
Yankton
Seed Library

- Presented by Missouri Valley Master Gardeners

Good, Better and Best Compost Piles

By Dean Spader

Soil is Alive

- Like our lungs, soil needs air-compost increases aeration
- Like our bodies, soil needs nutrients-compost slowly releases nutrients
- Healthy soil provides immunity
- Compost adds balance pH

Good for Earth

- Lessens the use of fossil fuel, it takes 30,000 cubic feet of natural gas to create a ton of nitrogen
- Recycles kitchen waste, grass clippings, leaves and potting soil. This eliminates use of plastic bags
- Stops the depletion of diminishing supply of peat
- Eliminates unnecessary tilling
- Compost holds 20 time as much water

Goals in Composting

- To obtain rich stable humus
- To harvest nutritious produce
- To use sustainable resources

Types of Composting

- Area composting
- Trench composting
- Pile Composting
  - Cold
  - Hot

Tools Needed

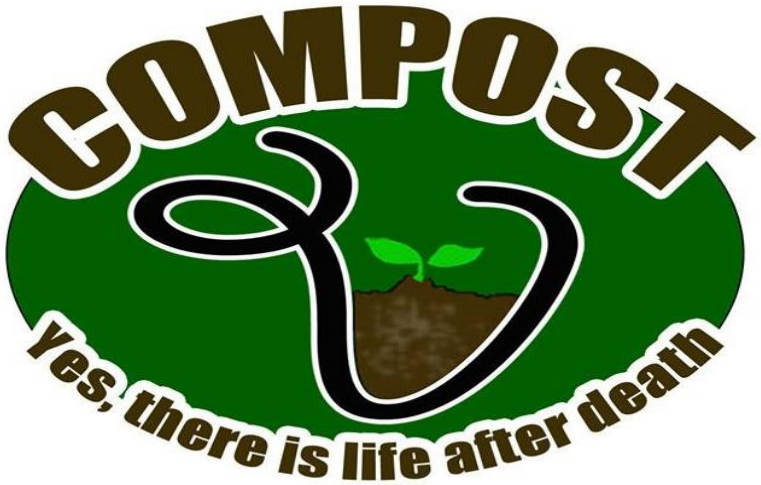
- Gloves
- Pitchfork
- Hose or watering cans
- Pruning shears
- Flat shovel (not spade)
- Wheelbarrow

Living Tools-Decomposers

- Don’t use any “cides” herbicides, pesticides, fungicides
- Be aware that manure may contain herbicides. When herbicides are used on pastures and grasslands they may become concentrated as they pass through animals.
- Millipedes, centipedes, sow bugs, snails, slugs, spiders, springtails, beetles, ants, flies, nematodes all add to composting
- Earthworms what comes out is 10 more fertile than what goes in

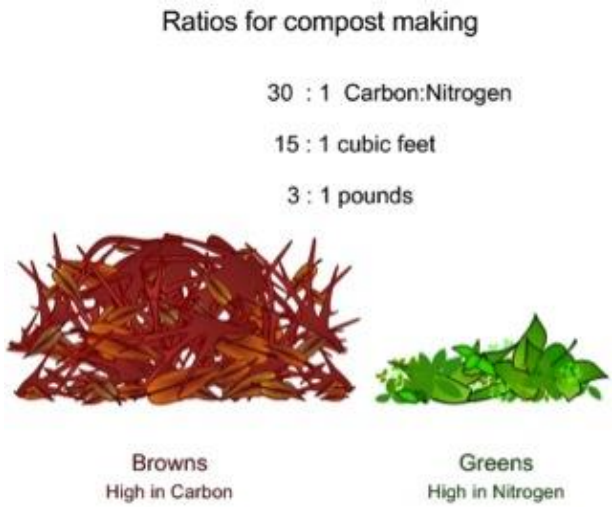
Composting is like brewing wine

- Carbon comes from carbohydrates and nitrogen from proteins
- Best 12-1 carbon-nitrogen ratio
- Better 25-1
- Good above 25-1, this will take the longest to break down



Carbon and Nitrogen

- All plant material contains a mixture of carbon and nitrogen
- All plants have more carbon than nitrogen
- The higher the carbon content the longer it will take to meet the 12-1 ratio



Brown Materials

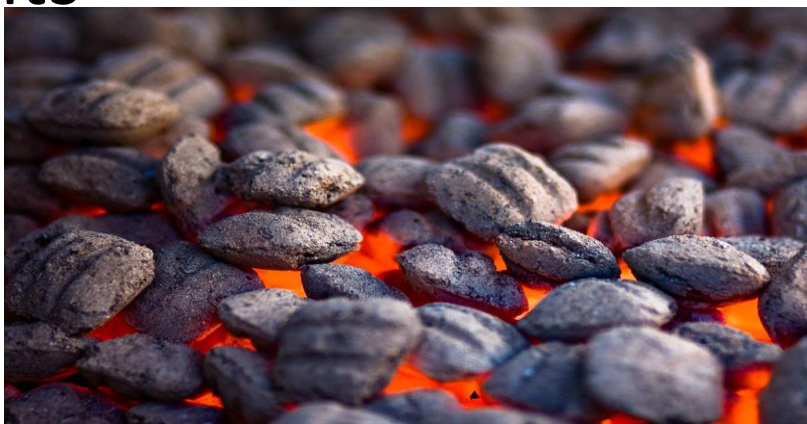
- Dry brown-high carbon materials
  - Coffee grounds 20:1
  - Leaves 60:1
  - Newspaper 50-200:1
  - Rotted manure 20:1
  - Sawdust 400:1

Green Material

- Grass clippings 20:1
- Table scrapes 15:1
- Vegetable trimmings 12-20:1
- Yard trimming

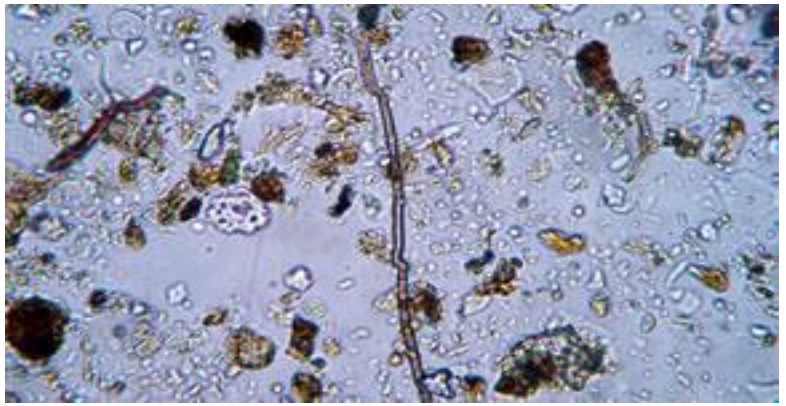
Do NOT Add

- Meat scrapes
- Fats, oils, grease
- Pet or human feces
- Diseased plants
- Ash from charcoal grill, excess levels of sulfur and iron that could kill plants



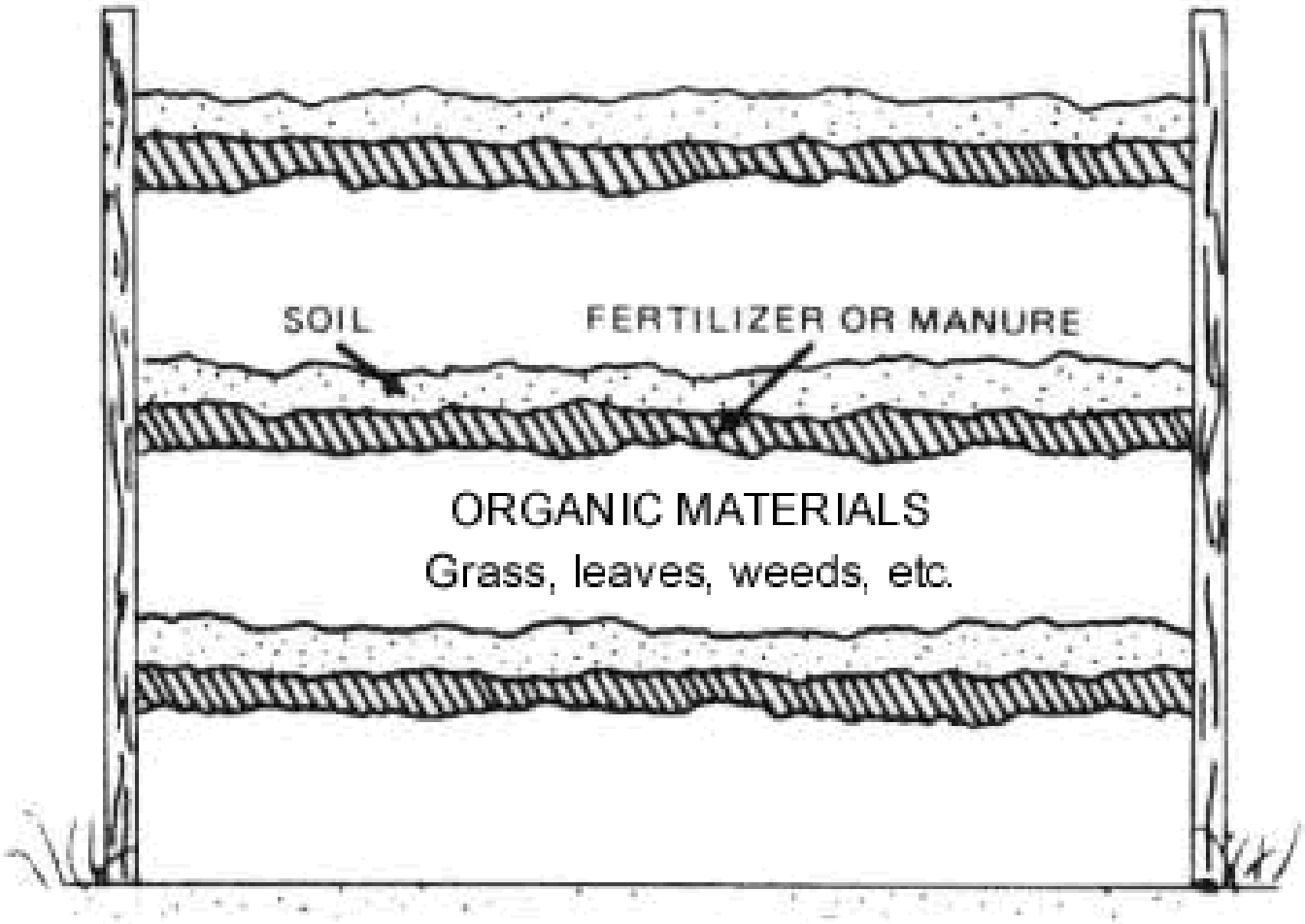
Composting Process Components

- Aeration-some microbes require to decompose organic material
- Moisture-less than 40% moisture slows down over 60% reduces available O
- Temperature-ideal 125 to 135 degrees
- Particle size-smaller the size the easer for microbes to decompose



Building Your Compost Pile

- About 8 inches of brown material-for carbon and oxygen
- About an inch of soil or compost to provide bacterial composters
- Third layer of manure or wet green items such as grass clippings or green vegitation
- Repeat
- Top with thin layer of soil
- Water until brown material is damp


SOIL
FERTILIZER OR MANURE
ORGANIC MATERIALS
Grass, leaves, weeds, etc.

Size

- Less than 3 X 3 X 3 will be too small to heat up, can be used for cold composting that takes more time
- Over 5 X 5 X 5 will be too large to get necessary oxygen
- 4 X 4 X 4 ideal

and should be

turned 2 or 3 times

Monitor

- The pile should heat up within a couple days
- 125-135 the best temperature to maintain
- The center of the pile should start to sag and dry out with a decrease in the temperature within a couple weeks
- First turn within five weeks
  - Move sides of pile to center
  - Add water
  - Keep high

Comments

- South Dakota soil is alkaline, do not need to add lime, gypsum, bone meal that are need for acid soil
- Place in partial sun not shade
- Do not place against buildings