Composting 101

"One Man's Trash is
Another Man's Treasure"

Basics

- Compost helps improve soil
  - Improves texture & moisture-holding capacity of your existing soil
  - Loosens heavy clay & bulks up sandy soil
  - Revitalizes Microlife in your existing soil
- Compost is a natural process
  - Microorganisms (the heat makers)
  - Other helpers (break up particles, mix materials & move microbes)
  - Biggest helper – YOU – collect, layer and turn, water & monitor

Factors Affecting the Process

- Carbon (the brown) – Provides fiber & bulk of compost diet
  - Organic debris, i.e. dried out woody branches, twigs, bark, stalks, hulls, straw, leaves, corn cobs, even paper
- Nitrogen (the green) – the fat of the compost diet. Nitrogen heats up the pile enabling Carbon to be eaten, digested and processed by the workers
  - Fresh grass clippings, fresh weeds & garden trimmings, manures, straw bedding, fruit & veggie discards, coffee grounds, bread, egg shells, tea herbs, veggie/grain leftovers

Manures

- Cow – high in salt – use more water to leech out salt
- Chicken – be careful because of diseases
- Sheep – slow release
- Rabbit – “bunny balls” fine
- Horse – don’t use fresh if they’ve just been wormed
- Llama – Good stuff
- Deer – Okay

What to Avoid

- Resinous sappy woods (example: Cottonwood or Oak)
- Nasty weed seed heads (bindweed, quack grass, sand burrs)
- Meat products (except blood)
- Fish scraps
- Dairy
- Chemically treated plants
- Oils, including salad dressing, mayo, peanut butter
- Carnivore & pigeon feces
- Contaminated plant litter (diseased or harboring pests)
- Wood ash (ashes have high pH & high levels of salts)
- Lime (high pH)
- Charcoal briquettes – chemically treated
- Potato Skins – if you plan to grow potatoes in your vegetable garden - the skins can transfer fungus and infect the growing potatoes
  - otherwise, they are fine to include in your compost

The Art of Composting

- Balancing the Pile
  - Layering materials, mixing & turning the pile keeps it working – aerobic composting (no bad odor)
  - Your compost needs both carbon and nitrogen together to really work well; about a 25:1 ratio, Carbon to Nitrogen
  - Too much carbon or too little nitrogen slows or stops the process
  - Too little carbon or too much nitrogen escapes as ammonia gas…odor
  - Turn, turn, turn
  - Keep moist
  - Build it and they will come…WORMS, but you can add some Red Wigglers if you'd like

The Art of Composting

- Moisture
  - Adequate water in the pile feels damp to the touch
  - Too little water – becomes dormant – no food - solve by watering, and it's a good time to turn pile
  - Too much water – nutrients leech out and oxygen is reduced - solve by turning in dry, unshredded materials

The Art of Composting

- Providing Oxygen (Aerobic Composting)
  - Microbes need oxygen to work
  - Pile dimensions should not be wider or higher than 5 feet, or oxygen can’t reach the middle
  - There is less oxygen in a compacted pile, so don’t over shred materials

The Art of Composting

- Temperature
  - Indicates how well compost is working
  - High temps over 140 degrees – activity slows, kills disease/weed seed & roots
  - Low temps below 90 and composting stops, piles go dormant
  - Pile dimensions must be at lease 3’x3’x3’ to hold its own heat
- How Big a Pile?
  - Basic Rule of Thumb – large enough for heat (3’x3’x3’) yet small enough for oxygen to circulate (5’x5’)

The Art of Composting

- Both wooden bins or piles without boundaries work fine
- Exposure of pile important – avoid drying winds and heavy dense shade; baking sunlight will dry out as well and require more water
  - Best to set up a horseshoe shaped area and pile compost within its boundaries, allowing south-facing sun exposure
- Water source close by and good drainage (avoid low lying areas where water pools)
- Don’t compost near wooden structures or trees - will rot the wood

Maintenance

- Feed the carbon and nitrogen
- Monitor water
- Sniff the air
  - Odor means either too wet or not enough oxygen or both - solve by drying out some and turn pile
  - Ammonia odor means too much nitrogen - solve by adding carbon
- Turn the pile by turning top and sides into center, and watch as it becomes darker and more uniform
- Animal proof if necessary
- There is no advantage in adding compost starters or inoculums, since the microbes that cause decomposition multiply as rapidly from those that are naturally found on the plant waste

Tips for Getting the Goods

- Established Neighborhoods
  - Fall season, go around town picking up the orange bags on the side of the road
  - ask friends that live in town for their yard trash
  - place an ad in the paper
- Restaurants
  - coffee grounds
- Black Forest/Monument
  - suppliers of manure
  - slash program in Summer
- Home
  - all scraps listed in overview
  - paper egg cartons, shredded
  - newspapers, shredded