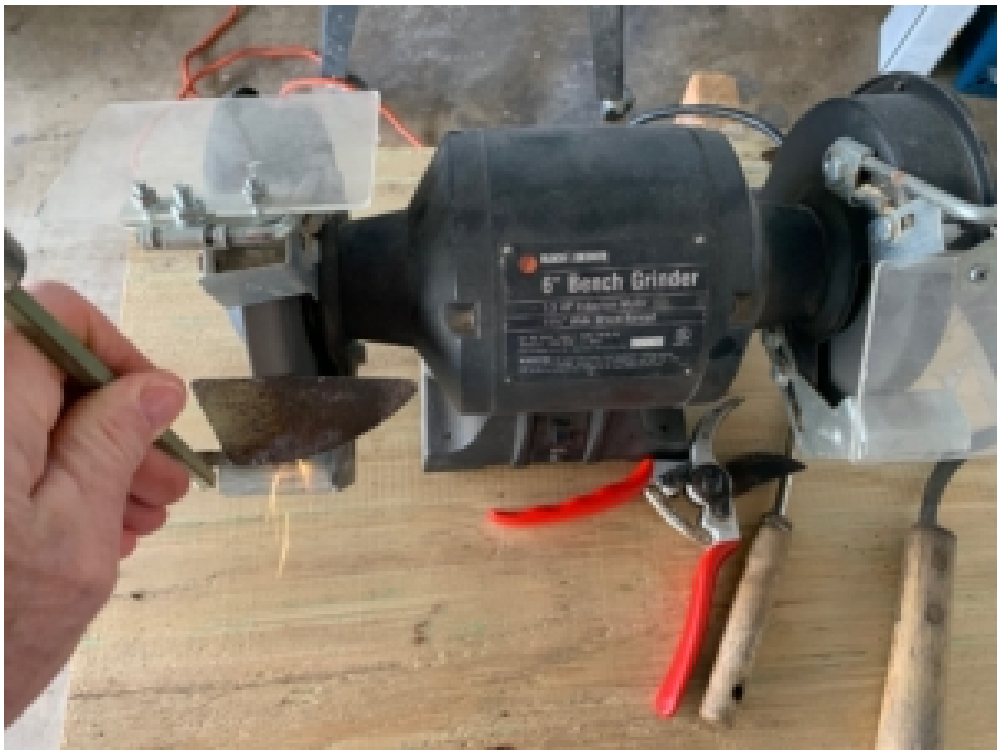
- The new seed catalogs are out now, both online and hard copy. It is worth reviewing a few different providers to compare selection and prices while deciding what to plant in your precious garden space. Look for seed and plant varieties with good pest resistance. Maybe choose to grow something you've never grown before, which is a good learning experience, if not plain old fun. Review The Garden Shed article *Using Seed Packet Information to Help the Garden Grow* for help interpreting pest and disease resistance information.
- If you are thinking of adding small fruits to the garden, review the VCE publication *Small Fruit in the Home Garden* for helpful advice.
- Do some reading about best gardening practices. Study Integrated Pest Management (IPM) as a way to reduce chemical use. Learn about regenerative gardening practices that focus on naturally building healthy soils as the basis for healthy, nutritious crops. Review ways to add pollinator habitat to your landscape to create a healthy insect population and use beneficial insects to help keep pests under control (it really works). If you are looking for some reference books to advance your horticultural education, check out The Garden Shed article *Books Every Gardener Should Have*. Learning new skills over the winter and putting them into practice in the coming season is a great way to become a better gardener.

Hands-on Tasks

- While decomposition slows down as temperatures drop below 50 degrees F, it is a good idea to collect materials over the winter to start new compost batches in the spring. Stock your pile or compost bin with leaves, preferably chopped. If you need more "brown" (carbon-rich) materials for your batch, save newspapers, boxes and household paper not contaminated with plastic tape and coatings and cleaning fluids, tear them up and add them in. Add kitchen fruit and vegetable scraps to the bottom of the pile during the winter and rotate the pile every once in a while. In the spring, when green materials like grass clippings are available, add them in to get to a volume ratio of about twice as many browns as greens, moisten everything so it is wet but not dripping, rotate it once or twice a week and you'll have beautiful compost in time for planting summer vegetables in May. For detailed advice on home composting, review The Garden Shed article *Backyard Composting with Practical Tips from the Pros*.

Simple seed starting setup. Photo: R Morini

- If you want to begin starting seedlings indoors this winter now is the time to acquire equipment and plan the process. Check out The Garden Shed article *Starting Seeds Indoors* for detailed guidance from an experienced Master Gardener.
- If you have older seeds that may have outlived their viability, it makes sense to test their germination rate. The Garden Shed article *Good Seeds, Bad Seeds* explains how to test seeds prior to planting.



Winter is a good time to sharpen gardening tools. Photo: Ralph Morini

- Winter is a good time to clean and sharpen garden and cutting tools. Scrub them, rinse them in a 10% bleach solution and wipe dry. Oil cutting tools to protect their edges and maintain free movement. If you have a warm enough place to do it, wash and disinfect pots and planters the same way. It is great to reach spring with tools and pots ready to go.
- If you end up with a stack of plastic pots that you don't need, recycle them. Some local nurseries will take them for their own or community reuse. Lowes has a chain-wide recycling program. Let's keep plastic out of landfills!

Papa bluebird delivering caterpillar from garden to hungry nestling: Photo R Morini

- A key to minimum chemical gardening is to create the most diverse eco-system you can in your yard and garden. Feeding the birds in winter is a good way to keep these helpful predators around for when they are needed. Get some tips on good bird feeder practice in The Garden Shed article *Creating a Bird Friendly Garden.*
- If you have a natural Christmas tree, please recycle it. Albemarle County has a recycling program with multiple drop off sites. They convert the trees to mulch that is offered free to residents.
- If you burn wood in your fireplace, and compost or add the ashes to the garden, remember that ashes are alkaline. It can be used as an amendment but will raise the soil pH if added in quantity. Not all plants can tolerate alkaline soils. Ornamentals including lilac, weigela, pinks and mock orange as well as vegetables including spinach, beets, corn and cabbage are exceptions. For more info, check The Garden Shed article *Wood Ashes*.
- If you really want to grow something, create an indoor herb garden. The Garden Shed article *Be Inspired With Indoor Herb Gardening* tells you how.
- Aphids, spider mites, whiteflies, and other pests are winter houseplant nemeses. To minimize pest damage, keep new plants separate from plants moved indoors, remove dead/damaged foliage and check plants regularly using a magnifier to watch for pests. Washing with soapy water and placing sticky-card fly traps around plants can help too. Detailed advice is found on the U of Minnesota Extension publication *Managing Insects on Indoor Plants.*

Sources:

“Plants Grown in Containers: Indoor Containers – Houseplants,” N.C. State Ext.

The Ornamental Garden in January

By Patsy Chadwick | January 2023-Vol.9, No.1

The coldest temperatures of the year in the Charlottesville/Albemarle County area of Virginia occur in January. Historically, this is also the driest month of the year. Pay attention this month to weather-related issues in the ornamental garden such as frost heaving or broken tree limbs. As you stroll through your property this month, take stock of the landscape without the distraction of foliage. Use this time to evaluate what changes, if any, you want to make. If you have landscaping projects in mind for this year, now is a good time to start planning for them.

Inspect recently planted perennials and other landscape plants for signs of frost heaving, which is caused by alternate freezing and thawing cycles. Reposition any plants that have been pushed up out of the ground and make sure the roots are well covered with soil. Gently firm the soil around the roots and apply a layer of mulch to help protect them from freezing weather and drying winds.

Monitor trees, shrubs and perennials that were planted this past fall to make sure they don't dry out from lack of moisture. In the absence of adequate rain or snow, provide newly planted trees during the dormant months (November through March) with about one gallon of water per inch of trunk caliper (trunk diameter at 12" above the ground) per week. Spread the weekly watering over a 2- to 3-day period, if

possible. Water when the temperature is above 40°F and there is no snow or ice on the ground near the trees. Water early in the day so that the plants have time to absorb it before temperatures drop at night. As a rough guideline, use a hose to water newly planted shrubs approximately 10 seconds per gallon plant size. In other words, if the plant came in a 3-gallon container, water the root ball for about 30 seconds.

Gently brush accumulated heavy snow off evergreen shrub and tree branches to minimize breakage. Shaking the branches is not recommended. If using a broom to push the snow off, use an upward rather than a downward motion. For plants coated in ice, allow the ice to melt on its own. Otherwise, attempts to force ice off the branches may damage the plant.

Prune tree and shrub branches that have been obviously broken down by snow or ice. For more information on this and other winter-related hazards, see Virginia Cooperative Extension Publication 426-500, Managing Winter injury to Trees and Shrubs.

Inspect tree trunks and shrubs periodically for animal damage. Winter damage to woody plants from deer browsing and antler rubbing is common throughout the area. Small animals such as rabbits, mice, and voles can be just as destructive. Through their chewing actions, they can cause a great deal of damage to the bark and trunks of trees and shrubs, particularly if other food sources are scarce in winter. For details on preemptive actions that can be taken to protect woody plants from these animals, see this Iowa State University Extension publication on How to Protect Trees and Shrubs from Animal Damage over winter.

Inspect stored tender bulbs and tubers such as dahlias, elephant ears, and canna lilies to make sure they are firm and free of mold. If the bulbs are shriveled, lightly moisten them. Make sure the temperature in the storage area is above freezing.

Clean dust from houseplant leaves periodically. A layer of dust can block sunlight from foliage, which reduces the plant's ability to photosynthesize. It can also weaken a plant, making it more susceptible to diseases and insect infestations. For detailed advice on how to remove dust from houseplants, see the Ohio State University Extension publication on Why You Should Clean the Leaves of Houseplants.

Monitor houseplants for insect pests. Dry indoor air can create the perfect environment for pests such as mealy bugs, spider mites, scale, white fly, and aphids. For help with insect identification and recommended treatments, check out the Clemson Cooperative Extension's Fact Sheet on Common Houseplant Insects and Related Pests.

Use de-icing products carefully on walkways, steps, or other icy surfaces to avoid damaging nearby plants. Avoid using ice melting products containing nitrogen and phosphorus.

Avoid excessive foot traffic on lawns over the winter months to prevent damaging the sod and compacting the soil. Also, avoid parking vehicles on the lawn. The weight of the vehicle can kill or damage the grass beneath the tires.

Clean and inspect all garden tools to make sure they are in good working order. Sharpen any that need it. This Oregon State Extension publication on Care and Maintenance of Garden Tools is one of many available on-line resources that describe good garden tool care. Don't forget to inspect wheelbarrows, lawn mowers, and any other gardening equipment you own.

Clean and sterilize flowerpots that are being stored for future use. First, use a stiff wire brush to remove all dirt and debris. Then, soak the pots for at least 10 minutes in a solution of one part bleach to nine parts water.

Clean and sterilize soiled seed flats or seedling trays using one part bleach to nine parts water in anticipation of reusing them to start new seedlings.

Use this dormant season to **develop a list of tasks for the coming season's garden.** Focus on plants to be divided, transplanted, added, or eliminated once the weather breaks this spring.

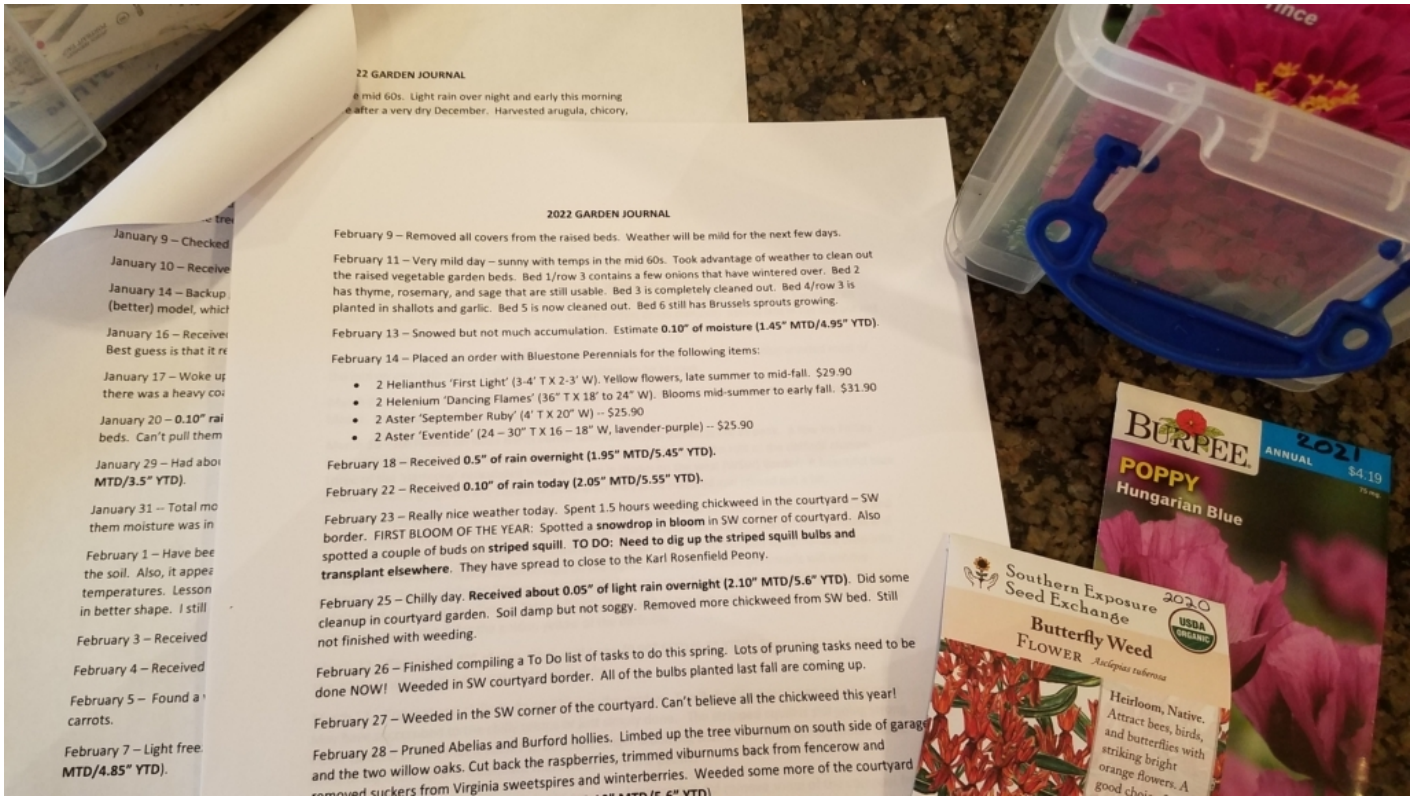
Don't forget the birds! Provide extra food and water from November to April to help the birds when natural food sources, such as seeds and berries, are less plentiful. Consider incorporating more shrubs and trees in the landscape that provide berries in winter. And don't forget the **Great Backyard Bird Count**, which is a free, fun, and easy event that engages bird watchers of all ages in counting birds over a four-day period and reporting their sightings online. For details see birdcount.org.

It may be January and plants with blossoms are certainly scarce at this time of year, but the ornamental garden can still be interesting! So, pull on your boots, warm jacket, and mittens, and go look for plants with colorful berries, trees and shrubs with interesting bark or branching, lichens, mosses, dried grasses, dried seed pods, conifers, hardy ferns, and other evergreen plants. If you really do yearn to see something in bloom, check this link to the Lewis Ginter Botanical Garden for a listing of "January Blooms."

Featured Photo: Pat Chadwick

How to Create a Garden Journal

By Patsy Chadwick | January 2023-Vol.9, No.1



Is this the year you finally get your gardening records organized? If so, consider creating a garden journal. It's a good way to consolidate all your gardening records in one place so that you can manage your landscape more effectively. There are lots of reasons for starting a garden journal, but the best reason of all is that it will make you a better, more observant gardener. There's no downside to that!

Is a garden journal really necessary?

To answer this question, please indulge me as I recount my own experience. Once upon a time, my garden consisted of a half dozen plants in a very tiny garden. I certainly didn't need a journal to help me remember the names of the plants or their maintenance requirements. But my landscape eventually grew along with my passion for gardening. I started accumulating all my gardening records in a simple pocket file folder. The folder became crammed with landscape ideas jotted on Post-it notes, articles snipped from gardening magazines, rough sketches of my garden, wish lists of plants to buy, and receipts for plant purchases. The folder also became a repository for plant tags (yes, I do keep my plant tags and no, I'm not a hoarder). Eventually, my overstuffed folder approach just didn't work anymore to keep me organized. After giving the problem some thought, I concluded I needed a proper garden journal. But what kind of journal?

What are the choices for establishing a garden journal?

Once I decided I needed a garden journal, my choices for creating one then were more limited than they would be if I were creating one these days. For example, one approach was to go "old school" and record hand-written notes and observations in an ordinary spiral notebook or three-ring notebook with tab dividers. Or I could have invested in a nice leather-bound journal designed specifically for gardeners. I chose the

spiral notebook option. It was cheap, easy, and convenient. Besides that, if it got a little dirty from being hauled around the yard with me, no big deal. Nowadays, high-tech digital garden journal options are available as witnessed by the availability of free or inexpensive templates on-line. Mobile apps provide yet another option for taking photos and recording gardening activities on a smartphone or iPhone.

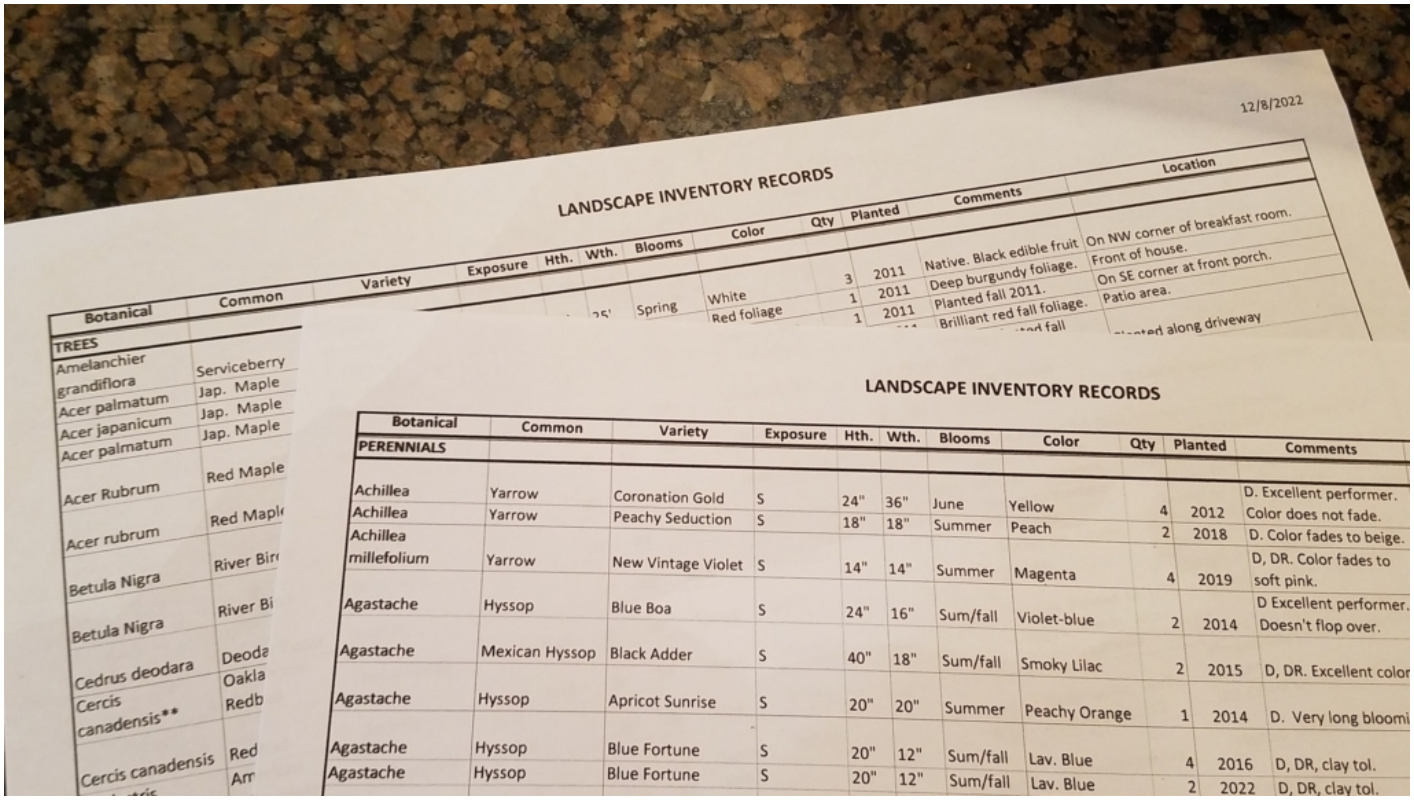
As for the approach to my own journal, I view myself as a mostly low-tech person. My simple spiral notebook was a good decision initially, but I lacked the discipline to keep it up to date. So, I abandoned the notebook in favor of creating a Word document on my computer. That worked much better for my needs. It's a convenient way to maintain my landscape records and help me organize my "to do" list of gardening tasks.

If you plan to start a garden journal, choose whatever journaling method you determine to be simple and practical. If it's burdensome, you're not likely to stick with it.

What should a garden journal include?

The contents of a garden journal can be as simple or as detailed as you wish. The choice is up to you. Not all gardens are alike, obviously, and the gardening details captured in a journal will vary from gardener to gardener. As you mull over what to include in your own journal, think of it as (1) a historical record of your landscape, (2) a landscape task management tool, and (3) a place to jot down your ideas about new plants to try or improvements to your landscape. With those basic categories in mind, think about including the information that's most useful to you. For example, a garden journal can be used to:

Maintain an inventory of plants. This is one of the most practical reasons for maintaining a garden journal. An inventory allows you to capture information about your plants **all in one place**, including botanical name, common name, cultivar or variety name, height, width, sunlight and moisture requirements, date planted, location in the garden, and any other information that is important to you. A chart format is the handiest way to capture this information, particularly if you have a large or complicated landscape. For my purposes, I found that an Excel spreadsheet on my computer works very well. While it's not physically part of my written journal, it serves as a companion document. In fact, I rely heavily on Excel to capture a great deal of landscape information in chart form as you will see from the examples provided in this article.



LANDSCAPE INVENTORY RECORDS

12/8/2022

Botanical	Common	Variety	Exposure	Hth.	Wth.	Blooms	Color	Qty	Planted	Comments	Location
TREES											
Amelanchier grandiflora	Serviceberry					Spring	White	3	2011	Native. Black edible fruit	On NW corner of breakfast room.
Acer palmatum	Jap. Maple						Red foliage	1	2011	Deep burgundy foliage.	Front of house.
Acer japanicum	Jap. Maple							1	2011	Planted fall 2011.	On SE corner at front porch.
Acer palmatum	Jap. Maple							1	2011	Brilliant red fall foliage.	Patio area.
Acer Rubrum	Red Maple										
Acer rubrum	Red Maple										
Betula Nigra	River Birch										
Betula Nigra	River Birch										
Cedrus deodara	Deodar										
Cercis canadensis**	Oaklan										
Cercis canadensis	Redb										
	Red										
	Am										

LANDSCAPE INVENTORY RECORDS

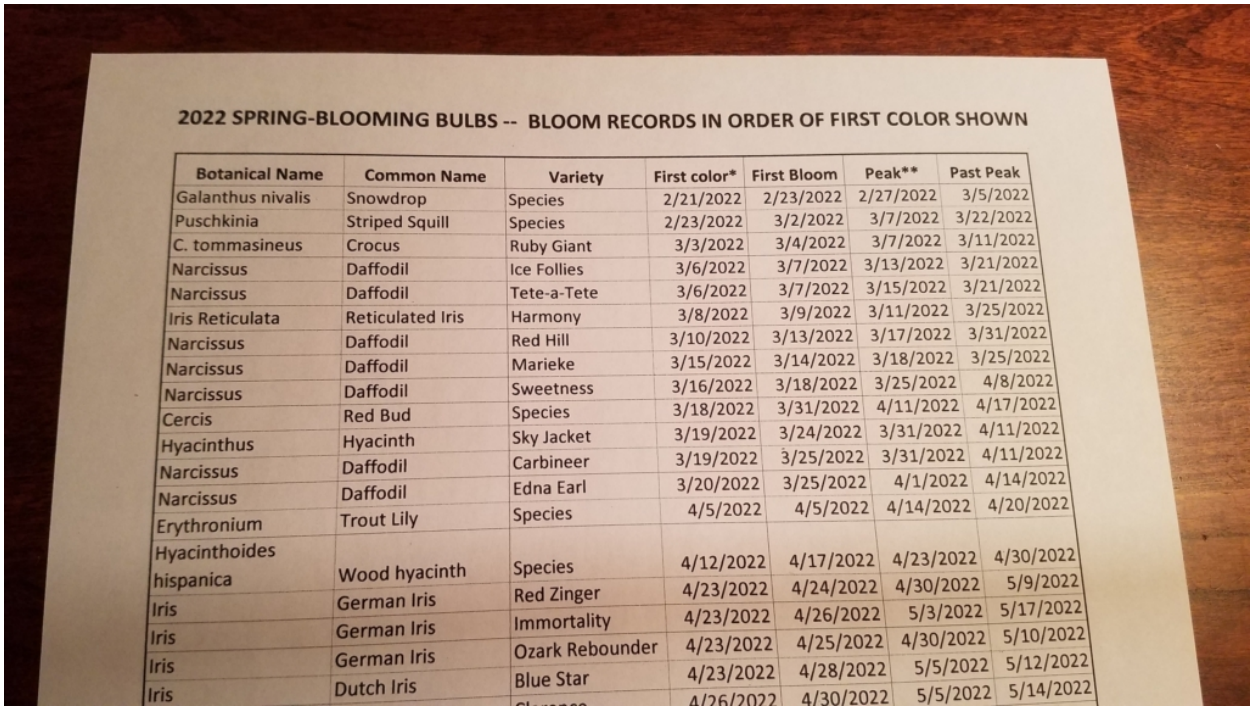
Botanical	Common	Variety	Exposure	Hth.	Wth.	Blooms	Color	Qty	Planted	Comments
PERENNIALS										
Achillea	Yarrow	Coronation Gold	S	24"	36"	June	Yellow	4	2012	D. Excellent performer.
Achillea	Yarrow	Peachy Seduction	S	18"	18"	Summer	Peach	2	2018	Color does not fade.
Achillea millefolium	Yarrow	New Vintage Violet	S	14"	14"	Summer	Magenta	4	2019	D. Color fades to beige.
Agastache	Hyssop	Blue Boa	S	24"	16"	Sum/fall	Violet-blue	2	2014	D, DR. Color fades to soft pink.
Agastache	Mexican Hyssop	Black Adder	S	40"	18"	Sum/fall	Smoky Lilac	2	2015	D Excellent performer. Doesn't flop over.
Agastache	Hyssop	Apricot Sunrise	S	20"	20"	Summer	Peachy Orange	1	2014	D, DR. Excellent color
Agastache	Hyssop	Blue Fortune	S	20"	12"	Sum/fall	Lav. Blue	4	2016	D. Very long bloomi
Agastache	Hyssop	Blue Fortune	S	20"	12"	Sum/fall	Lav. Blue	2	2022	D, DR, clay tol.
										D, DR, clay tol.

A garden journal is useful for keeping track of plants in the landscape. Photo: Pat Chadwick

- **Map the location of plants within the landscape.** In conjunction with the plant inventory, consider including a sketch of your landscape (either hand drawn or generated using a landscape design software tool). Don't forget to indicate the location of bulbs or ephemeral species that sprout in spring and go dormant by early summer. Once the foliage dies back, it's easy to forget where such plants are located. It's also important to note the location of plants that are slow to emerge in spring such as false indigo (*Baptisia*), milkweed (*Asclepias tuberosa*), and Joe Pye weed (*Eutrochium*). By the way – stay tuned for an article on landscape design software tools in a future article of *The Garden Shed*.
- **Combine seed packets or plant tags within a journal so that all plant information is collected together in one easy-to-find location**. Seed packets and plant tags are handy to keep because they provide a description of plants as well as their cultural requirements and usually an illustration or photo. They also usually include patent information, which can be important if you plan to propagate the plant. If you have a paper journal, attach the packets or tags to pages of the journal or store them in dividers that have pockets. If that's not practical, then store them separately but keep them organized for easy access and retrieval. I find that a small plastic container is ideal for storing my plant tags (which are organized alphabetically by botanical name). Here's another idea: If you keep a digital journal, take photos of the fronts and backs of each seed packet or plant tag and store the images that way.
- **Capture images of your plants throughout the growing season.** If you are artistically inclined, you may enjoy including sketches of plants in your journal. But most of us aren't that talented. Alternatively, take lots of photos of your garden throughout the growing season and transfer them to a computer file for easy access. The images can help you remember which plants need to be divided or cut back, which color combinations do or don't work, or perhaps which plants need to be replaced. As your garden evolves, it is useful to look back over those

photos and compare them from year to year.

- **Record daily high and low temperatures**. This information is useful for tracking weather trends such as the last frost in spring, the first frost in fall, the first date that the soil freezes, etc. As you compare patterns from year to year, you can better schedule your planting or maintenance tasks. This information is also helpful if you have microclimates on your property where the air and soil temperatures are either warmer or colder than surrounding areas.
- **Track rainfall.** Use your journal to record how much rain or snow your garden receives throughout the year and when. Tracking this information can help influence your plant choices for tolerance to either drought conditions or too much moisture. It may also help you determine the best water management options for your landscape.
- **Record where plants were obtained and associated costs**. As a historical record, a journal can reflect when and where you bought each of your plants and how much they cost. This is useful when you need to replace a plant or add to existing plantings but can't remember where you acquired the original plant. Also, the journal is a handy place to file paperwork (proof of purchase) should you need to replace a plant that died during the guarantee period.
- **Track plant successes and failures**. As gardeners, we can learn as much – if not more – from our gardening failures as we do from our successes. If a plant disappoints you or fails to thrive, it's useful to record the failure and why you believe it occurred. The insight you gain can then help you make better or wiser plant choices. Here's an example: Suppose you are growing a plant such as *Perovskia* (Russian sage) that starts out well but flops over later in the summer. Does the plant need to be staked? Does it need to be divided? Does it simply need to be pinched back early in the growing season? Should it be replaced with a shorter variety? Decide which approach makes the most sense and **use the information you record in your journal to create a TO DO list for next year's garden**.
- **Track plant performance within a species or family of plants**. A garden journal is an excellent way to capture data in greater depth on varieties or cultivars of **a specific species**. For example, I am a big fan of asters (*Symphyotrichum* species). When the rest of the garden is beginning to close up shop for the season, asters spring into action in late summer and continue blooming well into late fall. I also love observing the hordes of bees, beetles, flies, and butterflies that visit them. But I've had mixed results with asters in my garden. Some do very well, blooming prolifically year after year, while others die out after a couple of years. Since I have more than 90 aster clumps representing about two dozen varieties and cultivars, I rely heavily on my garden journal to monitor their performance and sequence of bloom. The journal also influences my decisions on which varieties to grow more of and which ones to eliminate.
- **Record bloom times.** It takes a lot of forethought and planning to keep your ornamental garden looking colorful and inviting all season long. It also takes a lot of planning if you're trying to support a variety of pollinator insect species. A journal is indispensable to both goals as you attempt to coordinate or overlap bloom times on multiple plant species. It can be used to record the first bloom on a plant, how long the plant is at peak blossom time, and when the plant is finished blooming. It can also show you where gaps occur between bloom times. Those observations can then drive decisions about using plants that have a longer bloom time, or that re-bloom, or that attract desirable insect species.

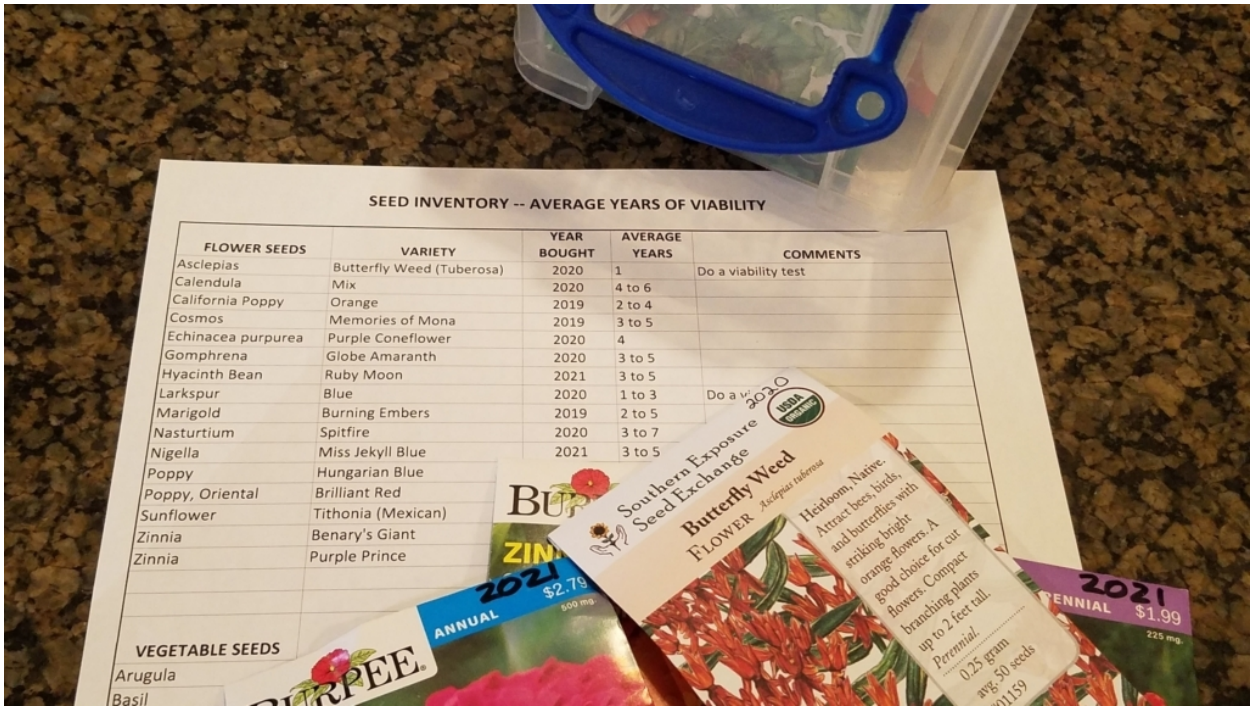


2022 SPRING-BLOOMING BULBS -- BLOOM RECORDS IN ORDER OF FIRST COLOR SHOWN

Botanical Name	Common Name	Variety	First color*	First Bloom	Peak**	Past Peak
Galanthus nivalis	Snowdrop	Species	2/21/2022	2/23/2022	2/27/2022	3/5/2022
Puschkinia	Striped Squill	Species	2/23/2022	3/2/2022	3/7/2022	3/22/2022
C. tommasineus	Crocus	Ruby Giant	3/3/2022	3/4/2022	3/7/2022	3/11/2022
Narcissus	Daffodil	Ice Follies	3/6/2022	3/7/2022	3/13/2022	3/21/2022
Narcissus	Daffodil	Tete-a-Tete	3/6/2022	3/7/2022	3/15/2022	3/21/2022
Iris Reticulata	Reticulated Iris	Harmony	3/8/2022	3/9/2022	3/11/2022	3/25/2022
Narcissus	Daffodil	Red Hill	3/10/2022	3/13/2022	3/17/2022	3/31/2022
Narcissus	Daffodil	Marieke	3/15/2022	3/14/2022	3/18/2022	3/25/2022
Narcissus	Daffodil	Sweetness	3/16/2022	3/18/2022	3/25/2022	4/8/2022
Cercis	Red Bud	Species	3/18/2022	3/31/2022	4/11/2022	4/17/2022
Hyacinthus	Hyacinth	Sky Jacket	3/19/2022	3/24/2022	3/31/2022	4/11/2022
Narcissus	Daffodil	Carbineer	3/19/2022	3/25/2022	3/31/2022	4/11/2022
Narcissus	Daffodil	Edna Earl	3/20/2022	3/25/2022	4/1/2022	4/14/2022
Erythronium	Trout Lily	Species	4/5/2022	4/5/2022	4/14/2022	4/20/2022
Hyacinthoides hispanica	Wood hyacinth	Species	4/12/2022	4/17/2022	4/23/2022	4/30/2022
Iris	German Iris	Red Zinger	4/23/2022	4/24/2022	4/30/2022	5/9/2022
Iris	German Iris	Immortality	4/23/2022	4/26/2022	5/3/2022	5/17/2022
Iris	German Iris	Ozark Rebounder	4/23/2022	4/25/2022	4/30/2022	5/10/2022
Iris	Dutch Iris	Blue Star	4/23/2022	4/28/2022	5/5/2022	5/12/2022
Iris			4/26/2022	4/30/2022	5/5/2022	5/14/2022

A garden journal is useful for recording bloom times. Photo: Pat Chadwick

- **Keep track of maintenance tasks**. At the end of the year, it's useful to review all the journal entries for the entire year in search of comments about plants that need to be divided, pruned, staked, trellised, cut back, or deadheaded. Those observations can then serve as the basis for a master "TO DO" list of maintenance tasks to be performed during the following year.
- **Track plant pests and diseases**. Document pest or disease problems in your journal, noting which plants were affected, the symptoms, what product or treatment was used, and when. Keeping records of scheduled sprays or other plant treatment programs and products used helps you to stick to a regular treatment plan.
- **Monitor seed longevity**. It's easy to accumulate piles of partially used seed packets. It's also easy to forget what seeds you have or how long they stay viable. A garden journal can help solve the problem. Use it to create a seed viability chart that reflects the date the seeds were purchased and the expected years of viability. To help you set up a seed viability chart, check out websites such as Johnny's Selected Seeds, which provides a Seed Storage Guide that lists the average storage life of seeds under favorable conditions.



Use garden journal to keep track of when you bought seeds and whether they are still viable. Photo: Pat Chadwick

- **Influence decisions on new plantings**. Keeping good records of the plants you have now can influence your decisions about acquiring new plants. For example, we know that repetition in a landscape border makes the design more cohesive. With that concept in mind, you might want to add more of a specific plant. That decision, in turn, might require removing other plants that don't contribute much to the design. Your records can help you decide what plants to buy and how many. The discipline required to develop this list will save you time and money, as well as help you avoid impulse buys, as you shop for the plants on your "wish list."
- **Manage crops in the edible garden**. While the suggestions listed above apply to the ornamental garden, this final suggestion applies to the vegetable gardener who can use a journal to keep track of crops and crop varieties being grown, planting and harvesting schedules, pest and disease treatments, fertilization plans, and moisture requirements. A journal is also an indispensable tool for developing effective crop rotation plans from year to year.

SUMMARY

For all practical purposes, a garden journal serves as a reference tool or historical record of your landscape and an effective way to maintain an inventory of your plants. As for format and content, the idea is to use whatever journaling approach best suits your gardening needs and interests. Don't stress out over maintaining the journal to the point where you don't enjoy the process. But do get in the habit of recording your gardening activities or observations on a regular basis. Maintaining a garden journal trains you to be more observant and more attuned to the natural seasonal rhythms of the garden. Regardless of how much or how little detail you include, ultimately, you will come to regard the journal as one of your most cherished and useful gardening tools.

SOURCES

Garden Journaling, North Carolina State Extension Gardener Handbook, Appendix A

Maintaining a Garden Journal, Washington State University Extension, by Kathy Wolfe, 2012.

Take Notes Now For A Healthier Garden Next Year, University of Minnesota Extension

Tips and Tasks: Garden Journaling, North Carolina State University Extension Gardener

Upcoming Events

By Cathy Caldwell | January 2023-Vol.9, No.1

Blue Ridge PRISM: Winter Quarterly Meeting: Winter Activities for Invasive Plant Control

FREE live webinar

January 11, 2023 | 11:30 AM – 1:00 PM

Winter is a great time to tackle invasive plants! In this interactive webinar, learn about safe and effective winter control methods and find out which plants can be treated now or should be left alone for later. You may submit your questions beforehand (during registration) to the panel of experts, or ask them live.

Panelists:

Laura Greenleaf – Invasive Plant Management Coordinator, James River Park System
Nicola McGoff – Director, Wild Ginger Field Services
Nicole Shuman – Agriculture & Natural Resources Agent, Virginia Cooperative Extension

Register here

Garden Basics: Pruning the Right Way at the Right Time

FREE in person event
January 21, 2023 | 2:00 PM – 4:00 PM
Trinity Episcopal Church, 1118 Preston Avenue
Charlottesville, 22903 + Google Map
RSVP Now!

Pruning your trees and shrubs proactively can benefit their health and safety. Removing dead, broken, and diseased branches will allow the remaining portions of the plant to thrive.

You will learn . . .
• How to improve appearance and structure, as well as maintain size, form, and function
• When, where, and how to prune, as well as the best tools to use
• How to prune safely

Garden Basics is a partnership with Bread and Roses ministry at Trinity Church.

Find out more »

Coming up in February . . .

2023 GreenScapes Symposium sponsored by Brookside Gardens

Friday, February 17, 2023 | 9:30 a.m. to 4:00 p.m.

Early Bird fee of $45 ends Friday, January 13. After this date, registration increases to $55 per person. To learn more and register for this live Zoom event, click on this link: www.brooksidegreen.org.

For questions or help with registration, please email Maia Eskin at **maia.eskin@montgomeryparks.org.**

The GreenScapes Symposium is an annual program sponsored by Brookside Gardens since 2004. The symposium explores the latest topics related to landscape sustainability and the environment. The topics and presenters are as follows:

9:30 am: Quest for Climate Resiliency: Adaptive Strategies for Sustainable Plant Designs
by Laura Hansplant, landscape architect and co-owner at Studio Sustena

How should changing weather patterns affect the way we design our landscapes? This lecture will examine resilience strategies that help landscapes successfully respond to climate change. What critical ecological functions need to be protected over time? Why is density and species diversity important to adaptation?

11:00 am: Soak it up: Carbon Sequestering Sites
by Pamela Conrad, landscape architect, founder of Climate Positive Design, and current Loeb Fellow, Harvard Graduate School of Design

The reduction and storage of carbon levels from the atmosphere is critical to fighting climate change. Learn about the opportunities for carbon sequestration through site development and design in a range of landscapes. How can soil health, functional plant diversity and sustainable maintenance practices reduce and capture carbon?

1:15 pm: On This Land: Connecting Minority Communities to the Natural World
by Veronica Tyson-Strait, landscape designer, educator, artist, and Horticulture Manager at Randall's Island Park Alliance

Learn key strategies on how to design and manage landscapes that engage immigrants and communities of color and provide them with a sense of belonging. How can we balance the priority of native plant gardens with the need for new residents to connect with culturally familiar yet foreign florae? Which mainstream expectations around garden maintenance and design aesthetics are at odds with minority cultures and communities? What can we learn from those who are more closely connected to their horticultural heritage? As an immigrant from the Caribbean designing and managing landscapes in New York City, Veronica is uniquely positioned to answer these questions and share lessons from her hands-on experience.

2:45: Unlawning Suburbia: Lessons in the Design and Management of Nature-Inspired Landscapes
by Benjamin Vogt, Author & Owner, Monarch Gardens

Two of the greatest challenges in creating a naturalistic garden are demonstrating that the space is intentional and appeasing HOAs, city ordinances, and finicky neighbors. This lecture will cover core design principles that bring visual order to naturalized gardens and that can be adapted to your local native plants. Successful strategies to appease the human community will be explored while looking at landscape examples and success stories from around the country.

Contact: Jason Gedeik at 301-962-1470 or jason.gedeik@montgomeryparks.org.

Garden Basics: Tools for Gardening Smarter, Not Harder

Free in-person event
February 18 @ 2:00 pm – 4:00 pm
Trinity Episcopal Church, 1118 Preston Avenue
Charlottesville, 22903 + Google Map
RSVP Now!

The Piedmont Master Gardeners will offer a primer on easy-to-find as well as odd, little-known, but handy tools for tending the yard and garden—from socks and gloves to clippers and tree-extraction tools. This free Garden Basics session will cover:

- caring for your tools and where to buy them;
- how, when, and where to use them properly.

Space is limited. See below to register and reserve a place in the class. Garden Basics is a partnership with the Bread and Roses ministry at Trinity Episcopal Church.

Find out more »

Invasive Jumping Worms

By Cathy Caldwell | January 2023-Vol.9, No.1

By now you've probably heard about the latest invasive species, a type of earthworm that goes by many names, including jumping worm, crazy worm, snake worm, Asian jumping worm, crazy jumping worm — we're just getting started here — Jersey wigglers, Georgia jumpers, and Alabama jumpers. Some of these names may seem inappropriate, but most of these worms DO thrash about and often move like snakes (to see them move, see the video at wisconsin.gov). While this behavior is not grounds for concern, there are important ecological reasons for us all to be on the lookout for them in our yards and gardens. And yes, jumping worms have been found in Virginia. See WSLS.com/Destructive jumping worms spotted throughout Virginia.

These invasive worms actually change the composition of the soil — for the worse. How do they do this? By eating such large quantities of the organic matter in the soil that the **nutrients needed by plants and wildlife are depleted**. Jumping worms tend to stay in the leaf litter or in the upper few inches of the soil, and they gorge themselves in both areas. They also **alter the soil structure**, leaving it gravelly, drier, and less hospitable to microorganisms like fungi and bacteria. Unlike the earthworms we're familiar with, these jumping worms stay very near the surface, so they provide no beneficial aeration, nutrient movement, or water infiltration. In addition, the worm castings (feces) sit on top of the soil, leaving their nutrients out of reach of plant roots, and increasing the risk of nutrient runoff.

Most organisms that rely on the normal composition of the forest floor for food or habitat will probably be

adversely impacted by invasive jumping worms — including plants, insects, birds, and other animals, though there are exceptions, most notably, poison ivy, which is apparently unaffected by the changes wrought by jumping worms. But for most plants, a forest floor depleted of its normal top layer is less hospitable for seed germination and plant growth. The heavy feeding of jumping worms on leaf litter can expose the root systems of trees and reduce the fertility of our gardens. Plant communities may be altered by the reduced survival of newly-sprouted plants, resulting in diminished native biodiversity in forest ecosystems. The threats posed by these jumping worms demand our attention.

So what exactly is a crazy jumping worm and how do you identify one? The jumping worms are three similar-looking species: *Amynthas tokioensis, Amynthas agrestis, and Metaphire hilgendorfi*, all of which are in the family Megascolecidae. They are all non-native species, originating from Asia. But here's a surprise: those earthworms we love to find our in our gardens are apparently not natives either; they are of European or Eurasian origin. Exactly how and when jumping worms arrived in the United States remains unclear, though scientists believe that nursery stock from Asia was the likely source. In any event, these worms have now spread into much of the Eastern half of the country.

The main identifying feature of a jumping worm is its ***clitellum.*** The jumping earthworms have a ***clitellum*** that is circular and goes **all the way around the body**. In the other earthworms we're accustomed to, the clitellum goes only **halfway** around the worm and may be saddle-shaped. The clitellum of jumping worms is pale in color, and is smooth and flush with the rest of the body. In other earthworms, the clitellum is a thickened swelling that is reddish-pink or orange, may be ridged instead of smooth, and may bulge out from the rest of the body. One final difference: in jumping worms, the clitellum is closer to the worm's head than is the case with other earthworms.

Note the pale clitellum on this jumping worm. Photo: Dr. Matt Bertone, NC State Dept. of Entomology & Plant Pathology

Note the orange-ish color and heightened profile of the clitellum on this common earthworm (Lumbricus terrestris). Photo: Joseph Berger, Bugwood.org

In all species of earthworms, **the clitellum secretes a small mucus "cocoon" that encapsulates the eggs.** These spherical cocoons, about the size of a mustard seed, protect the egg over

winter. Jumping worms are believed to have a single generation each year, with the eggs hatching in the spring, and the worms reaching adulthood by summer, when they lay their eggs and then die during winter. *Amynthas* spp. are asexual and do not require a mate to reproduce.

According to Dr. Matt Bertone, **not** all species of jumping worms "flail about in response to being disturbed. Also some other types of worms behave erratically when touched or approached. Thus the jumping behavior is not always the best way to identify these earthworms." So we all need to brush up on our clitellum-identifying skills, and then share our expertise with neighbors, friends, and fellow gardeners.

A telltale sign of a jumping worm invasion is bare soil covered with their **castings, which look like dried coffee grounds.** If you observe this phenomenon, you will want to confirm your suspicions. Mature adult jumping worms are usually visible in late summer, but if you're not seeing any, you can **treat the suspicious area with a mixture of one gallon of water and 1/3 cup of ground yellow mustard seed.** Pour the mustard solution slowly over the area. If there are jumping worms in that location, they will be irritated and brought to the surface, where they can be collected for identification. Note: this is not a means of managing these earthworms — it does not kill them — but merely a detection method.

Castings, resembling coffee grounds, surround this tree, whose roots have been exposed by jumping

worms. Photo: Robert Lee, Bugwood.org

Currently there is no pesticide known to control jumping worms. But Dr. Joseph Görres, associate professor in the Plant & Soil Science Department at the University of Vermont, is currently researching the use of reduced-risk, biological pesticides to manage jumping worms. Unfortunately, he reports that there is inadequate research funding available from federal and state agencies.

If you do find jumping worms on your property, remove and dispose of them to the maximum extent possible. **Proper disposal methods for jumping worms include:**

- placing the worms in a plastic bag and leaving it in the direct sun for at least 10 minutes before disposing of the bag in the trash, or
- drowning the worms in a container of soapy water deep enough that they cannot climb out of it. Make certain all worms are thoroughly dead before dumping the water and worms out.

Please report your find to your local Cooperative Extension office. Taking photos of the worm would be very helpful, especially if the clitellum can be clearly seen on the worm. Also helpful: a short video clip of the worm's behavior. If you can collect a specimen, place it in rubbing alcohol and submit it to your local Cooperative Extension Office for identification and confirmation. Specimens can be placed in a small bottle, jar, container, or a resealable plastic bag. The worm should be submerged completely in the rubbing alcohol to preserve it until it can be seen by an expert. The Extension Office for Albemarle/Charlottesville is in the County Building on Fifth Street Extended (434-872-4580), and the Horticultural Help Desk can be reached at (434) 872-4583 or albemarlevcehelpdesk@gmail.com.

Since the **cocoons and eggs survive the winter,** they are a key to some kind of control. You may be able to kill the cocoons/eggs with **solarization**; recent research suggests that heating the cocoons of jumping worms to somewhere around 104°F for at least 3 days will kill the cocoons. Read more about solarization at Univ. California/Soil Solarization for Gardens & Landscapes.

Jumping worms and their cocoons/eggs can be spread via mulch, compost, nursery stock, transplanting, and fishing bait. Some jumping worms have apparently been sold for bait, and experts suspect that jumping worms may have been released in some areas for this purpose. Nursery plants are believed to have been a major mode of travel for jumping worms. In fact, nursery plants are believed to have been the source for the jumping worms that have invaded the garden of a fellow Master Gardener. To help prevent further spread, scientists urge us to exercise caution in buying or sharing plants.

Concern about the impact of jumping worms is growing; in fact, a two-day Jumping Worms Conference hosted by the University of Massachusetts Extension in January of 2022 drew over 700 people. The conference generated an online list of Jumping Worm Frequently Asked Questions & Answers that is well worth reading. A major worry is the impact of jumping worms on our forests. Unless and until a viable treatment is available, we all need to pitch in to help prevent the spread of jumping worms, and there are indeed effective measures we can take.

How to Prevent the Spread of Jumping Worms

- Be cautious when sharing potted plants. Share bare root plants when possible. Of course, if you have jumping worms on your property, you should NOT be sharing any plants at all.
- Do not buy jumping worms for fishing bait or for vermicomposting. Do not dispose of unused baits in the environment.
- Be cautious when purchasing containerized plants; look closely at the soil and under the pot for

worm castings. Bare root plants are a better choice. Or turn a potted plant into bare root by washing all soil off the roots and disposing of wash debris carefully.

- Shop with local businesses that take steps to prevent the spread of jumping worms.
- Make your own compost on your property.
- If you must buy mulch or compost, be aware that if these materials attain proper, high temperatures for the right amount of time (104-130°F for a minimum of 3 days) the heat can kill cocoons, reducing the risk of them coming in on such materials. Make inquiries of your mulch or compost supplier.
- If you have to buy compost or mulch, solarize it after delivery, or alternatively, buy it in bags. **Solarize mulches and compost by sandwiching it between translucent plastic sheets.** The bottom sheet will prevent the worms from moving into the soil. The top sheet will cause the pile to heat up. Detailed directions for solarization: Univ. California/Soil Solarization for Gardens & Landscapes.
- Clean soil from shoes, tools, vehicles, etc. that are being moved from one area to another, especially if the area of origin has jumping worms present.

"Remember, if it has soil, it can have jumping worms!" So says Dr. Matt Bertone, the director of the Plant Disease and Insect Clinic at North Carolina State University. Advice well worth remembering.

SOURCES:

"Jumping Worms (Amynthas spp.)," Va.Coop.Ext./ENTO-427

Video: Va.Coop.Ext/Fairfax County/Bug of the Week: Asian Jumping Worm

"Jumping/Crazy/Snake Worms – Amynthas spp.," University of Massachusetts Extension (helpful identification chart and photos)

"Jumping Worms," NC State Ext./Jumping Worms

"Invasive Worms, University of Vermont Entomology Research Laboratory

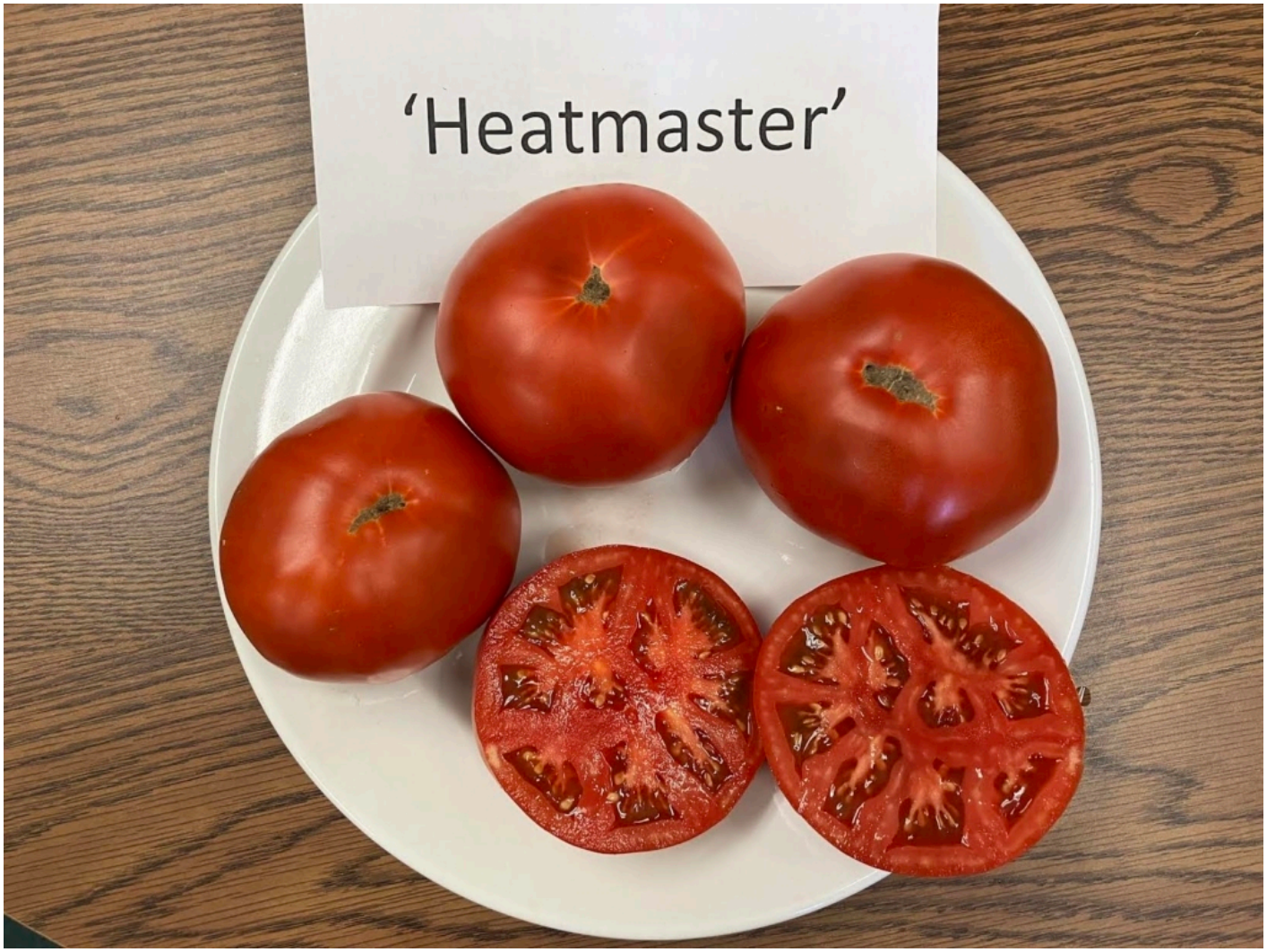
Jumping Worms Working Group/New York Invasive Species Research Institute

Video: video.cornell.edu/State of the Science: Jumping Worm Research & the JWORM Working Group

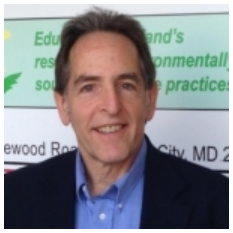
Virginia Cooperative Extension – Albemarle Office
5th Street Albemarle County Office Building, 2nd floor
460 Stagecoach Road, Charlottesville VA 2290

Climate Resilient Vegetable Varieties

By Cathy Caldwell | January 2023-Vol.9, No.1



Editor’s Note: This is a reprint of an article by Jon Traunfeld, Extension Specialist, University of Maryland Extension, Home & Garden Information Center. As you peruse seed catalogs this winter, Mr. Traunfeld’s guidance will enable you to choose the most heat-resilient varieties.



Our food-growing spaces allow us to grow healthy produce, connect with Nature, and hopefully save money. They are also a solid response to climate change and COVID. A climate-resilient garden can both withstand and recover from warmer, more extreme weather. Resiliency can also mean transforming how we grow food by creating and sharing a community knowledgebase of new ideas and techniques.

Warmer, wetter, wilder

Severe or unexpected weather has always been the biggest "beyond our control" challenge for farmers and gardeners around the world. Recent scientific reports show that climate change effects are "widespread, rapid, and intensifying" (IPCC- 6th Assessment Report). In the mid-Atlantic, the number of frost-free days is increasing, winters are warmer, "intense precipitation events" (>2 in. /24 hrs.) are becoming more frequent (warmer air holds more moisture), and coastal farmers are battling saltwater intrusion of cropland.

Here are highlights from the Capitol Weather Gang's 2021 summary of Washington, D.C. weather:

- 7 days of wind gusts >50 mph during March-May; some damaging >60 mph wind gusts
- Numerous tornadoes from severe storms and Hurricane Ida
- Coastal flooding partly from slow moving storms
- 5th warmest year on record; Oct. and Dec. were each the 2nd warmest months on record
- 48 days >90 ^{0}F., 8 more days than the 1991-2020 average
- 8 record-high minimum day temps which reflects the fact that nights are warming faster than days

It's remarkable that the small, steady increases in average temperatures caused by humans over the past 200 years can produce such profound changes.

Resilient crops and cultivars

Heatwaves, drought, hail, strong winds, and heavy downpours can all stress plants. Crops such as snap and lima bean, squash, pepper, and tomato are especially sensitive to heat stress at flowering and fruiting. Climate change resiliency in specific vegetable crops and cultivars often refers to heat tolerance, but can also be the ability to grow in low-moisture soil, or mature quickly before prolonged hot weather sets in. Selecting heat-tolerant crops and cultivars is one strategy for addressing warming temperatures. Other approaches include moving crops to shadier garden spots, planting earlier or later, and covering plants with shade cloth materials. Pay close attention to seed catalog descriptions. Some companies have a "heat-tolerant" page or section.

Heat-tolerant warm-season crops to try

Southern peas (cowpeas, black-eyed peas) and their relative, Yard-long beans (asparagus beans), come in a variety of fruit and seed colors and patterns. They tolerate hot, dry weather and fix nitrogen from the air, providing your soil with "free" nitrogen after plants decompose. Look for cultivars that can be trellised to save space.

Blackeyed pea plants. Photo: Jon Traunfeld

Okra makes beautiful flowers and an abundance of fruit pods through frost. All parts are edible.

Sweet potato is a durable storage crop, plus you can harvest and eat young leaves and shoot tips during the entire growing season. Save space by growing plants vertically. (Also, see the video: How to Start and Multiply Sweet Potato Plants.)

Sweet potato plants growing on a metal support structure in the Master Gardener Learning Garden at the Maryland State Fair. Photo: Jon Traunfeld

Heat-tolerant tomato cultivars

Hybrids: Summer Set, Sun Leaper, Solar Set, Sun Sugar, Red Bounty, Phoenix, Heatmaster, Solar Fire, Sanibel, Florida 91

Open-pollinated: Creole, Homestead, Roma, Arkansas Traveler, Porter

Heatmaster tomato, which was trialed in 2022 and

Some commercial tomato growers in the mid-Atlantic are observing reduced fruiting and fruits with yellow shoulders and white internal tissue caused in large part by heat stress. For home gardeners, this is probably more likely to occur in heavily pruned determinate cultivars grown in full sun, especially in urban/suburban locations with a pronounced heat-island effect. There is much research and breeding

work underway to develop cultivars that can tolerate heat stress.

reviewed favorably by staff. Photo: Jon Traunfeld

Quick-maturing tomato cultivars

Is your goal is to start harvesting long before sweltering summer weather? There are many fast-maturing (55-65 days from transplanting) cultivars that will typically produce a lot of fruit by late July. Early Girl, 4th of July, Moskvich, and cultivars with “Oregon” in their name are a few examples. Cherry and pear tomatoes are often fast maturing. Juliet is a 65-day, grape-shaped hybrid tomato that produces big crops of perfect fruits.

Heat-tolerant lettuces

Most lettuces will bolt when temperatures are >85 ^{0}F. Crisphead (iceberg), oakleaf type lettuces, Merlot, Bronze Arrow, Bronze Beauty, and Jericho are more heat-tolerant. The Batavia lettuces include some heat-tolerant varieties, including Muir, Nevada, Cherokee, Sierra, Pablo, Concept, Cardinale, and Loma.

Heat-tolerant broccoli

Cold weather can force spring-planted broccoli to bolt and high heat damages broccoli buds. The Eastern Broccoli Project is a decades-long effort to increase commercial broccoli production in the Eastern U.S. A number of heat-tolerant cultivars have been developed. University of Delaware researchers found good heat tolerance in Eastern Crown, Millennium, and Green Magic.

Heat-tolerant greens

Check seed catalogs for mild-flavored leafy Asian mustards like ‘Vitamin Green’ that hold up well in warm weather. Callaloo (*Amaranthus viridis*) leaves and succulent stems grow abundantly throughout the summer and early fall and can be prepared and used like spinach.

Callaloo growing at the UMES Education and Demonstration Farm in Princess Anne. Photo: Jon Traunfeld

Heat-tolerant beans

High temperatures are interfering with the pollination/fertilization of lima bean and snap bean flowers and reducing yields. University of Delaware researchers are finding that high night temperatures are more responsible than day-time warming for this problem. See research results in the references below.

References

Featured Photo: *Hibiscus sabdariffa* (roselle). Photo: Jon Traunfeld

Climate Change in Maryland (UME)

D.C.'s second-warmest December on record caps fifth-warmest year

Mid-Atlantic Regional Climate Impacts Summary and Outlook: Fall 2021

NOAA State Climate SummariesUDEL- Heat Stress Trial With Tomato

UDEL- Heat Tolerant Vegetable Varieties

Genetic and Molecular Mechanisms Conferring Heat Stress Tolerance in Tomato Plants

University of Arkansas Cooperative Ext/www.uaex.uada.edu/southern-pea.aspx

University of Maryland Extension/Growing Beans in a Home Garden

University of Maryland Extension/Leafy Greens for the Summer Garden

University of Maryland Extension/Heat-tolerant greens