Composting is an easy, inexpensive, and clean way of decomposing organic materials and returning them to the earth where they enrich the soil.

Worm composting systems (Vermi-composting) are neat, easy, and odorless, and work well for people living in apartments or condominiums or for those with small yards and not much yard debris. Busy redworms turn food scraps and plant trimmings into some of the best organic fertilizer on earth called worm castings. Composting with worms is relatively effortless. Setting up the bin the first time and periodically harvesting the castings is all that is required!

For more information, borrow a copy of
Worms Eat My Garbage by Mary Appelhof
Or visit
Riverside County Department of Waste Resources www.rcwaste.org
Or
CalRecycle
http://www.calrecycle.ca.gov/

Harvesting & Using Vermicompost

After a few months, the contents of the bin will be a dark, crumbly material (vermicompost) that smells like earth.

Eventually, the worms will eat all of the bedding. The proportion of worm castings will increase and the quality of the environment for the worms will decrease. To maintain a healthy worm population and to utilize the finished compost, the castings should be harvested.

PUSH AND WAIT HARVESTING

PUSH the contents of the bin to one side of the bin and add fresh bedding and food to the other side. Do not feed on the castings side.

WAIT about a month while the worms slowly migrate to the new bedding. The castings are ready to be harvested from the old side of the bin when most of the worms have moved.

DUMP AND SORT HARVESTING

DUMP the contents of the bin on a plastic sheet under a bright light. Make many small pyramid piles. Worms will crawl away from the light to the center of the pile.

SORT by scraping away worm compost from the top of the pile. Each time the outer compost is scrapped away, give the worms some time to migrate towards the center again before scraping again. Once the compost has been scraped away, you will be left with a wiggling pile of worms. Return worms to the bin with fresh bedding.

How do plants benefit from your worm bin?

Compost improves aeration and drainage in clay soils, holds moisture in sandy soils, eases cultivation, acts as a disease suppressant, balances pH, and helps all soils resist crusting, erosion, and leaching of nutrients. Worm castings are the most nutrient-rich, pH balanced, and consistent of all composts.

Worm castings are very rich in available nutrients and are an excellent natural fertilizer for plants. Vermicompost will not "burn" your plants as some commercial fertilizers do.

SEED BEDS

Sprinkle vermicompost into the seed row and the new seeds will have the vermicompost as a rich source of nutrients soon after they germinate and during early stages of their growth.

TRANSPLANTS

Throw a handful of vermicomost in the bottom of each hole you dig for a plant.

TOP DRESSING

Sprinkle 1/4" on the soil surface and water as usual. Repeat every 45-60 days.

LIQUID FERTILIZER

The drainage from the worm bin is called leachate and mixed with water, makes a great natural fertilizer to water your plants with.

Morongo Environmental Protection Department

Your Guide to ...

Household Vermi-Composting

(Composting with Worms!)

Prepared by:
Morongo Environmental Protection Department
Pollution Prevention Program
951-755-5198

Making a Worm Bin

Worms are kept in a covered bin and quietly convert your garbage into fertilizer. Nothing fancy or complicated is needed, the bin can be as simple or elaborate as you choose.

1. Assemble Materials and Tools Needed

BINS: Bins may be plastic or wooden containers and can be anywhere from 5—20 gallons. The bin should be opaque and about 2' x 2' x 12" to 18" high. Allow 1 sq. foot of surface area per pound of food scraps per week. For air flow, drill 1/4" holes in the top and sides. Plastic bins hold more moisture, so drill more holes for aeration or create a screened window on the lid. Drill 1/2" holes on the bottom of the container about 4" apart and cover with window screen to allow for drainage. Place a second bin or dish underneath the container to catch the drainage or leachate.

BEDDING: Worm bedding holds moisture and provides a medium in which the worms can work. Shredded newsprint, cardboard, brown leaves, straw, and coconut fiber (coir block) are all appropriate types of bedding. A handful of soil provides grit for the worms to help them digest.

1 lb. RED WIGGLERS: Not all worms are suited for worm composting. Red wigglers, or manure worms, process large amounts of organic material and reproduce quickly in confinement. Soil dwelling worms, such as nightcrawlers, are not suitable for bin composting. Red wigglers can be bought by the pound from a supplier or a bait shop. For a list of local suppliers, visit:
http://www.calrecycle.ca.gov/organics/worms/

2. Prepare your Bin

ADD BEDDING: Mix Bedding and water in a bucket until bedding is as moist as a damp sponge. Worms need moist but not soggy bedding. Fluff and distribute the bedding evenly in the bin, about 6-8" deep.

ADD WORMS: Add worms on top of the bedding and let them migrate into the bedding on their own. Remove any worms that remain on the surface after 1 hour (these are dead or dying).

COVER: Cover the bin with several layers of wet newspaper or cardboard, to help hold in moisture, and the original bin lid or a sheet of plastic to keep out the light.

LOCATE: Locate the bin where it is handy and the contents can be kept moist and dark. Red wigglers will be the happiest at temperatures between 55-77°F. Bins should be placed in the shade or in locations that receive limited direct sunlight. Good locations include the patio, garage, kitchen, or laundry room.

Caring for Your Worms

Worms are quick to adapt to their new home as long as they have a well covered and well stocked environment. Check on your worms at least every couple of days for the first few weeks.

FEEDING YOUR WORMS:
Push aside some of the bedding and add the food and recover with an inch or so of bedding.
Rotate the placement of food in the box each time materials are added.
Red wigglers can eat half of their body weight a day. So, one pound of red wigglers can eat 3-4 lbs of food scraps each week. How often the worms are fed depends on the rate of food generation by the household as well as how finely their food is chopped. The finer the food, the more that can be processed.

Worms Love...

- Vegetable and Fruit Scraps (peels, pulps, cores, leaves, rinds, etc)
- Coffee Grounds and Tea Bags
- Stale Bread and Cereals
- Pasta
- Eggshells
- Plant Trimmings

Worm Bin No-No's...

- Pet Wastes
- Dairy Products
- Fatty or Oily Foods
- Meat, Fish, and Bones
- Anything Non-Biodegradable (plastic, metal, glass, etc.)

TROUBLESHOOTING
Odors and pests are indicators that something may be wrong in your bin.

Symptoms	Problems	Solutions
Flies	Food is not buried	Bury food and cover surface with sheets of moist newspaper or a sheet of plastic.
Ants	Food accessible or bin too dry	Bury food, check bedding moisture, or set bin base in a tray of water.
Worm Bin Smells Bad	Too much food or bin is too wet	Feed less and check drainage holes. Add dry bedding to soak up moisture.
Worms Are Not Eating	Too much food or pieces too large.	Feed less, cut food up into smaller pieces.
Worms are Dying	Not enough food Bin too dry or too wet Bedding is eaten, too Many castings	Add food Adjust moisture of bedding Harvest castings and add fresh bedding