

Seeds For Thought

UCCE Master Gardeners-Solano County

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THE ODD, THE TOUGH, THE BEAUTIFUL: HORSETAILS

Patricia Matteson, U.C. Master Gardener, Solano County

THE ODD

The hollow, jointed, ridged stems of *Equisetum*, commonly called horsetails, grow straight upward in clumps that are typically eight inches to five feet tall, though some “giant horsetail” species may grow up to 25 feet high. The stems are green and photosynthetic, but the almost invisibly tiny leaves that circle each stem node are usually not. There are no flowers—family *Equisetaceae* predates flowering plants. Like ferns, which are closely related, they are perennial and reproduce via spores and underground rhizomes. Plants that superficially resemble horsetails include bamboos (grass family *Poaceae*), which also have hollow, jointed stems, and restios, aka cape rushes (*Elegia* spp., family *Restionaceae*) with their jointed leafless stems, but both are flowering plants.



Horsetail With Branched Stems
Photo by Michael Zeiss

people of snakes (“snakegrass”), stem segments can be pulled apart and fitted together again (“puzzlegrass”), and the stems are coated with abrasive silicates, making them useful for scouring metal items such as cooking pots (“scouring rush”).

Indeed, the diversity of uses of this odd group of plants is as eccentric as the plants themselves:

- The Night Watchman, a 2021 Pulitzer prizewinning novel by Native American author Louise Erdrich, contains this passage about traditional construction of a baby’s cradle board: “From the top of the cradle board, he was using Shaanat’s

finest sanding tool—horsetail plant split and glued onto a piece of wood. It was bringing out the narrow lines in the white cedar.”

- Dried stems are used to shape the reeds of reed instruments such as clarinets or saxophones.
- Horsetails are edible. For example, in Japan the sporangium-bearing stems of some species are cooked and eaten like asparagus.
- Horsetails have been used since ancient times by Native American, European, and Chinese physicians as an herbal remedy for many illnesses. Some practitioners recommend it as an osteoporosis treatment, believing that the silicon in horsetail stems helps strengthen bone. It is also used as a diuretic, and as an ingredient in some cosmetics. However, there is not yet any compelling scientific evidence that horsetail is medically effective.
- According to British neurologist, naturalist, historian of science, and writer Oliver Sacks, the spacing of horsetail



Horsetail With Branched Stems
Photo by Michael Zeiss

Nicknames for plants in genus *Equisetum* reflect their strangeness. Stems may or may not have whorls of branches at the nodes. Generously branched species look feathery, hence the name “horsetail” (*Equisetum* means “horse hair” in Latin). Clumps of unbranched plants look like massed green wands stuck in the ground. The cylindrical stems remind

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stem nodes, which grow increasingly close together toward the apex of the shoot, are said to have inspired the sixteenth-century Scots mathematical genius John Napier to invent logarithms.

THE TOUGH

There are two excellent proofs of the toughness of horsetails: their survival since ancient times, and how difficult it is to get rid of them today if one wants to. Horsetails have existed on Earth for over 300 million years. They are sometimes called “Jurassic grass” because they are thought to have been a major part of the diet of herbivorous dinosaurs. Some speculate that their jointed stems evolved to prevent uprooting by those long-ago browsers.

Horsetails were tenacious then, and they are nearly indestructible now. Woe to the gardener who doesn’t heed the stern warning in every article about growing horsetails: keep their rapid



Dense Stand of Unbranched Horsetail
Photo by Patricia Matteson

spread under control by planting in pots or within deep soil barriers, preferably separated from the rest of the garden by hardscape. (Horsetails will, however, still spread via spores.) Once horsetails are where they are not wanted—they are toxic to livestock and considered noxious weeds in pastures, agricultural fields, and controlled aquatic areas—they are hard to eradicate. After burning or mowing, they regrow from rhizomes. Plowing breaks them into pieces, and a new plant can sprout from each stem node. Digging is impractical because rhizomes may go six feet down. Patient organic gardeners wear them down by frequent cutting close to the soil until the rhizomes are depleted, by creating deep shade, and/or by making the soil drier, more fertile, and less acidic. Some contact systemic herbicides are effective, especially on young horsetail plants and with repeated applications.

THE BEAUTIFUL

Clearly one of the beauties of *Equisetum* is that it is easy to grow, indoors or out. Once established, horsetails tolerate a wide range of conditions but do best in moist, low-nutrient, acidic soil in full sun or partial shade—typical of their natural boggy environment. Consistent with their reputation for invasiveness, horsetails have no serious pests or diseases.

Gardeners admire *Equisetum* for the unique beauty of the plant itself. There are an estimated 18 horsetail species (hybridization is common and horsetail taxonomy is a work in progress), but *E. arvense*, the short, brush-like “field horsetail” that dies back in winter, and *E. hyemale*, a taller branchless evergreen species, are best known here. They can grow in standing water and are



Unbranched Horsetail Stem Ending in a Spore-Producing Cone
Photo by Patricia Matteson

strikingly attractive in water gardens. *E. hyemale* is also valued for its sculptural qualities. A dense planting pruned into a flat-topped hedge or a pillar shape makes the kind of architectural statement popular in Modernist and Asian garden design. Its tight verticality fits into narrow planting spaces and on small balconies. For these reasons, gardeners will help ensure that horsetails continue to be with us far into the future. ✕



Horsetail in Landscape

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OUR WONDERFUL WORLD OF WALNUTS

Pearl Eddy, U.C. Master Gardener and U.C. Master Food Preserver, Solano County

It's nut harvesting time in the many nearby commercial nut orchards, as well as in our own back yards. It's best to harvest them as soon as possible, but when are they really ready? I used to wait until the nuts fell from the trees, but in recent years I've had a problem with jays, squirrels and rats. Walnuts are ready when the hulls begin to split from the shells. Trees should be well-watered during this time for easier splitting of the hulls. It's helpful if you have a long, thin pole to knock the nuts down out of the tree.

Pick the nuts up immediately after harvest to help preserve quality. Remove the hulls from the nuts as soon as possible. Wear gloves for this job or your hands may become stained brown. Keep the nuts dry—do not wash them. Spread the hulled in-shell walnuts on a smooth, flat surface in a single layer, if possible, in a shady well-ventilated area, stirring them daily for a few days until the kernels are firm and no longer rubbery. You may need a net or screen covering to prevent theft by birds or even squirrels.

When properly dried and stored, walnuts, both in-shell and shelled will keep well for a year at 32° F to 43° F, or in the freezer at 0° F for two years or more. I have kept shelled nuts in resealable bags in the freezer for much longer than that. If you want to store nuts at room temperature you should first freeze them at 0° F for 48 hours to kill insects and their eggs.

English walnuts are highly nutritious and can help increase the HDL (good cholesterol) and can lower the LDL (bad cholesterol) in the blood. They are rich in monounsaturated fatty acids and omega-3 essential fatty acids, as well as many important vitamins and minerals. A daily "serving" is one ounce or approximately 10 halves.

Walnuts have many uses. You can substitute them for pecans in most recipes, including pies. They are tasty with butternut squash, sauteed zucchini, and other vegetables; in salads, desserts, and in topping for fruit crisps. I make my basil pesto with walnuts instead of the expensive pine nuts. For more information on edible walnuts and some really great recipes, check out the California Walnut Board at www.walnuts.org.



To crack out your own English walnuts there are many types of nut crackers available but I often use just a scrap piece of 2 x 6 lumber and a hammer. Just put the point of the walnut down on the board and whack it on the seam line. It is easy to get halves this way.

You may see a few black walnut trees around our area, most of which are from the original walnut rootstocks. I haven't cracked out black walnuts in

years as that is a challenge. As a child I spent a lot of time trying to crack them with a brick and hammer or a couple of fairly large rocks. The resulting morsels had such a special flavor.

If your yard has space, you might consider adding an English walnut tree for the lovely summer shade and the fall nuts. One difficulty with landscaping under a walnut tree is that some plants have problems with the juglone produced by assorted parts of the tree. On the internet you can find many articles which discuss this problem, called allelopathy, and there are lists of plants which tolerate juglone. Black walnut trees are much worse than English walnuts. I do know that star thistle and many other weeds thrive there! ☘

I found a great recipe for spiced walnuts for snacks or as an addition to salads:

In a dry pan, over medium-low heat, toast the following spices until fragrant:

1/2 tsp paprika
1/4 tsp of nutmeg,
1/4 tsp allspice
1/4 tsp ginger
1/4 tsp cayenne

Remove from pan

To the same pan add 3 cups walnuts and toast until aromatic. Then toss in:

1 tsp brown sugar and,
1/2 tsp walnut oil

Toss to coat. Add the toasted spices and stir to completely coat the nuts.

You can try different spices to create savory, hot or sweet delights.

WHATS COOKING IN THE LAUNDRY?

Spring Tseng, U.C. Master Gardener, Solano County

Not many people cook in their laundry rooms. Although some do. And when they cook in the laundry, the food is so good that it sells for more than \$400 a plate. That's right, I am talking about "The French Laundry".

So, what's the secret? Before we remodel our kitchen or learn how to cook, the easiest thing to do is probably selecting the right ingredients. If you love vegetables like me, you can even grow your own. Nothing beats freshness in the world of vegetables.

Let's take a walk in the vegetable garden of the "Laundry". Surrounding you, are recommendations from the top chefs of the world. Look no further for your choices of tomatoes, potatoes, beans, peppers, and more.



Basil—'Amethyst' Bears a Color Like the Precious Stone Amethyst

All Photos In This Article by Spring Tseng

Basil – Multiple types of basil grow in the garden including: 'Genovese', 'Fino Verde' and 'Amethyst'. 'Genovese' is what commonly known as 'Italian sweet basil'. 'Fino Verde' has tiny leaves in light green and 'Amethyst' is a basil with deep purple leaves. They all smell wonderfully and when flowering, invite bees visits.

Bean – 'Romano'. It is interesting that the 'Romano' bean is the only kind of bean I found in the garden. The 'Romano' bean is a pole bean that grows taller than six feet. The mature beans are approximately 10 inches long and one inch wide and they look very respectable.



Bean—'Romano'



Cabbage - 'Merlot' – Think of the Grape Varietal Merlot

Cabbage – The garden grows 'Caraflex' and 'Merlot'. The name of 'Merlot' cabbage may come from its purplish-red leaves like the grape varietal 'Merlot'. Since cooking can tarnish its color, I'd assume the 'Merlot' is used in salads to provide an additional layer of color.

Carrot – 'Mokum' and 'Atlas'. The 'Mokum' carrots are skinny carrots approximately six inches long and almost coreless. Some say it is the "King of the Kings"

of carrots' because they are very tender and sweet. The 'Atlas' carrots are round and small like a ping-pong ball.



Chickweed – Is Served at the Dinner Table

Chickweed – Classified as a weed, this plant is well tended in the greenhouse. The delicate form and tender texture made it an ideal garnish to a dish. If you are wondering about the exotic plant peering at you from a plate, don't be afraid to take a guess!

Eggplant – Consider 'Kamo' and 'Nadia'. The 'Kamo' eggplants are dark purple and round like a softball. For hundreds of years, farmers in Japan's Kyoto area grew 'Kamo'. Being creamy and soft in texture and slightly sweet, 'Kamo' is the Kyoto area's Japanese's delicacy.



Eggplant – 'Nadia' is Chubby



Microgreen – Sunflower Seeds and Broccoli Seeds Are Among Many That Are Used

Microgreens – A good portion of the greenhouse is dedicated to microgreens. These tiny greens provide abundant vitamins and therefore very nutritious. If you have limited yard space at home, going microgreen is a good option to practice gardening and feed yourself.

Mustard – 'Oriental mustard'. The feathery leaves are very beautiful, like a fine needle work. It is a great candidate in salad for its refreshing taste.



Mustard – 'Oriental Mustard'



Spring Onion – 'Eclipse'

Onion, or Spring

Onion – 'Eclipse'. This slender green onion is used not only to enhance flavor but also in food presentation. With its flexibility and vibrant green color, an artistic crafting can produce dramatic effect at the dinner table.

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Pepper – ‘Carmen’ is Sweet

Pepper – Several types of peppers grow in the “French Laundry” garden. Among them, ‘Fresno’ and ‘Serrano’ are more well-known and ‘Carmen’ deserves more attention. With its superior characteristics, ‘Carmen’ has earned the All-American Selections (AAS) Award. A mature ‘Carmen’ pepper is about 8

inches long and the color is true red like the Gypsy girl ,Carmen’s, heart. With its robust sweetness, wide cavity and thicker walls, it’s one of the chef’s favorites in the kitchen.

Potato – ‘La Ratte’. This small, light tan, tube shaped potato is the only kind that grows in the “French Laundry” garden. Originally cultivated in France, this potato has a unique nutty flavor and smooth buttery texture. Therefore, use it as a secret weapon if you want to impress someone!



Pumpkin – ‘Cinderella’ Will Develop Into Blood-Orange Color When Mature

Pumpkin – Both ‘Rouge Vif D’Etanpes’ (also known as ‘Cinderella’) and ‘Winter Luxury’ are excellent choices for pie fillings and soups. The development of a ‘Cinderella’ goes from young green, to amazing golden, and finally settles to a stunning blood-orange color.

Purslane – a weed. The “French Laundry” garden is managed as an organic one. All sorts of weeds grow happily here and require constant pulling. Among them, purslane may be the most tolerant one. Purslane tastes a bit sour and it is probably used to stimulate one’s appetite.



Purslane



Squash – ‘Goldie’

Spinach – ‘New Zealand’. This spinach plant is a creeping vine. We can harvest the leaves as the plant grows and never have to worry about running out of greens in our kitchen.

Squash – ‘Goldie’. The fruits look like golden rods.

Strawberry – ‘Seascape’.

Approaching the bed of strawberries, you can’t help taking in the sweet aroma that fills up the air. The ‘Seascape’ strawberry develops abundant fruits. A dessert or salad adorned by a shining red strawberry completes the assignment.



Strawberry – ‘Seascape’



Sunchoke (Jerusalem Artichoke) – The Root is Harvested For Food

Sunchoke (Jerusalem Artichoke) –

A mature sunchoke plant is taller than eight feet and looks like a variety of sunflowers. The roots of a sunchoke are harvested for food. They taste like crispy potatoes with a hint of sweetness. Some say the roots promote digestive gas similar to what fava beans do.

Tomato – Most of the tomato varieties in the garden are heirloom tomatoes: cherry tomatoes, beefsteak-like tomatoes, and striped ones. Hybrid cherry tomatoes found in the “French Laundry” garden include: ‘Sweet 100’, ‘Sun Gold’ and ‘Blueberry’. Hybrid tomatoes are usually more disease resistant. Note some tomatoes are available in both determinant and indeterminant varieties.



Cherry Tomato – ‘Blueberry’ The Fruits Are Translucent Under the Sun

The garden is a well-orchestrated busy place. From sunrise to sunset, gardeners sow seeds, pull weeds, water seedlings, harvest, shovel compost and mow the walking path. Many vegetables they grow are not available in the public market.

September is time to plant seeds of cool weather vegetables. In the garden, you will find rows and rows of seedlings of Bok choy, ‘Blue Wind’; broccoli, ‘Alcosa’; cabbage, ‘Albion’; parsnip, ‘Hakurei’; turnip, and many others at different stages.

I thank the “French Laundry” for opening its vegetable garden for the public to learn and enjoy. It is a garden that inspires us to appreciate nature and to live a better life. ☺

MEET KATIE CHURCHILL

Kathy Low, U.C. Master Food Preserver, Solano County

The success of the Master Gardener program (Solano) is due not only to its many dedicated volunteers, and Program Manager Jennifer Baumbach, but to people who also work behind the scenes. One of these people is Katie Churchill.



Katie Churchill

Katie is the Administrative Assistant for the UCCE Capitol Corridor, which encompasses Solano, Yolo and Sacramento County. Based in the Woodland office, she oversees all finances for the unit, which includes processing donations and processing expense claims submitted by Master Gardeners and Master Food Preservers and other Capitol Corridor programs. For the past 13+ years her duties in providing administrative support have covered a wide a spectrum of activities, from fielding public inquiries and directing them to the appropriate group or individual for a response, to assisting with meeting preparation. She edits the program websites, assists in printing materials for the public, and recently set up and monitored online plant sales for the Master Gardeners in Yolo. She's there to provide whatever support Jennifer may need with the Master Gardener programs.

When I asked her what she enjoys most about her job, she replied, "Currently, I'm the primary financial assistant for all 19

of our programs, primary clerical assistant for 14 of those programs, and secondary clerical assistant for the other five. Overseeing so many programs keeps me on my toes, and I never know what I'm doing one day to the next, but it's rewarding to see how each individual program fits together in our unit and fills a community need. Honestly, the most enjoyable aspect of my job is getting to interact with my coworkers and volunteers. The job tasks on their own are fine and straightforward, but it's getting to build those personal relationships that really makes the job fun." Yes, she's definitely a people person!

She loves living in Northern California. Her family moved to California when she was five years old. She graduated from Chico State where she majored in Entrepreneurship/Small Business Management and minored in Foodservice Administration. Speaking of food, she loves to bake desserts and is looking at starting a side job selling baked goods from home with a Cottage Food Operators Permit. But baking is only one of her hobbies. She's played the piano for over thirty years and, until COVID, used to accompany her dad and grandpa in their quartet. She also loves the outdoors and travelling. She's been to 27 states so far and plans to eventually visit all 50 states. With her abundance of enthusiastic energy, I have no doubt she will accomplish all her goals in life!

(Note: Katie was recently awarded the Staff Appreciation and Recognition (STAR) award from the University of California Division of Agriculture and Natural Resources (UC ANR) for meritorious service to the University and local communities.) ☘

ROCKS, ROCKS, ROCKS; I'M SICK OF ROCKS

Amalia Rehman, U.C. Master Food Preserver, Solano County

Sustainable Landscapes... What does that mean? I think it can mean many things. To some it means there are no inputs required for the landscape to maintain itself. But then, that would make a desert a sustainable landscape. Perhaps it's about a landscape that is easy to maintain with little to no work required. Or maybe it means using artificial rather than natural components like AstroTurf, or silk flowers in pots. I have seen examples of all of these, as I am sure you have as well.

When I moved into this house last July, I looked at the front yard and thought, "that will be so easy to take care of". The front yard was all rocks with one large overgrown bottlebrush bush. After a few months, I noticed that the front yard was unattractive to me and felt ugly and sterile. As I worked on the back yard and added fruit trees and grapevines and blackberry vines and mulch, I felt a distinct disconnect between the front of the house and the back and side yards.



All Photos in This Article by Amalia Rehman

I started to think about the soil in the front yard, hidden under the rocks and held muffled under the weed barrier. I felt bad for her. There she was, this fertile woman in her prime and her uterus was under lock and key... like a sane person held against their will in an insane asylum... And I realized, I was the warden.

I began to think of my "sustainable landscape" as destructive to nature rather than preserving it. I imagined the runoff of rainwater into gutters and sewers instead of absorbing into the ground, nourishing plants that exchange nutrients with the soil and all its microscopic inhabitants, and making its way to recharging the aquifer. I thought about the native grass prairies

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whose roots reached 40 feet only to be turned into the Dustbowl at the hands of farmers. This juxtaposed itself starkly against my image of native peoples and their role as land stewards.

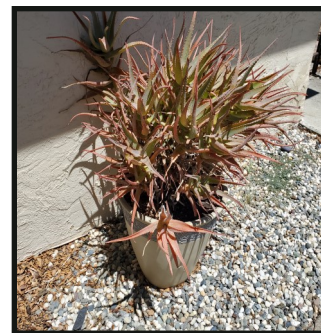
This struck me hard. There was a time, maybe only four years ago, when I encouraged my interests in plants and their beauty and health benefits. But what I learned only made me depressed and hopeless. That is the hardest part about anyone's first endeavor to come closer to understanding nature. You are struck with the unavoidable truth of how we are destroying this planet, its topsoil, its precious and rare diversity, its beauty and even its viability. The degree to which this was happening overwhelmed me, but my interest in nature and gardening pushed me forward. And through a series of serendipitous events I ended up taking a Permaculture Design training program in Bolinas, run by Penny Livingston, who studied directly with Bill Mollison. And I fell in love with Bill Mollison. In spite of his terse and caustic way of speaking, I realized he was a genius that could see patterns in the world around him with little effort, not too different from Einstein and the development of his theories.

I learned from Evening Moon about the ways in which his native peoples cared for the wilderness and I realized that humans did have a place in the natural pattern of things. Through our intellect and through generations of recognizing patterns in the natural environment around us, we can encourage patterns that are nurturing and promote diversity

and plenty. I felt less ashamed of what I was. I recognized that each person is responsible for what they steward, and I could make better choices and encourage that all around me, as well as vote for things I want to see happen. And it was Penny's husband, James Stark, who spoke about his love of nature and his own journey toward recognizing that this Earth is far more powerful than any influence we can bring upon her. We can try for centuries to destroy her, even to our own destruction, and, in the end, our existence would be like a blink of an eye and she will revivify. My heart rejoiced in the calm this gave my spirit and I was able to see joy again in my role in and alongside nature as her admirer.

So how could I reconcile the state of my front yard? How could I leave her chained and stifled under that web of unnatural fiber?

Now begins that journey as I pile away the rocks, tear through the fibers of the weed cloth and plant and plant and plant. I have started herbs and flowers in pots to plant as larger specimens. I have set aside some exciting seeds and I invite you to follow me on this journey of transition and rebirth. I'll catch up with you in a couple of months with updates. ✨



THE UCCE MASTER GARDENER PROGRAMS OF SOLANO AND YOLO COUNTIES ARE NOW ACCEPTING APPLICATIONS FOR THE 2022 MASTER GARDENER TRAINING!

THE UCCE MASTER GARDENER PROGRAMS OF SOLANO AND YOLO COUNTY ARE LOOKING FOR RESIDENTS WHO ARE INTERESTED IN BECOMING VOLUNTEERS FOR THE PROGRAM. IF YOU LOVE SHARING YOUR KNOWLEDGE OF GARDENING, LEARNING, AND MAKING A DIFFERENCE IN YOUR COMMUNITY, THIS MIGHT BE THE PROGRAM FOR YOU.

APPLICATIONS ARE AVAILABLE BY CALLING, TEXTING, OR EMAILING JENNIFER BAUMBACH, PROGRAM COORDINATOR, UCCE MASTER GARDENERS SOLANO & YOLO COUNTIES. 707-389-0645 OR JMBAUMBACH@UCANR.EDU. PLEASE SPECIFY WHICH COUNTY YOU LIVE IN TO RECEIVE THE APPLICATION AND SUPPLEMENTAL INFORMATION. IF YOU HAVE QUESTIONS ABOUT THE TRAINING, PLEASE SEE THE ABOVE CONTACT INFORMATION.

THE DEADLINE TO APPLY IS OCTOBER 8, 2021, BY 5:00 PM

UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION (UCCE): MASTER GARDENERS IN THE COMMUNITY

Sherry Richards, U.C. Master Gardener, Solano County



*Opuntia Prickly Pear Fruits aka "Tuna"
All Photos in This Article by Sherry Richards*

Many Master Gardeners (MG's) donate produce from their gardens each year to various food distribution centers. **Project Produce**, a new MG-Solano County community activity, recorded many of our donations this year. By September 24th we had donated **1167 pounds** of vegetables and fruit!

We would like to mention that the first recipients of MG produce donations this year were birds (were there snails, insects, rabbits, voles, or other animals too?) eating tender new leaves of recently planted vegetable seedlings. As they ripened, some of the tasty tomatoes and fruit in gardens were nibbled, pecked, or disappeared. Did you notice any "suspicious activity" in your garden before you could harvest? If you did check out the link to "Pest and Insect Control" on our webpage: <http://www.solanomg.ucanr.edu>.

Many MG's from counties throughout the United States donate produce grown in their public demonstration gardens. Sometimes you will find free vegetable seeds at our public education classes, free plant exchanges or other events. We hold plant sales in many areas as fund-raising activities to help support our community activities. MG's sometimes collect produce from local gardeners, vendors, or businesses to take to food banks and to support local public community gardens.



Master Gardener, Sharon R, donates tomatoes

A few MG food donation-related activities are described below:

- ◆ North Dakota MG's usually distribute free vegetable seeds to the public through the Fargo, North Dakota, Public Library. When the library closed because of the pandemic, a plan was developed by the Fargo MG Coordinator to distribute vegetable seeds to MG's throughout North Dakota "to grow produce for food pantries across the state." Vegetable seeds were distributed by county extension

agents to MG's in 16 North Dakota counties. As a result, MG's donated a whopping **11,787 pounds** of produce grown in their home gardens.

- ◆ **Grow and Give** – In 2020, this cooperative effort between Colorado State Cooperative Extension MG's and local gardeners (nearly 600 total participants) donated **47,142 pounds** of produce.
- ◆ **Plant A Row** (<http://www.gardencomm.org>) was started in 1994 through the Garden Writers Association Of America (GWAA: <http://www.gwaa.org/>) with the goal of having home gardeners intentionally plant extra food to send to the local food bank. MG's from El Dorado and Fresno counties have participated in "Plant a Row", along with others, such as MG's in Sedgwick County, Kansas; Cobb County, Marietta, Georgia; and Chesapeake County, Virginia.
- ◆ **Seed Share 3.0** - Johnson County, Iowa, MG's gave vegetable seeds to gardeners who, in turn, donated a portion of their harvest to a facility or site directly.
- ◆ MG's of Mariposa County, California **Plant-a-Row** Project: collects excess produce from growers, vendors and home gardeners. MG's provide staff at donation drop off locations on certain days and times to collect produce from the public. Produce is donated to organizations that directly serve those in need: seniors, children, and those without access to fresh fruits and vegetables.
- ◆ Penn State Extension MG Program **Seed to Supper** is a comprehensive beginning gardening program that provides novice, adult gardeners the tools they need to learn how to successfully grow a portion of their own food on a limited budget. This is a joint effort between local county food banks or similar organizations and the Penn State Master Gardener Program.
- ◆ **Harvest for Neighbors** is a joint effort of MG's of San Mateo and San Francisco with county residents who have gardens, encouraging them to "plant one extra row in their garden, and to harvest those extra fruits and vegetables and provide them to local food pantries."



Master Gardener Donations

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TOP 13 VEGETABLES TO DONATE TO FOOD PANTRIES

- TOMATOES
- ZUCCHINI
- WINTER SQUASH
- POTATOES
- ONIONS
- BELL AND SWEET PEPPERS
- CUCUMBERS
- MELONS
- BROCCOLI
- GREEN AND RED CABBAGE
- SWEET POTATOES
- CARROTS
- BEANS

Check with your local donation center to find out the other kinds of produce their clients like that you might like to grow!



Donated Pears

We miss seeing you at events, restricted because of the pandemic, but gardening information is still available on our website. Click on “UCCE Master Gardener Virtual Presentations” for recorded or virtual upcoming classes: <http://www.solanomg.ucanr.edu>.

Gardening Questions? Please call us at our telephone

hotline (707) 784-1322 or reach us by our email hotline: mgsolano@ucanr.edu. ☒

*Thank you to all donating fresh produce in your community!
Every pound helps!*



Donated Collard Greens



Donated Squash

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- Johnson County Mgs, Seed Share/Planta Row, 2019
- “Plant-a-Row” Flyer – UCCE Mgs of Mariposa County ,Ca .
- “Top 13 Vegetables to Donate to Food Pantries” Iowa State University Extension and Outreach, HORT 3068, Feb 2017

A CUP OF TEA

Michelle Davis, U.C. Master Gardener, Solano County

Are you sitting down to read this newsletter with a cup of tea? Have you ever thought about the process of what it takes to grow tea and manipulate it to end up with the beverage that is only second to water in popularity in the entire world?

True tea is from the shrubby tree *Camellia sinensis* that originated in China and is believed to have been first used medicinally around 2500 B.C. Around 1200 A.D. a Buddhist priest took the plant to Japan. Today tea is grown worldwide. By the way, not all teas are true teas. Tisanes are not true teas, but “teas” that are made from herbal plants such as peppermint or chamomile.



Camellia sinensis

narrower and shorter than what the tree can grow to – 25 feet tall and 20 feet wide. Tea leaves are first harvested in early spring after the plant has reached three to five years of age. The hedgerows allow the person harvesting to pluck the leaf bud at the branch tip along with the two nearest leaves. These are the youngest leaves and have the most concentrated flavor and caffeine. This method is used for almost all green teas and some black teas. Some tea plants are plucked from the bud to the 4th nearest leaves. Leaves destined to be Oolong tea are harvested in this way. Specialized machinery can also be used to shear the plant leaves. Tea trees are harvested a second time during summer, but the top bud and next two leaves are pruned year-round to cause the plants to produce new shoots and to increase the harvest.

Once the tea leaf is plucked, it immediately loses moisture, a process called withering. The leaves are laid out on large round bamboo trays in a single layer, and the waxy leaves wilt. This step removes about half of the water in the leaves. It also causes

Tea plants today are planted in hedgerows and kept much

(Continued on Page 10)

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the leaves to release compounds that are important to the tea's flavor. Time, temperature and humidity are watched closely, and the trays are switched around to achieve the desired wilt.



Black teas may be allowed to wither for 14 hours or more, while Japanese green teas will wither only as long as it might take to get the trays to where it will be processed. Green teas undergo a next step of pan-roasting or steaming to stop the withering, and to preserve the greenness and grassy flavor.

The next step is tea rolling which can be done by hand or by a machine with two plates in which the leaves are rolled between a stationary plate and one that moves to release the tea juices. Hand tea rolling takes lots of practice. About 1 ½ pounds of the withered leaves are contained between the palms and a table and rolled gently in a circular motion for up to an hour (depending on the desired tea) to get to the point that the juices exude but not to the point of mashed pulp. The leaves will feel oily and will smell floral or nutty.

After tea rolling, the leaves rest in a process called oxidation. (Green teas do not undergo oxidation. The heat that is applied stops oxidation to maintain the green color and grassy flavor.) Tea manufacturers maintain tight control over the oxidation process for each kind of tea to deliver the desired flavor. Humidity, air temperature and time of oxidation are tightly controlled for each type of tea.

Once the oxidation has been stopped, leaves are dried often in a specialized oven or possibly out in the sun. However, if dried tea is exposed to air and moisture, and there are any unoxidized compounds left in the leaves at all, the leaves will continue to oxidize, changing and maybe ruining the tea's flavor. Tea leaves are then sorted and graded by size and shape to be stored in loose-leaf tea bins or to be chopped up to be put in tea bags.

All true teas come from the same tree. The processing style, the length of oxidation, as well as the region where it's grown, its growing conditions, the soil, and the climate all contribute to the tea's flavor. In China and Taiwan, multicourse meals are planned around the teas being served, much like the wines being served with each course at the French Laundry. The cost for this course/tea pairing can be equally delicious and just as pricy!

In a nutshell, the 6 main teas and their processing steps are as follows:

- **White Tea:** There is minimal processing; leaves are harvested and dried in the sun.
- **Green Tea:** Leaves are roasted or steamed, rolled into cakes or balls, and dried immediately.
- **Yellow Tea:** Leaves are withered and dried like green tea, but then they are doused in water, wrapped in paper and left in that state for a few days causing the leaves to turn yellow. The leaves are then dried one more time.
- **Oolong Tea:** Leaves are harvested and dried in the sun, rolled, oxidized to a predetermined level between 8 and 80% and then roasted or pan-fired to stop oxidation. The different oxidation levels impart different tea flavors and colors.
- **Black Tea:** The freshly plucked leaves are withered in the sun until limp and then they are rolled by hand or rolled mechanically in a big metal drum with teeth that cut, tear and curl the leaves. This mechanical method is used to make tea for tea bags. The tea leaves are spread out on bamboo mats in a cool, damp location and are allowed to oxidize until the leaves become a deep brown. The leaves are then dried by either steaming or roasting.
- **Pu-erh Tea:** Fresh leaves are withered in the sun, dry-roasted to stop full oxidation, shaped and left to dry in the sun. There is no roasting, steaming or pan-firing. The leaves are placed; in a warm, humid location, exposed to a controlled bacterial and fungal fermentation, aged for months to years, and then packed into squares or bricks. These can sell for well into the thousands of dollars!

A lot of effort, experience and knowledge goes into producing a perfect cup of tea. An old Chinese saying states, "The grandfather plants and raises the tea bushes, the father harvests the tea, and the son drinks it." Savor your "cuppa" in and for good health! ☘



Boh Tea Plantation in Brinchang Cameron Highlands

PLANNING A WATER FEATURE: PART 2

Dottie Deems, U.C. Master Gardener, Solano County

Since the last edition of *Seeds for Thought*, we completed the construction of our pond-less waterfall. We had PG & E come out to verify that there were no underground utility lines in the backyard and the digging ensued. A licensed electrical contractor installed the underground electrical line, the pump, and the rest of the hook-up. Yes, we made sure to pay for a permit to have the work done.

The next steps involved determining the exact location for the installation, how large it would be, and the materials we were going to use. We knew all along we could use the slope between the sound wall and the lawn to our benefit. It seemed a logical choice to start the waterfall under our pergola that marked the center point of our wide backyard. That location was also the closest to the dining table and chairs on the patio. Siting it there also gave us the best opportunity to use the sound of the falling water to camouflage the road noise.

As for size, we chose to limit the width of the water feature just short of the width of the pergola. The length of the spillway and waterless pond determined the length of the water feature. It seemed to be a no-brainer once our landscaper marked the location with a can of spray paint.

Now, with an idea of the size of a water feature we could accommodate; I spent a day looking at pictures of water features on the Internet. I also watched some YouTube videos, made by professionals, of the installation process. I can't overemphasize how valuable that time proved to be. It was amazing to see the variety of water features available in kit form, prices for the kits, and to see how everything fits together during the installation. With that knowledge and a budget in hand, we made our choice of water feature. It was going to be relatively short and pond-less.

We shared our decision with our landscaper and with his help chose a kit. It had always been very important to us that the size of the project be just right; not too big, and not too small. These steps gave me the opportunity to confirm my decision before a shovel hit the ground.

It took our landscaper and his assistant three days to create our water feature. I took a quick drive-through at the rockery and selected the color and size of gravel and rocks we needed, while they dug out the area for the pump vault, the spillway, and raised the area for the weir at the very top of the falls. Then they carefully put down the underlayment and the liner, gently shaping it and lapping it over the sides. We watched them shovel in clean gravel along and at the bottom of the spillway, then add some larger rocks to give it all a natural appearance.



*Completed Water Feature
Photo by Dottie Deems*

Flat pieces of slate were put above and beneath the weir and large rocks and boulders were placed on the overlapping underlayment and liner. The underlayment and the liner were not trimmed until all the rock was positioned as we

wanted it. Our landscaper was very careful about that trimming, not wanting to leave too little to tuck under and then cover with some soil, gravel, and then gorilla hair. The big boulders we needed to complete the setting were already part of our current hillside design, and would be repositioned for the new project.

After three days, we turned on the pump and looked and listened to what we had created. Our landscaper tinkered with the weir and the rocks that the "fall" struck. He called it "tuning", but my musical ear has never been good. My musician husband could hear variations much better than I. We adjusted the direction and velocity of the waterfall to make sure we didn't lose a drop of water outside the rim of the pond.

Within a week we discovered a small leak, and our landscaper came to our rescue. He determined that there was a tear, and where it was. He was able to fix it very easily and very quickly.

I spent days and days making endless lists of plants that I thought we might consider for the construction area; things like bright red ivy geraniums (*Pelargonium peltatum*), gnarly trailing rosemary (*Rosmarinus officinalis* 'Prostratus'), and, some shockingly bright Angelina Sedum (*Sedum rupestre* 'Angelina'). Nothing too expensive or that grows so wildly it would need a trim each week or so. I kept our choices to just a few different plants and just few four-inch pots of each. There would always be time for plants later.

We are very satisfied with the result and would highly recommend adding a water feature as a backyard focal point. ✕

Websites I Found Useful

www.aquascapeinc.com; www.thepondguy.com; www.atlantistwatergardens.com

Each of these companies have numerous YouTube videos. If you are interested in a pond-less waterfall like ours, search for the video entitled "How to Build a Pond-less Waterfall – Step-by-Step – Vlog 035"

MASTER GARDENERS IN THE COMMUNITY

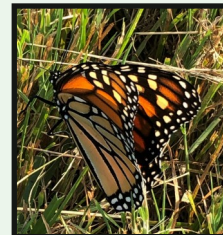
As pandemic restrictions are lifted, UCCE Master Gardeners-Solano will continue to expand our presence in the community. Stay tuned to find out where we are!



VALLEJO FARMERS MARKET



Saturday's 9:00am to 2:00pm
Corner of Georgia and Marin Streets
FREE parking
(Rain cancels)



Please come and discuss your gardening with us, problems or not. We are there to help with suggestions of reading material, handouts on various subjects, both plants and insects, and subjects related to gardening. We learn so much from your experiences in your landscapes!

MASTER GARDENER RESOURCES



The California Garden Web >>>

The California Garden Web serves as a portal to organize and extend to the public the University of California's vast collection of research-based information about gardening.

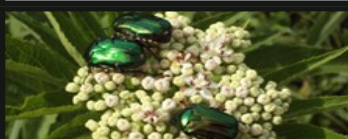
<http://cagardenweb.ucanr.edu/>



The California Backyard Orchard >>>

Visit The California Backyard Orchard to learn about the home orchard and understand that it is, in fact, a living expression of genetics interacting with soils, weather, tree spacing, pests, and many other factors.

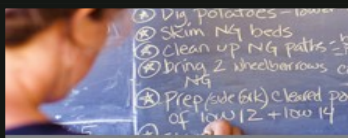
<http://homeorchard.ucanr.edu/>



Integrated Pest Management (IPM) >>>

Integrated Pest Management, or IPM, is a process you can use to solve pest problems while minimizing risks to people and the environment. IPM can be used to manage all kinds of pests anywhere—in urban, agricultural, and wildland or natural areas.

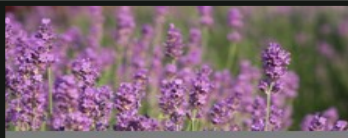
<http://ipm.ucanr.edu/index.html>



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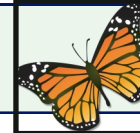
Arboretum All-Stars >>>

The horticultural staff of the UC Davis Arboretum has identified 100 tough, reliable plants that have been tested, are easy to grow, require little water, have few problems with pests or diseases, and have outstanding qualities in the garden. Many of them are California native plants that support native birds and insects. Most All-Star plants can be successfully planted and grown throughout California.

<https://arboretum.ucdavis.edu/arboretum-all-stars?id=4>



FALL GARDENING GUIDE



	OCTOBER	NOVEMBER	DECEMBER
P L A N T I N G	<ul style="list-style-type: none"> ◇ Edibles: Plant loose leaf lettuce and spinach, set out seedlings such as onion and garlic for next year's harvest. ◇ Ornamentals: Anything that's not frost-tender, including groundcovers, vines and perennials. ◇ Dig, divide and replant overgrown perennials after they finish blooming. ◇ Put tulip and hyacinth bulbs in the refrigerator for six weeks before planting. ◇ Buy and pot amaryllis or 'Paper White' narcissus bulbs for Christmas blooms. 	<ul style="list-style-type: none"> ◇ Edibles: Plant cool weather vegetable transplants such as broccoli, kale, chard and cauliflower. Plant radishes and peas from seed. Put in biennial and perennial herbs, such as chives, Greek oregano, parsley, marjoram, winter savory, lemon or common thyme. ◇ Plant spring-blooming bulbs and tubers. ◇ Winter and spring-blooming annuals available now include sweet peas, Iceland poppies, primroses, snapdragons, cyclamen, pansies and violas. ◇ Deciduous trees, shrubs and vines are often ablaze now, so shop nurseries for favorite color choices. Plant right away. 	<ul style="list-style-type: none"> ◇ Edibles: Plant bare-root berries and grapes, and dormant roots of asparagus and artichokes. Seeds of broccoli, cauliflower, cabbage and lettuce can be planted indoors. ◇ Plant for early spring color, with flowering quince, acacias, camellias, primroses and cyclamen. ◇ Decoratively pot living holiday gifts, including herbs, which grow well indoors in a sunny window. ◇ Plan spring deck, patio and porch plantings.
M A I N T E N A N C E	<ul style="list-style-type: none"> ◇ Keep deadheading shrubs and annuals. It will encourage annuals to bloom a bit longer and keep shrubs looking tidy. ◇ Fertilize roses for the last time this fall. ◇ Renovate a tired lawn by dethatching, aerating, fertilizing and over-seeding. Lower the blades of your mower to 1 inch after summers heat. ◇ Add organic matter/compost to vegetable beds after double-digging and loosening soil to a depth of 24 inches. 	<ul style="list-style-type: none"> ◇ Adjust water schedule once rain begins. If no rain yet, keep vegetables irrigated. ◇ Apply dormant fruit spray to trees after leaves drop. Use 50 percent copper or lime sulfur product for peach leaf curl on peaches and nectarines. On apricots, use fixed copper spray rather than lime sulfur. ◇ Fertilize fall-planted annuals and vegetables with a high nitrogen fertilizer. Cut back mums to six inches above ground when they are finished blooming. 	<ul style="list-style-type: none"> ◇ Continue to fertilize fall-planted annuals and vegetables to provide needed nutrients for root development. ◇ Keep poinsettias in a warm, sunny location, away from drafts. Water weekly and feed monthly through April. ◇ Put your living Christmas tree outside until a few days before December 25, lessening stress. ◇ Before storing garden tools for winter, clean, sharpen and oil garden pruners and shears, and wash mud off shovels and rakes. Oil wooden handles of all tools.
P R E V E N T I O N	<ul style="list-style-type: none"> ◇ Remove fallen fruits, vegetables, diseased leaves and weeds from garden beds to reduce next year's garden pest and disease problems. ◇ If no rain yet, or very little, continue to irrigate. Once consistent rain begins (fingers crossed), check for areas of standing water, the breeding ground for mosquitos. ◇ Apply copper or other recommended controls if you see brown rot or citrus blast on your citrus trees. 	<ul style="list-style-type: none"> ◇ Bait for snails and slugs with an iron phosphate-based bait. ◇ Fight cabbage loopers by using floating row covers to keep the adult white butterflies from laying eggs on leaves. ◇ Apply pre-emergent weed control among plantings and on your lawn. 	<ul style="list-style-type: none"> ◇ Hoe and pull weeds diligently. Mulch to keep weeds down. ◇ Apply a dormant spray to kill insect eggs and pests such as aphids, mites and scale, as well as fungi and bacteria. ◇ If a freeze warning is in effect, turn off drip irrigation and remove the end plug for drainage.

***Seeds For Thought* is produced by
the Solano County Master Gardeners**

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Please put '*Seeds For Thought*' in the email Subject line.

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It is available through the internet for free download:

<http://cesolano.ucdavis.edu/newsletterfiles/newsletter130.htm>

A handwritten signature in black ink that reads "Baumbach".

Jennifer M. Baumbach
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SEEDS FOR THOUGHT



**FALL
2021**