

If It Was Once Alive

An in-depth guide to composting anything

Walter Dods
Soilutions, Inc
505-877-0220

Questions?

Benefits/Drawbacks

- Benefits
 - Soil conditioner/soil stabilizer
 - Material stabilization
 - Disease and pathogen suppression
 - Reduced waste management disposal costs
- Drawbacks
 - Time and money
 - Land use
 - Odor issues
 - Slow release of nutrients/loss of nitrogen

The basics-a refresher

- **Carbon**-energy
- **Nitrogen**-raw element of protein growth and reproduction
- **Water**-transportation
- **Air**-oxygen/respiration

In the proper ratio!

30:1 -60:1-- C:N

50-70% moisture

10%+ oxygen



Common Farm Feedstocks

- Manure
 - Cattle, poultry, horse, swine, other
- Crop residuals
 - Cornstalks, tomato stalks, carrot tops
- Spoiled hay/straw/silage
- Livestock bedding
 - Saw dust/ shavings
- Leaves/branches, etc
 - Orchard prunings

Uncommon Farm Feedstocks

- Food waste
 - Pre- and post- consumer
- Mortalities
 - Live stock, pets
- Bio-solids
- Paper products
 - Cardboard
 - Packaging

Common Methods of Composting

- Aerobic
- Anaerobic
- Vermicomposting
- In-vessel
- Layer/“lasagna”

Equipment needed

- Tractor to manage and process
- Dump truck
- Hoses, pumps
- Chipper/grinder
- Thermometer
- Screen for final grading

What do you have?

Your equipment and feedstocks will determine which method you use.



Methods

- Aerobic
 - “Standard” thermophilic method
 - Windrows or static piles
 - Batch system
 - 45 days-28 months
 - Need land and water and turning equipment



Methods

- Anaerobic
 - Generates gas and/or electricity
 - Reduces odors
 - Batch system
 - Minimum maintenance during digestion phase
 - Requires initial monetary out lay for specialized equipment



Methods

- Vermicomposting
 - Worms do all the work-no need to turn
 - Continual feed system
 - Much less picky about carbon:nitrogen ratio
 - Keep cool and moist
 - Fine particle size
 - No pathogen reduction
 - Vectors



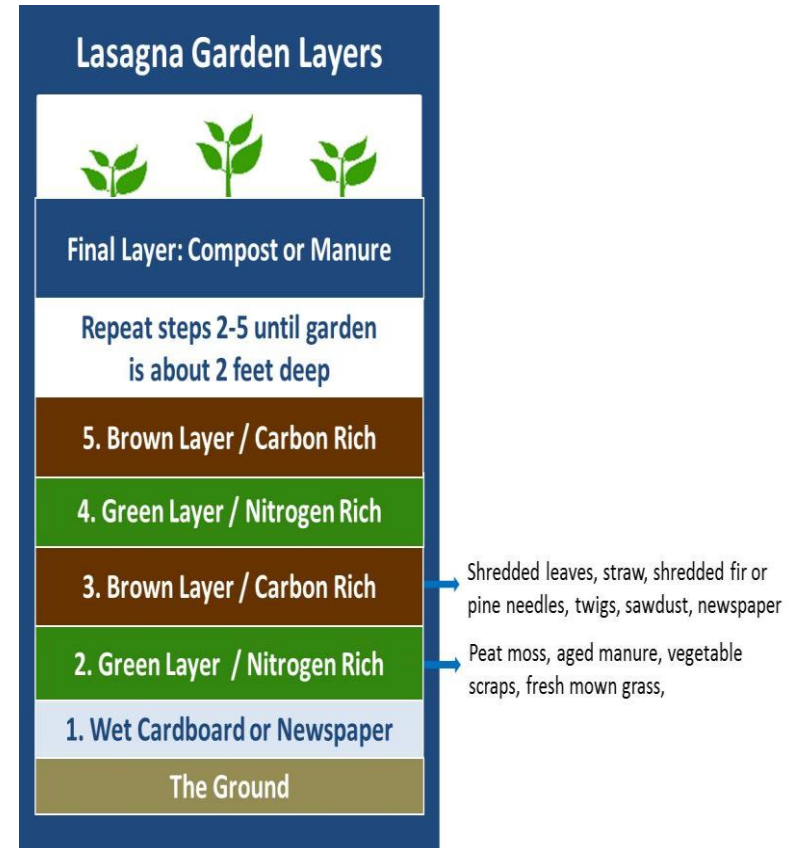
Methods

- In vessel
 - Tumbler
 - Batch system
 - Small
 - Reduced vectors
 - Expensive



Methods

- Layer/“lasagna” method
 - Slow decomposition
 - Very little labor after construction
 - Neat appearance
 - No pathogen reduction
 - Works best in moist climates
 - Can be constructed as feed stocks become available



Uncommon Farm Feedstocks

- Necessary to adapt your process to account for specific characteristics of uncommon feedstocks
 - High nitrogen or high moisture content requires immediate processing
 - Highly Putrecible
 - Timing
 - Absorbent pad for moisture retention
 - Large bulky items require a modification of process
 - Reduce particle size
 - Cover with “clean material”

Watch out!

- Plastics
 - Food service cup-ware
 - Look-a-likes
- Chemicals
 - Oils
 - Pesticides, herbicides
- Mixed materials
 - Envelopes
 - Boxes with tape