

Keeping microbes as pets -- composting as animal husbandry
By Maggie Shepard

You all are here to get some more information about making compost. Maybe you are interested a better way to handle your kitchen and yard scraps. Maybe you want the richest garden soil. Maybe you want to just try something new.

As I was learning about composting and experimenting, my number one eye-opening learning moment came when I made the connection that it is the microbes in a compost pile that make the magic happen and it is the microbes that I really need to be paying attention to. My playing in the dirt composting class all of a sudden became a pet-care class. Like any pet, they need food, water and shelter. Take care of those things and you have happy, healthy pet. So here is how to care for your microbe pets and take care of those scraps, make that rich garden soil amendment or just add a new animal to your household.

- I. Soil basics
 - A. Microbes transform dirt into soil - alive
 - B. Life cycle of different microbes and the things that eat them produce the nutrients plants need. (TERM food web)
 - C. Feed and keep the microbes happy, you have happy plants
 - D. Compost is created by microbes breaking down the materials (TERM humus), and when added to soil brings the microbes with it
- II. Types of microbes
 - A. Bacteria
 - B. Fungi
 - C. Protozoa
 - D. Nematodes
- III. Food
 - A. Microbes need a healthy diet the same way humans and animals need calories from protein and carbohydrates (meat and vegetables).
 - B. In the composting world, you'll hear a lot of C:N ratio and this can be daunting for some folks.
 - C. While not an exact equivalent, I like to think of Nitrogen as the protein/meat for microbes and the carbon as the vegetables for microbes.
 - D. Nitrogen and carbon basics
 - E. Your compost pile is the food you feed your microbes. Feed them more veggies than protein but they have to have protein.
- IV. Water
 - A. As a desert dweller, this fact blew my mind: microbes are aquatic animals! What?! Yes. They need water.
 - B. They basically float in the bits of water that cling to your materials, so it doesn't need to be drenched.
 - C. A covered pile will retain the moisture you add to it.

V. Shelter/temp

A. Where is your pet going to live? All sorts of options for keeping your pets

B. Outside

1. Above ground

a) Hot

b) Cold

2. Under ground

a) Buckets

b) trenches

3. Inside

a) Bokashi

b) Vermicompost

C. Fresh air

1. In the most common compost systems, your pets need to breathe or they'll get stinky and invite over stinky friends.

2. Aerate - bulk as you build your pile so they can breathe

3. Too much air, as in not covering your pile or open edges, and your pets will dry out. They will come back, though. See the next point.

VI. Dormancy

A. You don't have to buy your pets - they are already hanging out waiting for you to take care of them properly

B. Give them a little bit of what they need and they will work for you

1. Slowly - cold

2. Quickly - hot

C. If you neglect them, they usually go dormant and can be reawoken with food and water

VII. Trouble pets

A. Not all your pets are going to be well behaved.

1. Pathogens - disease causing

2. Safe handling

B. Trouble shooting - email master composters, love to help

VIII. Taking to the vet's office

A. Can check the health of your pets by looking at samples under microscope (I have one, call me to come over and you can use it)

B. Smell them. Is their house stinky? - aerate