

## COMPOSTING AT HOME



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### What is Composting?

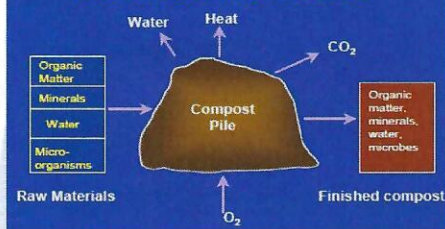
- Control of the natural breakdown of organic material that produces a stable humus-rich material
- Aerobic process
- Biologically controlled
  - Bacteria
  - Fungi
  - Actinomycetes
- Macro-organisms are important too
  - Insects, earthworms, sow bugs, millipedes



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### Schematics of Composting

#### The Composting Process



Adapted from Rynk, 1992

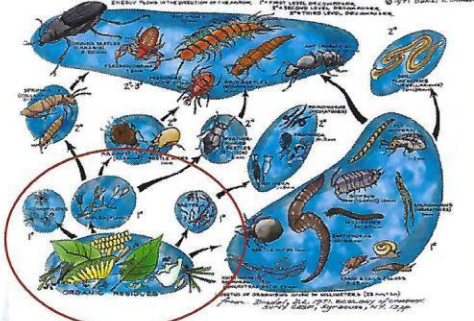
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### What Do I Need to Make Compost?

- Nutrients:
  - Components with nitrogen content
  - Components with carbon content
  - Micro nutrients
- Microbes (bacteria, fungi, actinomycetes)
- Air
- Moisture
- Bulking agents (mostly carbon sources)

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### FOOD WEB OF THE COMPOST PILE



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### CARBON : NITROGEN RATIO (BROWNS TO GREENS RATIO)

- Best at 30:1
- Too much carbon = slow and inefficient breakdown
- Too much nitrogen = N lost to air as ammonia + stinks
- Most materials by themselves do not contain the right ratio
- Need to mix them together

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### GETTING THE RATIO RIGHT!

- Measured by mass (weight) when balancing C:N
- Easy compost calculator see: <http://www.klickitatcounty.org/1030/Compost-Mix-Calculator>

A good rule of thumb is **2 parts browns** (range 1 to 3) and **1 part greens** - **by volume**

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### COMPOSTING MOST BASIC CONSTRUCTION

#### Layer, sandwich, or sheet systems

- Easy to do
- Takes long time to compost (1 to 3 years)
- Spotty nutrient distribution
- Layers of C rich materials alternated with layers of N rich materials
- Coarser Brown layer 3-6 inches deep
- Green layer 3-6 inches deep
- Brown layer again or soil/done compost on top 1- 2 inch layer
- Spread sheet on section of garden or pile up until 5 feet tall
- Water between layers

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### COMMON BACKYARD METHODS

#### PILES OR HEAPS

Simplest form of active composting

- Helpful to have 2 or 3 piles
  - Fresh material
  - Active composting
  - Maturing compost
- Active pile should be 3 to 5 feet wide and at least 3 feet high
- Remember to turn it!



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### HOLDING UNIT - VERY SIMPLE



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### HOLDING BINS - STATIONARY



Holding units should allow for aeration - Layer system but contained

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### TURNING BINS

- Contain materials and provide access for turning
- Open side, removable walls, and multiple bins
- Three bins are popular
- Similar to three-pile system but contained with 3 walls



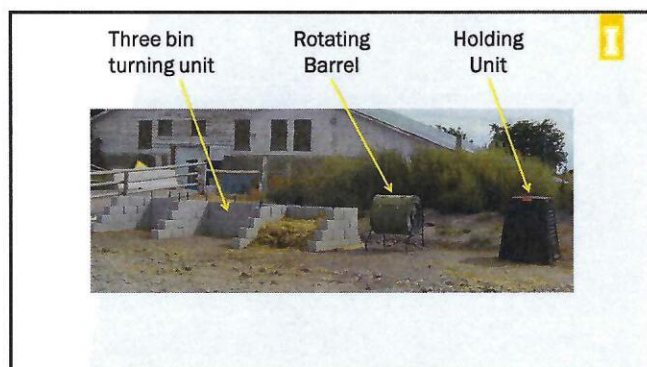
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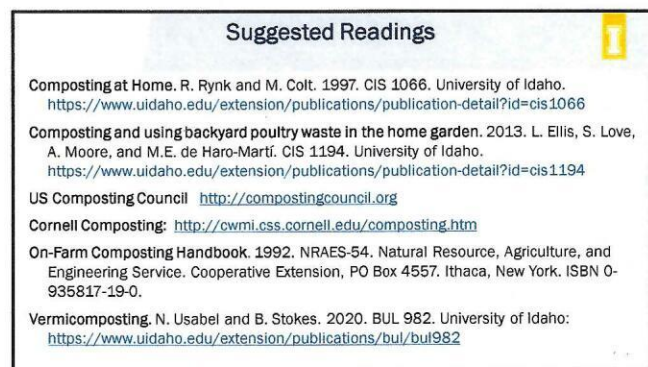
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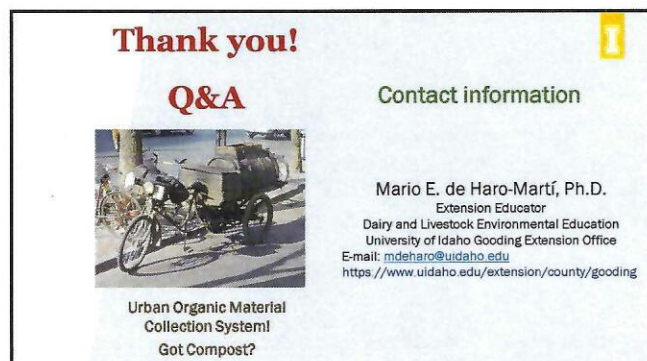
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