

## **HOW TO ADJUST THE PH OF A WORM FARM**

By Regan Hennessy, eHow Contributor



Excessive amounts of acidic fruit, such as oranges, can contribute to a worm farm with low pH levels.

Worm farms provide gardeners and anglers with a ready supply of nutrient-rich humus and plump, juicy worms. Starting a worm farm requires a handful of materials found in your home. Regular maintenance of your worm farm helps ensure that your worms stay healthy and process your food waste efficiently. Learn how to adjust the pH of your worm farm to minimize potential health issues for your worms, including breeding problems and a failure to thrive.

### **Things You'll Need**

pH meter  
Eggshells  
Plastic bags  
Rolling pin  
Oranges  
Shredded newspaper  
Water

### **Instructions**

1

Check the pH level of your worm farm at least once weekly to monitor the bin's acidity levels. Acquire a pH meter from your local lawn and garden supply store or from an online worm compost company. Insert the probe on your pH meter straight into the worm bedding in at least three different locations to determine the pH levels. Look for normal pH levels, which may range from 6.0 to 8.0 in a healthy worm farm, according to the County of Los Angeles Department of Public Works.

2

Eliminate low pH readings (below 6.0) in your worm farm by gradually providing additional materials to neutralize the excess acidity. Collect 10 to 12 eggshells in a plastic bag and crush them with a rolling pin. Sprinkle the mashed eggshells across the surface of your worm bin bedding. Avoid feeding your worms acidic fruit scraps, such as oranges and lemons, until your pH readings return to normal levels.

3

Increase sources of acidity in your worm bin to correct high pH readings (above 8.0). Peel an orange and position 3 to 4 segments of the fruit in different areas of the worm bin, covering each piece with several inches of bedding to keep from attracting fruit flies. Sprinkle 2 to 3 inches of fresh, shredded newspaper bedding across the surface of your worm bin to increase the amount of neutral materials in your bin. Moisten the bedding with a gentle misting of water until it's about as damp as a wrung-out sponge to help maintain adequate moisture levels.

### **Tips & Warnings**

1

Get into the habit of adding crushed eggshells to your worm bin two to three times per month to help prevent potential pH problems. According to Janet Hogan Taylor, co-author of "The Worm Book," gritty materials like eggshells have the added benefit of improving your worms' ability to digest food more quickly.

2

Sniff the bedding in your worm farm every day. A vinegar odor typically indicates acidic conditions that must be corrected to maintain your worms' health.

## **PROBLEMS WITH WORM FARMS**



Farming earthworms can be a fun hobby or a part-time job. Some people raise worms to sell as bait, help the environment or to make compost or worm castings tea (a solution of worm feces that hinders plant disease and pests). However, you might encounter a few problems with your worm farm along the way, such as pests or unpleasant odors. But worm farm problems usually are easy to fix



### **1. Food and Portion Control**

If you feed your worms too much, the food will rot before the worms can process it. The right amount of food is important to maintaining a healthy worm farm. If you notice foul or unpleasant odors in your worm farm, you might have fed the worms too much. When this happens, the food has rotted before the worms were able to process it. Cut back on the portions. Also, the portion of food might be too big. Chop the worm food into smaller bits to make it easier for them to process.

### **2. Wrong Foods**

The wrong foods can cause feed them the right foods, they a stench. According to fruit and vegetable scraps, dirty paper, crushed eggshells, not eat foods that are spicy or they also will not eat citrus or shiny paper, garden waste or



problems for your worm farm. If you don't will not eat, and the food will rot and cause [CreateYourOwnEden.org](http://CreateYourOwnEden.org), worms eat fresh coffee and tea grounds, horse manure, vacuum cleaner dust, and hair. Worms will with strong odors such as onions or garlic; acidic foods, pet feces, meat, milk, flour, large amounts of cooked food.



### **3. Escape Attempts/Poor Appearance**

If your worms are fat and pale or if they are attempting to escape, there is too much water in the soil. Worms breathe through their skin, and too much water will suffocate them. To fix this issue, add scraps of absorbent paper or dry leaves to the dirt. Gently poke holes in the surface layer of the dirt. Keep your worm farms damp but not wet.



### **4. Pests**

Slugs, raccoons, rats, moles, amphibians, reptiles, gophers, some beetles, black flies, mites, ants, maggots and fruit flies are some of the most common pests found in and around worm farms. You can eliminate most of these pests if the worm bin is properly built and protected with screens. Ants invade worm farms when the soil is too dry or acidic; add water and lime to keep ants out. Feeding the worms too much food or feeding them meat will attract all sorts of unwanted pests, especially mites, maggots, fruit flies and black flies. To prevent black flies, maggots and mites, seal the worm bed securely and do not add meat to the worms' meals. Also, feed your worms the right amount of food, as rotting food will attract pests. Finally, to prevent fruit flies, cover fruit and veggie scraps with the bin dirt. Place an empty, unwashed jam or jelly jar, half full of water, in the bin; this will attract and capture the fruit flies.



### **5. Prevention**

Often the best solution for worm farm problems is prevention. Close the worm bed securely with screens and a sheet of plastic or damp burlap, bury food scraps in the bedding to prevent mold and pests, and use proper feeding methods to make the most of your worm farm.

## **HOW TO MAKE A WORM FARM**

By Jane Smith, eHow Contributor



### **Make a Worm Farm**

Grow your own red wigglers and enormous earthworms for your next fishing trip. Making and maintaining a worm farm is easy. Your worm farm will provide you with mounds of rich, black, fertile garden soil to add to your organic garden. Use coffee grounds, tea bags, shredded newspaper and vegetable peelings to make your worm bed and feed your wigglers, eliminating pounds of kitchen waste and keeping it out of local landfills.

### **Things You'll Need**

2-by-2-by-8 foot open-topped wooden box,  
3 sheets,

1 1/2 feet by 1 1/2 feet by 7 1/2 feet Styrofoam

2-inch-by-4-inch-by-8-foot long post 10 lbs. shredded newspaper 20 lbs. sand 50 lbs. garden soil Used coffee grounds, tea bags and kitchen peelings 2 dozen live worms 1 lb. cornmeal 8 carriage bolts, with washer, lock washer and acorn nut Power drill

### **Instructions**

1

Cut a 2-inch-by-4 inch post into four 2-foot-long sections.

2

Build a wooden box from plywood, 2 feet wide by 2 feet deep by 8 feet long. Line it with Styrofoam sheets.

3

Drill 2 holes 1 1/2 inches from one end of each of the four posts you cut in Step 1. Drill matching holes 1 1/2 inches from the bottom of all four sides of your worm box.

4

Use carriage bolts with a washer, lock washer and acorn nut to attach legs to the worm box.

5

Fill the worm box with sand, garden soil and shredded paper. Dump 2 dozen worms into the box. Place more shredded paper on top of the soil in the box. Sprinkle 1 lb. cornmeal on top of the soil in the entire worm box.

6

Apply coffee grounds, kitchen peelings and cornmeal once each week. Harvest worms once a month. Be sure to leave at least 2 dozen worms in the box at all times. Renew soil, sand and shredded paper every 6 months. Use old soil from the worm box as compost in your garden.

## STARTING A WORM FARM

By Jennifer Thompson, eHow Contributor



A worm farm can be a surprisingly rewarding endeavor

There are two main reasons for starting a worm farm. One is for fishing, and the other is for composting. Either way, there is going to be a resultant rich and fertile compost that is wonderful for plants. The simplest way to start a worm farm is to buy a kit. These kits include the bedding material, container, and food. Without the kit, you can still make a worm farm from things that you may already have around the house. The most important aspects are aimed toward attaining the effect of the natural habitat of a worm.

### Things You'll Need

Styrofoam cooler or similar box, Knife, Water, Newspaper, Moist soil, Dry leaves, Worm food, Worms

### Instructions

1

Carefully cut four small ventilation holes on the sides of the cooler, near the top corners for proper air flow. Use gentle sawing motions so as not to break the Styrofoam.

2

Dampen the newspaper, squeeze out any excess water, then shred it into small pieces. Layer the bottom of the cooler evenly with the shreds.

3

Layer the soil on top of the newspaper to fill the cooler a little over half full. Top the dirt off with a few dry leaves for a natural effect.

4

Add an appropriate amount of worm food such as fruit and vegetable peelings, crushed eggshells, and other nondairy, non-greasy matter. You don't want to add more than the worms can break down in a timely fashion, or it can smell and/or get slimy.

5

Add the worms and put the cover on the cooler. Avoid overpopulating the farm, so as not to distress the worms with overcrowding.

6

Put the cooler in a dry, cool place and allow the worms time to adjust to their new home.

7

Feed your worms regularly, because a worm can eat the equivalent of its body weight in food each day. Feed smaller amounts at regular feedings, as opposed to too much food at one time, for optimal results.

### Tips & Warnings

1

A balance is necessary in moisture content. Worms need moisture to live, but too much can drown them. If the dirt sticks to the worms, it is too dry.

2

When the dirt becomes black, it can then be replaced with new dirt. The black dirt, called "castings," is richly fertile and plants love it.

3

Keep the worm farm out of direct rainfall, because the container can fill with water, even with the cover on.

4

If your worm farm is in a hot or sunny area, the worms will need help in keeping cool. An ice pack set on top of the dirt works nicely. A natural temperature for worms to thrive in is around 65 degrees or less.

5.

Worms can be picky. They will sometimes try to escape through any openings, if conditions are not quite to their liking. So, to keep all your worms in a happy home, be sure the dirt level is well beneath the ventilation holes, and keep the environment a pleasant one.

## **HOW TO GROW A WORM FARM**

By Nathaniel Miller, eHow Contributor

Starting a worm farm is a fairly simple and inexpensive business. Not only can you sell the worms as fishing bait, but also the compost that the worms live in as fertilizer or potting soil because it is rich in nutrients. Worm farms are a great way to start a composting pile at home, but you will need a source of red worms, which are the only good worms to use according to the Louisiana Department of Environmental Quality. Starting your own farm is simple and can easily be undertaken by anyone.

### **Things You'll Need**

Plastic 55-gallon drum

Saw

Newspapers

Red worms

Soil

### **Instructions**

1

Saw the plastic 55-gallon drum in half and turn each end over so that they are sitting with the open end up and a closed bottom.

2

Fill the two drum ends with moistened newspaper. Add a gallon of soil as well.

3

For starters, place a dozen red worms in each drum end. Begin feeding each drum one pail of food scraps a day in order to keep the worms growing and the compost flowing.

4

Repeat the drum-making process as many times as you want, utilizing as much space as you have available. As the drums fill up with compost, take approximately half of the compost out, being sure to either filter the worms out or add new worms every time you empty the compost.

### **Tips & Warnings**

Avoid using nightcrawlers or regular brown worms for this job as they are incapable of processing the compost efficiently enough.

## HOW TO BUILD AN EASY HOMEMADE WORM FARM

By Evan Salveson, eHow Contributor



Create a worm farm with common household items.

Besides being used for fish bait, worms can help gardeners and those wishing to be "green," by vermicomposting. In vermicomposting, earthworms eat organic waste such as vegetable and fruit scraps. Whichever purpose your worms will serve, building a worm farm can be easily done. Because worms can be used in different ways, the basic design for your own worm farm will be based on what the worms will be used for.

### Things You'll Need

Container

Worms

Garden soil or dirt (not potting soil)

3 pages of newspaper

Garden hose or spray bottle

### Instructions

1



Gather the container which will serve as the worm farm. Don't use cardboard or anything that might become soft from the soil. Worms prefer darkness, so don't use a clear container that will allow sunlight in. Also ensure that your worm farm will not leak water or dirt. Some easy ideas to consider for your worm farm are an old bathtub, a large plastic storage container, a garbage bin or a 5-gallon plastic bucket.

2

Fill worm farm container 1/2 full with garden soil from your home, or you can buy garden soil at a nursery. Avoid using potting soil.

3

Add all of the worms to the top layer of the garden soil in the worm farm container.

4

Shred or tear 3 pages of newspaper into smaller pieces. The pieces do not have to be an exact size, but a few inches long or wide will work sufficiently.

5

Spread the newspaper pieces evenly on top of the garden soil in the container.

6

Moisten the newspaper pieces with water using a garden hose or spray bottle. Do not completely soak the newspaper pieces; they only need to be lightly moistened. The worms will use the newspaper pieces as food.

7

Add any food scraps (egg shells work wonderfully) if you will be using the worm farm for vermicomposting.

8

Fill the rest of the worm farm container with garden soil until the soil reaches the top edge of the container.

9

Place lid on top of worm farm. Do not place the lid tightly, because worms require oxygen to live.