

Tiny Checkerspot, a seasonal butterfly, at Rincon Heights Community Garden

Organic Gardening Community Quarterly

October -- December 2018

INTRODUCTION:

Fall has arrived at

last! We have made it through the long hot summer but some of our plants have not. It is cooler now and the fall plant sales and fiestas have started. It's time to plant our vegetable gardens, wildflowers, trees and other landscaping plants. Yay!



Tucson Organic Gardeners

Our mission is to promote sustainable gardening and composting in the Tucson community through meetings, lectures, and publications.
TucsonOrganicGardeners.org



Rita Gardens

Focused on developing a healthier, connected community through gardening and gardening related activities. WeLoveToGrow.org



Community Gardens of Tucson

Our mission is to create and support accessible community gardens with Tucsonans of diverse experience levels, abilities and cultures in order to educate, foster wellness and enhance the environment for people, plants and pollinators.

CommunityGardensofTucson.org

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PLANTING GUIDE

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Above chart excerpted from the Community Gardens of Tucson Planting Guide: /www.communitygardensoftucson.org/planting-guide/

Tucson Organic Gardeners Planting Guide: http://www.tucsonorganicgardeners.org/wp-content/uploads/2016/05/TOG_Planting_Guide.pdf

OUR CONTRIBUTORS

Melody Peters has been gardening in Tucson for 38 years. Most of that time she has been planting native wildflowers, shrubs and trees, but once she joined Tucson Organic Gardeners she started seriously growing vegetables and fruit. She is coordinator of Rincon Heights Community Garden, an independent garden located just south of the University of Arizona main campus.

Elizabeth Smith is a 2nd generation Tucsonan who's only a few generations removed from Irish potato farmers so she has growing in her blood. She has been digging in our desert soils for almost 45 years and one of her first gardens was a plot of cotton in her backyard at age 8. The late George Brookbank became her mentor while she was in college, where she learned from his extensive knowledge of growing in dry, hot climates. Since then she has added new (and old) methods of growing to her repertoire such as organic cultivation, permaculture, rainwater conservation, vermiculture and harvesting native foods. Elizabeth is a former Chef and the founder of WeLoveToGrow.org a non-profit focusing on teaching people how to grow in our challenging climate as well as subjects like preparing and cooking foods from the garden and the desert, canning, soap making, vermiculture and more.

Jessica Paul is a third generation Tucsonan whose love of gardening started when she was a little girl helping her grandmother in the garden. Jessica has been the Garden Technician for the Community Gardens of Tucson for almost three years and has recently been promoted to Gardens Manager. Whether she is fixing leaks, building fences or raised beds, leading volunteers and interns, working with community partners, or teaching classes to children, she facilitates the functioning of the gardens with enthusiasm and joy. If you have a need in the garden, Jessica does her best to fulfill it.

Sariya Kanning is a freelance writer, birdwatcher, visual artist and flute player. She has written articles for Edible Baja and she teaches various techniques such as silk painting, watercolor and drawing. She volunteers with the Audubon Society.

Chef Harry Crane is a retired Executive Chef for the Kraft Heinz Company where he managed a number of areas including the Foodservice Culinary Team and finally the test kitchens at Kraft's Oscar Mayer Company in Madison Wisconsin. Prior to joining Kraft, Harry was a chef in one of the Chicago area's top French restaurants and was a chef instructor at The School of Culinary Arts at Kendall College. Harry is a member of the American Culinary Federation and a member and past president of the Research Chefs Association. Harry spends much of his time cooking for himself, his wife Andrea and their friends. In his spare time, Harry is the CGT coordinator for the Sunrise Elementary School Garden and is working with the Friends of Tucson's Birthplace to establish a foodservice kitchen at the Mission Garden.

Nishaan Ponnuru is pursuing a doctorate in Education at the University of Arizona. She has an abiding interest in organic gardening and farming, is an active gardener and committee member at Rincon Heights Community Garden, and enjoys getting to know the plants, birds and other wild-life while gardening and hiking.

Erika Mitnik & Emily Rockey are employed by Tank's Green Stuff, a locally owned company that produces certified organic compost, fine composted mulch and wood chip mulch from green landscape debris that would otherwise be wasted. Tank's compost is a rich, organic soil amendment approved by Organic Materials Review Institute (OMRI), and adheres to the US Composting Council's Seal of Testing Assurance program, ensuring that it is the highest quality available. Tank's Green Stuff products are a great choice for People, Plants and Planet!

MULCH MUCH?

By Erika Mitnik & Emily Rockey

Are your plants feeling underdressed? Maybe you take the best care of your garden; digging deeply, using good soil, adding nutrients, and providing ample water. But have you left your plants topless? For several reasons, a good top dressing of mulch is the final layer your plants need to truly thrive.

In nature, it is common to see fallen leaves forming a soft deposit of mulch at the base of trees and plants. This supply of organic material provides many benefits. First and foremost, the debris is the plant's way of recycling its nutrients. It will naturally decompose and become compost, and part of the cycle again. Mulch also acts as barrier to weed growth. When mulch is present, weed seeds that might be dormant in the



Small and large woodchip mulch.

soil are deprived of the light they need to grow. Naked soil is a good place for new weed seeds to take root, so covering bare spots with mulch deprives potential new weeds of a landing spot. A top dressing also makes the area look more attractive overall.

In all climates and especially in the desert, mulch is invaluable for its ability to help conserve water. By providing a buffer, mulch reduces water loss due to evaporation from the soil surface, greatly diminishing water needs. The soil retains water and potentially lowers total water usage, making the proper use of mulch an indispensable aid to desert gardening. Mulch also helps moderate soil temperature by acting as an insulator. It is the "thermal jacket" that plants need to keep soil warm in the winter, and to regulate temperature during the hot summer. Two to three inches (or more) of a good quality mulch can make a difference of 10 degrees or more in the soil temperature. During the rainy monsoon season, mulch minimizes erosion and slows water to protect the soil from washing away. When organic materials are used as mulch, additional nutrients are provided to the soil as the mulch breaks down over time.

Even if not organic in nature, any material can serve as mulch; so long as it is lying on top of the soil, it is acting as a mulch. Many inorganic materials are widely used as mulch. Some types of inorganic mulch include glass, rocks, gravel, plastic sheeting, landscape fabric and rubber mulch. Carpet, cardboard, newspaper, shredded paper, burlap and even bottle corks have been employed as mulch. These materials can be effective for inhibiting weed growth, but lack many of the additional benefits of organic mulch materials and cannot provide additional nutrients to soil and plants.

Wood chip mulch is very common in Southern Arizona and is an attractive option for top dressing plants. Wood mulch has an advantage in that it is a relatively heavy material and tends to stay in place. For this reason, wood chip mulch is a great groundcover around trees and shrubs. A chunky wood chip is long lasting and slow to decay but as it eventually decomposes, it can release additional nutrients into the soil. Wood chip mulch is frequently used for water harvesting basins as a beneficial material to decrease erosion and evaporation. Wood chip mulch is frequently used on playgrounds to reduce dust and create a soft landing space.

Composted mulch and finished compost are also excellent options. Composted mulch is made from organic materials that have gone partially through the composting process, thus eliminating weed seeds and jumpstarting the decomposition process.



Fine composted mulch works well for vegetable and flower beds.

Fully finished compost is more nutrient-rich and is an excellent soil amendment, though when spread on top of the soil it serves as a "mulch". (Technically, "mulch" describes that which sits on *top* of the soil, and finished compost is turned *into* the soil.) Composted mulch has lighter, smaller particles and will continue break down to add nutrients to the soil more quickly, but as a lighter material it is more likely to blow away than woody mulch. Both materials are well suited to provide a beneficial layer of mulch in vegetable and flower beds.

Finding mulch is as easy as applying it. Mulch can be made at home from extra landscape trimmings. Leftover leaves, straw, or grass clippings that may be found in the yard can all be used as mulch. With grass clippings however, it is important that the clippings be free of pesticides and other chemicals if you use organic practices. Alfalfa is another organic material that acts as an excellent mulch for veggie beds and provides nitrogen. Mulch products can also be found at most hardware stores and garden centers. Choosing and applying mulch one of many tools to achieve garden success. Mulch well, and take your garden beds from stressed to best-dressed.

FALL COMFORT FOODS

By Harry Crane

I have always enjoyed cooking seasonally with the freshest products. Fall makes me think of comfort foods and especially thick, satisfying soups. Even though it may still be hot in Tucson, I can't escape my Mid-Western cooking habits.

When I was a beginning culinary student we learned to make many soups thickened with a traditional roux, other starches, egg yolks or heavy cream. When I was a practicing chef, the culinary world was making the transition away from these classic techniques to thickening with a puree of the main ingredient.

One of my favorite fall products was and still is butternut squash. It is easy to grow, has a good nutrition profile containing vitamins and minerals, and stores for a long time. Through trial and error, I gradually evolved into making the attached recipe. This version relies on a small number of ingredients and the pureed squash thickens the soup. It works equally well made with a good vegetable stock. The bacon garnish is obviously optional.

In my fine-dining restaurant setting we would plus up the soup with sautéed corn. The corn was sautéed in butter with salt and pepper and placed in a mound in a soup bowl. Our waiters would serve the bowl and then pour the soup over the corn at the table. A little sour cream, chive and bacon were added as a finishing touch.

Butternut Squash Soup

Prep Time: 10 min. | Total Time: 1 hour | Makes: 4 servings.

What You Need!

- 1 Tbsp. canola oil
- 1 onion, chopped
- 2 cloves garlic, sliced
- 1 butternut squash (1-1/2 lb.), peeled, seeded and chopped
- 1 qt. (4 cups) chicken stock, fat removed
- 1 Tbsp. brown sugar
- 1/2 tsp. salt
- 1/2 tsp. white pepper Dash curry powder
 - 1 Bay leaf
 - 2 Tbsp. plain yogurt or sour cream
 - 1 Tbsp. chopped fresh chives and/or crumbled bacon



Make It!

HEAT oil in large saucepan on medium-high heat. Add onions and garlic; cook and stir 5 to 6 min. or until onions are crisp-tender.

ADD next 7 ingredients; stir. Bring to boil; simmer on medium-low heat 30 min. or until squash is tender. Remove bay leaf and add, in batches if necessary, to food processor; process until pureed (or use an immersion blender in the pan). Return to pan; cook 10 min. or until heated through, stirring occasionally. Remove from heat.

LADLE into 4 soup bowls; top with yogurt/sour cream and chives/crumbled bacon.



Growing Tip: To save space, try growing your squash on an arbor

PURSLANE, INDIAN STYLE

Dear reader, my name is Nishaan; I am from India and I spent most of my life in a semi-rural part of the country. I would like to share with you a couple Indian Purslane recipes that I learned from my grandmother and have been able to prepare myself while growing up in rural India. As a child, I remember seeing purslane everywhere in gardens and open fields. My grandmother would tell me delightful stories about how, back in the day, she and her other female family members would go out into the fields and harvest the weed to use in cooking a meal for their family. I grieve that I never got to go foraging with her as she stopped doing that years before I was born. (The commons, or land belonging to the community, from which she foraged has over the years became a commodity – as is the case with many other commons shared by the different peoples of the world).

My grandmother slowly became accustomed to buying purslane from the local village women who came to our town on given days. Adeptly balancing fragile looking bamboo baskets on their heads, they pass by all the houses in the neighborhood, hollering out the names of all the green vegetables and herbs they have for sale that day. As you are reading this, the vendor women from the villages must be visiting my home town yelling out to my grandmother and other "towners," cajoling them with their cries to come out and buy their produce. This vendor culture is now dwindling due to the changing economic and sociocultural landscape. I'd like to think that this is for the good of those women vendors although it is definitely bad news for people-purslane relationship, unless everyone starts to grow purslane in their backyards once again. Anyway, here are some purslane recipes. Being Indian, it goes without saying that measurements in recipes are not my cup of tea and moreover these are very simple recipes that you can safely try without causing a disaster.

Purslane Dal

Ingredients for 2 servings:

- 1 cup lentils
- 2 cups purslane
- 1-inch ginger (diced)
- 1/2 Onion diced into cubes or thin slices
- 2-3 cloves of garlic cut into half
- 1 tsp cumin seeds
- 1 tsp mustard seeds
- salt and cayenne powder to taste
- ½ tsp turmeric powder
- ½ or 1 cup chopped cilantro
- 1 tsp tamarind paste

Cooking procedure:

Harvest purslane and wash it thoroughly and chop it into 1 1/2 to 2 inch pieces and keep it aside. Cook lentils, separately until there are mushy. Add chopped purslane after the lentils are half-cooked. You can also mash the lentil-purslane mixture with the back of a ladle once it looks cooked if you would like a rather smooth texture or leave it as is for a grainy dal. For seasoning, heat some oil in a pan. Once the oil is hot, add cumin and mustard. Then add onion and once the onion becomes translucent, add ginger, garlic, and turmeric. Now add the lentil-purslane mixture to this and add water to get desired consistency. Add salt, cayenne pepper, and tamarind paste and cook it for a few more minutes.

Purslane Stir-Fry

Ingredients:

½ onion diced

2 cups chopped purslane

1 tsp cumin seeds

1 tsp mustard seeds

1-inch ginger (diced)

2 cloves of garlic (crushed)

salt and cayenne pepper to taste

½ tsp turmeric powder

Cooking procedure:

In a pan heat some oil for seasoning. Add cumin, mustard once the oil is hot. Add onion and sauté it until it becomes translucent. Add ginger and garlic into the pan and sauté for 2 minutes. Add turmeric powder and chopped purslane and cook it for 10 minutes. Add cayenne pepper and salt to taste. This goes really well with rice (or quinoa).



I hope you enjoy these recipes!



Vermillion Flycatchers in the Garden

Artwork and text by Saraiya Kanning

Gardens that use local plant species and mimic desert landscape will also attract Sonoran Desert birds. These are birds adapted to survive months of high heat and drought. They bring beauty and diversity to a garden while keeping insects in check. Though any garden will attract birds, non-native plants give some invasive avian species the upper hand. For example, oleanders and palm trees attract flocks of breeding House Sparrows, whose overwhelming presence may chase away other birdlife and decrease biodiversity. Native plant gardens are invaluable as urban sanctuaries for species that are otherwise pushed out by development, such as Canyon Towhees. Consider planting local plant species in your garden to provide feeding and rest stations for such seasonal species as orioles and hummingbirds and for more resident characters such as flycatchers, gnatcatchers, towhees, quail, and more.

Vermillion Flycatchers are a common species of southeast Arizona with a range throughout Mexico. They are among the brightest of species in the flycatcher family. The males are a brilliant ball of red, while females are a tan-brown with a faint wash of pink. Flycatchers are easily identified by behavior: they pick a favorite perch, fly out to catch insects, and return immediately to the same perch, repeating this routine. Vermillion Flycatchers can be found in most community gardens around Tucson and can be attracted to a garden by providing posts for perching (even a piece of old rebar will do) and a small birdbath. They prefer some open park-like features over areas crowded with close vegetation.

More of Saraiya's artwork can be seen on her Facebook page: https://www.facebook.com/pg/RaebirdArtCreations/photos/?ref=page_internal





A proud part of the City of Tucson

Do you belong to a Community Garden within the City of Tucson?

Tucson Water now offers a discounted water rate for qualifying community gardens.

For more information, an FAQ, and application form, visit tucsonaz.gov/water/garden

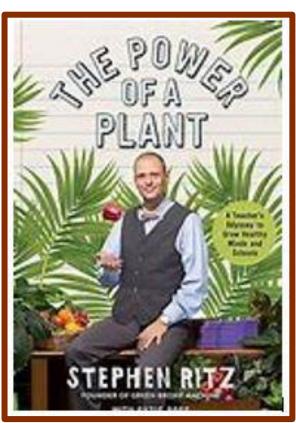
> Tucson Water Public Information Office pico@tucsonaz.gov 520-791-4331

BOOK REVIEW

Jessica Paul on:

The Power of a Plant, by Stephen Ritz

The Power of a Plant is a true account written by a teacher from the poorest congressional district in America, the South Bronx. Stephen Ritz uses gardening to bring enthusiasm and excitement to his classrooms in a place where students aren't normally hopeful for what the future will bring. He and his students stumble upon gardening by accident when a forgotten box of donated bulbs is knocked over in class during a fight. Ritz sees the immediate transformation of his students in reaction to the beautiful flowers. From then on, his mission becomes transforming the public school system through



gardening. The book is an uplifting tale of the trials that he and his students go through in order to have successful garden. They try many different methods, including, in-ground, roof, and tower gardening. I appreciate that the book talks a lot about helping the students to realize that there are jobs available to them in the green industry, and how he is able to connect every aspect of gardening to life. My favorite quote from the book is:

"It dawned on me: If you want to fix health care, look at food and farming. If you want to fix hunger and poverty, look at food and farming. If you want to reduce waste, look at food and farming. If you want to respond to climate change and make resource allocation more equitable, look at food and farming. If you want to have children involved in hands-on learning activities that engage them in school, look at food and farming."

I have always seen gardening as an experiment, one in which we often learn more from our mistakes than our success. Ritz discusses the importance of imparting this idea -- that failure is how we learn to overcome -- to his students.

I read the book in the hopes that I would learn more lessons and hands-on activities to use with the kids I teach in the garden. If you are looking for a book that gives you activities and lessons to teach kids in the garden, as I was, this isn't the book to read (although it does provide more of that type of information in the appendices). If you are looking for a book that tells the story of how a teacher brought life to a place that was lacking in healthy food and opportunities for children, this is the book to read. This book is also rife with beautiful quotes to keep any garden inspired.

Community Gardens of Tucson News

Community Gardens of Tucson has 20 garden locations throughout the Tucson area and there are always things happening in the gardens! This past month finds volunteers working hard to revitalize two of our oldest gardens and two Open Houses (see flyers on the next page).

Bikes in the Garden: Blue Moon Garden (Oracle/Drachman) and Mansfield Garden (4th Ave/Grant) both participated in a Bike Ride to the Gardens event hosted by Bicus (Bicycle Inter-Community Art and Salvage) where bikers were able to join gardeners in a planting and rock painting party. Bicus has also created the amazing artwork along the east side fence at Mansfield garden so if you haven't seen it, be sure and visit.



Presidio Garden (Ft. Lowell/Country Club): Presidio is a long-standing garden that needed some revitalizing. Normally, our gardens adhere to a "No-Till" system of building up soil and protecting the beneficial life that makes organic soils so top notch. Originally though, Presidio had been tilling their beds and it killed off much of the mycorrhizae, creating less than stellar soil so they hosted work parties to help pull out old, tired soil and refill with 12 yards of Tank's Green Stuff 100% organic compost and beneficial amendments. This is no easy task but all the hard work ensures the garden has great growing. Another exciting addition to come to Presidio is rain tanks! The plan is to have gutters installed on the sheds at that location to be able to harvest up to 1000 gallons of valuable rainwater at a time. This will go a long way to ensuring plants receive the very best water, full of nitrogen and free from chlorine, salts and other chemicals found in our regular city tap water.

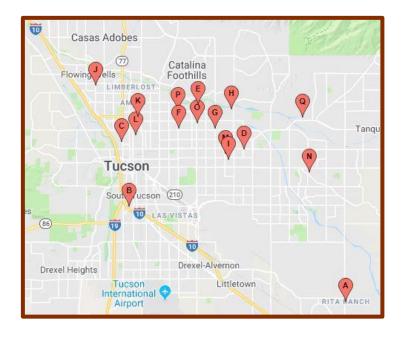
Highland Vista Garden (Craycroft/7th St: Another garden needing some special attention is our Highland Vista garden. This garden has a beautiful location right next to Highland Vista Park but the old tree growth in the park has proven to be a bit invasive over time. Eucalyptus tree roots have recently been dug out of any garden beds they had been encroaching on, creating refreshed beds for planting edibles like salad greens, broccoli, flowers and herbs. Several gardeners live right there in the neighborhood and they love how they can harvest their dinner salads within walking distance of their homes.

Ace Acre (Houghton/Valencia): Community Gardens of Tucson's newest garden is located in Rita Ranch, the furthest SE Tucson garden we have. New gardeners there have been planting, building more beds as gardeners move in, volunteering at plant sales and keeping up with the weeding in this large acre sized community garden. Another fun project has been a new potting bench, built from scratch by the amazing people at Ace Hardware (located just across the parking lot from the garden), specifically Master Carpenter Tim Gilbert and manager Derek Weaver who spearheaded this project. A donated vintage cast iron sink will be hooked up to running water with the outlet draining into tree wells. Kathy Galles, retired art teacher and Ace Acre gardener primed and painted and brought it all together with color just in time for our October 27th Open House and Activities Day (see flyer).



Thank you to all of our amazing Volunteers: We have amazing volunteers joining us at gardens and we'd like to highlight a few of the groups with a special THANK YOU! Alpha Epsion Pi sends out anywhere from 5-30 fraternity members to come work in the gardens. San Miguel High School sends out several students at a time for much needed help in the gardens as well. Chuze Fitness recently sent out some fitness instructors to help dig tree holes at the Ace Acre. And many individuals come as well. Many thanks to ALL who come and share their time and talents with us!

Join us! It's easy, simply go on our website: https://www.communitygardensoftucson.org/ and locate a garden that you would like to be a part of and reach out to the Site Coordinator. Links to all the gardens are here: https://www.communitygardensoftucson.org/garden-list/



Open House!



Saturday October 27th 8 am - 2 pm

"Ace Acre" Community Garden Location:

7471 S. Houghton (Houghton/Valencia)

Directly behind Rita Ranch Automotive and Ben's Bikes & across the parking lot from Ace Hardware

Fun Activities, Demonstrations, Hands On Workshops, Plant Sale, Craft Show, Jumping Castle, Pumpkin Carving Contest, Food & More!

WeLoveToGrow@gmail.com facebook.com/RitaGardens



Come Garden with us at The Community Gardens!

Would you like to become more self-sufficient, learn more about growing delicious, healthy food, meet people in your community, and have a place where the whole family can enjoy gardening? These experiences (and so much more!) await you when you join the Community Gardens of Tucson! Come see what we are all about at New Spirit Community Garden!

Open House - October 21st, 2018 12pm-8701 E. Old Spanish Trail (Near Camino Seco)

Behind New Spirit Lutheran Church. Enter off of Camino Seco.

Community Gardens of Tucson www.communitygardensoftucson.org

(520) 795-8823

Tucson Organic Gardeners News

TOG October 2018 Meeting Reminder

Where: St. Mark's Presbyterian Church

3750 E. 2nd St.

We meet in the Geneva Room which is located in the NE corner of the rear courtyard. To find us park in the rear (north) parking lot and follow the covered walkway on the east side of the courtyard all the back.

When: Tuesday, October 16, 2018

Doors open at 6:30 p.m.

Q & A and door prizes a little after 6:45

Lecture starts at 7:00 p.m.

(Please note that due to member preference we are starting meetings earlier.)

As it is now prime planting season our October lecture topic is a timely one:

Vegetable Varieties that Perform Well in Tucson, and Companion Planting, by Reggie Smith

Those of you who have been gardening in Tucson for a while know that some varieties of a given vegetable do well here in Tucson and some just wilt, bolt too soon or otherwise show signs that they are not adapted to our climate. Reggie Smith, one of TOG's favorite presenters, will give you tips to help select the very best vegetable, herb and flower varieties for Tucson.

Reggie is a Master Gardener and owner of Westwind Seeds and Gardenscapes, a local seed company that also provides garden consulting services. You can buy her open-pollinated, non-treated, non-GMO seed online.

TOG Lectures are Free and Open to the Public.

All Welcome!

TOG September 18, Lecture Recap

Garden Soil Preparation

The first lecture of TOG's 2018-2019 season was presented by longtime TOG member and master composter **Jim Lootens**.

<u>Ideal garden soil</u> comprises equal parts, or 25% each, of mineral, air, water and organic matter. Whether you are starting a new garden in Tucson's native soil or some sort of construction fill, the proportion of the four major soil components are nowhere near the ideal as our soil is dry, compacted (airless) and lacking in organic matter. Additionally, the soil may be contaminated with motor oil or other toxic substances.

Caliche, a concrete-like deposit of calcium carbonate mixed with aggregates such as gravel, soil and sand, is another major challenge for local gardeners. Caliche can appear as whitish crumbles, a thin shelf or series of shelves. Or in great big chunks or shelves. Caliche deposits can be visible on the soil surface or start a few inches or a few feet under the surface and then continue to a depth of six or eight feet. The major drawback of caliche is that it impedes the percolation of water through your soil so that the roots of your plants will drown for lack of oxygen and be susceptible to rot. Depending on the thickness of your caliche deposit, you may have to enlist tools ranging from handheld picks and caliche bars to jackhammers or backhoes. If you opt for raised beds in order to avoid heavy digging, be advised that you still have to provide drainage for your plants.



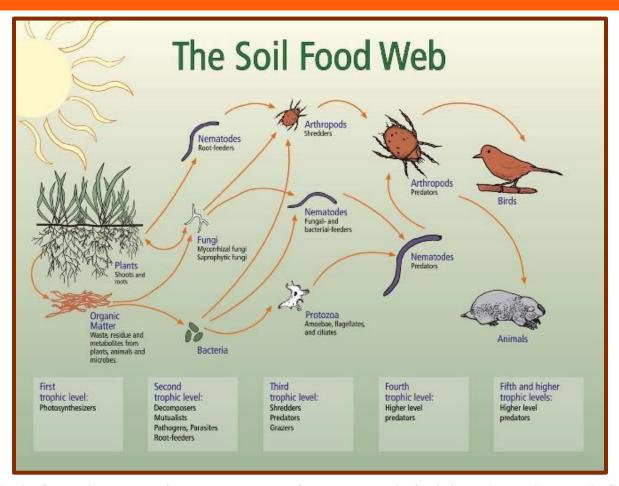




Caliche removal tools – Jackhammer, backhoe and pick. If your caliche is extra tough you may be more successful breaking it with a big jackhammer than with a small backhoe, but it takes a lot of strength to operate a large jackhammer.

Compost, Compost and more Compost. Compost is the answer to many of the shortcomings of desert soil. When starting a new garden you will need to dig out your beds to a minimum of 18 inches, (if you encounter caliche you will have to keep digging until you can assure drainage) and then backfill with your excavated soil mixed with an equal volume of organic compost. Compost and worm castings greatly boost the activity of the soil food web, the who-eats-whom menu of microorganisms, macro-organisms and soil fungi that deliver nutrients to the roots of your plants.

You should also include soil sulfur in with the top few inches of your backfill unless you purchase compost that comes with soil sulfur added. Soil sulfur comes in little lentil shaped pellets and is a slow release organic amendment that promotes drainage by softening your soil, brings down soil pH (corrects its alkalinity).



Trophic level refers to the position of an organism or set of organisms on the food chain. Green plants on the first level are autotrophic because they produce their own food – chlorophyll. But they still need other nutrients such as minerals and they depend upon soil organisms to deliver these to them. The arrows in the diagram (which flow in more than one direction) indicate that who-eats-whom in the soil is not a simple food chain, but a complex Food Web.

Locating and Designing Your New Garden Plot. The first major decision you will need to make is whether to garden inground or in containers. Digging a plot is a big investment in time and effort so planning is important. Make sure that your plot, or plots, are small enough that you can tend and harvest your crops from the path; if you have to step into the garden bed to reach your plants you will compact your soil and will risk trampling your plants. The same accessibility consideration applies when building raised beds. Raised beds can be purchased as easy-to-assemble kits or built from scratch from materials such as cedar fence slats, concrete blocks or corrugated metal. Gardening in smaller containers gives you the advantage of being able to move your plants around in order to give them optimal growing conditions, and can be a good choice for growing lettuces and other shallow rooted greens. Square Foot Gardening and French Intensive gardening are both systems for growing the greatest amount of food possible in restricted space.





Small raised beds on the left provide easy access for tending plants. On the right the rear central portion of the square foot gardening bed is out of reach.

You should take time deciding which plants will go where. Some plants grow well together and others do not, so to maximize your result do a little research into companion planting. (As an example, Swiss Chard grows well in proximity to cabbage, lettuce and onions, but its growth is hindered by pole beans.) Gardeners will often combine plants as a strategy for managing insect pests or attracting beneficial ones. Marigolds are frequently planted in the vegetable garden or under fruit trees repel various insects as well as harmful nematodes. Borage is planted with tomatoes both to repel insect pests and to attract pollinators. Datura, AKA Jimsonweed, is planted in the general vicinity of nightshades like tomatoes or eggplants to serve as trap plants -- sacrificial plants that insects, namely the tobacco hornworm, will favor over the food crop.

<u>Irrigation</u>. An old technique now rarely used by water-conscious Tucsonans is <u>flood irrigation</u> in which water is allowed to pool in areas below surrounding grade. This has been replaced largely by <u>drip irrigation</u> provided by the likes of ollas, soaker hoses, laser-cut tubing or tubing fitted with emitters. Adjustable emitters make it possible to control the amount of water to suit your plants' changing needs throughout the seasons. Drip irrigation tubing tends to get clogged by salt buildup so you might prefer using <u>drip tape</u>, a flattened 5/8 inch tubing; since drip tape is flexible, it expands when filled with water and that action breaks up salt deposits. Hand watering with buckets or watering cans, though laborious, is a way to forge stronger connections with your plants. Be aware that water in hoses left lying in the sun can get hot enough to damage or kill your plants, so clear your hose of hot water (you can direct it to the roots of established trees) before turning those on your vegetables or other small plants. Water from your tap contains enough chlorine to damage plants so try storing water in a 30 gallon can so the chlorine can dissipate before you use it. Rainwater harvesting and greywater systems are both water conserving techniques. To install passive rainwater harvesting, grade your yard to direct rain water flow to sunken areas where you will locate your thirstiest plants. Active water harvesting entails installing water cisterns to collect and store sizable amounts of rainwater for later use. (See Further Resources below for local classes on rainwater harvesting.) Greywater systems direct water from your bath, shower or washing machine to your landscape; new construction in Tucson is now required to include greywater plumbing. Tax rebates are available to homeowners installing rainwater cisterns and greywater systems.

Care of Existing Garden Plots. The old practice of letting a garden lie fallow is no longer recommended, especially in the desert. A mutually beneficial exchange of nutrients takes place between your plants and the organisms in the soil in the root zones of your plants (refer to Soil Food Web Diagram above.) If you allow your plants to die all the beneficial organisms in the soil will die too, so avoid having to rebuild your soil's biodiversity by keeping something growing at all times. Planting cover crops between growing seasons are your best option, but even growing weeds is better than nothing as any living plant will encourage biological activity in your soil. Cover crops not only maintain the life of your soil, but also add more organic matter as well as essential nutrients such as nitrogen. Typically, cover crops are cut to the ground before they set seed. Old school practice encouraged tilling the vegetation into the soil as "green manure" but today's practitioners of "no-till" gardening, avoid disturbing the soil and either compost the vegetation or leave it on top to serve as mulch. Crop rotation, an old practice still used by wise gardeners today, is based on the fact that different plants need different nutrients. To avoid using up all of a particular nutrient, don't plant the same crop in the same place year after year. Crop rotation also help curtail plant disease and insect pests. – notes by Melody Peters

Question from the audience: Do you have to add fertilizer?

Answer 1 (Jim): No, if you use enough compost additional fertilizer is not necessary.

Answer 2 (Mohye): Worm castings in addition to compost are helpful if gardening in containers

Announcement: A composting class will be held at the TOG Fall Fair, October 6 at 11 am.

Online resources:

- 1. Much of what you need to know about water harvesting, including links to rebate information, can be found on Brad Lancaster's website: http://www.harvestingrainwater.com/
- 2. Watershed Management Group
- 3. Pima County Library

Cover Crop seed suitable for local use are available from:

- Native Seed Search (Local non-profit) https://shop.nativeseeds.org/pages/seeds
- Plants of the Southwest -- https://plantsofthesouthwest.com/collections/cover-crops
- Peaceful Valley -- https://www.groworganic.com/

Tucson Organic Gardens Calendar for 2018-2019

For more than 40 years Tucson Organic Gardeners has been helping gardeners to grow healthy vegetables and fruits in the Sonora Desert without the use of chemicals.

Meetings are held on the 3rd Tuesday of the month from September through April. Our meetings generally are preceded by social time with snacks brought in by volunteers, open with announcements and time for questions about organic gardening, and then followed by a lecture about a topic of general interest. Doors will open at 6:30 PM and meetings will start about 6:45 PM.

Here is a preliminary list of the remaining lectures and events for the 2018 - 2019 year.

TOG FALL GARDEN FAIR!

Saturday, October 6, 2018, 9:00 AM to 1:00 PM

Come Join the fun: Buy plants and other items for your fall garden and gain useful information from the area's experts: Fall plant starts, native vegetables, herbs, flowers and seeds, organic compost, fertilizers and garden supplies, children's activity corner, free gardening class at 11:00 AM, raffle, music, games and more.

Tuesday, October 16, 2018

Lecture: Seed Varieties that perform well in Tucson and Companion Planting presented by Reggie Smith, an expert in gardening in the desert and owner of Westwind Seeds and Gardenscapes, a local company that sells openpollinated, non-GMO seed and provides garden consulting services.

Tuesday, November 20, 2018

Thanksgiving Potluck and question and answer session with 3 experts to be determined.

Tuesday, December 18, 2018

Extending the growing season. Survival techniques for your garden, winter and summer. Lecture and/or collaborative effort among experienced TOG gardeners to cope with the weather extremes. TOG Members Share their Season Extending Strategies. Learn how local experienced gardeners protect their gardens from the extreme winter and summer temperatures.

Tuesday, January 15, 2019

Fruit trees, bare root planting and grafting. Speaker to be determined.

Tuesday, February 19, 2019

Lecture: Low Water, Low Labor, Hot Composting plus more Creative and Resourceful Ideas around the Garden, presented by Joy Holdread.

TOG SPRING GARDEN FAIR!

Saturday, March 2, 2019

Come Join the fun: Buy plants and other items for your spring garden and gain useful information from the area's experts: Spring plant starts, native vegetables, herbs, flowers and seeds, organic compost, fertilizers and garden supplies, children's activity corner, free gardening class at 11:00 AM, raffle, music, games and more.

Tuesday, March 19, 2019

Lecture about desert harvesting and sprouting, including safety concerns, by Wanda Poindexter.

Tuesday, April 16, 2019

End of year propagation party. Participants bring in cuttings, pots and seeds. Potting soil and gardeners capable of instructing various techniques to be provided by TOG.

Tucson Organic Gardeners Fall Fair

St. Mark's Presbyterian Church 3809 E 2nd Street (1 block west of Alvernon, 2 blocks south of Speedway) Admission is FREE



Saturday October 6 2018 9am-1pm

- Fall Plant Starts from Local Growers.
- Native Vegetables, Herbs, Flowers and Seeds.
- · Organic Compost, Fertilizers, and Garden Supplies.
- Free Gardening Class at 11am.
- Gift Raffle, Music, Games and Much More



Proceeds benefit Tucson Organic Gardeners, a 501(c) 3 non-profit organization Questions or Comments: e-mail: TucsonOrganicGardeners@gmail.com

Master Gardener Library Talks Schedule 2018 Season

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branch	date	day	time	topic
El Rio	Sep 11	Tue	4:00 - 5:30	Fruit Trees
Woods Memorial	Sep 12	Wed	5:30 - 7:00	Cool Season Vegetable Gardening
7.1 T. N. S.		Sat	10:00 - 11:30	
Murphy-Wilmot Wheeler Taft Abbett	Sep 15			Gardening for the Birds Fruit Trees
CANADA SA CINCIN DE LA CONTRACTOR DE LA	Sep 17	Mon	1:00 - 2:30	A STATE OF THE STA
Dusanberry-River	Sep 18	Tue	2:00 - 3:30	How to Propagate Plants
Oro Valley	Sep 21	Fri	1:30 - 3:00	How to Propagate Plants
Murphy-Wilmot	Sep 29	Sat	10:00 - 11:30	How to Propagate Plants
Oro Valley	Oct 5	Fri	1:30 - 3:00	Aquaponics & Hydroponics
Eckstrom-Columbus	Oct 7	Sum	2:00 - 3:30	Cool Season Vegetable Gardening
El Rio	Oct 9	Tue	4:00 - 5:30	Insects in Our Gardens
Woods Memorial	Oct 10	Wed	5:30 - 7:00	Fruit Trees
Murphy-Wilmot	Oct 13	Sat	10:00 - 11:30	Cool Season Vegetable Gardening
Himmel Park	Oct 13	Sat	3:00 - 4:30	Cool Season Vegetable Gardening
Bear Canyon	Oct 14	Sun	1:00 - 2:30	Adjusting to Desert Gardening
Wheeler Taft Abbett	Oct 15	Mon	1:00 - 2:30	Cool Season Vegetable Gardening
Dusanberry-River	Oct 16	Tue	2:00 - 3:30	Fruit Trees
Oro Valley	Oct 19		1:30 - 3:00	
		Fri		Cool Season Vegetable Gardening Fruit Trees
Murphy-Wilmot	Oct 20	Sat	10:00 - 11:30	Fruit Trees
Oro Valley	Nov 2	Fri	1:30 - 3:00	Adjusting to Desart Gardening
Murphy-Wilmot	Nov 3	Sat	10:00 - 11:30	Adjusting to Desert Gardening
Eckstrom-Columbus	Nov 4	Ston	2:00 - 3:30	Aquaponics & Hydroponics
Himmel Park	Nov 10	Sat	3:00 - 4:30	Identifying and Solving Garden Problems
Bear Canyon	Nov 11	Sum	1:00 - 2:30	Arid Land Plants: Moving Beyond Cacti
El Rio	Nov 13	Tue	4:00 - 5:30	Gardening for the Birds
Woods Memorial	Nov 14	Wed	5:30 - 7:00	Gardening for the Birds
Oro Valley	Nov 16	Fri	1:30 - 3:00	Gardening As We Age
Murphy-Wilmot	Nov 17	Sat	10:00 - 11:30	Insects in our Gardens
Wheeler Taft Abbett	Nov 19	Mon	1:00 - 2:30	Adjusting to Desert Gardening
Dusenberry-River	Nov 20	Tue	2:00 - 3:30	Adjusting to Desert Gardening
Dunanti V Parver	1400 20	100	2.00 - 3.30	Authority to Design Gardening
Eckstrom-Columbus	Dec 2	Ston	2:00 - 3:30	Fruit Trees
Mission	Dec 7	Fri	manufacture and the second section of the second	Fruit Trees
Oro Valley	Dec 7	Fri	1:30 - 3:00	Growing Citrus in the Desert
Himmel Park	Dec 8	Sat	3:00 - 4:30	Fruit Trees
Murphy-Wilmot	Dec 8	Sat	10:00 - 11:30	Shade Gardening
Bear Canyon	Dec 9	Sum	1:00 - 2:30	Shade Gardening
El Rio	Dec 11	Tue	4:00 - 5:30	Adjusting to Desert Gardening
Woods Memorial	Dec 12	Wed	5:30 - 7:00	Shade Gardening
Oro Valley	THE RESERVE AND ADDRESS OF THE PARTY OF THE	Fri	CONTRACTOR OF STREET	
	Dec 14*	-0.00	1:30 - 3:00	Arid Land Plants: Moving Beyond Capti
Murphy-Wilmot	Dec 15	Sat	10:00 - 11:30	Captus & Succulents
Wheeler Taft Abbett	Dec 17	Mon	1:00 - 2:30	Gardening As We Age
Dusenberry-River	Dec 18	Tue	2:00 - 3:30	Cactus & Succulents

More Gardening Events Around Town:

Saturday, October 6, from 8 to 11 am. Master Gardeners 2018 Fall Plant Sale, at 4210 N. Campbell Avenue. At this popular plant sale you can buy landscaping plants, herbs, fruit trees, succulents, bulbs and many other plants all raised by master gardener volunteers. Prices are competitive so arrive early for the best choice and be prepared for a crowd. And then head on over to the TOG Fair.

Saturday, October 6, from 9 am to 1 pm. TOG's Fall Garden Fair. See flyer on page 17 of this newsletter. Many of the area's best vendors of organic gardening products will converge on the rear parking lot of St. Mark's at 3809 E. 2nd St. to offer their goods. This is one stop shopping for most of your organic gardening needs1 Pick up veggie and herb starts, soil amendments, seeds and lot of good gardening information from the experts.

Sunday, October 21, to 3:00 to 5:00 pm. (Please note the date for this event has changed from Saturday 10-27 to Sunday 10-21.) Membrillo Fest at Mission Garden, 946 W. Mission Lane, Tucson. A celebration of all things quince. Cooking demonstrations, guince treats. Quince fruit and trees for sale.

Saturday, October 27, 8:00 am to 2:00 pm. Community Garden Open House and Activities Day. 7471 S. Houghton Road, in the Ace Hardware parking lot. Fun workshops, (composting, organic gardening, raising earthworms, solar cooking, rock painting and more) food, pumpkin carving contest, planting and irrigation demonstrations, prize giveaways, jumping castle, plant sale and crafts show.

Saturday, November 3, 1:00 to 4:00 pm. Pumpkin Smash. Bring your leftover holiday pumpkins to this event and participate in activities that include pumpkin launching, pumpkin recipe demos and treats, and food trucks. Pumpkins smashed during the event will be composted. Las Milpitas de Cottonwood Community Garden, 2405 S. Cottonwood Lane, Tucson.

