

THE SONORAN DESERT

School Gardener's ALMANAC



COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES
Community & School
Garden Program



ZUCKERMAN FAMILY FOUNDATION

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CONTENTS

Acknowledgment of the Land	05
O'odham Calendars	07
Planting Guide	08
Monsoon	11
Water Harvesting	
Garden Pickles	
Aguas Frescas & Infused Waters	
Fall	19
Solar Oven Seeds	
Marigold Galore	
Winter	25
Pesto	
Phenology Mandalas	
Spring	31
Lettuce Wraps & Salad Dressings	
Soil & Compost 101	
Dry Summer	39
Calabacitas	
Microgreens & Sprouts	
Saguaro Season	

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FOREWORD

The Sonoran Desert School Gardener's Almanac is a handbook celebrating the particularity of place. Wherever they sit, school gardens have the power to connect learners with the natural world, food systems, and community. With attention to place, school gardens can root learners in the nuance of ecoregional seasonality and ecology, and become a conduit for local knowledge to flow into schoolyards.

With attention to mindfulness, self-reflection, and interconnection, a thread of social emotional learning can be woven through all of the content that follows. Pay attention to how things look, feel, sound, and taste beyond the surface level descriptors.

Tap into the way things make you feel and connect those feelings with other people and past experiences. Look for opportunities to express gratitude and use the garden and kitchen as safe spaces to practice those expressions.

ACKNOWLEDGEMENT OF THE LAND



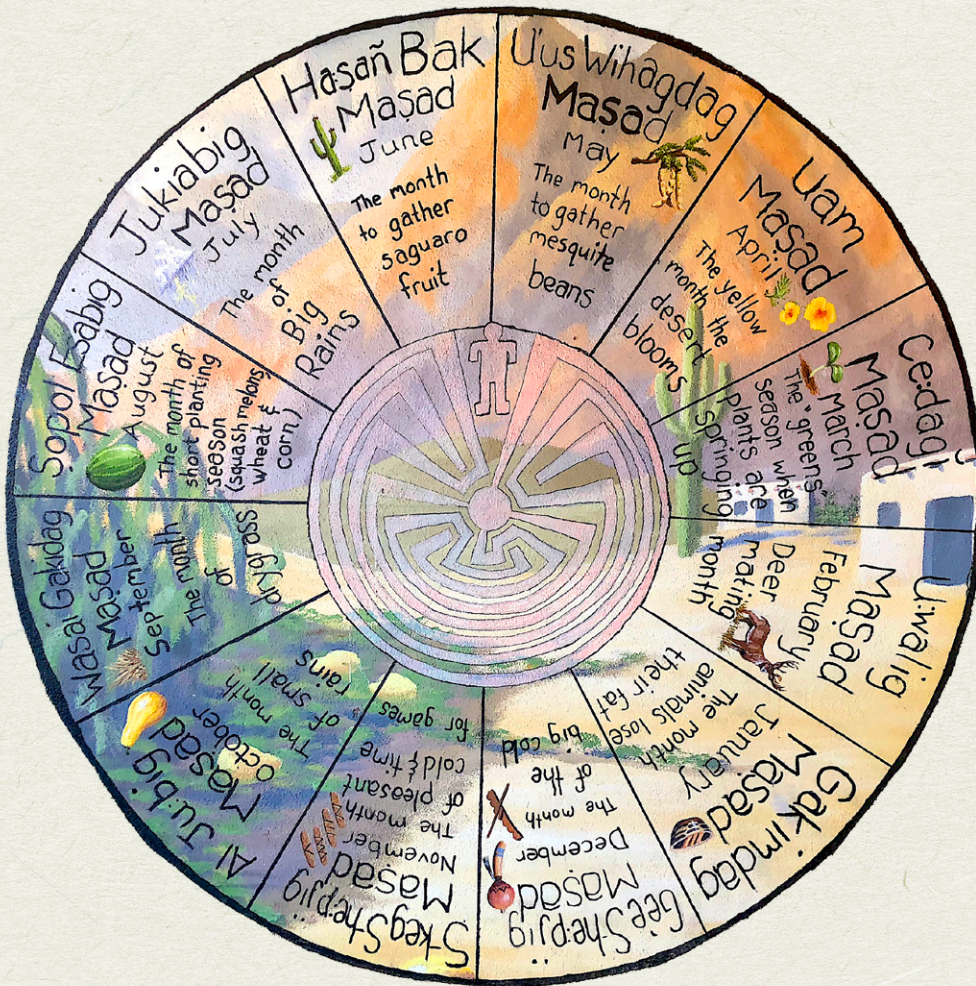
The Sonoran Desert covers a large area in the southwest U.S. and northwest México. It is a land of extreme temperatures: high evaporation, low rainfall, and little water. It can be too hot, too cold, too wet, and too dry! These extremes make living here a unique experience.

It is a harsh environment, but these conditions have created one of the most biodiverse landscapes in the world. It has also been home to native people for thousands of years. Humans are an important part of this diversity; inhabitants of the Tucson Basin have cultivated and domesticated crops for at least 4,000 years. If you are currently residing in the Tucson Basin, you are sitting on the ancestral lands of the O'odham people. This acknowledgement calls us to recognize and honor the people who have cared for the land through generations, and learn how to be better stewards of the places we inhabit.

Over the last few centuries, people from around the world have made the Sonoran Desert their home, bringing with them new foods, technologies, and traditions further enriching this complex environment. As we move forward into an uncertain future, let's celebrate this diversity; let's allow our unique natural and cultural heritage to teach us how to live in harmony with our land.

Jesús M. García
Research Associate
Arizona-Sonora Desert Museum

O'ODHAM CALENDARS




There is not just one traditional O'odham Calendar. Different O'odham communities each have calendars serving different purposes; there are medicinal calendars and ceremonial calendars. The O'odham calendar at Manzo Elementary School (*see calendar to the left*) is an agricultural calendar, and the nearby O'odham village of Chuk-son was an agricultural community on the Santa Cruz River.

The modern O'odham Calendar uses Gregorian Calendar months, but due to climate change, the months no longer align with the O'odham traditional calendar. O'odham New Year falls during Summer Solstice with the Wine Festival and welcomes in the Monsoon Season. Because of global warming, monsoon rains don't always come. There are shorter winters and longer summers. Historically, harvesting native foods in the fall happened for more than a month. Now it is much shorter.

The traditional O'odham calendar lets the O'odham people know what to do throughout year. If you're a potter you know when to get your clay; if you're a basket weaver you know when to harvest yucca leaves and bear grass. The calendar helps maintain culture, identity, language, and the O'odham creation story.

Nacho Littleagle Flores
Tohono O'odham Tribal Member



SCHOOL CALENDAR



PLANTING GUIDE

AUGUST

From Seed:

Green bean
Sunflowers
Chiltepin
Amaranth
60-Day Corn
Marigolds

From Starts:

Pepper
Tomato
Cucumber
Summer squash
Eggplant

SEPTEMBER

From Seed or Starts:

Green onion
Fava beans
Lettuce
Cilantro
Garlic
Spinach
Turnips
Radishes
Swiss chard
Kale

OCTOBER

From Seed or Starts:

Beets
Arugula
Carrots
Marigolds

NOVEMBER

From Seed:

Marigolds
Lentils
Fava beans
Peas
Snow peas
Lettuce
Spinach
Cabbage
Potatoes
Carrots

From Slips:

Onion
Potatoes
Garlic

Winter Break

JANUARY

From Starts:

Kale
Chard
From Slips:
Onion
Potatoes
Garlic

FEB/MARCH

From Starts:

Summer Squash
Peppers
Eggplant
Tomato
Tomatillo
Cucumber

From Seed:

Marigolds
Sunflowers

APRIL

From Starts:

Mint
Rosemary
Marigolds
Basil

FAVORITES

- **Sunflowers** can be planted in August and March and are great for seed saving.
- **Marigolds** can be planted year round by seed or start, and are great for both seed saving and pest control.
- **Kale and chard** can be planted in September and grown through April.
- **Fava beans** provide nitrogen to the soil and produce during March and April, after most cool season crops have run their course.

PRO TIPS

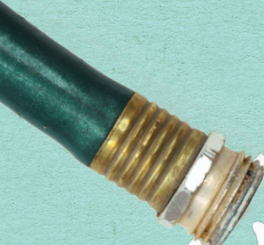
- Choose smaller varieties of fruiting crops for faster seed to harvest (ex. cherry tomatoes).
- Fruit trees with soft skin are prone to bird loss and typically ripen in the summer when schools are closed. Peaches, figs, apples and grapes produce during summer break.
- Citrus typically ripen during the school year and survive longer on the tree.
- Start cleaning out your garden in late April and turn off irrigation during summer break.



MONSOON

Local indigenous people use the dramatic monsoon to mark the beginning of the year, a season that accompanies a change in wind direction that moves warm tropical air to the Sonoran desert region. Typically spanning July through September, the summer monsoon rains bring up to half of Arizona's yearly rainfall and are a welcome respite from the dry heat of early summer. Brief, intense storms move quickly over the landscape, often flooding roads and filling creeks and rivers.

The rains bring a second wildflower bloom and a second breeding season for many desert animals. Butterflies emerge with the rains, and both amphibians and reptiles are active, particularly on rainy evenings. Prickly pear fruit begins to ripen in August. Bats move south following the agave bloom, and bird migrations reach their peak in September. Monsoon season also marks a second warm planting opportunity, with heat-adapted crops such as amaranth, beans, corn, and squash doing particularly well.



WATER HARVESTING

by Amy Flores & Mark Reynolds

One not-so-new technique we cherish during the monsoon is rainwater harvesting. Before municipal water was readily available to residents, native people used rainwater and earthworks to water their gardens. The Tohono O'odham people traditionally utilized ak-chin farming, a method that involved directing rainwater down hillsides into irrigation channels and earthen basins for storage, channeling surface runoff into the root zone of trees, and growing crops on flood plains.

There are many factors to consider when building a large sustainable rain garden and the learning can be extremely rich for students. However, rainwater harvesting can be as simple as knowing how much rainwater your area gets and using it wisely. You can start by simply digging a shallow basin around a fruit tree or a swale, or gradual ditch, to divert water to your plants. Or, you can dig in deeper to calculate how much water your garden can collect.

There are two types of rainwater harvesting: active and passive.

Active rainwater systems actively collect, filter, store and reuse water, such as a cistern or collection tank.

Passive harvesting systems allow rainwater to be naturally absorbed into the land using berms and basins.

Through carefully derived mathematical formulas, we can calculate how much water can be collected in a year:

$$\text{Collection Area (ft}^2\text{)} \times \text{Annual Rainfall (ft)} \times 7.48 \text{ (gal/ft}^3\text{)} = \text{Annual Water Budget (gal)}$$

Once you know how much water you can collect in a year (your **annual water budget**), you need to know the annual water demands of each plant you want to grow. For example, an orange tree in Tucson needs about 7,000 gallons a year. If you want to grow water-intensive plants like fruit trees, it's usually best to harvest rainwater from another source such as a rooftop.

At Drachman Montessori (our school), we found our garden had two potential collection areas (woohoo!) -- a rooftop with gutters running to the garden and the area of the garden itself. When we added the two, our collection space more than doubled, allowing us to plant a lush garden that doesn't need municipal water. The benefits of our gorgeous garden aren't just the aesthetics. It also reduces flooding, sinks water into the aquifer, diminishes the urban heat island effect, and sequesters carbon, thus mitigating climate change in multiple ways!





GARDEN PICKLES

FEATURING
LACTO-
FERMENTATION

Fermentation is a great way to preserve the flavors grown in your garden and introduce healthy gut bacteria to your digestive system!

Fermented dill pickles are not the same as vinegar or refrigerator pickles which use vinegar to flavor the cucumbers. Heat sterilizes the food, killing any beneficial bacteria, also eliminating any probiotic benefits.

Also known as “real pickles”, lacto-fermented pickles rely on naturally occurring lactobacillus bacteria to ferment, or pickle, the cucumbers.

The vegetables in this recipe can be substituted with nearly anything seasonally available. Add rosemary, basil, or nasturtium flowers to experiment with different garden flavors!

INGREDIENTS

- 3 tablespoons kosher salt (iodine-free)
- 1 quart water, filtered
- 1 cup radish wedges
- 1 cup carrots, coined
- 1 cup cucumbers, coined
- ½ cup onions wedges
- 1 clove garlic, peeled
- 1 bay leaf
- 1/2 teaspoon coriander seeds
- 1/4 teaspoon black peppercorns
- 1 to 2 grape leaves (optional, to help keep pickles crisp)



INSTRUCTIONS

1. Combine the filtered water and salt and stir to dissolve.
2. Pack the remaining items in a sterilized quart jar. Pour the salt water over the vegetables and leave 1-1 ½” of headspace, making sure items are completely submerged (placing a glass “pickling weight” ensures this).
3. Cover the jar tightly and let it stand at room temperature. Check pickles daily to release any gasses built up and for best flavor, let rest for 3-6 days.
4. Transfer pickles to the refrigerator once they’ve reached their desired flavor. Fermented pickles can last up to three months or sometimes longer if refrigerated.



AGUAS FRESCLAS

INGREDIENTS

- 4 cups water
- 4 cups chopped fruit (watermelon, cantaloupe, pineapple, papaya, strawberries, oranges, peaches, mangoes, or any combination)
- 1/4 cup herbs (basil or mint)
- Ice cubes
- Lemon or lime wedges (optional)

INSTRUCTIONS

Puree the fruit in a blender. You can either serve immediately, or pour the mixture through a fine-mesh strainer, mashing with a whisk or wooden spoon to eliminate any pulp.

Taste and add lemon or lime juice. Serve over ice, with a lemon or lime wedge, if desired.



+ INFUSED WATERS

INGREDIENTS

Try Lemon Lime, Strawberry Cucumber, Orange Basil or create your own!

Options:

- 1/4 cup fresh basil or mint
- 1/2 lime, sliced
- 1/2 lemon, sliced
- 1/2 cup strawberries, sliced
- 1/2 cup cucumber, sliced
- 1/4 cup blueberries
- 1 orange, sliced

INSTRUCTIONS

For each variation of water, place fruit and/or herbs into a large glass jar with lid. Muddle (or break) up fruit a bit with back of a spoon to help release natural flavors into water. Cover with 4 cups of water and place in refrigerator for at least 12 hours.





FALL

Fall in southern Arizona lasts from late September through November and is characterized by warm days and cool nights. Though it is generally a dry season, unseasonable rains sometimes fall in October, and by November, snow has typically fallen at high elevations. If there is enough rain, winter annuals begin to grow and many desert plants produce fruit, including barrel cactus, hackberries, and wolfberries, providing food for overwintering birds. Reptiles become fairly inactive over this period, and wintering hawks arrive. Fall is an ideal time to turn over warm weather gardens and plant cool season crops such as winter greens, root vegetables, garlic, onions, and broccoli before the first frost arrives, historically around the end of November in the Tucson basin.

SOLAR OVEN SEEDS



INGREDIENTS

- 2 lbs sunflower seeds, rinsed and free of debris
- 2 cups kosher salt
- 1 gallon filtered water

INSTRUCTIONS

1. Dissolve salt in water to create a brine.
2. Using a large container, place seeds in brine and soak for 12-24 hours. Place a plate on top to ensure seeds are completely submerged.
3. Drain and remove the seeds, and lay them out on clean, dry towels to remove excess moisture. Do not rinse or remove the brine.
4. Evenly cover cookie sheets with the seeds and place in the solar oven at 300 degrees for 30-45 minutes until seeds are crisp. This can also be completed in a conventional oven.

NOT ONE, BUT MANY!

Wait, is this
a trick question?

Take a moment to admire a sunflower—its bright corona of large petals surrounding a sea of texture arranged in some magical, natural, semi-geometric pattern. Now ask yourself: How many flowers am I seeing?

Sure is! Because what you thought was just one flower is actually a sea of tiny, perfect florettes, called disc flowers, ringed by a circle of individual ray flowers, which you may assume are simply petals. Look closely and you'll see.

Sunflowers are part of a family of flowers called composites. Each disc and ray flower is its own, complete flower. Which is why at the end of this sunflower's life, it is literally a plate of seeds, each seed the offspring of one individual flower.




by Isabel
Kelsey

MARIGOLD GALORE!

Marigolds are native to Mexico and were first cultivated by the Aztecs to produce flowers that bloom in many brilliant colors of gold, yellow, orange, red and mahogany. They are easy to care for, like full sun, and not too rich soil. A school garden favorite, marigolds persist through the summer heat and even act as pest deterrents in the garden.

DÍA DE LOS MUERTOS



Marigolds play a central role in Día de Los Muertos, one of the most important Mexican national holidays, now celebrated throughout Latin America and the US. Día de Los Muertos merges Aztec rituals and Catholicism celebrating the return of the deceased. Although it is an important and solemn event, it is not a time for sadness but rejoicing the return of loved ones. The deceased are honored with food and flowers prepared by their family. Relatives spread the cempasúchil (marigold) around the ofrenda, or altar, to guide souls to the banquet that awaits them.



THE ALTAR

The Día de Los Muertos altar, a special place of honor to loved ones, takes days and weeks to prepare. The altars are brightly decorated and several essential artifacts for this festivity are displayed. The food and drink are believed to nourish the souls of the deceased on their journey to and from the living world. These items include pan de muerto (bread of the dead), calaveritas (sugar skulls), water, salt, papel picado (cut paper), candles, pictures of the deceased, and marigolds. Pan de muerto, a sweet bread, made especially for this occasion is enjoyed with hot chocolate. Like marigolds, lit candles also guide the deceased to the altar.

RELATED BOOKS

- *Pablo Remembers: The Fiesta of the Day of the Dead* by George Ancona
- *The Spirit of Tío Fernando: A Day of the Dead Story* by Janice Levy
- *Barrilete: A Kite for the Day of the Dead* by Elisa Amado
- *Funny Bones: Posada and His Day of the Dead Calaveras* by Duncan Tonatiuh



WINTER

Winter lasts from December through early February. Temperatures drop, and gentle winter rains occur intermittently, driving the spring wildflower bloom. Days are mild, and by later in February, temperatures may warm to spring-like conditions. Higher elevations experience frequent below-freezing temperatures and snow.

During the winter, some desert plants, such as mistletoe, netleaf hackberry, and Christmas cholla boast ripening fruit, which provide food for mammals and wintering birds. Many desert birds enter mating season, including curve-billed thrashers, mockingbirds, cactus wrens and various hummingbirds, and mule deer begin rutting. Depending on the intensity of the winter rains, the spring bloom may begin in late February, with Mexican gold poppies, lupines, and owl clover the first species to emerge.

Despite the unpredictability of frosts, a few cold-weather crops may be planted from mid-January through February, including arugula, chickpeas, cilantro, winter greens, onion, kale, and radish. Seedlings and frost-sensitive plants need to be protected from cold temperatures which could persist through the end of March.

LONDON ROCKET + CHEESEWEED PESTO

Total Time: 5 minutes
Makes 1 cup

is the best-o

INGREDIENTS

- 2 cups of fragrant greens (see note on next page)
- 3 large cloves of garlic, diced
- Zest and juice of 1 lemon
- 1/4 to 1/3 cup extra virgin olive oil (the best quality you can get)
- 1/4 teaspoon fresh ground black pepper
- 3/4 teaspoon sea salt
- Optional: 3/4 cup parmesan cheese
- Optional: 3/4 cup nuts (any kind)

This recipe can be adapted to be nut-free and dairy-free by omitting the nuts and cheese, respectively.



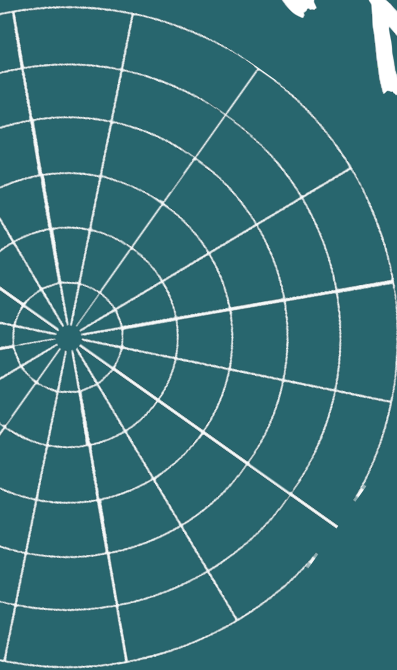
Pestos are incredibly versatile! While fresh basil may be the most popular version, this recipe is inspired by the plentiful leaves of london rocket and cheeseweed, two plants that may be considered weeds in the winter garden but are in fact edible when their leaves are young and tender.

INSTRUCTIONS

1. Add the fresh basil, diced garlic, lemon zest, and parmesan cheese to the bowl of a large food processor . Process at medium speed until it starts to resemble a paste, about 60-90 seconds.
2. Add half of the fresh lemon juice and 1/4 cup olive oil. Process until the mixture is evenly combined. Taste and add more lemon juice based on your personal preference. Add more olive oil if you would like the pesto to be thinner. Process again until just combined.
3. Add the salt and pepper. Process, taste, and add more if desired.
4. Add the pesto to a jar, seal, and refrigerate.



PHENOLOGY MANDALAS



The mandala is an ancient symbol used in Buddhist and Hindu tradition that often represents the universe, wholeness, and the interconnectedness of all things. Mandalas are circular designs that have repeating colors, shapes, and patterns radiating from the center. The circle is often divided into sections around a central point, like pieces of a pie.

The shape of a mandala lends itself beautifully to the study of life cycles among plants and animals, known as phenology. The concentric circles have neither beginning nor end, yet the circles are divided into sections that can represent the various phases of a life cycle, called phenophases.

This is a mandala made from the jojoba plant. Can you spot the jojoba leaves, stems, flowers, green seeds and dried seeds? Do you think the male flower clusters and seeds are found on the same plant?

Answer: Jojoba plants are *dioecious*, meaning the male and female flowers do not appear on the same plant.

To create a phenology mandala:

1. Find a plant that is displaying multiple phenophases at once. For example, Palmer's mallow has flower buds, open flowers, fruits, and dry seed pods all at the same time much of the year.
2. Collect a sample or observe each phenophase (a flower bud, an open flower, etc.) and draw. These drawings symbolize each phenophase.
3. Now it's time to use your creativity! On a blank mandala template or on a paper with concentric circles traced with pencil, draw the phenophase symbols arranged throughout the circles and sections of your mandala, so that it tells the story of a complete life cycle.





SPRING

From late February through April, southern Arizona is alive with spring. Days are sunny and mild and the nights are cool. It rains only rarely, and the warming temperatures mean that the snow at elevation begins to melt, filling creeks and creating short-lived waterfalls and pools in the high country.

Early spring is wildflower season, with dozens of species bursting into bloom. Shrubs bloom too, and are joined in April by legume trees – palo verde, mesquite, acacia – and cacti, including prickly pear, cholla, and hedgehog. The dominant bloom color in April is yellow, which accounts for the Tohono O’odham name of Uam Masad - “Yellow Month” or “Desert-in-Bloom Month.”

Many animals breed in the spring; owls, songbirds, desert tortoises, hawks, lizards, bobcats, foxes, and coyotes all look for mates and begin to raise offspring. Turkey vultures and white-winged doves return to southern Arizona, and butterfly activity increases. Warm-weather crops can be planted in the spring garden, including peppers, beans, corn, cucumbers, tomatoes, eggplants, squash, and melons.

SALAD DRESSINGS

Dressings and dips are a great way to dress up all of the greens and root vegetables that come out of the winter garden.

Tasty dips and dressings are all about fat, sour, sweet, and salty ratios. You'll find that nearly any combination of these ingredients, in the proper ratios, is delicious!

2 FAT : 1 SOUR : 2 PINCHES SWEET + SALTY

Ingredient Options

Fat

Olive Oil
Sesame Oil
Tahini
Yogurt
Buttermilk

Sour

Lemon Juice
Mustard
Rice Vinegar
Balsamic Vinegar
Apple Cider Vinegar

Sweet

Honey
Dried Fruit
Agave Nectar
Sugar
Orange Juice

Salty

Sea Salt
Kosher Salt
Soy Sauce
Fish Sauce
Liquid Aminos

MATERIALS

Measuring spoons
Measuring cups
Mason jars and lids
Spoons for tasting

INSTRUCTIONS

Pour ingredients in a jar, put the lid on, and shake shake shake!

Example (balsamic dressing):

1 cup olive oil
1/4 cup balsamic vinegar
1/4 cup brown mustard
1 teaspoon honey
1 teaspoon salt

IT'S ALIVE?!

Have you ever looked closely at soil? At first sight, soil may seem lifeless and inert, but in fact, one gram of soil can contain 1 million bacteria! These bacteria are helpful in decomposing 95% of the biomass produced by plants.

Love me!

SOIL ORGANISMS

Soil is teeming with small animals that feed on organic material or on one another! If you look closely, you can see many varieties of worms, the most recognizable being the earthworm. They eat plant material and organic matter, excrete worm castings as food for other organisms, and leave channels as they burrow in, which increases infiltration.

Earthworms can weigh 100 to 1,000 lbs per acre!



COMPOST 101

Composting is the process of breaking down organic material by organisms, such as soil microbes or earthworms. Decomposition can be accomplished in various ways, but we commonly recommend a compost pile or worm bin! Worm bins are a good beginner option because they are contained and compost quickly, while compost piles require you to maintain a fine balance between greens (fresh waste materials high in nitrogen), and browns (dead, dry material that provides carbon).

Your compost pile should have about 30 times the amount of browns that it does greens, by weight. You can achieve this by adding dry mulch and alternating layers of organic materials of different-sized particles. Remember to add water to your compost to encourage decomposition!

Carbon + Nitrogen + Water + Air = Decomposition

Mulch

Mulch is essential to soil health, especially in a garden bed! A generous layer of mulch shields the soil, keeping it moist and preventing erosion while also reducing how often you will need to weed.



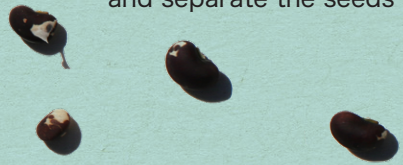
SEED SAVING



Not only is saving seeds a frugal practice, it also creates a line of seeds specifically adapted to your environment! Some of the easiest plants to seed save include marigolds, cilantro, and beans. Choose plants with traits that you find favorable, such as large fruit or drought tolerance, in order to preserve those traits in the coming generations. Although some seeds can be saved easily once dry, others must be harvested from ripe, moist fruit. In order to free these seeds from their sticky coats, we allow them to ferment over a period of several days. Below are instructions to save some of our favorite crops.

Beans

Allow the pods to ripen and dry on the plant, but keep an eye out for mold. Once dry, collect pods, crush, and separate the seeds out.



Cilantro

Once the plant starts to produce white flowers, allow the plant to fully go to seed. When seed pods begin to dry out, cover them with a paper bag, and shake the plant to collect the seed.



Marigolds

Allow the flower to dry and remove the petals. You will be left with just the seed pod. Either pull out the seeds, or crush the pod to obtain individual seeds.





DRY SUMMER

The months of May and June in southern Arizona are known as dry summer or foresummer. During this time, the area experiences high temperatures and very low humidity. In most years it does not rain. The first day over 100° F usually happens in May, and June boasts many hot days past this threshold.

While most desert plants and animals tend to lie low during this time, there are a number of notable exceptions. Saguaro cacti begin fruiting and ironwood trees come into bloom. Yuccas may also bloom, while seedpods ripen on legume trees. Nectar-feeding bats migrate from Mexico during dry summer, and as a result, hummingbird feeders can mysteriously empty overnight. Gila monster eggs hatch, while several snake species either lay eggs or give birth to live young during this season. The trills of cicadas are a familiar sound that signals the beginning of the driest season.

Many warm weather plants like squash, basil, beans and corn will be ready to harvest, though with the high temperatures, it is not an ideal time to plant. Crop plants like tomatoes that produce flowers during the hottest times may never set fruit, as high heat sterilizes pollen, rendering it infertile.



MICROGREENS

Microgreens and sprouts are an easy, cost-effective and fast way to grow plants you can eat in your home or classroom, despite the heat outdoors! For the purpose of eating, we highly recommend microgreens, as they are not quite as tricky as sprouts.

MATERIALS

- To-go container
- Potting soil
- Microgreens seed mix
- Spray bottle
- Spoon
- Scissors

INSTRUCTIONS

1. Pour water in container until it is about 1/4 inch deep. Add potting soil and mix with spoon. Add more water if soil is not completely moist.
3. Sprinkle seeds gently on soil, covering as much area as possible. Spray lightly with water.
5. Cover container so that seeds will sprout in darkness. Leave covered for 1 or 2 days, until you see that seeds have germinated.
6. Allow your container to get at least 4 hours of sunlight per day, and water each day.
7. Harvest by cutting greens with scissors when they are 3-4" tall.



SPROUTS

INSTRUCTIONS

1. Rinse beans, remove any stones or other debris, and place in a jar.
2. Add water, filling the jar three-quarters full, and cover with cheesecloth or mesh sprouting lid. Soak beans overnight.
3. Drain and rinse beans thoroughly. Invert the jar over a bowl at an angle so that the beans will drain and still allow air to circulate.
4. Repeat rinsing and draining 3-4 times per day until sprout tails appear. Drain before cooking or transferring to a covered container.

A seed is just a baby plant in a box with its lunch!

Cooking Sprouts

Sprouted beans do in fact cook much faster than their unsprouted counterparts. Some smaller sprouted beans can cook in as little as 10-15 minutes; others take a bit longer.



CALABACITAS

From Penca's
Executive Chef,
David Solorzano

Prep time: 15 minutes
Makes 2-3 servings

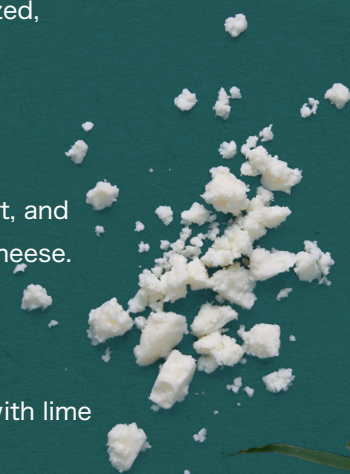
INGREDIENTS

2-3 tablespoons olive oil
2 yellow squash large, diced
2 zucchini large, diced
1/4 cup red onion, diced
2 cloves garlic, minced
1 cob corn
1/4 cup of shredded Oaxaca or Monterey jack
cheese
1/4 cup cilantro, chopped
1 lime
Salt to taste

Citrus and cilantro are harvestable in the cold season in Southern Arizona, so you'll need to purchase these items if preparing calabacitas in the warm season.

INSTRUCTIONS

1. Heat olive oil in a medium size pan, and cook squash, zucchini, onion, garlic, and corn kernels until slightly caramelized, about 5-7 minutes.
2. Season with salt, remove from heat, and fold in Oaxaca or Monterey Jack cheese.
3. Garnish with cilantro and season with lime juice.



SAGUARO SEASON!

Tanisha Tucker & Maria Francisco
Tohono O'odham Tribal Members

When cicadas pierce the air and the summer heat reaches its peak is when the saguaro takes the stage.

The saguaro fruit, or baidaj, is nutritious for humans and desert animals alike. Tanisha Tucker and Maria Francisco are the new generations of saguaro harvesters. They carry on the traditions of their ancestors by leading the saguaro harvest camp each year.

THE HARVEST

When the tops of the saguaro fruits are plump and begin to turn red or magenta is when Tucker and others at the saguaro harvest camp begin to topple fruits off of cactus arms with the help of a tool made from saguaro spines, or kuipit.

APRIL

Spring warming triggers the saguaro bloom, and the desert comes alive with pollinators.

MAY

Each flower opens at night for less than 24 hours, so you may see many of the petals drying up by the following afternoon.

JUNE

June is named after the Month of the Saguaro Fruit Ripening in the O'odham calendar. Hot, dry weather during this month helps the fruit to ripen and sweeten.

JULY

This month, which usually coincides with the first rain of the monsoon, is akin to the first O'odham month of the year in the pluck from the red, ripened baidaj processing.

Fruits are harvested at all stages, from closed to dried fruit that has peeled open, or jun. Tucker and Francisco utilize every part of the fruit and process them into a sweet syrup or wine, a drink used in a ceremony after the harvest. Seeds are very oily and can be ground up and made into a porridge or used in baked goods.

After extracting pulp and seeds, the dried saguaro pods are left facing up at the base of the saguaro, peeled open like hands giving thanks and asking the Creator to bring more rain for next season. "To us, saguaros are one of our relatives so we treat them with lots of respect, celebrate them and honor them," says Tucker.

For Tucker and Francisco, the harvest is an important cultural link to the past. They hope to have others learn about the harvest and encourage Tohono O'odham youth to understand the need for it to continue. "Being in the process or cycle of the harvest gives you respect," says Francisco. "Trust [the saguaros]; they've been here a long time."

