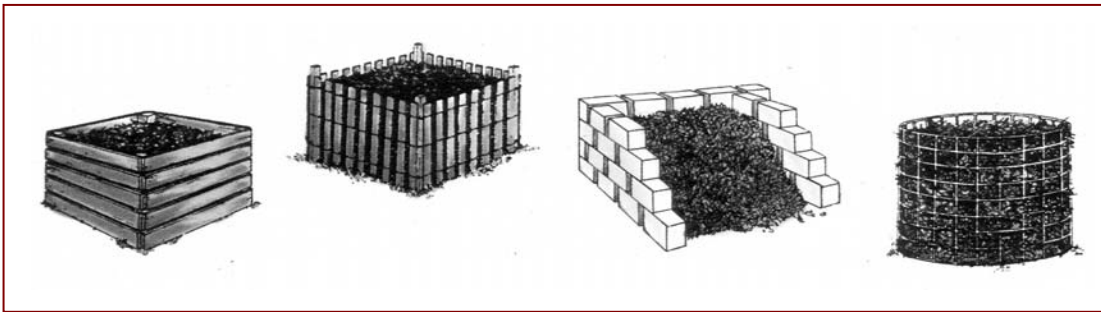


Composting

Imitating nature's disposal system

A process by which organic materials (branches, leaves, fruits) biologically decompose under controlled conditions. Composting speeds the process by providing an ideal environment for bacteria and other decomposing microorganisms. When composted, the final product looks and feels like fertile garden soil. This dark, crumbly, earthy-smelling stuff works wonders on all kinds of soils and provides vital nutrients to help plants grow and maintain good health.



Four Key Elements:

1. Nitrogen (green leaves)
2. Carbon (woody stems)
3. Moisture (from water)
4. Oxygen (from air)

For best results, mix materials high in **nitrogen** (such as fresh leaves, grass clippings, seaweed/aquatic plants, fruits, vegetables) and those high in **carbon** (such as dried leaves, twigs, stems from fibrous grasses, shredded palm fronds, chipped trees, shredded paper). **Moisture** is provided by rain, but you may need to water the pile to keep it damp. Be careful not to saturate the pile, use a cover to prevent saturation. Turning or mixing the pile supplies **oxygen**. More turning yields faster decomposition.

Methods of composting

- Passive (cold) composting

With this method, you mix grass clippings and dry leaves on the ground or in bin. Shredding of the material by running your lawn mower over small piles of weeds and trimmings speed up the process. Passive composting requires no maintenance. Keep weeds and diseased plants out of the mix. Add yard waste as it accumulates.

- Active (hot) composting

Hot piles must be built all at once in a four to five foot cube and turned regularly. As decomposition occurs, the pile will shrink. A three-foot cube is needed to maintain necessary heat. Hot piles can reach 110 to 160 degrees Fahrenheit, killing most weed seeds and plant diseases. Spread several inches of the high-carbon material (woody, fibrous), and then mix high-nitrogen material (green leaves/grass) together. Water periodically. Punch holes in the sides of the pile for aeration. The pile will heat up, when it begins to cool, start turning the compost. Move material from the center to the outside and vice versa. Finished compost will smell sweet and be cool and crumbly to touch.

Mulched material (green waste), which has already been ground or chipped, obtained from the local green waste facilities can easily be turned in to compost. Pile a cubic yard on the ground, periodically turn the pile with a pitchfork or shovel to aid in the aeration and decomposition.

Note: Composting is not an exact science. Be patient. The rate of decomposition will vary depending on weather conditions and materials composted.

Worm Composting (Vermicomposting)

Vermicomposting uses worms and associated microorganisms to compost kitchen scraps and other organic wastes. Two species are commonly used for vermicomposting in Hawaii, *Eisenia fetida* (Red worms) and *Perionyx excavatus* (Indian Blue worms). Materials required for worm composting include a bin (plastic is most common), bedding (shredded paper, cardboard etc.), worms and food. Most organic materials can be composted with worms. Composting with worms can take longer than other forms of composting, but it is worth the wait. Properly produced vermicompost is an exceptional plant food, rich in plant nutrients and beneficial to plant growth.



Additional Resources:

www.opala.org

www.recyclehawaii.org