

TUMBLING WEEDS

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

On recent trip I drove through the Mojave Desert enjoying seeing the desert plants and rocks with their own special beauty. Seeing "tumbleweeds" against fences and rocks brought back memories of a song from childhood about tumbleweeds and cowboys. I remember seeing movies and television shows about the 1800's with dramatic music, an empty street, howling wind, dust blowing everywhere, creaking swinging general store doors, saloon, blacksmith or sheriff's office signs, and tumbleweeds rolling across the street.

The first time I saw tumbleweeds was driving near Cheyenne, Wyoming, many years ago. Tumbleweeds rolling in fields in horrendous wind and across the highway. Time for a break. Stopping at a store, leaving my car, holding the door open and dodging tumbleweeds that nearly blocked the entrance was challenging! Since then, I have seen tumbleweeds on road trips but never gave them too much thought - just dead plants but, as it turns out, rolling dead tumbleweeds have a mission!

What is a Tumbleweed?

Tumbleweeds spread seeds after the plant dies and breaks off at the root; catching the wind, it rolls along scattering **thousands and thousands** of seeds. When it rains the seeds will germinate.

Here are three examples of plants that tumble to scatter seeds - there are a few others:

- *Sisymbrium altissimum* 'Tumbling Mustard' (aka: Jim Hill) found throughout California below 8,200 feet. Native of Europe.
- *Amaranthus albus* 'Tumble Pigweed' (aka White Pigweed) widespread throughout North America. Native of tropical America.
- *Kochia scoparia* (aka 'Belvedere' 'Fireball' 'Fireweed') found in the California Central Valley, San Francisco Bay region, Central Coast, South Coast; Mojave Desert, Sonoran Desert and Great Basin. Native of Asia.





Weed Photo Gallery, Salsola spp, "Russian Thistle" - Photo: UC Integrated Pest Mgm Program Division of Agriculture and Natural Resources 2023 <u>http://www.ipm.ucanr.edu</u>

Russian Thistle

Russian thistle is the most common plant known as a tumbleweed. *Salsola tragus* aka: *Salsola iberica, Salsola kali* and *Salsola autrailis*, (common name "tumbleweed") is a member of the goosefoot family (*Chenopodiaceae*) and is native to Russia. It is a bushy, noxious, invasive, nonnative summer annual about 36 inches high, drought tolerant, with a taproot going several feet into the ground!

Russian thistle arrived in the United States in 1873, in contaminated flax seed headed for South Dakota. Seeds continued to spread in threshing machines and by other ways. In 1895, seeds in railroad cars transporting cattle made their way West, heading to Lancaster, CA. Today in the United States, Russian thistle has invaded 100 million acres in 48 states.

Here is little more information about Russian thistle:

- Mature plants have a sharp point on the end of the leaves.
- They deplete soil moisture, and can interfere with tillage of fields.

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- They can reduce the amount and quality of agricultural crops; i.e., alfalfa and small grains.
- It is an alternate host for the beet leafhopper (*Circulifer tenellus*) that vectors curly top disease in melons, tomatoes, sugar beets and other crops.
- Rolling dead plants can affect highway safety.
- It accumulates along trees, houses, fence lines, roofs, and other places.
- It is common throughout California in fields, crop areas, roadsides but rarely a problem in managed gardens and landscapes.
- Along the California Aqueduct, Russian thistle can sometimes interfere with water delivery and water pump systems.
- It has been known to spread prairie wildfires when ignited balls of Russian thistle blow around.
- It was one of the last plants growing during the Dust Bowl of 1930-1936 and helped farmers feed beef cattle when other sources of hay disappeared.

Two invasive tumbleweeds have hybridized, creating a new species - *Salsola ryanii* - which may grow to six feet tall! In California it is found throughout the Central Valley and coastal areas around San Francisco and as far south as the Ventura area. For more information about invasive plants, see the link in Resources/Links to University of California Integrated Pest Management (UC IMP) Publication 74139 "<u>Invasive Plants</u>." You will see a reference in this pest note to the California Invasive Plant Council, a nonprofit organization, who are working to stop the spread of invasive plants in California. It

lists invasive plants, and recommendations for noninvasive alternatives.

Please contact UCCE Master Gardeners anytime for information about tumbleweeds, weeds, invasive plants, or any gardening question - link below.

Have a Great Spring Gardening Season! 🌶



<u>Salsola tragus</u> (Russian Thistle) Solano County Photo Credit: Sherry Richards, UC Master Gardener; Used With Permission

Resources/Links:

- UCCE Master Gardener-Solano Hotline: 707 784-1322 email: <u>mgsolano@ucanr.edu</u> "Weeds of California and other Western States " UC Agricultu
- <u>"Weeds of California and other Western States</u>," UC Agriculture and Natural Resources, Publication 3488 (2007) Joseph M. DiTomaso and Evelyn A. Healy - University of California. Publication sponsored by the California Weeds Science Society.
- "<u>Invasive Plants</u>" Publication 74139, J.M. DiTomaso, Plant Sciences, UC Davis, C.E. Bell, UC Cooperative Extension, San Diego County, C.A. Wilen, UC Statewide IPM Program San Diego County
- Video "<u>The Good the Bad and the Tumbleweed</u>" and "<u>New Tumbleweed</u> <u>Species Rapidly Expanding Range</u>" March 31, 2016, Sean Nealon, UC Riverside <u>http://www.universityofcalifornia.edu</u>
- "<u>Giant Tumbleweeds Eat Victorville</u>" Ben Faber Posted by Gale Perez, UC Weed Science, October 6, 2019
- Cal-IPC California Invasive Plant Council <u>www.http//www.cal-ipc.org</u>
- University of Colorado Boulder College of and Sciences Magazine February 9, 2018, Jeff Mitton, Emeritus Professor University of Colorado Boulder, Department of Ecology and Evolutionary Biology
- UC IPM: Pigweeds Amaranthus spp; Tumble Mustard Sisymbrium altissimum; Kochia scoparia





COBBLERS, CRUMBLES AND CRISPS FROM YOUR PANTRY

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

We have wonderful resources in our kitchens to prepare delicious and healthful desserts. Let's use up more of our stored fruits to make room for the coming season's abundance. These desserts can be made from fruits that are frozen or canned or fresh. They have many unusual names, have different kinds



of toppings and differ in ways that they are assembled and cooked. They may be baked in an oven, microwaved, low. Let cook for 20 minutes with lid on. or cooked on top of the stove.

A **betty** is a baked dessert that dates back to the colonial times. The most common betty is the apple brown betty which is made with brown sugar. It also calls for buttered bread crumbs.

A buckle is baked and usually is made in one of two ways. One is that the bottom layer is cake-like with berries mixed in. The top layer is crumb-like. The second method has the cake layer on the bottom and the berries as the next layer, and the top is the crumble mixture. One of the most common is a blueberry buckle.

A clafouti originated in the French countryside. The fruit is topped with either a cake or pudding. The clafouti is often considered a baked pudding.

A cobbler has the fruit filling put in a deep baking dish, topped with a biscuit dough. The dough may completely cover the fruit or it may be dropped as with dumplings. It is considered a baked desert.

A **crisp** has the fruit filling covered with a crunchy topping which is crumbled over the top.

A crumble is similar to the crisp with the topping crumbled over the fruit filling in the pan. It is baked.

A grunt (often called a slump) is a stewed or baked fruit dish. The biscuit dough is rolled and put on top of the fruit.

A pan dowdy (pandowdy) is a baked dish with the dough on top of the fruit, and although it is rolled out it ends up being crumbly. The apple pan dowdy is a favorite.

For a very easy cobbler to make on the stovetop, place 4 cups of fruit, sweetened to taste in a pan. Make a simple topping of 1 cup of biscuit mix mixed with 1/2 tsp. cinnamon, 1 Tbsp. sugar and 1/3 cup milk. Bring pan of fruit to simmering and drop

topping onto the fruit. Place lid on pan. Turn heat to

For small batches of stovetop dessert, my choice of pan is a heavy, non-stick one-quart skillet which has a domed lid. It holds about 3 cups of fruit with plenty of room for the topping to expand while cooking. For oven baking, grease the bottom and sides of a pan or casserole dish to help prevent sticking.

Some fruits are rather runny and can be thickened by mixing with flour or cornstarch, but my favorite thickener is tapioca. For three cups cut-up fresh fruit I use 2 Tbsp. flour or 2 Tbsp. tapioca. The desserts can be served warm or chilled before serving. If desired, try topping them with cream, whipped topping or ice cream. There are so many ways to use the fruit which we have "put by." For many more recipes you can go to Google and type in such words a "grunt recipes" or "clafouti recipes," and have fun creating delicious desserts. 🎤



MASTER GARDENER TRAINING PROGRAM UPDATE: EARNING TONS AND MAKING FRIENDS

Lisa Rico, U.C. Master Gardener Trainee, Solano County

It felt a little bit like the first day of school. For good reason, it was. The first day of Master Gardener Training Class to be exact. I was anxious and a wee bit nervous. And just like the first day of school, thoughts swirled around my head. Will they like me? Will I make new friends? Can I pass the test?

I've gotten ahead of myself. Let's go back to the first day. Most of us entered the room tentatively. Silent nods and timid greetings. Veteran Master Gardeners on hand to welcome and direct. We



Wendy Rash Giving a Presentation Photo Credit: All Photos in This Article by Lisa Rico, UC Master Gardener Trainee; Used With

all took our seats and waited for our leader, Jennifer Baumbach, to welcome the group. By the first break there was laughter and chatter. Trainees already mingling and making friends.



Propagation

fun? Can I get that recipe? These are the tell-tale signs of the group of previous strangers with a shared interest morphing into a group of good friends who share a love of gardening and are eager to learn more.

I'm familiar with the transition. I've been here before. Yes, I'm a repeater. I went through the program almost 20 years ago. Loved it then, too. Life didn't allow for the time commitment, so I had to exit. However, I made life-long friends then, as I know I'm making now. Grateful that they took me back, I'm so excited to be among these fellow gardeners.

The magnitude of knowledge bestowed on us is tremendous. I feel like a thirsty sponge - soaking up every ounce thrown at me. So far, I've learned that almost every gardening question can be first answered with, "it depends." The program is based on science not what grandma did, unless that was based on science. Our job, after we graduate, is to help share the knowledge and resources gained to others in the community. Knowing where to find the answers is a big part of the learning process. The University of California sponsored program has an abundance of resources to provide those answers. Each week, different experts in various areas present fascinating information on a plethora of gardening topics.

Each trainee is provided with a two books, California Master Gardener Handbook and Pests of Landscape Trees and Shrubs. Speaking of the handbook – it's massive. You could use it as a door stop, or a weapon. It's packed with data, charts and pictures. The chapters are divided into the same categories as our classes. So far, we covered Soils, Composting, Plant Propagation, Vegetables, Water Management, Home Orchards, Integrated Pest Management (IPM) and Plant Pathology. Along the way I've learned about basic plant structure, types of soils, and how to identify types of soils. I now understand those numbers on the bags of fertilizer and how to select the best based on the conditions. While I still can't say, evapotranspiration - I now know what it means. Trusting the Home Orchard instructor, Ed Laivo, I came home and cut my Bartlett Pear "at the knee". Likewise, the acronyms BOW, WOW and POW have all new meanings now, thanks to the program. Each week we expand our knowledge with a - Bug Of the Week, Weed Of the Week and Pathogen Of the Week.

We still have Entomology, Weeds and Landscape Trees to go as well as the group presentations. We have paired off into groups to study a specific topic of our choice and then we will share it with the group. This is for the purpose of helping us when we graduate as Master Gardeners and go out into the community and share our new wealth of information. That will be so much fun. But first, I have to pass the test. Wish us luck. 🎤



Soil Testing

CLIMATE CHANGE AND WARMING SOIL

Darrell g.h. Schramm, U.C. Master Gardener Trainee, Solano County

Literally thousands of climate researchers have attested to global suggestion has been to warming and have seconded their conclusion, recently maintaining that cities worldwide have endured often unprecedented heat waves, with February 2024 being the hottest month every recorded, again, worldwide. As we garden and observe growing plants while the earth becomes warmer, it behooves us to be aware of changes in both plants and soil. The leaves of trees and other plants are the lungs of the earth. They absorb carbon dioxide and release oxygen. While it is vitally urgent to decrease carbon in the air in order to reduce global warming, how will carbon remain in the foliage of plants and in the soil if increase in temperature stimulates increase in respiration?

We know that climate change is driven by excessive carbon dioxide (CO₂) in the air. Long-term warming activates dormant soil bacteria and might increase carbon losses of that soil. Furthermore, it has been found that global warming increases diversity of active soil bacteria. Roots release carbon compounds into the soil where they are stored while, in turn, rising temperatures influence how bacteria affect the roots. It seems the warming of soil alters the types of carbon compounds. In addition, microbial activity might increase the release of previously dormant carbon into the air. However, these effects seem to differ with different ecosystems. More simply, to paraphrase Bill McKibben's words, the increase of temperature on our planet also increases the decomposition of its soil.

But the question for gardeners and agriculturists becomes this: How does, or will the loss of carbon in the soil affect plants? Despite recent studies, the implications are largely unknown. Nonetheless, this decomposition of the soil is a major concern, for it is a possible danger to plants. Unfortunately, the mechanisms that control the release of carbon are not fully understood.

Granted, if water and nutrients are adequate, more CO2 will increase plant growth even as it increases droughts, hurricanes, fires, and floods.

This much we now know: Carbon and nitrogen are lost in the soil with long-term temperature increases; on the other hand, plant growth is enhanced. Long-term temperature rise also causes changes in the composition of different plant communities, depending on the different kinds of root systems. Increased temperature over time will change how roots affect bacterial growth, but they certainly will not enhance it.

If, because of global warming, soil is altered to the detriment of plants and humankind, is there anything we can do? One

plant more trees to remove CO2 from the air. However, it is not clear that the soil of our earth contains enough nutrients to plant billions of trees. This is not a political issue. It is a moral issue about the life of plants, of human beings, and of the planet.



Wildfires Affecting the Environment in October 2020 Photo Credit: Melinda Nestlerode, UC Master Gardener; Used With Permission

So what else might we do? Decrease or avoid the use of fossil fuels (coal and gas). Spread the word: alert others. Enlist the help of environmental organizations, Congress persons, and our young people. And garden while you can. Garden with awareness. Garden with care, optimism, eagerness, and joy.

SOURCES

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FABULOUS SPRING FLOWERS

Maureen Clark, U.C. Master Gardener, Solano County



<u>German Iris</u>

The Iris x germanica is also known as the Bearded Iris, German Iris, Common Flag, Rhizomatous Iris. Start looking for the new shoots of green strap leaf foliage coming out of the ground. These rhizomes come in a multitude of different colors and color combinations. Many

Bearded Iris Blue Registered Photo Credit: All Photos in This Article by Maureen Clark, UC Master Gardener; Used With Permission

varieties have fragrant smelling flowers and can rebloom at different times of the year. Spring, late spring or summer.

Plant them 1 foot apart, with the rhizomes slightly below the soil. These plants need good draining soil; if not, they will rot and die. They like full sun. If there are only 2-3 leaves, cut a couple off to encourage more leaves to grow. This will produce lots of flowers. Divide the irises every 2-3 three years in the fall. Some bearded irises do not bloom the first year.

Bearded irises attract butterflies and beneficial pollinator insects. Keep on the lookout for iris borer insect within your irises. This pest overwinters as eggs. In spring they emerge as caterpillars and bore down though the leaves, into the rhizome, where they get fat and create holes. This can cause soft rot and the plants to fail. To help prevent this, look for dark vertical streaks in the leaves; follow the streak down toward the soil and squash the pests. If you see any signs of rot in the rhizome, dig it up and cut out the soft tissue, and replant the good solid parts of the rhizome.

Harlequin Flower

This lovely flower emerges in the spring. It's grass-like foliage comes up in late winter and is followed by the flowers in a couple weeks.

Sparaxis tricolor (common name of Harlequin flower or Wand Flower) is pronounced spa-RAK-iss. It is a native to southern Africa found in disturbed sites, in clay and stony soil in the northwest Cape. They are renosterveld, which is considered to be critically endangered and classes as 100% irreplaceable. It is a corm bulb, monocot, and perennial plant. There are 16 species, and it is in the *Iridaceae* family.

The blossoms are unique because of their yellow centers with a black frame, surrounded by different shades of reds, and oranges. The plant bears 1-5 flowers per stem.

Growing only 10-18 inches tall x 8-12 inches wide, they are super cute, bright and cheerful. They are great to grow in containers with good draining soil, in full -part sun. They like regular water and are easy to grow. I like to cut the flowers and make small bouquets and place them around the house. They will reseed readily. No summer water is best for them. Wait until the leaves go brown, then remove them. I move my containers of dormant plants into a shady area during the summer. Then, I let the winter rains water them and enjoy them the following spring.

In wet habitats in San Francisco, California and Victoria, Australia, they have reported a potential for these plants becoming invasive and are on their watchlist.

In spring, clean out all the brown and yellow leaves around the plant. Scratch a slow-release fertilizer into the soil and water it

in. This will help them bloom and have repeat bloom. The buds on Tall Bearded Iris are spaced at intervals along the stems, and they flower sequentially. Remove spent blooms consistently. After all the flowering has subsided, cut the flower stalks at the base and remove them.



Bearded Iris Registered



Sparaxis Harlequin_Flower Registered

SEEDS FOR THOUGHT- ONLINE EDITION

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I AM GROWING POTATOES! IN POTATO BAGS! COME JOIN ME!

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

Have you ever planted anything in a grow bag? You can find them for sale at nurseries, big box stores, and online in all the usual places. They are available in various sizes (10 gal. bags that are about 18" tall are perfect for potatoes). You can grow veggies, herbs and even flowers in grow bags. They are made of a non-woven man-made fabric that has the feel of stiff, thick felt. It's permeable and BPA-free. Not only does this fabric allow water to drain out, but also to wick into the bag.

I'm growing potatoes in my grow bags. I've set them up on bare soil in my yard, but you can also put them on a concrete patio or balcony or a wood deck. Potatoes need soil to grow in, water, some peat moss to acidify the soil and granularized fertilizer (10 -10-10 should do it), and lots of sunshine. **The positive things about using grow bags are highlighted in bold type, such as you don't have to prepare a growing bed at all**.

If you rent, get your landlord's okay before you set anything up. Because the water that comes out of a grow bag can stain the surface the bag is set up on such as concrete or wood. It can also damage a downstairs neighbor's property wherever the water drips. Check with your landlord and your neighbors before you set things up.

The ten-gallon grow bags usually have two handles to help you move the bag if needed. They also have a flap on the side of the bag that can be sealed with Velcro. You can lift that flap to check the size of the potatoes as they grow and to check the moisture level.



Image by macrovector on Freepik: Authorized Use with Attribution.

The growing medium I mixed for the project is equal parts potting mix and compost, also a sack of peat moss, divided, and a container of granulated balanced fertilizer such as 10-10-10, divided. If you are using brand new products to use in your growing bags you should not have an issue with pests or diseases as you might with old open bags that might have been stored in your garage for years.

Potatoes are picky about watering. From the day of planting make sure to keep the soil moist, but never soggy. Potatoes grow best in well-drained soil. Don't let the soil ever go bone dry either.

Don't expose potatoes to sunlight at any time. If they are exposed to sunlight, they can develop glycoaloid, a toxin that is poisonous. If you notice that parts of the potato skin have turned greenish, it confirms the presence of that toxin. The greenish part of the potato will taste bitter and the glycoaloids can cause acute gastrointestinal symptoms including nausea, vomiting, and diarrhea. Don't eat the greenish portion, just cut it off and throw it away.

Most potatoes have a period of growth of about seventy days. The leaves will turn yellow or brown at the end of the growing cycle and it's time to harvest!

You can buy seed potatoes at a garden center or organic potatoes at the market. Don't buy potatoes at the market unless they are designated as "organic". Potatoes at the market that are not designated organic have been sprayed with a formula to keep them from sprouting. You want the potatoes to sprout when you are growing them.

To prep your potatoes for planting you can "chit" them. Put the potatoes on a flat surface in a cool, well-lit area of your house. Leave them there for a couple of weeks allowing the nubby growths in the depressions (eyes) to lengthen. Make sure the

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growths face upward. "Chitting" will give your potatoes a jump start developing before you plant them. The colder the climate, the more tendency gardeners have to chit their potatoes. To chit or not to chit, the decision is all yours.

If you have decided today is planting day, let's get started! Stand the grow bag up where you plan to do your growing. Fold down a cuff about four inches wide around the top of the bag. Then fold the cuff down several more times to make planting easy.

Add about four to six inches of the soil mixture to the bag and tamp it down. Moisten it, but don't flood the soil with water. I use a watering can and avoid overwatering. Then add one or two handfuls of peat moss and a handful of granular balanced fertilizer such as a 10-10-10. Water lightly again.

I've cut several pieces off a chitted potato into sizes of golf balls. Each of those pieces have one or two eyes and the nubs have grown at least an inch long. Place the pieces in a semi-circle, nubby growths facing up. Add four inches of the soil mixture on top of the potato pieces, then two handfuls of the peat moss and one handful of the fertilizer. Tamp it down gently and water.

Fold the cuff of the bag down so it is about four inches above the soil line. Check the soil moisture daily from the top of the bag and the side flap.

The leaves will eventually grow from the nubs up and over the top of the bag. It's now time to plant the second layer of potatoes. Repeat the planting sequence you used for the first layer. Lay five chitted potato pieces in a semi-circle, nubby growths up. Add four inches of soil mix, two handfuls of peat moss, and one of fertilizer. Tamp it all down, water well, and refold the cuff of the grow bag. Check the moisture level daily.

When a new set of leaves appear, let them grow over the top of the cuff, then plant the final layer of chitted potatoes, soil, peat moss, fertilizer, and water it well. Adjust the leaves over the top of the cuff for the last time. Check the soil moisture every day and add water as needed. You may need to add water in the morning and evening now.

Eventually the leaves will turn brown which signifies that growing has stopped and it's harvest time! Your kids may have been excited when this project started because it was all new and different. The excitement probably disappeared many weeks ago. Try to recharge their interest by helping them tip the grow bag over and dump the contents out on a tarp for sorting.

Spread the soil, potatoes, and vines on the tarp. Remove the potatoes and put them indoors out of the sun. Then remove

the vines and leaves and dispose of that material in your composter or green dumpster. You can add the soil to your composter or compost pile. Or distribute it

in your garden.



Image by jcomp on Freepik; Authorized Use With Attribution.

Rinse off the tarp and the grow bag, let them dry completely before you fold them up for use some other time. Guess what? You just finished cleaning everything up!! Congratulations!

You might try growing some fall flowers to cut and put in a vase in the house. Grow them from seed. Seed packets will provide how deep the seeds should be planted. It can be as little as ¼". I'd like to try mixing several varieties of flower seeds to grow in the garden bag. Possibly for the Thanksgiving table.

The potatoes you have grown will vary in size and can be cooked any way you enjoy them. Store them in a cool, dark, dry cupboard until you are ready to use them.

What have you and the kids learned growing potatoes? Talk to your kids about the process of growing potatoes, the difference in sizes, or possibly the difference in taste and texture if you have planted more than one variety. Doing that on the night you cook and serve the potatoes can be fun. Voting on your favorite variety might be fun too. Would they like to grow potatoes again? Is there another crop they would like to try instead? Someone is bound to say it took way too long to grow silly old potatoes. I think I would give that person the right to decide how to cook the potatoes the following night! *?*

References:

- Gardening Know How, The Complete Guide to Vegetable Gardening, 1/2024, Paperback is available on Amazon.
- <u>The Vegetable Garden Book</u>, by Joe Lamp'l available on Amazon, also can be rented for FREE at Kindle Unlimited. Over 700 pages.

SURVEY OF LANDSCAPE PROFESSIONALS

Joanna Solins, UCANR Environmental Horticulture Advisor Karey Windbiel-Rojas, UCANR Urban Integrated Pest Management (IPM) Advisor



Photo Credit: Photo by Joanna Solins; Used With Permission



Do you hire anyone to work in your home landscape? Do you work as a landscape professional or have friends or neighbors who work in landscaping? We'd greatly appreciate your help in getting the word out about our survey!

As University of California Cooperative Extension advisors in Environmental Horticulture and Urban IPM for Solano County, it's our mission to provide resources, education, and training on best practices for landscape professionals who work in this area. We've developed a survey to help us understand what resources would be most valuable, and now we need to hear from as many landscape professionals as possible: landscape contractors, maintenance gardeners, landscape architects, landscape designers, and any others who provide landscaping, gardening, and irrigation services.

Survey responses will be kept confidential. To express our gratitude for completing the survey, we are offering respondents a fee waiver of up to \$40 to attend a University of California Cooperative Extension class or workshop through 2025. Completing the survey is a great way for landscape professionals to let us know what would be most helpful for their business and to stay informed about opportunities and resources in the future.

Would you be able to share the survey with anyone you know who works in those fields? The survey is available in both English and Spanish at the following link or via the QR codes to the left.

Thanks for your help!

WHAT THE HECK IS "MULCH GLUE"?

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

With all the rain we had in the first half of February, I stayed warm and dry inside at my computer. It turned out to be time well-spent (I hope) looking for the answer to the same old problem we have experienced forever. I've always wondered if there is a way to keep mulch where it belongs, so that it doesn't wash out or wash over whatever I have used to try to keep it where it's supposed to be. Whether it's a matter of heavy rains, human feet, or my dog having a case of the "zoomies" sending mulch flying in every direction, numerous times a year my husband and I sweep or rake up the mulch from the sidewalk, the driveway, and worst of all, the lawn. We have tried a variety of mulching materials including small rocks, little pebbles, large and medium bark, and gorilla grass. None of them have passed the neatness test, not even close.

I let my fingers do the walking a couple of weeks ago and found a group of products called "mulch glue". I started reading the advertising material, the questions addressed to the manufacturers, and comments of people who had tried the products and wanted to let the manufacturers know what they thought of it. I also took my time searching for information from university agriculture schools, testing laboratories, and even Master Gardener newsletters and blogs from all over California.

It seemed like I'd have to rely on product manufacturers, garden writers, and gardeners that had purchased and used the products.

My review was quick. There was nothing about mulch glue at agriculture schools, so I delved into the Master Gardener blogs and newsletters from all over the state and then all over the country. I found nothing.

I Googled "Mulch Glue" and found information from manufacturers, garden writers and customers who had used the product. It seemed that they all knew about mulch glue long before I did. Various mulch glues have been around for quite a while, but I hadn't heard a whisper. So, I started doing my homework.

I found advertising that was almost ten years old about mulch glue. Manufacturers must have thought there was enough interest by home gardeners to spend time and money figuring out what such a product should do and not do and that there were potential buyers for the product. (Continued From Page 9—What the Heck is "Mulch Glue"?)

I'd like to think that their thought process went something like this:

- Users would want something that would be easy to apply, had little or no odor, and didn't attract pets or any critters – no insects, birds, small and large animals, etc.
- 2) If it was a liquid, it should dry quickly, and not be sticky once it dried.
- 3) Clean-up should be minimal.
- 4) It should be invisible.
- 5) It would have to be strong enough to have the mulch material stick together and keep it from washing out, moving down a slope, blowing across a driveway, and wouldn't need to be swept or raked back in place on a regular basis.
- 6) It would have to be versatile and able to bond to sand, pea gravel, pebbles, gorilla grass, various sizes of ground wood or pieces of wood products like bark that over time degraded, and to landscape fabric also.
- 7) It shouldn't be harmful to plants, humans, or pets.
- 8) It should be strong enough to last for a reasonable length of time for a potential customer to consider buying it, using it, and becoming an advocate of the product, plus a repeat customer.

The product comes in spray cans, premixed containers of various sizes, and as a powder, ready to mix, usually with water. It can be applied with a paint brush, or by a pump sprayer for landscape applications.

The drying time of the mulch glue you use will vary depending on the weather and the materials it's to cover. Some products claim to dry in several hours and others recommend allowing the treated area to dry for several days.

So, has it rained within the last week or two? Is the soil where you plan to apply it still damp four to six inches below the surface? Any moisture you feel will be trapped beneath the glue you apply causing a whitish film to develop. Plan your application for a warm, dry afternoon. Don't apply it in the

morning when the dew has not dried. Don't water the area for several days after application.

Once you have mixed the product, be sure to use it all. The shelf life is brief if you mix it yourself and if the thermometer goes down to freezing, the mixed product should be disposed because it will no longer adhere.



Example of a Slope Which Would Benefit from Mulch Glue Photo Credit: Photo by Melinda Nestlerode, UC Master Gardener; Used With Permission

Please be sure to read the most current articles on the product. I literally found that the material was updated between my first reading and my second one. They were dated ONE DAY APART! THE MORE YOU READ, THE MORE YOU KNOW!

If you plan to purchase a commercial mulch glue, consider the materials you plan to use it on before you buy. Some work better on wood, others on pebbles, etc.

If you are a gung-ho DIY-er, there are numerous recipes to make your own mulch glue on the Internet, the list of ingredients is short and for the most part you probably have at home!

I NEVER FOUND MULCH GLUE ON A STORE SHELF! Try Amazon or a big box store to have it shipped to you.

Sources On the Web:

- What Is Mulch Glue...,Mulch University, John Stones, 5/31/23, www.mulchgardener.com
- The Best Mulch Glues to Revolutionize Your Gardening, by Old House Journal Review Team, 7/19/23, www.oldhouseonline.com.



FUN WITH SEED STARTERS

Nanelle Jones-Sullivan, U.C. Master Gardener, Solano County

If you have thought about starting your own vegetable seedlings, you have probably also thought about what you can grow your seedlings in. You can start seeds in almost any container that has drainage holes. There are many DIY and upcycling ideas available on the internet! I will include some links below.

There is much to learn online if you are diligent about choosing your sources. The following should prove to be a reliable source about the pros and cons of commercially available products.

The most basic option is "**soil blocking**," or molding seed starting mix into a block. As with about every idea on this list, you will need a container that drains, as well as one that does not, to hold a container and water. The good news is you will not need to deal with a lot of smaller containers, but you will need seed starting mix, the "soil blocker", some elbow grease, and a bit of practice.

Other commercially available products differ in the materials they are made of, how water is added and drained, and various helpful options.

Sometimes referred to as "**1020**" **trays**, a 20" ×11" x 2-inch-deep tray without holes is typically used to hold smaller containers, for bottom watering, and to catch runoff during and after watering. They are usually black plastic, and will accommodate "**flats**," or "**plug trays**."

"Flats" have no partitions and are useful for sowing tiny seeds and easy-to-transplant seed, with seedlings that can then be "pricked out" and moved on to something larger when big enough to handle. "Flats" make good use of a small space during the first stage of growth, but you will soon need a plan for the next stage.

"**Plug trays**" have "cells" which come in a variety of sizes. They minimize root disturbance, and some seedlings can go from the tray to their final growing positions. Cells are usually described using numbers from about 32 to 288. The higher the number, the more cells in a single tray, and the smaller each individual cell will be. The 20"x 11" tray will hold thirty-two large cells, or two hundred eighty-eight tiny ones.

In addition to the basic options, home garden and farm catalogs advertise many options which profess to be improvements:

• Smaller trays that accommodate fewer cells that fit in smaller spaces, or along



a windowsill.

3.5 inch deep "root trainer" cells that open like a book, providing the ability to monitor soil conditions and root growth without disturbing the seedlings, and allowing for easier extraction. They can be expensive and difficult to



Photo Credit: All Photos in This Article by Nanelle Jones-Sullivan, UC Master Gardener; Used With Permission

source, and I found the plants difficult to extract, but they seem to be thriving!

- Silicone trays that can be washed in the dishwasher, and "won't snap, crack, or break from use." On Amazon they cost \$12.99 for a two-pack of twelve cells each, compared to \$49.49 for a 30 pack of similarly sized trays labeled "180 cells".
- Protection from under watering and drying out with "self-watering trays," capillary mats and other "wicks,"
 reservoirs, and humidity domes. The mats need to be monitored for even moisture, are tricky to re-moisten if you

let them dry out, and can become tangled with roots.

 Limited root disturbance by offering cells from which seedlings that will "pop out" when lifted by fabric capillary strips, or



with planting cells that double as seedling ejector when pushed through the bottom. For the ejectors to be helpful, all seedlings must be ready to pop out at the same time.

Protection from overwatering and associated problems like mold, mildew, damping off, and fungus gnats by



using Styrofoam cells that float on water. These use polymer based "plugs" or medium rather than teed starting mix. While they are neat, and easy to handle, they are not usually re-usable, and take years to break down when composted. (Continued From Page 11—Fun With Seed Starters)

- cells that are tapered, and have open bottoms.
- Keeping roots warmer without heating mats by offering bases made of insulating high density polystyrene.



"Air pruning" to prevent root binding or circling roots, with So, there you have it! Make sure you learn what you can about seed starting, and then if you have not already, get out there and start some seeds! 🥕

- Resources: Starting From Seed with UC ANR The Backyard Gardener; https:// ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=13141
- "Double-Cup" method for growing pepper seedlings; https://
- www.86peppers.com/how-to-grow-hot-peppers/double-cup-method
- Biodegradable paper mâché seedling pots; https:// lifessimpleingredient.com/paper-mache-seedling-pots/
- Soil Blocking; https://ucanr.edu/blogs/blogcore/postdetail.cfm? postnum=55473&sharing=yes

TRIALED AND TRUE MODERN ROSES

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

Modern Roses are roses that existed on or after 1867 when the first hybrid tea rose 'La France' was introduced to the world. The public fell in love with Modern Roses instantly because they give large showy flowers, and provide vast choices of amazing colors and shapes. In addition, unlike Old Garden Roses, many Modern Roses bloom repeatedly. All of these wonderful characteristics are very much appreciated.



ARTS Site Located at the University of California Cooperative Extension (UCCE) San Joaquin, Stockton, CA Photo Credit: All Photos in This Article by Spring Tseng, UC Master Gardener, Used With Permission

Rose fans continue to support the rose industry that feeds the market with

ever expanding varieties of roses. There are currently more than 40,000 registered Modern Roses worldwide. Some roses grow well in home gardens while some don't. This pushes the rose hybridizers to work even harder to find that ideal rose.

Have you been wondering why your roses don't perform optimally? Have you suffered from misunderstanding your roses? How do you pick a rose for your garden that promises to be disease-resistant, tolerates your negligence, and gives you beautiful blooms year after year? The American Rose Trial for Sustainability (ARTS) comes to answer your call.

About ARTS -

The ARTS is a non-profit organization. It was founded in 2012 with a mission to identify roses that thrive with minimum care based on your climate. They use the Köppen Climate Classification (KCC) as their guide to determine your climate zone. The KCC is based on temperature and precipitation pattern of a region and it is a worldwide recognized method by ecologists.

example, a majority of north-west California falls into the 'Mediterranean' zone, Tahoe and the Sierra Mountain area is in the 'Highland' zone, and the San Diego area belongs to the 'Midlatitude Desert' zone.

The ARTS kicked off its nationwide trial in 2014, with the first batch of roses planted in the spring of 2015. At each trial site, the ARTS intentionally plant a couple rose varieties for benchmarks. They are 'Sunrise Sunset', a pink blend shrub rose, and 'Double Knock Out', a red shrub rose.

Roses entered into the Trial were submitted by growers or hybridizers, with confidence. These roses were not yet available in the market at the time, but they were ready for scrutiny. The roses went through a 2-year period of evaluation. During this time, no synthetic chemicals or fertilizers were applied, and no deadheading or thinning was performed. The performance of these roses was evaluated monthly, based on the protocol; data was collected and analyzed.



Pale Yellow Rose With a Touch of Pink on the Edge of Petals, ARTS Trial ID: "BLOCK 2, 2020 D'

from the ARTS website.

In May of 2017, the first group of ARTS winners, the 'Artist's', were announced. If a rose was recognized as an 'Artist' from 3 or more climate zones, then the rose is crowned as a 'Master Rose'. So far, 38 variety of roses have proved their worth in the Mediterranean climate zone. And of these 38 roses, 5 were 'Master Roses'. These roses are available in the market now! They are: 'Blushing Knockout', 'Icecap', 'Peachy Knock Out', 'Pink Freedom', and 'True Passion'. A complete list of 'Artist's' is available

(Continued From Page 12-Trialed and True Modern Roses)

Where Are the ARTS Trial Sites in California? -

The ARTS have established three trial sites in California. The Fullerton Arboretum in the Los Angeles area is still active, while the Descanso Garden and University of California Cooperative Extension (UCCE) San Joaquin have fulfilled their commitment and bowed out.



Visiting the UCCE trial site at Stockton brought me mixed feelings; mostly thankful, with some sadness. The trial site is located next to a public road with an Amazon warehouse nearby. The roadside trees are all leaning toward one direction perhaps due to strong wind in the area. This site has approximately 120 rose plants. The site has been, and is still

Red Rose With Cup-Shaped Petals, ARTS Trial ID: "BLOCK 2, 2020 F"

maintained by a group of dedicated UC Master Gardeners. Each Master Gardener is responsible for 10 rose plants. Month after month, they check the roses and take notes, for the love of roses, the love of their community, and the love of science. Many roses planted in 2018 are already on the market. These roses have the commercial names labeled next to them, such as: 'Elaine Page' (Block 1, 2018-11), 'Chi' (Block 1, 2018-04), 'Bay Cottage', and 'Sweet Mademoiselle'. All of them, I know for sure, are champion roses.

Why Köppen? -

The short answer is: It is a common language among the international rose community.

So, what happens to our USDA Plant Hardiness Zone? What happens to the 'Sunset' growing zone? And what happens to the old Farmers' Almanac? You should feel comfortable continuing the use of USDA zone, the Sunset zone and so forth to guide your gardening activities. When you think far, like talking to your friend in Germany or in Sydney, then the KCC should come to play. It is also very useful for rose growers to market their roses worldwide.

Why ARTS? -

The AARS (All-America Rose Selections) completed its 73-year run (1940-2013), and identified many outstanding roses for home gardeners. It was replaced by AGRS (American Garden Rose Selections) in 2016, which conducted trials in six different geographical regions in the US for the purpose of finding that great rose for your backyard. The ARTS comes in last, with a more refined climate definition. A winner in ARTS means it is recommended globally for a region that shares the same climate zone.

Micro Climate -

In the Bay Area, due to our complex topography (ocean, bay, mountain, valley), people are quite familiar to the phrase: "micro climate". It is not a surprise if your front yard may very likely have a different growing environment compared to your backyard! So, a gardener needs to study their garden before they put sweat and money into work.

Additional Guidance -

What if you don't have any of the 38 winning roses? No worries. There are probably more than a few hundred new rose varieties hybridized each year, only very few of them (since 2015) were chosen to enter into the Trial. Hence, before you make a purchase, it is recommended to use the booklet "2024 American Rose Society Handbook for SELECTING ROSES" for guidance. This booklet lists over 3,000 varieties of roses, and each one receives a numeric performance rating. For example, a



Creamy Very Double Rose, ARTS Trial ID: "BLOCK 2, 2020 H". This Rose Seems to Have a "Weak" Neck

"Best of the roses ever" rose receives a rating of 9.3-10; an "outstanding rose" receives a rating of 8.8-9.2. Any rose with a rating below 6.1 falls in the "Not recommended" category.

Now you might ask: "What are the ratings of those benchmark roses 'Sunrise Sunset' and 'Double Knock Out', respectively?" Well, the 'Sunrise Sunset' receives a rating of 8.2, and the 'Double Knock Out' receives a rating of 8.1. Both were awarded ARTS 'Artist'.

What's My Choice of Roses? -

As a Master Gardener, I value plants that are more environmentally friendly. Of the 38 ARTS winners for our climate zone (Mediterranean), 15 of them (a lot!) have stamens exposed when a flower is semi open. These flowers invite beneficial insects like honey bees. Therefore, they are on my top to-go list. Of these 15 roses, 4 of them are also "Master Roses": 'Blushing Knockout', 'Icecap', 'Peachy Knockout', and 'Pink Freedom'. The first three roses are available from Star Roses, and the last one is available from Weeks Roses.

Conclusion -

Roses, because of their beauty, brought fun, light, and smiles to the world. We need more roses and we need roses that are not only beautiful but also sustainable. Thanks to the scientists, thanks to the volunteers, I hope you find that Trialed and True dream rose.

HERE'S WHERE TO FIND OUR UCCE MASTER GARDENERS THIS SPRING

By Ruth Clawson, U.C. Master Gardener, Solano County Follow our SOCIAL MEDIA ACCOUNTS on Instagram



(ucmastergardenerssolano) and Facebook (UCCE Master Gardeners of

<u>Solano County</u>) to see what we are up to and to get local gardening tips! This is an easy way to stay up to date on all of our events and opportunities!

https://www.instagram.com/ucmastergardenerssolano https://www.facebook.com/solanogardeners

AT OUR OFFICE (501 TEXAS STREET, FAIRFIELD) WE HAVE THESE GREAT WORKSHOPS COMING UP:

APRIL 20th, 9am to 12pm SPRING PLANT EXCHANGE

Don't miss this free event. Bring plants, cutting, and seeds to share, and enjoy choosing some new ones to take home. Or just come and find something you'd love to try. We always have a beautiful and plentiful collection to choose from! Garden tools, decor, and gardening books or magazines are also welcome. Please, no diseased, spiky, or extra large

MAY 25th. 9am BUTTERFLIES WORKSHOP

Learn all about butterflies with Master Gardeners Jeanine and Dave. How do you support and welcome more of these beneficial insects to your garden? Come find out

Dunnell Nature Park Monthly Talks are on the second Saturday of each month at 9:00am. You'll find Master Gardeners sharing great information there–3351 Hillridge Drive, Fairfield. Upcoming talk topics include:

- **MAY 11th- Amazing Bees** with Jan and Shari, 9:00 am. This will be an introduction to the broad array of native and non-native bees living here in Solano County, with suggestions on how you can help our bee population to thrive!
- **JUNE 8th- House Plants** with Jan and Diane, 9:00 am. Improve your home environment with houseplants! Learn how to choose the right plant, the mystical properties of watering, what pests you may encounter, and more!
- JULY 13th- Gardening for Fire Safety, 9:00am. Join Maureen and Jenni to find out how you can make your yard and property fire-safe.

Vacaville Library Talks:

Stop by the Vacaville Library, 1020 Ulatis Drive, on the Third Thursday of each month, 6-7pm, for an interesting gardening discussion. Deb Gordon and Christina Ruark will be presenting on the following topics:

- **APRIL 18th-WEEDS,** 6-7pm. What is a weed? What are common weeds in our area? What are the best resources and best abatement practices in our area? Come find out, do some hands on identification, and play Weed Bingo!
- MAY 16th-IT'S HOT! –SURVIVING THE HOT WEATHER, 6-7pm. This talk will examine preparing your garden for hot weather, irrigation needs and types, seasonal changes for North, South, East, and West, providing temporary shelter from wind, and taking care of yourself in the heat too. Get ready for summer!
- JUNE 20th-WORMS, 6-7pm. Who are they? What do they do? Why would you want them? What's worm composting? Bring a shoebox and take home your starter worm composting bin. (You must RSVP that you'll participate in the shoebox activity to <u>rehabnurse@sbcglobal.net</u> so she'll have enough worms.)
- JULY 18th-SHADE GARDENING, 6-7pm What are the different types of shade? What grows in shade? Learn all about these including indirect lighting and sun sources.

OUR POLLINATOR PATHWAY

is filling up with Spring blossoms! Come take a look. The **UCCE Master Gardeners of Solano County Office** is located at 501 Texas Street, Fairfield, and our Pollinator Pathway runs through our parking lot and is accessible at any time.

Same and

HERE'S WHERE TO FIND OUR UCCE MASTER GARDENERS THIS SPRING, CONTINUED...

AS ALWAYS, WE WILL SEE YOU AT:	STOP BY ANYTIME:	
The Farmer's Market in Vallejo is every Saturday from 9am to 2pm. The Market is located at 400 Georgia Street. This is a year-round market. Bring your gardening questions to our experienced Master Gardener's table.	<u>Children's Garden</u> 275 Beck Avenue, Fairfield, CA, 94533 Master Gardener's work monthly at the Children's Memorial Garden, This might be a great place to visit or to stop by for some gardening inspiration.	
The UCCE Master Gardeners of Solano County Office is located at 501 Texas Street, Fairfield. Hours: M-F, 9 am until 4 pm, closed 12-1 pm for lunch. For more gardening and event information, visit our website <u>https://solanomg.ucanr.edu/</u> . UC Master Gardeners staff a Helpline serving Solano County which is available 24 hours a day, 7 days	The Sensory GardenBehind Fairfield Civic Center LibraryDrop by The Sensory Garden anytime at 1150Kentucky Street near the Civic Centerpond. Teresa coordinates gardening effortshere. There are an abundance of interestingplants to see, touch, and smell!The Willis Jepson Memorial Native	
a week. Call 707-784-1322 or email:	<u>Garden</u> is at 4699 Pena Adobe Road in Pena Adobe Park, Vacaville. Master Gardeners have undertaken a significant renovation and included many native plants. Plants include signage with OR codes connecting you to the Calscape website <u>https://</u> <u>calscape.org/</u>	
2024 LALLEJC	It's Hot!	
CARD MAY 19 TH	Gardens and Hot Weather Survival A free talk by UCCE Master Gardeners-Solano May 16, 2024, 6-7pm Vacaville Cultural Center Library	
	Home Depot, Fairfield	
ALLABOUT VICE 20, 2024 6-7PM VACAVILE LIBRARY, 1020 ULAIS DRIVE VACAVILE LIBRARY, 1020 ULAIS DRIVE Gardeners will be there we resources from 10-2, ev	igh October 5th, Master Gardeners return to Home Drive in Fairfield. Betty Victor and other Master vith their knowledge and lots of helpful very Saturday. Bring your questions!	



SPRING GARDENING GUIDE



	APRIL	МАҮ	JUNE
P L A N T I N G	 Edibles: Loose-leaf lettuce, culinary herbs, chard, carrots, radishes, spinach, sorrel Warm-season annuals: Ageratum, alyssum, bedding dahlias, impatiens, lobelia, petunia, phlox, portulaca, salvia, sunflower, zinnia Perennials: Ceanothus, lavender, coreopsis, penstemon, rudbeckia, dwarf plumbago, scabiosa, verbena 	 Edibles: Beans, corn, cucumbers, eggplant, melons, okra, peppers, pumpkins, squash, tomatoes, watermelon Butterfly, bee and hummingbird attractions: agastache, alstroemeria, bee balm, coneflower, coral bells, fuchsia, honeysuckle, penstemon, salvia Plant chrysanthemums for fall color Perennial shrubs, trees or vines Loose roots of pot bound nursery plants before planting in the garden 	 Edibles: Melon, beans and corn from seed; tomato, squash and cucumber seedlings Successive plantings of basil and cilantro Summer annuals: Cosmos, marigolds, portulaca, sunflowers, zinnias Summer-blooming perennials: Daylilies, gloriosa daisy, Russian sage, salvia, yarrow
M A I N T E N A N C E	 Control weeds—pull or hoe them as soon as they appear Fertilize and clean up around azaleas, camellias, and rhododendrons Fertilize citrus Tune up motor, and sharpen blades on lawn mower. Mow often enough that you cut no more than 1/3 the length of the grass blade in any one session Spray olives, liquidambar, and other messy trees with fruit control hormone or blast with hose to curb fruit production 	 Aerate and fertilize lawns Fertilize citrus and established perennials and vegetables Deadhead spent flowers to encourage new bloom; pinch back petunias and fuchsia Allow spring bulb foliage to yellow and dry out before removing 	 Roses: Cut back faded blooms to 1/4" above first five leaflet that faces outside bush Fruit trees: Thin apples, pears, peaches, and nectarines, leaving about 6" between fruit Sprinklers: Summer heat increases water needs by 2" per week. Adjust sprinklers for adequate coverage and irrigation Fertilize annual flowers, vegetables, lawns and roses Dig and divide crowded bulbs; allow to dry before replanting
P R E V E N T I O N	 Bait for snails and slugs, following all product instructions Rid new growth of aphids with a blast from the hose every few days Dump standing water to slow mosquito breeding 	 Tune up drip irrigation systems Build basins around the bases of shrubs and trees; mulch those and garden plants to conserve moisture and reduce weeds, leaving a mulch-free margin around plant crowns and stems Stake tomatoes and perennials Remain vigilant against snails, slugs and aphids 	 Mulch to keep roots cool and to retain moisture Check underside of tomato leaves for hornworms Spray roses with Neem oil to help control aphids, black spot, whiteflies, and powdery mildew Inspect garden for earwigs Remain vigilant against snails and slugs

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ennifer M. Baumbach Master Gardener Program Coordinator

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