



Making Worms Work for You
By Gail Fulbeck
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A small worm bin could be worth its weight in gold. Use it in place of your garbage bin to dispose of daily coffee grounds, tea bags, and food scraps. A simple and effective bin can be bought for around \$100, or you can make one yourself, following instructions developed by staffers at the Oregon Soil Corporation Reactor & Organic Farm, found at the following website, extension.oregonstate.edu/lincoln/sites/default/files/diy_worm_bin.oscr2011.pdf for around \$45 dollars in materials. Worm bins are very low-maintenance, will recycle nutrients that would otherwise be delivered to a landfill, and will provide the household with worm castings, a useful and nutritional soil amendment.

The lowly earthworm gets little respect from civilized society, but is deserving of our attention for many reasons. A little-known, but important worm fact is that there are many species of earthworms, and their feeding and burrowing habits differ dramatically from each other. In other words, vermiculturists (“worm farmers”) don’t use nightcrawlers (*Lumbricus terrestris*) and fishermen don’t use manure worms (*Eisenia fetida*). Learn more below!

Worm Facts:

- Nitrogen-fixing bacteria are found in the guts of earthworms, which makes their castings very nutritive for plants.
- Earthworm activity can aerate and stabilize compacted soils.
- Some species of worms are detritivorous, which means that they eat decomposing organic material, while other species are mostly soil-consuming.
- Earthworms are used in bio-remediation projects for restoration of healthy soil after such activities as mining, over-compaction, and chemical (including PCB) contamination.
- Worms also consume other decomposers and can significantly lower the density of detrimental nematodes in affected soils.

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- Earthworms are used in apple orchards for control of Apple Scab fungus (their incorporation of surface litter reduces spores, which are transmitted from litter to new foliage by spring rains).
- Incorporation of surface litter may be an important function of earthworms in no-tillage agro-ecosystems.

The many species of earthworms are classified into three groupings, each occupying a specific eco-niche:

- The **epigeic** species live in organic horizons and ingest large amounts of un-decomposed litter. These species create short-lived burrows into the mineral soil for dormancy periods only.
- The **endogeic** species forage below the surface, ingest large quantities of soil (with a preference towards organic-rich soil) and build continuously branching burrows that are mostly horizontal.
- The **anecic** species build permanent, vertical burrows that penetrate deeply into the soil. These species are detritivores which means that they eat decomposing organic material. They come to the surface to feed on partially decomposed litter, manure, and other organic matter. The anecics create permanent burrows and they can be found shallow or deep in their burrows depending on the prevailing conditions. Anecics have profound effects on organic matter decomposition, nutrient cycling, and soil formation. The most common examples are the nightcrawlers sold by fish-bait dealers.

Worms commonly used in vermiculture:

- Manure, or Compost Worms, *Eisenia fetida*, live from 1 to 5 years and individuals produce up to 900 eggs per year. *E. fetida*, being epigeic, live close to the surface and do not burrow deeply into the soil. They would not survive in the garden without a thick layer of organic material upon which to feed.
- Red Wigglers, *Lumbricus rubellus*, mature in 179 days and live from 682 to 719 days. A single *L. rubellus* can produce 79-106 cocoons per year.

Thanks to the following for information used in this article:

<http://asi.ucdavis.edu/programs/sarep/research-initiatives/are/ecosystem/earthworm-information>

Join Master Gardeners Cindy Young, Merry Campbell, and Gail Fulbeck on Saturday, Nov 4, for “Making Worms Work for You” at the Veterans Memorial Building, 130 Placerville Dr., Placerville. This free class will be 9:00 am to noon. A limited supply of worm bins will be available for purchase.

Join UCCE Master Gardeners on November 2nd for a special workshop, The New Backyard Orchard to learn about orchard development and tree care with leading experts from University of California, and Dave Wilson Tree Nursery. We will help you make better-informed decisions in managing your fruit tree choices for water use, nutrient needs, easier harvest, and IPM techniques. This workshop runs from 10:30am – 4pm/\$40. Includes materials and light lunch. Event location, Cameron Park Community Center, 2502 Country Club Drive, Cameron Park CA. Register at: <http://ucanr.edu/mgedc-workshop-reg>.

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UCCE Master Gardeners of El Dorado County are available to answer home gardening questions Tuesday through Friday, 9:00 a.m. to noon, by calling [\(530\) 621-5512](tel:5306215512). Walk-ins are welcome at our office, located at 311 Fair Lane in Placerville. For more information about our public education classes and activities, go to our UCCE Master Gardeners of El Dorado County website at <http://mgeldorado.ucanr.edu>. Sign up to receive our online notices and e-newsletter at http://ucanr.edu/master_gardener_e-news. You can also find us on Facebook.