BASIC COMPOSTING HOW-TO

The primary purpose of **compost** is to provide basic food resources for the edaphon.

*The edaphon, in turn, will do what you **THINK** the compost is going to be doing.*

Over the centuries, there have been **LOTS** of ways to make compost

AND it boils down to THREE principles...

***FIRST*, You need:**

- ❑ BROWN stuff for **body** (*the stuff you REALLY want at the end*)
- ❑ GREEN stuff for **fuel**
- ❑ AN INOCULANT (living organisms) to do the decomposing.

The **BROWN STUFF**

is the foundation for carbon, the base of humus and some "fuel" for the decomposers.

It is the humus which provides connection points in the soil for mycorrhizal fungi and becomes a reservoir for water.

(THIS is part of the process called *carbon sequestration.*

BROWN STUFF includes

- dead leaves and other dried parts of plants,
- coffee grounds (nothing magical),
- paper (including basic cardboard),
- sawdust,
- straw/hay,
- *old* manure.

Literally, “brown” stuff.

The **GREEN STUFF**

is the source of nitrogen and some moisture.

Both nitrogen and moisture are “fuel” for the decomposers

Nitrogen is also the primary building block of the edaphon bodies.

GREEN STUFF includes

green plant material,
vegetable matter,
fresh manure.

There is an optimum **ratio** of BROWN to GREEN in a “recipe” for compost.

GREEN stuff helps kick the process off and it doesn’t take much.

The BROWN stuff – what’s left of it – becomes the durable final product: “**EDAPHON-CHOW**.”

So … you always want/need more brown stuff than green stuff in the pile from the get-go.
How much more?

"Compostologists" have determined that a good ratio for an efficient and productive pile is somewhere between

15 to 1 (carbon to nitrogen) and
30 to 1 (carbon to nitrogen)

– *by weight*

There must always be more carbon than nitrogen.

Excessive nitrogen will result in a release of ammonia gas.

Too little nitrogen does not sufficiently feed the decomposers and will result in a slow composting process.

Conversely, too much carbon slows the process.

Too little carbon will result in NO useable finished compost.

Then there's the **INOCULANT.**
It's the "sourdough starter."

It's a culture of organisms –
decomposers, primarily, but also other elements of the edaphon –
which is used to kickstart the decomposition process.

It's a small shovel-full of healthy soil.
(your own, your neighbors', the forest floor…)

***SECOND*,**

compost needs to be in small(ish) pieces
to decompose within a reasonable amount of time.

½-inch to ¾-inch
is about optimum.

When compost pieces are **too big**,

the larger decomposers

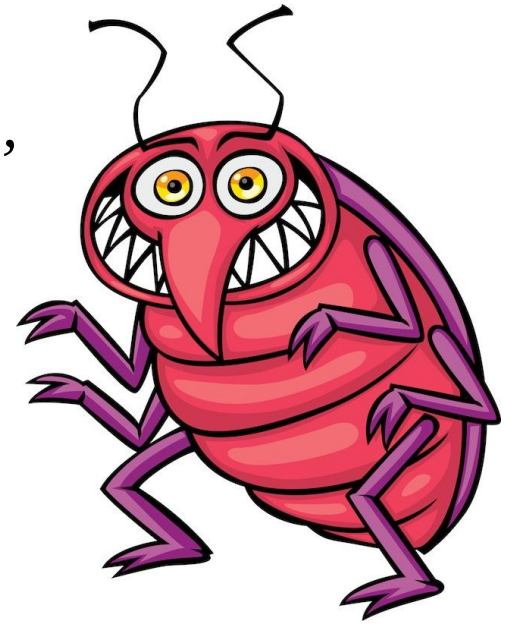
— the PRIMARY decomposers

(detrivores, macro-organisms) —

must do the initial work...

— these include *mites*, *centipedes*, *sow bugs*, *slugs*, *snails*, *springtails*, *symphalans*, *millipedes*, *beetles*, *ants*, *flies*, *nematodes*, *termites*, *flatworms*, *rotifers*, *and more.*

In the garden, you call such critters ….?



The most important decomposers

– the ***aerobic bacteria*** –

don't really take over until the big stuff is broken down.

The idea, then, is to **bypass** the big guys.

If the compost pieces are too small, however,

the pieces will clump or mat together,

cutting off oxygen exchange and allowing

the ***anaerobic bacteria*** to take over.

These are the guys which produce the mucky stinks of a bad compost pile: *hydrogen sulfide*, *cadaverine*, *putrescine*.

***THIRD*,**

compost needs to “burn”

by the aerobic bacteria (and some fungi)

AND ***in stages***.

"Burning" phases at the core of the compost pile:

STAGE 1 – ***psychrophilic bacteria*** kick it off at 40-50°F and raise the compost temp to 70°F

STAGE 2 – ***mesophilic bacteria*** turn up the heat to 100°F. As this group starts dying off…

STAGE 3 – ***thermophilic bacteria*** take over and can crank up the heat 160°F!!!

The thermophilic bacteria then die off, the **temp drops** and the mesophilic bacteria once again take over.★

The most ***heat-efficient*** compost piles are smallish but not too smallish:

3' x 3' to no more than 4' x 4'

Large, layered piles are inefficient.

As the compost pile cycles

★when the **heat (steam) drops** between stages,

it’s a good idea to turn the pile.

Turning is also a time to provide needed moisture

— or, conversely, spread the pile to dry up excess moisture. Too much moisture (or piles which are constantly wet) leads to anaerobic conditions.

The compost pile turns into the best ***edaphon-chow*** when the steam (heat) cycling diminishes nearly completely.

It doesn’t need to be turned into *“black, crumbly, earthy loam.”*

And shouldn’t be.

IMPORTANT:

Compost is applied to the garden as a **“MULCH”***

Not just for weed management, but for adding the benefits of organic matter to the soil.

It is NOT dug INTO the soil as an “amendment.”

(* a “mulch” is something/anything put ***ON TOP*** of the soil.)

THE END