Compost Matters!

A guide to integrate composting as a tool for Social & Environmental Justice in your faith community

Pesbyterians for Earthcare Conference, August 1st. 2021

Please add my Instagram to let me know you are using this guide and to stay connected
Daniela Ochoa: https://www.instagram.com/regenerativesolutions/

Composting is a natural process that breaks down organic matter, transforming it into a dark and earthy material. Putting compost in your garden or lawn adds nutrients that help your plants grow. Learn more by visiting our
Insta: Regenerative Solutions, Facebook: Regenerative Solutions  Web: coming soon!

¿What is compost and why is it important?:

In nature nothing is wasted. Biomimicry was already practiced by our ancestors. We have the opportunity to revive these skills, to emulate the cycles and rhythms of nature and to re-establish our harmony with Earth.

Garbage and waste are terms coined and used by humans who lacked creativity. As we evolve, we become more aware, responsible, and generous. At these critical times, we have more challenges to recover and regenerate all our supplies than ever. It is time to be truly resourceful!

Throwing food scraps in the garbage can is 25 times worse than composting. If we compost them at home they will only produce a low amount of carbon dioxide, yet when we throw them “away” (in addition to the fossil fuels used to transport them), they mix with non-organic and toxic waste producing methane and other gases that are 25 times more harmful, aggravating the greenhouse effect. Even worse is what occurs to all the nutrients embedded in our organics and leftovers. When they do not return to agricultural soil as compost, most of those nutrients are forever depleted, diminishing the fertility of our soils and with them our nutrition and health.

By composting and reducing our food waste, we reduce our “waste” by up to 25-50%. (As we use less plastic, the percentage increases). Composting at home is one of the easiest actions we can take to mitigate climate change and regenerate our pedosphere.
Compost is an excellent nutrient-packed natural fertilizer for your lawn, and it is ideal for urban gardens or flower pots. By composting we help our house, neighborhood and city to be healthier and more sustainable.

Help the DMV area (or your city) to generate momentum to pass a Zero Waste Law, as the best prepared cities in the world, which have the goal of reducing the amount of waste sent to landfills and incinerators by 90% before 2040.

**Benefits of composting:**

- Reduce waste
- Grow healthy, leafy plants
- Reduce the use of chemicals
- Protect groundwater
- Save money

Most people who compost from home use a composting system and a small container to collect “greens” in the kitchen. Most home composters who have a garden also have a small area to accumulate the “browns” like dried leaves from their trees to add them to the compost pile as needed.

**How does the process work?**

Add nitrogen-rich “green” elements and carbon-rich “brown” elements to your compost bin or pile. (In most systems the balance we strive for is to have equal parts for each, others recommend 25% green and 75% brown to avoid odors). Add the water and "turn" your materials.

**Microorganisms** that you cannot see (such as bacteria, protozoa, fungi, and actinomycetes) and **macro-organisms** that you can see (such as mealybugs, earthworms, and other insects) consume and degrade matter.

With enough air and water, microorganisms will produce heat. Generating the 4 phases of "compost cooking": **mesophilic** (less than 40 ºC), **thermophilic** (from 40 to 60ºC), **cooling** (less than 40 ºC) and **maturation** (room temperature). When compost is hot, it decomposes faster than cold compost. If there is not enough water and oxygen, the microorganisms die resulting in a low percentage of decomposition.

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### Basic Ingredients:

- **organic matter**
  - **(greens + browns)**
  - +
  - **water**
  - +
  - **air**
It is important that we place our bin in an area with at least partial shade, during the warmest months.

Feel proud, the carbon dioxide released in your household compost system is significantly less harmful for the environment than methane produced by organic matter in a landfill.

<table>
<thead>
<tr>
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<th>What to place and what to avoid in a compost bin?</th>
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<tbody>
<tr>
<td><strong>Greens</strong> (Nitrogen )</td>
<td></td>
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</tbody>
</table>
✓ Vegetable peels/skins from: carrots, potatoes, cucumbers, chilies*, garlic* and onion*  
✓ Cauliflower leaves, lettuce, carrot tails, etc.  
✓ Seeds from tomatoes, cucumbers, papaya, citrus*  
✓ Peels and rinds of fruit such as: watermelon, kiwi, apple, banana, melon, cantaloupe, pineapple*, etc.  
✓ Avocado pits  
✓ Mushed salad (with little dressing)  
✓ Crushed egg shells (well washed)  
✓ Stale bread and cakes*  
✓ Burnt toast or tortillas  
✓ Moldy oatmeal and bread**  
✓ Cooked pasta, spaghetti  
✓ Spoiled tofu and tempeh  
✓ Old popcorn  
✓ Sauces in poor condition  
✓ Pumpkin seeds (snack)  
✓ Olives and spoiled avocados  
✓ Dates too dry  
✓ Peanut / peanut or pistachio or walnut shells  
✓ Spices**  
✓ Rusty wine, stale or hot beer  
✓ Rotten soy or rice milk * jelly and gelatin  
✓ Ground coffee, (paper) coffee filters, leaves and tea bags (not polyester), sugar  
✓ Plant trimmings* and garden pruning**  
✓ Spanish moss* |  
✓ Tree leaves (without pesticides)  
✓ Petals and withered flowers  
✓ Old/dry plants & spices & seaweed  
✓ Wooden sticks, sawdust & pencil shavings  
✓ Paper bags  
✓ Napkins, paper towels  
✓ Newspapers, comic strips, cards, envelopes (without the plastic part)  
✓ Computer paper  
✓ Post-it notes & confetti  
✓ Non glossy junk mail  
✓ Cardboard  
✓ Pizza boxes (not waxed, without too much grease and ripped into pieces)  
✓ Natural fibers  
✓ Lint from clothes dryer  
✓ Balls of dust accumulated under the bed or furniture  
✓ Wool socks in pieces  
✓ Contents of the vacuum cleaner bag  
✓ Cotton swabs  
✓ Cotton balls  
✓ Toothpicks  
✓ Trimmed nails  
✓ Human hair  
✓ Pet hair  
✓ Shavings from an electric razor  
✓ Paper rolls cut into pieces  
✓ Natural sponges and loofahs  
✓ Christmas trees and garlands (chopped)  
| **Forbidden** |  
✖ Meat or bones from beef, poultry, or fish products, or shellfish  
✖ Dairy products  
✖ Very fatty or greasy food  
✖ Receipts  
✖ Glossy magazines or pamphlets like magazines  
✖ Large pieces of treated wood  
✖ Pet droppings (neither dogs nor cats)  
✖ Synthetic fibers  
✖ Invasive weeds and plants  
✖ All “biodegradable” or compostable plastics accepted in an industrial compost facility but that will not break down at home  
✖ Non-organic elements like stickers, plastics, glass or metal.  
✖ Sanitary waste |

If it is worm/vermicompost only small amounts of * and better to avoid **
How to start?:

First choose the ideal location for your processing system. If you have a garden, and/or a good space outside, you can opt for an open system. If you have a small garden or lawn, it would be easier to opt for a pre-made closed system like a bucket or a “tumbler”. Closed systems help deter pests and provide easy access to your final compost. You can purchase one or build one from numerous plans available online.

Ideally your container would be 3x3x3 (feet) and placed in an area with partial shade, to avoid overheating during the summer, yet with some sunlight, good drainage, and a good inclination so that it does not create puddles.

If you live in an apartment or do not have any space outside, I recommend a vermicompost system and/or system such as the "bokashi" system.

![Types of Composters](Image)

Illustration from Austin Resource Recovery, where Daniela Ochoa coordinated the 2011-2012 home composting program

Important notes for urban areas: if you live in a neighborhood or gated community with enough space
and support from the neighborhood association, you can organize a cooperative and install an outdoor system with three parts and take turns maintaining the compost system. Some HOAs include it in the maintenance service or within the gardener or landscaper fee.

How to compost?:

1. Fill a small container with food scraps from your kitchen - those are “green” elements. Then, add them to your larger composting system covering them with at least the same amount of carbon-rich “brown” materials (50%/50%), and if you can make the mix 25%/75%, even better. I recommend you have a stock handy of “browns” to readily add to your compost mix.

2. Add a little water (for example when rinsing your collecting pail) and if it is a tumbler, turn it over. Make sure your compost pile has enough air and water. The mixture should feel as moist as a squeezed sponge.

3. If you're in a hurry to get compost or finished compost, you can mix it weekly until your system is full and then allow it to decompose for a few months. If you are not in a hurry, let him do his "over low heat", there are those who let it rest for up to a year or more and obtain the highest compost in regenerative microorganisms. Your consistency will influence the results.

<table>
<thead>
<tr>
<th>If you mix your pile, system or tumbler</th>
<th>Your compost may be ready in</th>
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<tbody>
<tr>
<td>once a week</td>
<td>3 - 4 months</td>
</tr>
<tr>
<td>once every 15 days</td>
<td>4 - 6 months</td>
</tr>
<tr>
<td>once a month</td>
<td>8 - 12 months</td>
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- The smaller the bits and pieces you put in the better, as the organic compost will form faster.

- Composting is not an exact science. If you mix equal parts of green and brown elements, and keep that balance, you're on the right track.

- The compost or organic fertilizer that is ready when it looks like earth or mulch, depending on how many brown elements you have added and how finite your final product requires. If it is to nourish trees, coarser may be ideal. If it is for an urban vegetable garden, you will want something finer and smaller, that is why it is usually passed through a filter or strainer to separate what is optimal for cultivation and return the large pieces to the compost bin.
Your compost should give you so much happiness and pride that it makes you want to sing!
Guadalajara, Guadalajara, you smell of pure wet earth, so the compost should more or less emit a fertile and happy aroma!

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Solution</th>
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<tbody>
<tr>
<td>🎈 Bad smell</td>
<td>There is not enough air or its missing “browns”</td>
<td>Make sure enough air can get in. Stir and mix your compost, adding more &quot;brown&quot; elements</td>
</tr>
<tr>
<td>🎈 Smells good but its not breaking down</td>
<td>There is not enough water or we are missing “greens”</td>
<td>You have to moisten a little with water and add more &quot;greens&quot;</td>
</tr>
<tr>
<td>🎈 There is a lot of liquid draining out of the bottom of the container</td>
<td>Too much water, the materials should be damp like a squeezed sponge, or a fluffy cake, not much more than that.</td>
<td>It’s time to add more brown elements that are dry and stir the compost. It is worth confirming that the system is not in an area that tends to flood due to the slope of the terrain.</td>
</tr>
<tr>
<td>🎈 The compost is not fully disintegrating</td>
<td>Materials are TOO big, maybe a huge watermelon rind or big twigs?</td>
<td>It’s time to cut and chop the elements inside the compost into smaller pieces.</td>
</tr>
<tr>
<td>🎈 Compost has lots of bugs</td>
<td>Congratulations! You have free workers in your composting system. As long as they do not become more numerous and bulky than the organic matter there is</td>
<td>They usually go somewhere else as soon as they have digested their feast, leaving you with formidable compost.</td>
</tr>
<tr>
<td>🎈 My hand burns after mixing it by hand</td>
<td>My hand burns after placing the compost and mixing it by hand</td>
<td>Add boiling water in the area where they are and they will leave.</td>
</tr>
<tr>
<td>🎈 We have rodents hanging around the compost</td>
<td>They are laying leftover bones or animal protein skin like meats, chicken, shellfish, or too many traces of dairy.</td>
<td>Remove animal protein, bones and all, and do not reintroduce it.</td>
</tr>
</tbody>
</table>

For more information add us to Instagram as **Regenerative Solutions**
Other resources

1. Eleine Ingram
2. Stan Slaughter: https://www.stanslaughter.com/compost