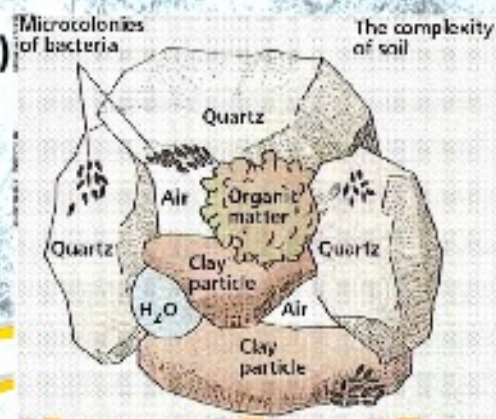


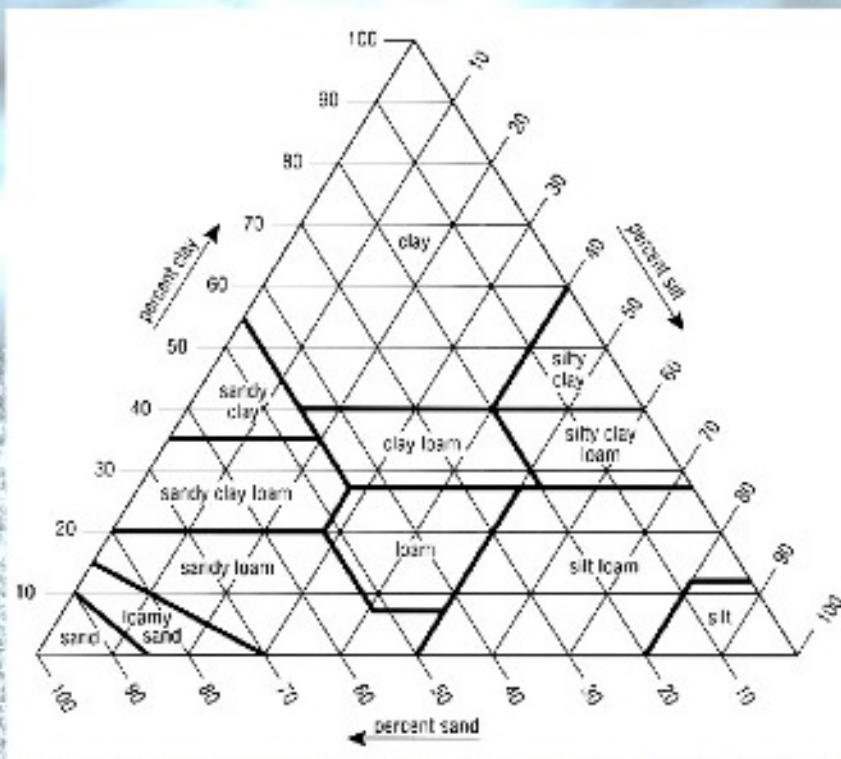
Outline: The following is the outline used when presented material given in Mountainair New Mexico May 21, 2010.

1. Welcome and give thanks
2. Review Topics
 - a. What is composting?
 - b. Why produce compost?
 - c. Benefits of adding compost to soil
 - d. Other benefits of composting
 - e. Typical uses of composted materials
3. What is composting? (aka Organics Recycling!)
 - a. A biological way to speed up the decay process of organic material
 - b. Controlling oxygen, water, carbon, nitrogen
4. Why Produce Compost?
 - a. Turns nuisance-causing waste into valuable commodity
 - b. Saves landfill space
 - c. Can decrease tipping fees
 - d. Can produce revenue from soil conditioner sales
 - e. Benefits are long term
 - f. Improves properties of Soil
 - i. Physically (Structurally)
 - ii. Chemically (Nutritionally)
 - iii. Biologically (Microorganisms)



- g. Compost adds organic matter, humus, & beneficial microorganisms to soil**
- h. Compost is stabilized**
 - i. Stores well vs. manure: Fewer odor and fly problems**
 - ii. Can be applied at convenient times of the year**

5. Soil Composition Chart



Name	Size (mm)
Very coarse sand:	2.0-1.0 mm
Coarse sand:	1.0-0.5 mm
Medium sand:	0.5-0.25 mm
Fine sand:	0.25-0.10 mm
Very fine sand:	0.10-0.05 mm
Silt:	0.05-0.002 mm
Clay:	< 0.002 mm

6. Soil Benefits of Compost Physical

- a. Compost Benefits for sandy soil**
 - i. Humus improves soil fertility**
 - 1. Holds water - lowers H2O bill**
 - 2. Holds micronutrients**
 - ii. Compost adds beneficial microorganisms**
 - iii. Humus improves soil aggregation**
 - 1. Soils more resistant to erosion**

- b. Compost benefits for clayey soils**
 - i. Humus, organic matter breaks up clumps of fine soil grains**
 - 1. More air in root zone**
 - 2. Reduced bulk density**
 - ii. Improves soil drainage & porosity**
- c. Soil/vegetation more resistant to drought**
- d. Allows moisture dispersion**
 - i. Allows water to move laterally from application point**
- e. Improves workability**
- f. Increases gas & water permeability**
 - i. Reduces erosion**
 - ii. Resists compaction**

7. Soil Benefits of Compost Chemical

- a. Makes current fertilizer programs more effective**
- b. Soil retains nutrients longer which reduces nutrient loss by leaching**
- c. Keeps nutrients in root zone**
- d. Compost has the ability to bind heavy metals & other contaminants (Humus Acid) - can't be leached**
- e. Same binding effect allows compost to be used as a filter media for storm water**
- f. Degrades some toxic compounds**
 - i. Petroleum hydrocarbons**
- g. Weed Control-immature compost (mild herbicide)**

8. Soil Benefits of Compost Biological

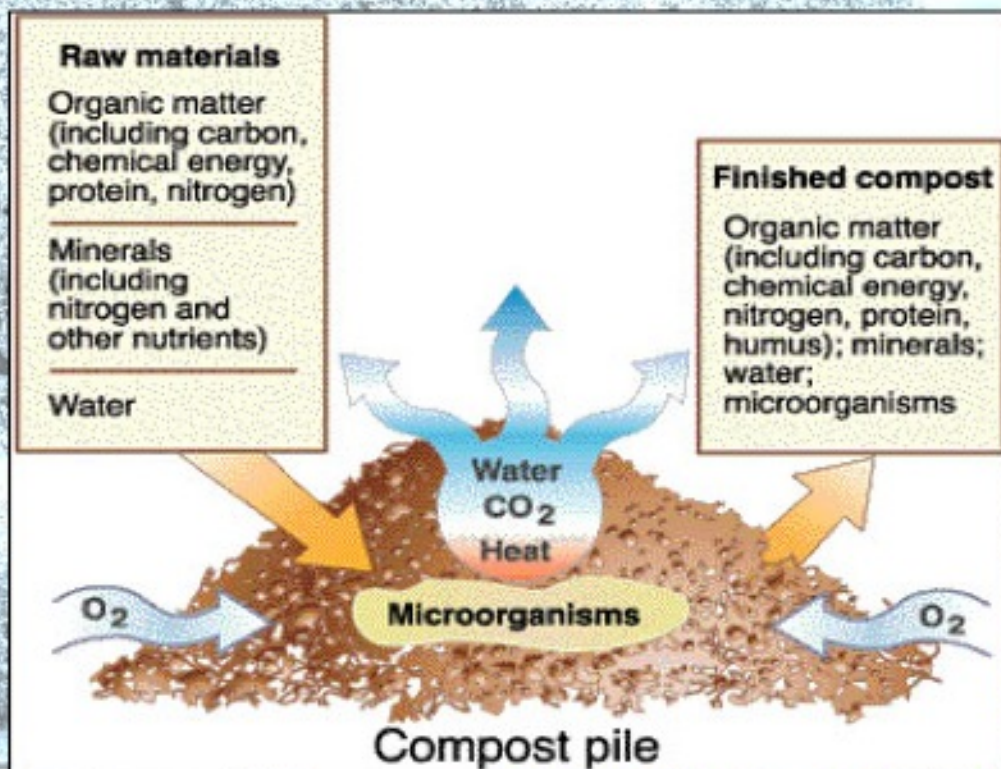
- a. Provides Soil Biota: Bacteria, Fungi, Actinomycetes, Protozoa depending on Organic Matter**

9. Other Benefits

- a. Compost changes wastes to resources**

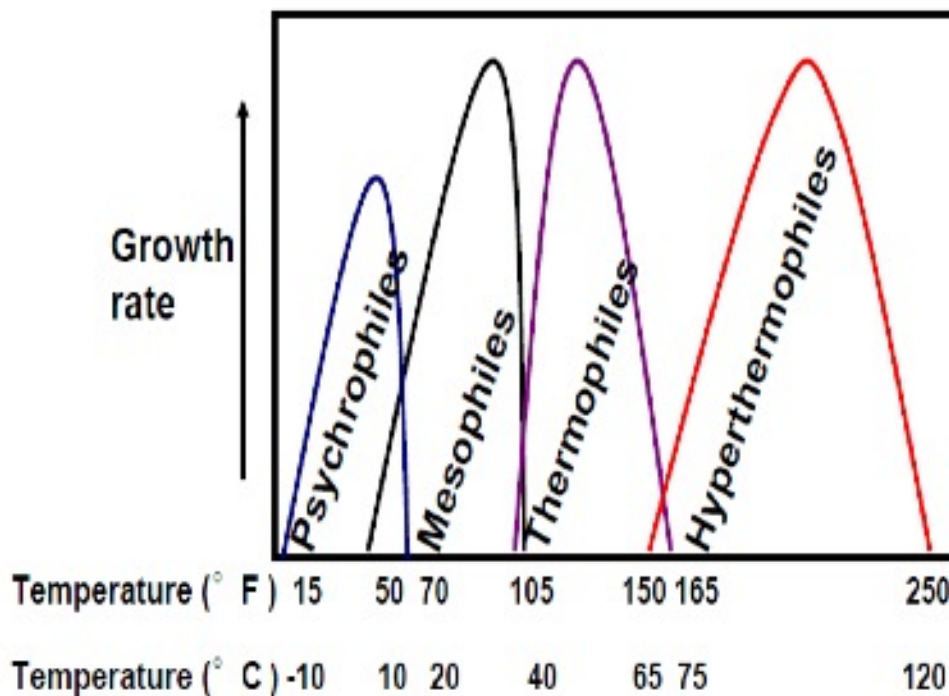
- i. Post consumer foods - grocery, restaurants**
- ii. Yard trimmings, leaves (was “yard waste”)**
- iii. Animal bedding (chicken, horse, cattle, etc)**
- iv. Ag waste: Gin trash, chile skins, pecan hulls & trimmings (15%-25% orchard pruned per year)**
- v. If bedding manures applied they have high C:N ratio and rob soil of N – compost lowers C:N ratio to more acceptable level**
- vi. Provides way to recycle solid wastes bound for landfill**
 - 1. Approximately 20 % of landfill volume**
 - 2. Approximately 20 % of tipping fees**
 - 3. Approximately 70 % could be composted**
 - 4. Less methane production and subsidence of cap**
- vii. Very cost competitive w/ other soil amendments like peat moss (Canada)**
- viii. Biosolids compost is stable vs. lime treated, irradiated, or flash-dried (Milorganite)**

10. **Typical uses of compost**
- a. **Turf grass - parks**
 - i. amending poor soil, bare areas
 - ii. Under swings, heavily traveled areas
 - b. **Golf courses**
 - i. 1/2" minus (particle size) needed
 - ii. Typical Mix below
 1. 15% compost
 2. 65% sand – cushion
 - c. **Landscaping**
 - i. Surface mulch - flower beds, trees, gardens, commercial gardens
 - ii. Potting soil component for nursery, home
 - iii. Seed bed material
11. **The COMPOST PILE as found in nature**



12. **First INGREDIENT Carbon**
 - a. **AKA the Brown Stuff (dead and dried)**
excellent sources of carbon
 - b. Paper
 - c. Dried Leaves
 - d. Straw
 - e. Chipped branches and tree trimmings
 - f. **Second INGREDIENT Nitrogen**
13. **Compost Quality**
 - a. **Compost Nutrients**
 - b. **NPK**
 - i. **Percentage of Nitrogen, Phosphorus, Potassium**
 - ii. **Estimates macronutrient content**
 - iii. **Usually near 1:1:1 for compost**
 - c. **Compost is not fertilizer**
 - i. **Works in tandem with inorganic fertilizers**
 - ii. **Allows reduction in fertilizer use**
14. **Compost Microbes**
 - a. **The Soil Food Web**
 - b. **Compost Food Web**
 - c. **Composting Microorganisms**

15. Microbial Temperature Regimes

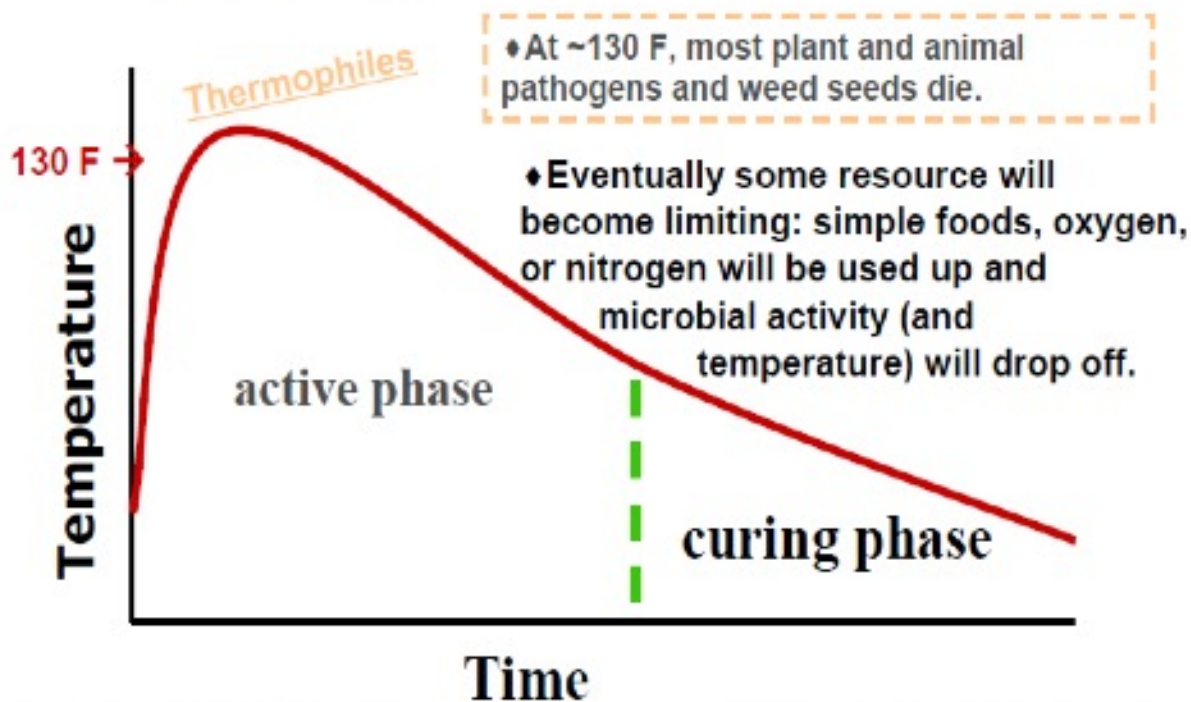


16. The Hot Compost Pile



17. Typical Compost Heating Cycle

◆ Tremendous microbial activity produces heat.



18. Cold – Sheet composting

- a. Photos essay describing how to Sheet composting

19. Vermicomposting

- a. How do you know what side of a worm is its head?
- b. Photos essay describing how to vermicomposting

20. Rain Sponges

- a. Photos essay describing how to Rain Sponges

21. Sheet Composting

- a. Photos essay describing how to Sheet Composting

22. **Compost Tea**
- a. Photos essay describing how to Compost Tea
23. **The Other Option Landfilling**
- a. Food and yard waste account for at least 25% of landfill materials
- b. CO₂ impact from edible food waste per person equates to taking 1 to 4 cars off the road
- c. CO₂, methane (CH₄), and nitrous oxide (N₂O) generates as organic waste decays in landfills
- d. CH₄ 21 times worse and N₂O 300 times worse than CO₂
- e. Proper composting minimizes greenhouse gas emissions and extends life of landfills by saving space
24. **Happy Composting –**
- a. Closing thank you and encouragement
- b. For additional questions:
- i. Bernalillo County Master Composters
1. <http://bernalilloextension.nmsu.edu/mastercomposter/index.html>
- ii. ABQ Master Gardeners
1. <http://www.abqmastergardeners.org>

"The Nation that destroys its soil destroys itself"
- Franklin D. Roosevelt