

# Newsletter

May 23

## COMPOSTING

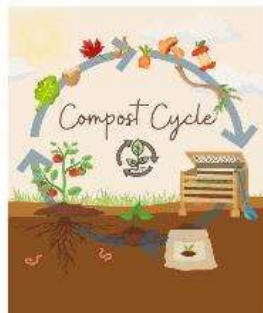
### What is Composting?

Composting is the natural process of recycling organic matter, such as leaves and food scraps, into a valuable fertilizer that can enrich soil and plants. It is a controlled, aerobic (oxygen-required) process that converts organic materials into a nutrient-rich soil amendment or mulch through natural decomposition. The end product is compost – a dark, crumbly, earthy-smelling material.

Composting is a practice that has been going on for thousands of years. In fact, it is only in the last 150 years, with the introduction of artificial fertilizers, that many people have forgotten just how valuable a resource it is. The Romans certainly composted. The technique was recorded by a scholar in a first hand account of farming life in Italy more than 2000 years ago. It wasn't until the mid- nineteenth century when industrialization resulted, and chemicals were pumped up into the land by farmers. In between 1905 and 1939, a British botanist, Sir Albert Howard, carried out experiments on his farm in India, ensuring that the soil was fed properly with compost and manure. He found that over time his crops became more resistant to disease and his cattle were strengthened by eating crops from that soil.

### How composting works

Composting is a natural biological process carried out by millions of tiny creatures. Some of them can be seen but most are microscopic. A suitable organism will arrive in your compost heap of their own accord if conditions are right.



They will eat their way through the organic material you have to put in the bin, breaking it down further and further until all that remains is a wonderful dark brown earthy substance-compost. Composting takes place constantly because nature is continually at work, decomposing and recycling living materials, including the leaves on the forest floor.

We can speed up the decomposition of garden waste by enabling an increased amount of air to penetrate the mixture. Normally, material in compost heap started in spring or early summer will be ready for use in late autumn, while one created in autumn will have material ready during the following late summer or autumn.

### Ingredients for Composting

The ingredients for composting include a proper balance of the following materials:

- **Carbon-rich materials ("browns")** can include dry leaves, plant stalks, and twigs. The carbon-rich materials provide food for the microorganisms to consume and digest.
- **Nitrogen-rich materials ("greens")** include grass clippings and food scraps. The nitrogen-rich materials heat up the pile to create ideal conditions for the material to breakdown.
- **Water (moisture).**
- **Air (oxygen).**



## What You Can Post

What You Can Compost at Home	What to Avoid Composting at Home
<b>Nitrogen-Rich Material ("Greens")</b>	Meat, fish and bones
Food and vegetable scraps	Cheese and dairy products
Most grass clippings and yard trim	Pet waste and cat litter
Coffee grounds and paper filters	Produce stickers
Paper tea bags (no staples)	Fats, oils and greases
Eggshells (crushed)	Glossy paper
	Treated or painted wood
<b>Carbon-Rich Materials ("Browns")</b>	Aggressive weeds/weeds with seeds
Dry leaves	Diseased and pest-infested plants
Plant stalks and twigs	Compostable food service ware and compostable bags*
Shredded paper (non-glossy, not colored) and shredded brown bags	Cooked food (small amounts are fine)
Shredded cardboard (no wax coating, tape, or glue)	Herbicide treated plants
Untreated wood chips	Dryer lint

## How to make compost

It depends on how much time you want to spend, the size and style of your garden, how much you need to compost and how quickly you want to produce and use the end product.

### Quick or Slow composting

A well-managed "hot heap" can produce compost in as little as 12 weeks. This requires you to fill your compost bin in one go with the appropriate mix of ingredients. You will also need to turn the pile several times. On the other hand, "cool composting" may take 12-18 months to produce usable compost. In this case ingredients are added as they are available.

### Making a "hot" compost heap

- Start with a compost bin with the dimensions of about 3 feet.
- Gather almost equal amount of green and brown to fill the container.



- Chop up or shred larger items into smaller pieces.
- Add alternating layer of greens and browns of 12 inches. Water the layers as you go. Press gently.
- Put the lid on or cover the heap with woolen jumpers, a black plastic sack full of leaves.
- After a few days it will feel warm. The temperature may go up to 176-degree F. The heap may heat up more but gradually cool down. Then you can turn it to incorporate more air.
- Leave hot compost to mature, anywhere from 12 weeks to 6 months.

### Making a "cool" compost heap

- You can use the compost bin. A 6-inch layer of twigs or branches will be good to start with.
- Start adding compostable material to the bin. Equal amounts of greens and browns will always be good for the best result.
- Spread the amount of ingredients properly with the help of garden fork.
- As the composting process gets going, the level of the bin will go down.
- After 6-12 months, you can take out compost from the bottom bin door or just leave it to finish composting and then start a new bin.



## WORM COMPOSTING

Worm composting involves keeping worms of a particular species in a container and feeding them kitchen and some garden waste. They then convert these materials into beautiful dark crumbly compost that is rich in nutrients.

A worm compost bin can be compact and self-contained. To start a garbage-can-sized worm bin you will need a lot of worms, ideally about 1000 (1lb).

### **Worm Bin should have:**

- Have a large surface area relative to its volume.
  - Keep worms in the dark.
  - Keep the contents moist without letting in rain.
  - Have a good drainage.
  - Allow good air circulation.
  - Provide insulation against extremes of heat and cold.
- A temperature of around 66 degrees F is ideal.

## **WORMS**

Earthworms are some of the world's most indispensable creatures.



Indeed, Charles Darwin once said of worms, "Nobody and nothing can be compared with earthworms and their positive influence on all of living Nature. They

create soil and everything in it."

In the US, the red wiggler is the most common composting worm and normally the cheapest to procure. It is also tolerant of the widest range of temperatures, making it the worm most appropriate for beginners in most situations.

The red wiggler is a dark reddish color with yellow banding leading to a yellow-tipped tail. You can typically expect 800-1000 in a pound.

They are readily available through vermiculture companies and fishing-tackle shops. They are sometimes sold as 'starter kits', and the worms are marketed by weight, not number.

### **What Worms Eat**

Most kitchen scraps can be recycled through a worm bin, but a balanced mixture is best. For example, don't add too many citrus peels or onions, as this can make the condition too acidic. Some garden waste like cut flowers, young weeds and crop debris can also go into the worm bin. Some leftover cooked food



like rice and pasta is good but meat, fish and dairy products are best avoided. Shredded paper or cardboard can go but not plastic or glass.

After you have been feeding your compost bin for several months, you should start to see dark, rich compost building up in the bottom of the bin. To take out a small quantity of compost, simply scrap back the top layers of food waste and take out what we need.

## Seed Library Pick-Plant- Onion



An onion also known as the bulb onion or common onion, is a vegetable that is the most widely cultivated species of the genus *Allium*. The shallot is a botanical variety of the onion which was classified as a separate species until 2011. Its close relatives include garlic, scallion, leek, and chive.

The history of ancestral onion species is not well documented. Ancient records of onion use spans western and eastern Asia, so the geographic origin of the onion is uncertain. Yet, domestication likely took place in West or Central Asia. Onions have been variously described as having originated in Iran, western Pakistan and Central Asia. Traces of onions recovered from Bronze Age settlements in China suggest that onions were used as far back as 5000 BC, not only for their flavor, but also for the bulb's durability in storage and transport.



Onions are planted early in the spring and harvested from midsummer through the fall. Select a location with full sun, where your onions won't be shaded by other plants. Onion plants are heavy feeders and require constant nourishment to produce big bulbs. At planting time, add nitrogen fertilizer. Pull any onions that send up flower stalks. This means that the bulbs have stopped growing.

## Seed Library Pick-Recipe for Plants- Eggshell Extract

Put eggshells to good use by following this recipe to produce a concentrate liquid that is extremely high in calcium.

Equipment and ingredients

- Washed shells from around 20 eggs.
- Baking sheet
- Jars with lids

Wooden spatula  
Raw apple cider vinegar  
Bowl



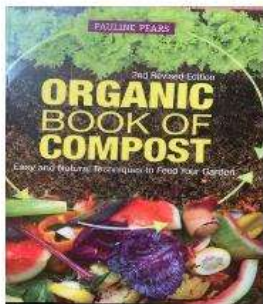
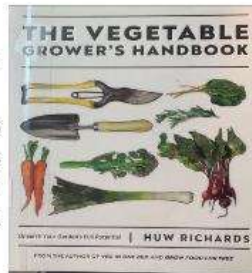
**Recipe**

Lay out eggshells on the baking sheet and put in a hot oven (400 -degree F) for 20 min. This makes them brittle and easier for nutrient extraction. Place eggshells into a jar and roughly crush them into smaller pieces using a spatula. Pour vinegar into the jar leaving a space of 1in at the top. The mixture may froth so put the lid loosely and place jar in the bowl to catch any overspill. Leave the bowl and jar somewhere out of direct sunlight at a constant temperature for two weeks. Decant the liquid into another jar using a sieve, put the lid tightly. This liquid has high concentration of calcium, so you will need 1-2 teaspoon for a full 2-gallon watering can. Water the soil around the plant with the concentrate about twice a month. This mixture will keep for a year in a cool dark place.  
(This recipe is adapted from the Nigel Palmer's book, *The Regenerative grower's guide to Golden Amendments* )

**Seed Library Book Suggestion –**

**The Vegetable Grower's Handbook**

Huw Richards shares the methods he uses in his own garden such as implementing a compost system and making use of small spaces. Call no.635/Richards



**Organic book of Compost 2<sup>nd</sup> edition**

This book is about how composting can be customized to fit you and your lifestyle with detailed chapters on the benefits of composting, making compost and worm composting. Call no.631.875/Pears

**Garden Events @ Scripps Ranch Library**

The library has several events going on this month if you are interested.

**Garden Share- May 20th 11-1 pm**

**The Magic of Soil- May 20th 10am  
Community room**



**References:**

Squire, David (2009) "The Compost Specialist" Published by New Holland Publishers (UK) LTD Call no. 631/Squire

Richards, Huw (2022) "Vegetable Growers Handbook". Published by Penguin Random House. Call no. 635/Richards

Pears, Pauline (2020) "Organic Book of Compost" Published by IMM Lifestyle Books Call no. 631875/Pears

There are multiple resources available at Scripps Ranch Library that are not cited here.

We request that you share pictures of your garden and tells us about your experiences, which can be helpful for other gardeners. Also, we invite you to send in your garden related questions and we will answer them in the next newsletter.

This newsletter is composed by Ashu Agarwal and edited by Jeff Lash

For any questions, please contact Ashu Agarwal (seedlibrary@srfol.org)

Scripps Miramar Ranch Library

10301 Scripps Lake Dr. San Diego 92131

858-538-8158

