



Better Outdoor Compost Kit

50 gallon size

For use in:

- Backyards
- Schools
- Farms
- Businesses

Ingredients for 55 gallons of compost:

- 2 L Soil Probiotics
- 1 L Azomite
- 1 L Fine Clay
- 1 L Microbial Compost
- 1 12 sq.ft. Burlap cloth

Options for improved composting performance:

- 1 lb Red Wiggler Worms
- 1 gal Compost Extract

Better composting in central Texas

Composting in Central Texas is not the same as composting in the Northeast or Northwest, where most compost bin designs and products are made. We evaporate far more water than we receive in rain. That means we have to do moisture management of our compost pile different in this ecological region.

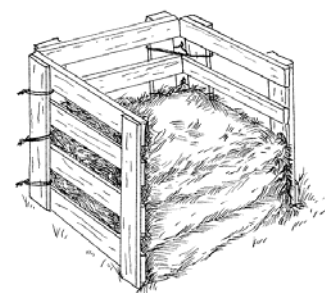
Microbial Earth (ME) is humidified compost. Humus is produced exclusively from microbes. Thus, we want the microbes to do more of the work. Our job is to create the right environment in the compost bin for microbes to do their job. You would be better to think of your compost bin as an incubator for microbes, where by-product is compost.

This package provides you with some of the ingredients you need to achieve that quality of compost. For marginally more work, we can dramatically increase the quality of your compost, and thus the performance of your soil in terms of water consumption, nutrient production, energy efficiency

and reduced tree removal costs over the lifetime of your home ownership.

Those ingredients are: **Soil Probiotic microbes** which make the most efficient breakdown process of organic matter, and which reduces flies and smells; **Micronized fine clay** which has above average surface area and a negative ionic charge to capture the slimes and excrements from the microbes which have a positive charge (reduces smells and makes humus); **Azomite** which essential micro-nutrients for microbial life as well as providing the same micronutrients for your plants when you spread out your compost (maximizing the microbial population in your compost pile).

Additional steps you may take to increase the performance of your compost are: maximize the diversity of microbes in your bin (compost extract), and/or to add Red wiggler worms to your compost. Be careful that you don't get your compost too hot as you could drive off worms.



Backyard composting of food scraps

Inside:

Things to remember	2
More about	2
Step by Step	3
Product Guarantee	4
Returns & Exchange	4
What is Soil Probiotics?	4
Who is Microbial Earth (ME)?	4



Better Outdoor Compost Kit

Things to remember about composting in central Texas



USDA's depiction of the Soil Foodweb. See www.soils.usda.gov

- Moisture Moisture Moisture
- Nothing breaks down until it is 50% moisture. If you can't gently squeeze two drops of water from your compost (55% moisture level), add more water.
- Carbon dioxide kills the good microbes. Turn the piles to reduce CO₂ and increase oxygen as well as better distribute moisture.
- Central Texas evaporates 3x more water than it receives in rainfall. Protect your compost from dehydration with burlap bags.
- Carbon needs to be just as wet as your green materials (50% moisture) in order to capture the released Nitrogen and bind it, so that it will be available for your soil. Consider a separate location for carbon materials where you can manage its moisture.
- Microbes are your new livestock. Without sufficient moisture, their numbers and thus work will be significantly less.
- The best compost is screened compost. Use screens with at least 1/2 inch squares. Return over sized material to your compost pile and keep finished compost separated and ready for your garden.
- Composting is a microbial process. Manage your microbes.

More about microbial compost and humus

Materials will not break down unless they are at 50% moisture. Synchronize your carbon materials to 50% moisture before adding them to your food scraps.

Prior to the industrial revolution and the settlement of this country by Europeans, our soils contained high levels of humus which were formed by microbes. Worms were imported later by the Europeans in pots. The most common microbes in our soil consist of bacteria and fungi, which feed higher order microbes and small insects. Their universe is called the Soil Foodweb and you can easily research it on the internet.

Composting takes several forms. There is waste disposal which usually results in the least mature compost. It is simply broken down materials at the least cost for the minimum required days to reduce pathogens (E.Coli and Salmonella). At the other end of the spectrum is the black gold, similar to worm castings. It has little or no smell, no sign of the original organic matter ingredients, and has a uniform, rich black color. It should be around 40% moisture. High end

compost is more expensive and usually well-tested for things such as the Nitrogen cycling, pH, salts, Sulfur; Germination; C:N ratio; Pathogens; a Microbe Profile and Diversity Analysis; a Maturity Test; and a Stability Test. The best compost will be 4x better than the industry average compost. It's best application is in compost extract production. Lower value applications are for nurseries, potting blends, turf, orchards and vineyards.

Microbial compost or humified compost is the highest quality compost our society can make. Humus is a 100% microbial process. It cannot be formed by machines. Humus holds 4x its weight in water, and lasts 12x longer in your soil than regular carbon materials. Humus is a polymer of the excrement of the microbes along with their slimes and carcasses (all positively charged) bound to fine clay molecules (negatively charged).

The result looks like an asteroid with lots of craters which trap and hold the water. The microbial wastes are excellent plant food that is easily converted into energy and building materials for plants. These microbes and the humus they produce will transfer to your soil, increasing the humus production where you garden, as well as balance out pathogens. The most efficient way to transfer and distribute these microbes to your soil is with compost extract.

Microbial Diversity is very important. Microbes perform millions of functions, but it is with the full soil foodweb that soil performs at its best. Microbial balance is achieved when all of the appropriate species are present. Therefore consider diversity in your compost materials.

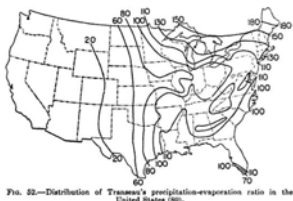


FIG. 22—Distribution of Trenberth's precipitation-evaporation ratio in the United States (1961).

Evaporation to Rainfall ratios for the USA. [Link](#)



Step by Step

Instructions

Compost bins should be within easy reach of your water supply. Rainwater is by far, the best water source for your compost bins. However, never hesitate to use city water if your moisture levels are below 50%.

Preparation: Determine how much of your compost ingredients you will be preparing. In this kit, you are provided with ingredients sufficient for 200 gallons of finished compost. Do not include water content in your calculations. Assume that finished compost will be 50% of the volume of your starting ingredients. If you are using the Lasagna method, consider how many food scrap layers you hope to build and divide your ingredients by that number.

Step 1: Arrange pre-moistened leaves and carbon materials at volumetric ratio of 2:1 to your food scraps (nitrogen sources). Provide an initial layer of carbon for the floor of your compost bin.

Sprinkle up to 1/2 cup of ME Microbial Compost to each layer to increase microbial diversity.

Step 2: In a sprinkler can mix the pre-determined amount of ME Soil Probiotics with water.

Try for 1 gallon of water to 1 cup (250 ml) of probiotics. Sprinkle over the carbon materials.

Step 3: Add in the food scraps (nitrogen sources) to the carbon layer and mix.

Step 4: In a 2 gallon or larger pail/can, mix the appropriate amount of water and clay (maximum of 1/2 cup or 125 ml/1 gallon). Agitate and mix vigorously, then apply to the compost in the most even distribution possible, preferably while mixing.

Step 5: In a 1 gallon or larger pail, mix the appropriate amount of water and Azomite (maximum of 1/2 cup or 125 ml/gallon). Agitate and mix vigorously, then apply to the compost in the most even distribution possible.

Step 6: Cover the last nitrogen sources with at least a 3" layer of carbon materials to prevent moisture loss. Cover with the burlap bag.

High temperatures (> 160°F) are an indication of high levels of microbial activity, as well as the onset of anaerobic conditions. An ideal temperature for microbial compost is from 120°F to 140°F. If you are above 140°F, you will soon be above 160°F and so you should plan to turn the compost as soon as possible. Anaerobic conditions produce toxins

which are difficult for our plants to deal with, and are thus best avoided.

When your compost has cooled down to consistently below 120°F, sift/screen your compost to separate the finished material from that which still needs more time. Use a 1/2" or smaller screen.

Hint: Do not lift or shake the screen. Instead use work gloves to push smaller quantities of compost over the screen. Lift oversized materials with a small trowel or garden shovel back into your compost pile.

Trouble Shooting:

If your compost is not active or heating up, consider more water and nitrogen sources.

If your compost is too wet or sludgy, add more carbon sources.

If you are getting lots of flies or bad smells, consider turning the pile to let CO₂ escape and increase the oxygen level of the compost. Add more ME Soil Probiotics.

If the above fails, please email us for advice at info@microbialearth.com



Screening compost from Phase 1 to Phase 2

Maintain compost at 50% water. If you can't squeeze two drops of water when clenching the compost in your fist, then add more water.



Removing finished compost!

Microbial Earth

Austin, Texas 78704

Phone: 512-275-6581

Fax: 800-516-5912

Available at local farmer's markets, our web store, and The Great Outdoors.

E-mail: patrick@microbialearth.com



Let Microbes Do The Work!

Product Guarantee

We guarantee these product's quality for three months from the date of purchase, assuming normal use and indoor storage out of direct sunlight and moisture. Please contact us for questions regarding product guarantee.

Return & Exchange Policy

Customer satisfaction is our top priority. We want you to be completely satisfied with your purchase. If you are dissatisfied with the performance of an item, we will happily replace the item at no charge. If you need to return or exchange the item, please contact us within 30 days of receipt of your purchase. Items must be returned in new, unused and resalable condition, and in its original packaging. This product is subject to a restocking fee if returned for reasons other than damage. A credit will be issued upon proof of return shipping and inspection of the item less a 20% restock fee and any return shipping costs. The restock fee may be waived if exchanging for another item of same or greater value.

We're on the web:

Microbialearth.com

Who is Microbial Earth (ME)?



Microbial Earth is committed to zero waste and improving the environment.

See Austin Zero Waste Alliance
www.ctzwa.org

Microbial Earth is a venture from Rangeland Restoration and Improvement L.P. The company is locally owned in Austin, TX. Our mission is to make organic gardening easier through the use of high quality (humified) compost tea and compost. We are committed to zero waste and improving the eco-system services of the land through the most cost effective methods as measured by the lands production of: food, fiber, feed, fuel, fertilizer, fresh water and fresh air. We also desire to increase the biodiversity of the environments where we contribute.

We are: Patrick Van Haren and Allan Dyer. You can see more on the web at www.microbialearth.com

What are Microbial Earth (ME) Soil Probiotics?

ME Soil Probiotics are a natural, probiotic technology developed for over 25 years around the world. It is based on beneficial and effective micro organisms ("EM"). The microbes are non-harmful, non-pathogenic, not-genetically-engineered or modified (non-GMO), and not-chemically-synthesized. Based on research and development activities in many countries, they are increasingly viewed as a means of providing solutions to many problems of food production, depletion of natural resources, environmental pollution, food safety and nutrition, and human and animal health.