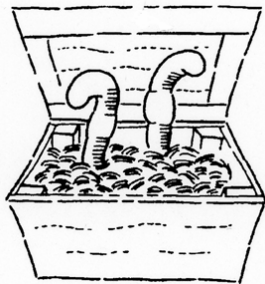


*Your Guide to*

# VERMI- COMPOSTING\*



\* *i.e.*, composting  
with worms

*Prepared by Master Composters  
Cornell Cooperative Extension  
Tompkins County, State of New York*

## MAKING A WORM BIN

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### *1. Assemble your materials*

**RED WORMS  
BEDDING  
FOOD SCRAPS  
BIN**

**RED WORMS** may be ordered by the pound (approx. 1,000 mature worms / lb.). For sources, call Cooperative Extension.

**BEDDING** materials may include shredded newsprint, cardboard, brown leaves, straw, coconut fiber and / or old sawdust (*worms eat the bedding!*). Newsprint is especially cheap and available. A handful of sand soil may be added for grit.

**FOOD SCRAPS** are fruit and vegetable scraps from your kitchen (*chop up large chunks – worms don't have teeth!*). Weigh your scraps for one week. Once settled in, a pound of worms can consume up to 3# scraps per week.

**BINS** may be plastic or wooden containers. Lightweight Styrofoam® boxes are often available free at pet stores. For 3-4# scraps per week, the bin should be about 2' x 2' x 12" to 18" high. For air flow and good drainage, drill 1/4" (pencil-sized) holes in the bottom and sides, about 5" apart (plastic bins may need more holes). Calculate bin size by allowing 1 sq. foot of surface area per pound of food scraps / wk.

# HARVESTING

## 2. Prepare your bin

- **mix bedding** and water in a tub until bedding is fluffy and as moist as a damp sponge. Don't let water accumulate in the bottom of the bin. Distribute bedding evenly in bin, 6-8" deep.
- **set worms** on bedding, gently spreading clumps. Remove any worms that remain on the surface after an hour.
- **lift up the top layer** of bedding in one corner of the bin, bury food scraps and recover them generously with bedding. With each new addition of scraps, rotate food burial sites clockwise around the bin.
- **cover bin** either with a loose sheet of dark plastic or the original bin cover (*worms work better in private!*). You may set the bin on bricks or wooden blocks for better air circulation, and place a tray underneath to catch any excess moisture.
- **locate your bin** where it is handy and contents can be kept moist and dark. Indoors, keep it in a basement, shed, garage, balcony, or under the kitchen counter where you can keep the temperature at 55°-75°. Outdoors, protect it from the hot summer sun and heavy rains; move it indoors before winter comes.

## 1. Push & Wait

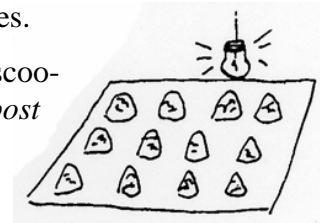
**PUSH...** old contents to one side of bin and restock the other side with fresh bedding. Bury food scraps in new bedding, only.

...& **WAIT** about a month while worms migrate to newly restocked side of bin. The mix of castings and compost—or *vermicompost* – is ready to be harvested from the old side of bin when all / most worms have moved. If you want to save worms, continue with **Dump & Sort**.

## 2. Dump & Sort

**DUMP...** contents of bin on a plastic sheet under a bright light; make many small piles. Be patient while worms retreat to bottom of piles.

...& **SORT** by scooping *vermicompost* from tops of piles; store scoopings



In a separate container. Repeat steps until you have mostly worms left on plastic sheet. Weigh worms (*opt.*) and return them to your freshly restocked bin.

**USE vermicompost as a thin top-dressing for houseplants, or mix it into the soil as you put bedding plants or perennials into your outdoor beds.**

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***If you want compost for your plants:***

- *Low maintenance strategy*  
Feed bin for 4-6 mos. Wait 2-4 months more until scraps are gone and few worms remain. Harvest mix. Salvage remaining worms and restock bin with fresh bedding, scraps and new worms.
- *Medium maintenance strategy*  
Use **Push & Wait** or **Dump & Sort** every 4 mos. or so.

***If you just need fishing worms:***

- *High maintenance strategy*  
Pick out largest worms as needed. Use **Dump & Sort** every 2-3 months; refresh bedding to maintain most favorable environment for worms.

***PROBLEMS?***

***ODOR:*** Stop feeding until problem subsides. Top off bedding with a dry layer to absorb excess moisture. Keep bedding moist but not wet, and fluff occasionally to restore air spaces. Always underfeed worms in a new bin until they are well established.

***FRUIT FLIES:*** Mix material, add a thick layer of new bedding and stop feeding for a month. When feeding resumes, bury scraps deeply and keep bin covered. Avoid tropical fruits. Move bin outside if weather allows.

***TEMPERATURE FLUCTUATIONS:*** Bank an outdoor bin with straw, leaves or an old blanket; move bin indoors in severe (freezing cold or blistering hot) weather.

*At least 8 good reasons to*

## **VERMICOMPOST**

### ***A Worm Compost Bin...***

1. uses up your kitchen scraps
2. “works” indoors year ‘round
3. is convenient, compact and neat
4. is ideal for apartment dwellers
5. reduces waste sent to the landfill
6. teaches kids (and adults!) about small-scale ecosystems
7. produces an abundance of fishing worms
8. Produces castings which are a **nutrient-rich addition** to your houseplants, flower and vegetable beds, providing an excellent amendment for your soil

**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. *According to compost lore, “if compost is the Cadillac of soils, then worm castings must be the Rolls Royce!”*

*Luckily, you already have*

## KITCHEN SCRAPS

### *Great ideas*

- vegetable / fruit scraps: peels, pulp, cores, leaves, etc. (*red worms love melon rinds!*)
- coffee / tea: grounds, leaves, filters, bags
- vegetable plate scrapings & leftovers from the back of the 'fridge
- stale cake & bread crumbs
- cooked grains & cereals

### *Poor ideas*

- pet wastes
- dairy products
- fatty or oily foods
- meat, fish and bones
- ANYTHING non-biodegradable (*plastic bags, twist ties, rubber bands, etc.*)



*& you can easily get*

## RED WORMS

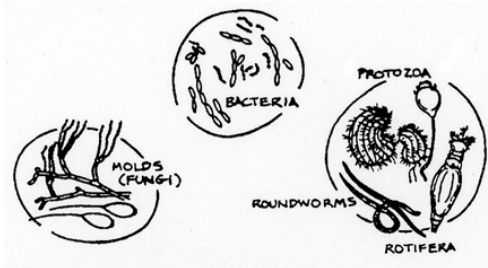
**Eisenia foetida** (red wigglers, manure worms) are heavy eaters of organic material, tolerate a wide temperature range (50°–85°F), are communal feeders, reproduce quickly in confinement, and thrive in a shallow, enclosed bin (*they live in the top layer of debris in the wild*).

**Lumbricus terrestris** (earthworms, night-crawlers, angleworms) and other species will NOT work for you. They eat less, tolerate a narrow temperature range (around 50° F), are solitary feeders, and don't like being enclosed (*they burrow to a deeper layer of soil in the wild*).

*Just remember,*

## WORMS *don't do it alone!*

There are at least three living components of a successful bin. Worms keep conditions aerobic and therefore odor-free, reduce the mass of material to be processed, and produce castings even richer than compost. But they could not do it without the help of the second component, namely microorganisms – bacteria, protozoa and fungi.



The third living component is you, remembering that when you take living creatures out of their natural environment, it becomes your responsibility to care for them. It is up to you to create and maintain a habitat in which they will thrive. Add your care to the work of microorganisms and worms, and fine compost is the result. What a rich reward!

**B**rochure design, layout and text by Elizabeth Mount, Master Composter Class of 1996, with editorial assistance by Monica Hargraves. The Master Composter program is sponsored by Cornell Cooperative Extension of Tompkins County, with funding from the Tompkins County Solid Waste Management Division, Ithaca, N.Y. Thanks to Mary Appelhof, *Worms Eat My Garbage*, Flower Press, Kalamazoo, Michigan, 1982, for some text/illustrations, and to Dan Dindal, *Ecology of Compost*, SUNY-ESF, 1976, for illustrations of microorganisms, all used by permission