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## **Worms, Nature's Wriggling Recyclers**

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What single organism did famous scientist Charles Darwin spend over 40 years studying? Birds, bees, maybe reptiles? No, it was the lowly worm. Darwin's last published scientific book before his death was "*The Formation of Vegetable Mould through the Action of Worms, with Observations on their Habits.*" Darwin was so interested in worms that he had the book published even though he doubted it would sell for a profit. The book sold 6,000 copies in the first year, initially outselling "The Origin of Species." Worms have a great place in soil formation. Many studies since Darwin have focused on the role worms play in agriculture, and I believe rightfully so!

Vermiculture is the process of composting using worms. One species of worm, *Eisenia fetida*, sometimes called a red wiggler, is a worm of about three inches in length, and probably the easiest to maintain for the average gardener.

Over time, all organic material naturally goes through the process of decomposition. However, with vermiculture, the process is significantly accelerated. The worms consume organisms in the organic material -- bacteria, fungi and molds -- and then expel nutrient-rich castings (essentially worm manure).

Vermiculture allows a gardener to create organically rich compost year-round. The compost created by the worms is an excellent soil conditioner and all-natural fertilizer. Containing water-soluble nutrients, vermicompost nutrients are relatively easy for plants to absorb. Because worms grind and uniformly mix minerals in simple forms, plants need only minimal effort to obtain

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them. The worms' digestive systems create environments that allow certain species of microbes to thrive to help create a living soil environment for plants. Worm castings also contain beneficial microbes that help plants defend themselves from a variety of diseases. Compost produced in vermiculture has no undesirable smell and normally smells like rich soil. It may be applied directly to the plant without worry of burning or damage.

To vermicompost easily, gardeners use worm bins. These are inexpensive, low-maintenance containers of many styles that allow you to house worms safely, protect them from animals and unsafe temperatures, and collect castings. You can find ready-made worm composters online, purchase from us or you can easily make a DIY bin using designs you find on the internet. The bin shown by Oregon State University is easy to build from items found at most hardware stores for about \$45. Follow this link:

[extension.oregonstate.edu/lincoln/sites/default/files/diy\\_worm\\_bin.oscr2011.pdf](http://extension.oregonstate.edu/lincoln/sites/default/files/diy_worm_bin.oscr2011.pdf).

Bins can even be kept in the kitchen for ease of access, making them perfect for people who have limited outdoor space for conventional composting. If you prefer to ship the DIY, Master Gardeners sell premade bins for \$55.00. To purchase call 530-621-5512.

Join UCCE Master Gardeners Cindy, Merry, and Gail on Saturday, May 4, from 9:00 a.m. to noon for a free class, "Making Worms Work for You," to be held at the Sherwood Demonstration Garden in Placerville (address below).

*For more information on the UCCE Master Gardeners of El Dorado County, see our website at <http://mgeldorado.ucanr.edu>. Master Gardeners are available to answer home gardening questions Tuesday through Friday, 9:00 a.m. to noon, by calling [\(530\) 621-5512](tel:5306215512), or send us an email using the Ask a Master Gardener option on our website. Walk-ins are welcome at our office, located at 311 Fair Lane in Placerville. We also encourage you to visit us at the Sherwood Demonstration Garden, located at 6699 Campus Drive in Placerville, behind Folsom Lake College, El Dorado Center. See [http://mgeldorado.ucanr.edu/Demonstration\\_Garden](http://mgeldorado.ucanr.edu/Demonstration_Garden) for more information and days and hours of operation, or call us to schedule a tour. To sign up for notices and newsletters, see [http://ucanr.edu/master\\_gardener\\_e-news](http://ucanr.edu/master_gardener_e-news). Master Gardeners are also on Facebook and Instagram; we hope you enjoy our postings and will share them with your friends.*