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## COMPOSTING FOR YOUR GARDEN

One aker well compost, is worth akers three

**H**istory: The making and use of compost has been known for thousands of years. Over 3000 years ago Mesopotamian farmers fertilized their plants with manure. The Jewish Temple in Jerusalem had a piping system that channeled the blood from the animal sacrifices to a pit in the Kidron Valley near the royal gardens. The dried blood was composted and sold for fertilizer. Compost's use (and misuse) is legislated in the Talmud. The New Testament parable of the barren fig tree speaks of "dunging" the tree to make it produce. Arabic manuscripts encourage the agricultural use of blood - including human blood!<sup>1</sup> - plus bone, wool, wood ashes and lime. Tusser (1557) comments that, "One aker well compost, is worth akers three."; Shakespeare mentions compost in *Hamlet* and in *Timon of Athens*. Evelyn (1693) defines compost as "... rich made mold, compounded with choice mold, rotten dung, and other enriching ingredients." Compost was praised by Sir Francis Bacon, William Caxton and Sir Walter Raleigh. Poets Robert Herrick, John Dryden, William Cowper and Walt Whitman wrote verses on the subject.<sup>2</sup>

The word compost (in five variant spellings) comes from the Old French, but compost is as American as apple pie. Colonial New England farmers made compost by mixing one measure of manure with two measures of muck (river bottom sediment), and found, corollary to Tusser, that its increased fertility was equal to three measures of manure. In an 1818 Virginia speech President James Madison endorsed the use of compost. So did George Washington Carver.

The world's best known compost expert was Albert Howard, a British government agronomist. Knighted for his work, Sir Albert developed *The Indore Method* of composting in India between 1905 and 1934. He based his work on ancient Chinese recycling practices, finding a use for the ample supplies of manure from "mother cow". Sir Albert died in 1947, but his work was taken up in the USA by J. I. Rodale, who began what is now *Organic Gardening Magazine* in the 1940's.

**Do's:** To make compost, first collect plant wastes, leaves, grass clippings, sod (not commercial sod which may be impregnated with weed killer), chicken, pig, cow, horse, rabbit, goat, guinea fowl or-what-have-you manure, vegetable garbage, tea leaves, coffee grounds, hair, wool, wood ashes, granite dust<sup>3</sup>, blood meal, cottonseed meal, sour milk, egg shells, bone meal, alfalfa<sup>4</sup> pellets or alfalfa meal (some kitty litters are pure alfalfa, but see "don'ts" below) and any other vegetation that will decay. Small amounts of sawdust may be added, (but see "don'ts" below).

**Don'ts:** Never compost meat, fish, oils, used kitty litter, or any other fresh animal product: The macabre odors will attract hopeful dogs. Never add sewage sludge: It's full of poisons. Never add oak leaves: They're too acid. Never add any grass clippings or plants that have had weed killers on them. Never add ashes from barbecue briquettes: They contain animal grease and petrochemicals. Never add leaves or sawdust from walnut or butternut trees: Both contain growth-inhibiting hormones. Never add cat or dog manure: Humans can host

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<sup>1</sup> . I once knew a hematologist who put over age human blood on her roses. Blood is about 15% Nitrogen. The roses thrived.

<sup>2</sup> "... the Earth ... grows such sweet things out of such corruptions, ..." from Walt Whitman's poem *This Compost*.

<sup>3</sup> Granite dust can be found free at tombstone manufacturers. Take a container and shovel. **Warning:** granite dust is very heavy.

<sup>4</sup> Alfalfa contains a growth enhancing hormone.

the same intestinal parasites that plague our pets. [I would avoid using manure-laden pet fish water<sup>5</sup>, or pet guinea pig, parrot, canary or other house pet manure, though I have never seen warnings in the literature.]

**Avoid** using sweet things like melon rinds which can create problems with raccoons and fruit flies.

### Three Special Notes:

1) A composter ring of open wire or plastic fence - I use two - will help keep all in place but is not necessary for the process.

2) I find that most commercial composters are too small for practical use in the sandy soil of Gary's Miller. We garden on top of 50 feet of sand and need all the humus we can get.

3) Garden center packaged compost activating preparations are not necessary. The same bacteria are already in your soil. They are dormant in the cold months but become active when the soil is at least 50° F. . There are forty thousand unique bacterial *species* per square inch! That means millions of individual bacteria waiting to reproduce geometrically when given the food materials they can consume. Each bacterium clones itself in about 10 minutes. Do the math. In just one hour one bacterium can divide and re-divide into 64.

**The Process:** Plan to make a pile 3' to 5' across and about 3' high. Remove the grass from the ground where you intend to put your pile. Put a 4" to 6" layer of chopped brush on the bared soil so that the bottom material can have ventilation. Then add a 6" layer of vegetable matter (cut up any big leaves and plants), followed by 1" of top soil, then 2" of stable manure<sup>6</sup>. Dried manure will work, but not as well or as quickly. Dustings of blood meal, alfalfa, and/or cottonseed meal (to add N, P<sub>2</sub>O<sub>5</sub> & K<sub>2</sub>O<sup>7</sup>) wood ashes ( P<sub>2</sub>O<sub>5</sub> & K<sub>2</sub>O) granite dust (K<sub>2</sub>O) vegetable garbage (N, P<sub>2</sub>O<sub>5</sub> & K<sub>2</sub>O), hair (N) and so on can be added as available. Remember to breakup and include the sod that was removed from the ground. Then, water all down so that the pile is damp but not sodden. Next, put on another 6" of vegetable matter, 1" of top soil and 2" of manure and whatever else is at hand and water all again. Keep building wetted layers until you have some 3' of piled material or have no more supplies. Blend the layers together with a digging fork or pitchfork. Make sure that the top of the pile is concave to catch rain water and snow. Add water during drought. In a few days decay should begin as bacteria increase. The bacterial action may heat the compost up to 160° or even 170° F. Water vapor may be visible. The heat will kill plant diseases and weed seeds and will enable various kinds of bacteria to trap or "fix" the Nitrogen that is released in the decay process. Composting can double or triple the plant-usable Nitrogen in the finished product.

**Very important:** Turn the outer layers into the center to add Oxygen so that: (1) all material will decay and (2) the heat will kill weed seeds and plant disease organisms. Should you need the compost in the next 30-60 days, turn the pile 6 times. Do it 3 days apart. If you don't need the material for some time, turn the pile 3 times, 3 days apart. It will be usable in about 6 months. Completed compost will have lost 50% of its bulk, will be cool to the touch, brown, damp and crumbly and will have a not unpleasant earthy odor. Mix it in your soil and watch your flowers and vegetables grow. When you start a new pile, toss in a heavy dusting of old or unfinished compost with each earth layer to get the bacteria working for you more quickly.

**Special:** Every Fall, mow your lawn grass and fallen leaves together. Any mower will do but a mulching mower works best. Put a bag on the mower to collect the grass/leaf mixture. Layer the minced product with manure and other composting materials. Mix. The pile should decay very quickly. Spread the decayed product in Fall or Spring and watch your garden grow!

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<sup>5</sup> An article published July, 2001 says that fish tank water is OK.

<sup>6</sup> Horse manure can be obtained free nearby. If you are near Gary, drive out on far west 5th Avenue to Durbin Street. Turn right onto Durbin. Cross the South Shore Railroad tracks at 2nd Avenue and immediately turn left onto a sandy alley which goes west. Drive about 200 yards to the manure piles close to the railroad tracks. The owners are rodeo people who keep lots of horses and are happy to reduce overhead.

<sup>7</sup> N = Nitrogen, P<sub>2</sub> O<sub>5</sub> = Phosphorus, K<sub>2</sub>O = Potassium